ARCADA

The negative impacts of overtourism on tourism destination from environmental and socio-cultural perspectives

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Abstract:

This thesis focused on the negative impacts of overtourism in European destinations, mainly in the Mediterranean region. The number of international tourist arrivals is increasing eliciting more destinations experiencing the negative impacts of tourism. The aim of this study was to find answers for the research questions concerning the environmental impacts of overtourism and its social-cultural consequences for the locals in tourism destinations. The study was conducted by using desktop research method as it was thought to generate the best results for the chosen research questions. The data used for the thesis was secondary data. The analyzed data was collected from online sources, academic books, related articles, documentaries and statistics. Based on the findings it was confirmed that overtourism is causing environmental and socio-cultural impacts on various tourism destinations. These impacts were discovered to be similar in nature despite the different locations. Overtourism was found to increase the water consumption, litter and waste amounts and air pollution. In popular tourist destinations overtourism has caused difficulties for the locals as the prices have risen and short-term rentals have caused housing shortages. Seasonality was found to be an amplifying factor for time and spatial concentration of popular traveling destinations in the studied countries. These trends have been concluded to be predictable and steadily increasing. Some measures have been taken to discourage the problems that have been risen, nevertheless significant effort should be implemented to stagnate or reverse the impacts.

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Tämän opinnäytetyön tarkoituksena oli tutkia liikaturismin aiheuttamia haittavaikutuksia Euroopan kohteissa, keskittyen pääasiassa Välimeren alueelle. Kansainvälisten matkailijamäärien kasvaessa yhä useammat matkakohteet ovat joutuneet kokemaan myös matkailun aiheuttamia negatiivisia vaikutuksia. Tämän tutkielman päämääränä oli selvittää millaisia haittavaikutuksia liikaturismilla on kohdemaan ympäristöön ja sen asukkaisiin. Opinnäytetyö vastaa seuraaviin tutkimuskysymyksiin; miten lisääntyneet matkailijamäärät ja liikaturismi vaikuttavat matkakohteen ympäristöön sekä millaisia seurauksia liikaturismilla on paikallisiin asukkaisiin matkakohteissa. Tutkimus suoritettiin pöytäkirjatutkielmana, olettaen sen tarjoavan parhaat tulokset kyseisille tutkimuskysymyksille. Tutkimukseen käytetty materiaali on kerätty pääsääntöisesti Internet-lähteistä, akateemisista kirjoista, artikkeleista ja tilastoista. Saatujen tulosten perusteella liikaturismi aiheuttaa samankaltaisia haittavaikutuksia kohteen ympäristöön ja sen asukkaisiin riippumatta kohdemaasta. Liikaturismi lisää vedenkäyttöä, roska- ja jätemääriä sekä ympäristöpäästöjä. Suosituissa matkakohteissa liikaturismi on aiheuttanut vaikeuksia paikallisille asukkaille, kun asuntojen hinnat ovat nousseet ja lyhytaikaisten turisteille tarkoitettujen vuokra-asuntojen määrä on kasvanut. Nämä ovat johtaneet asuntojen vähenemiseen asumiskäyttöön ja tietyillä alueilla jopa asuntopulaan. Tutkittavissa maissa kausittainen vaihtelu matkailijoiden määrissä vaikutti turismin aiheuttamien haittojen suuruuteen. Kesäkuukausina vaikutukset olivat huomattavasti suurempia kuin vähemmän suosittuina matkustusaikoina. Lisääntyvät matkailijamäärät turistikohteissa on kasvava trendi, joka ennustuksien mukaan jatkaa kasvuaan. Joitakin toimenpiteitä liikaturismin aiheuttamiin haittavaikutuksiin on turistikohteissa jo otettu käyttöön, mutta tutkimuksen perusteella haittavaikutusten vähentämistä pitäisi huomioida entistä enemmän, jotta matkailu kohdemaissa ei pilaisi sen ympäristöä tai ajaisi nykyisiä asukkaita pois kaupungeista.

Avainsanat:	liikaturismi, haittavaikutukset, ympäristö, kulttuuri, turismi, Välimeren alue
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1 INTRODUCTION

This thesis examines the negative environmental and socio-cultural impacts tourism causes for its destinations. The thesis also provides a possibility for a reader to increase one's knowledge about the phenomenon of overtourism. The more people are aware of the problem the more effectively the negative impacts of traveling can be reduced. Tourism affects the surroundings in which it is practiced in multiple ways. While the negative impacts of tourism are much broader than the ones that are covered in this study, the thesis focuses on the ones those whose magnitude could potentially be reduced by the traveler by altering his or hers own traveling choices. The issue of overtourism has been investigated through the negative consequences it has for its destinations. While the theoretical framework provides foundation for understanding the context in which the issue appears, the study also focuses on giving concrete examples where the impacts occur. Traveling is an important and increasing activity for many people. In 2017, one fourth of Finnish people traveled abroad and most of those trips had Europe as a destination (Suni, 2018). How those trips affect the destinations is important for every responsible traveler to acknowledge.

1.1 Background

Tourism is one of the largest and fastest-growing industries in the world. World Tourism Organization UNWTO has forecasted that by the year 2030 the number of international tourist arrivals will be about 1.8 billion (UNWTO Tourism highlights, 2017). As the number of tourists is continually growing, the negative impacts of tourism become increasingly noticeable. Environment and the host communities are functioning under pressure to manage the constantly growing tourist flows (Cooper 2016, p.121). Some destinations have reached the point in which the carrying capacity has been exceeded by the number of visitors, in other words the destinations are then coping with overtourism. Traveling has been a popular activity for centuries and it should continue to be so. However, it should be executed in a way that secures the existence of the tourism destinations. The decisions made now should be long-term oriented and thus provide the opportunity for future generations to visit the same tourist destinations as earlier generations.

Overtourism and ever-growing tourism flows are posing a threat for many well-known tourism destinations around the world. The epidemic is not limited to any specific area or continent in the world. The problem occurs worldwide from the geysers of Iceland to the beaches of Thailand (Diskin 2016; Livadeas & Smith, 2018). World Travel and Tourism Council published a report in 2017 about managing overcrowding in tourist destinations. The report states that overcrowding is not a new phenomenon in the tourism industry, but many destinations are reaching to the point in which something needs to be done about it (WTTC & McKinsey, 2017).

Tourist destinations are facing overcrowding and some destinations cannot cope with the stress that increasing tourism is causing. The incapability to control the impacts in time has driven some destinations to take some strict actions. Thailand, for example, closed one of its islands due to the harm caused by too many visitors (Livadeas & Smith, 2018). Some destinations have restricted the number of visitors due to the stress that overtourism causes. However, additional solutions should be sought.

Impacts of overtourism can physically be seen in the environment, for example, littered tourist attractions. In addition, overtourism has also intangible impacts that are not visible but still exist. A tourist might feel that overcrowding is diminishing his or her experience, similarly the locals can feel that tourism is impacting their daily lives.

One might think that only mass tourism and package tours are solely to blame. Overcrowding does not exclude backpackers nor other types of tourists. Even if one does not identify oneself as a part of mass tourism concept, it does not exclude him or her from being contributor to the negative impacts. Unfortunately, even backpackers can contribute to this problem, depending on the destinations visited.

1.2 Aim and Research Questions

The aim of this thesis is to investigate the phenomenon of overtourism in Europe, especially in the Mediterranean region, and how overtourism negatively affects the destinations it occurs in. The effects for the destination can be environmental, socio-cultural or a mix of those two. Overcrowded destinations are facing many problems as the number of visitors is exceeding the carrying capacity.

The thesis is written in an informative tone and as an exploratory study of the chosen topic, in addition it intends to bring the problematic nature of overtourism to the knowledge of the ordinary traveler. While the meaning of the thesis is not to function as a guide to tell what to do and what not to do, it aims to provide an opportunity for the reader to reflect the topic in their own traveling behavior and question one's choices made in the field.

Research questions are the following;

1. How is increasing tourist numbers and overtourism affecting the environment of tourism destinations?
2. What kind of consequences does overtourism have for the residents in tourism destinations?

The sub-question that is briefly answered is the question of what overtourism is.

1.3 Limitations

Tourism is a multidimensional activity and has many perspectives. While the impacts of tourism are far broader than covered in this thesis, the broadness of the topic means that some limitations needed to be set, and a significant amount of information has been left out. The data gathered relies on secondary sources, thus the data was limited to the ones available at the time of the writing process.

2 OVERTOURISM

2.1 What is overtourism?

Emeritus professor of Responsible Tourism, Harold Goodwin, explains the concept of overtourism as following: "A situation where either local people or the tourists feel that the place is just over visited and that it is changing its character. So, for the tourist it loses its authenticity and for the local people it just causes irritation and annoyance." (Crowded out: the story of overtourism)

Overtourism is not an objective term, and in every destination the meaning has slight variations, after all, the term is subjectively defined by the locals and tourists. Nevertheless, there are some signs that can indicate the occurrence of the problem. Degradation of fragile environments, traffic caused by tourist vehicles and rent prices that no more are affordable by the locals are few examples of the signs that overtourism is a problem in the destination. (Francis)

2.2 A brief history of development of mass tourism

International mass tourism developed after the Second World War due to technological, cultural, political, economic and social changes that took place. The introduction of Boeing 707 was the result of the development in an aircraft technology in 1958. The breakthrough of mass tourism occurred at the same time. Cheaper charter flights were enabled by new jet engines that had features which improved the aircraft's speed and range. In 1970 the use of Boeing 747 jet air craft enabled mass tourism to expand into new destinations (Cooper 2016, p.8; Kostiainen *et al*. 2004 p. 224).

Airplanes were able to carry more passengers than before, which was an attempt to increase the number of travelers. In the 1960's, the capacity of an airplane used in charter flights was only 55% when in 1970's, that of the new jet airplanes and jumbo jets, was 90% (Kostiainen *et al.* p. 227). The better use of the capacity decreased the prices of air traveling, which made package tours more affordable to many. The use of airplanes made it possible for mass tourism to expand to destinations that before were difficult to access; for example, in Mediterranean islands such as Mallorca, Corsica and Sardinia. (Kostiainen *et al*. 2004 p. 225-227) The islands that once required multiple transportation options to access were now accessible to all.

Cost reduction in fuel, increase in income and paid summer vacations were partial contributing factors that lead to the expansion of mass tourism. Package holidays started to be produced as mass products. Travel agencies that offered package tours were to develop mass tourism. The tours were standardized and included transportation, accommodation, food and activities; things that before had to be bought separately. Low-cost tours enabled people that, before, couldn't afford to travel abroad. (Kostiainen *et al.* 2004 p.227)

The rapid growth of mass tourism in Europe was enabled by tour operators, free time traveling, charter flights and package tours to Mediterranean coastal areas. In the 1960's the international mass tourism became a European phenomenon and was focused on the Mediterranean area. The globalization of mass tourism occurred in the 1980's, spreading mass tourism to new destinations outside the Europe, for example to Thailand. The first coastal destination that became a mass tourism destination with air travel was Malaga in Spain. Mass tourism spread from there to other coastal areas in Spain and later to other countries in the Mediterranean region. (Kostiainen *et al.* 2004 p. 225) The expansion of mass tourism can be observed to this day in the destinations where overtourism is an issue.

2.3 Growth of tourism

The issue of negative impacts of tourism on the tourist destinations is not only a concern of today's tourism. The industry is expected to grow rapidly, and the visitor numbers are forecasted to increase significantly.

In 2017, the number of international tourist arrivals (overnight visitors) worldwide was 1.322 million. The growth to the previous year was 7% and the growth is expected to continue at a rate of 4 to 5 percent in 2018. The 7% growth was strongest compared to seven previous years. In Europe, the growth in number of international arrivals increased by 8% compared to year 2016. This was 55 million international tourist arrivals more than in 2016. (UNWTO, 2017)

The growth was exceptional as Europe is a somewhat mature and large region. The leading destinations are located near the Mediterranean area. Southern and Mediterranean Europe contributed to the results with an exceptional 13% increase. The growth was strong also in the Western Europe with 7%, as well as in Northern, Central and Eastern parts of Europe with 5% increases. (UNWTO, 2017) Europe counts as the leading generator in outbound tourism. In the year 2016 approximately 1.2 million trips were made by European residents and 62% of Europeans were involved in tourism (Eurostat, 2017).

The growth was not limited only to Europe. The number of tourist arrivals grew in other parts of the world as well. In Africa, the growth was 8%; in Asia and Pacific 6%; in Middle East 5% and in Americas it was 3%. (UNWTO 2018)

As mentioned before, the issue of overtourism and the increasing numbers in tourism flows are not only concerns of the contemporary world. The strong increase of the tourist arrivals indicates the continuum of the trend. According to forecast made by the World Tourism Organization, UNWTO, international tourist arrivals will increase remarkably by the year 2030 (Figure 1).
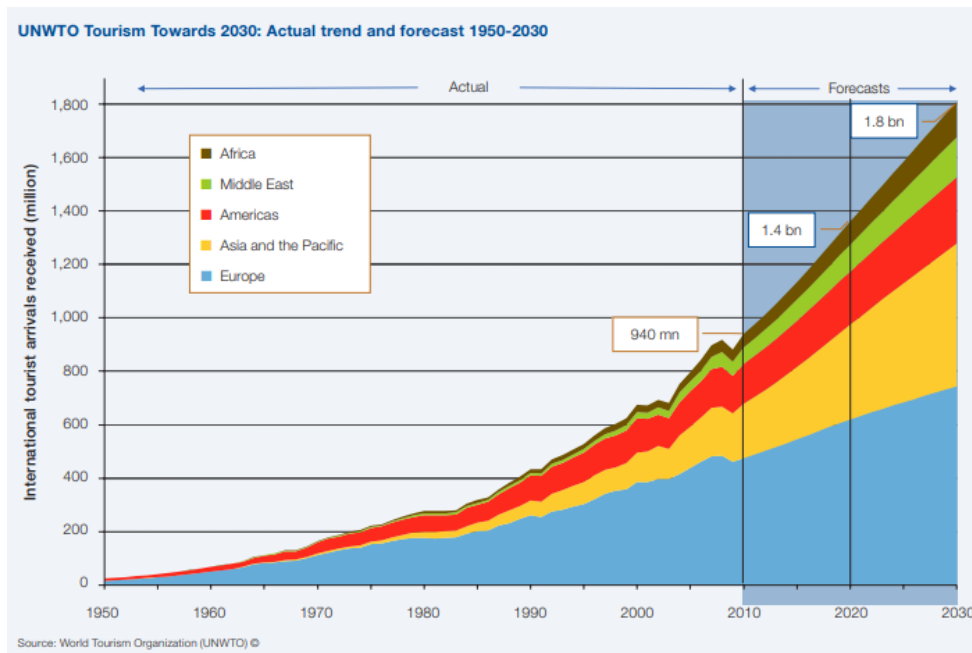
Figure 1. International tourist arrivals. Source: UNWTO, Tourism highlights 2017

Certain factors that contribute to the growth of tourist numbers can be stated. Firstly, the cost of air transportation has fallen, enabling frequent flying to many. Many passengers take more than just one short haul flight during a year. The scale of transport has grown during the past ten years. The deposit of passengers and frequency of arrivals lead to growing tourist arrivals. Secondly, house rental platforms, such as Airbnb, offer more accommodation options for tourists to choose from. These kinds of platforms create problems in the housing markets as the rent prices rise and the residential neighborhoods change their characteristics as those on low income are forced to relocate themselves to more affordable neighborhoods. (Goodwin, 2017)

2.3.1 Example from Barcelona

Europe is a significant tourism destination in global scale. According to the UNWTO, five of the top 10 destinations listed in the world are in the EU states (Eurostat) In 2016, Spain was Europe's most popular destination among non-residents (Eurostat 2017). The visitor numbers are growing in Spanish destinations even though there have been concerns about the overtourism. According to Euromonitor International (see Kottasová, 2017) in Spain the number of annual visitors has increased by 20 million over the past five years and is now receiving 77 million visitors annually. The city of Barcelona has been ranked as one of the worst cities in Europe for overtourism. (Statista, 2018)

According to Mastercard's Global Destination Cities Index, in 2016, Barcelona was ranked the 12th in the list of the most visited cities worldwide, with 8.20 million overnight visitors. When compared to the list of the top most visited cities in Europe, Barcelona is in the fourth place. The city has experienced a gradual growth in the visitor numbers, despite the negative reception towards tourists by the locals. (Hendrick-Wong & Choong, 2016)

A clear majority of the trips made are leisure with percentage the of 90.3% whereas the trips with business related purposes were only 9.7%. In 2016, in Barcelona there were 8.2 million overnight visitors which was 6,4% more than the number of the visitors in the previous year 2015. 62% of all the international tourists in Barcelona are from Europe. (Hendrick-Wong & Choong, 2016).

The peak months for the visits in Barcelona are from July to August which is consistent with the preferences of traveling months for European residents. Summer time as traveling season is the most popular among EU residents. Almost one in four of the trips were made in July or August (Hendrick-Wong & Choong, 2016; Eurostat, 2017).

3 THEORETICAL FRAMEWORK

Conceptual framework illustrates the relationships between the elements of tourism and the variables it consists. Impacts occur when then tourists interact with the local destination and its people (Mathieson & Wall 1992, p. 20)

Tourism is comprised of multiple components. The conceptual framework showcases the linkage between various components (Figure 2.) and shows the impacts of tourism as a part of a larger context. In order to understand the impacts of tourism it is beneficial to look at the larger context of the tourism concept in which the impacts occur. The framework suggests that the impacts are a result of an occurring change. The impacts of tourism are consequences of different variables in the process of change rather than individual points of events resulted of specific causes. (Mathieson & Wall 1982, pp. 14-16)
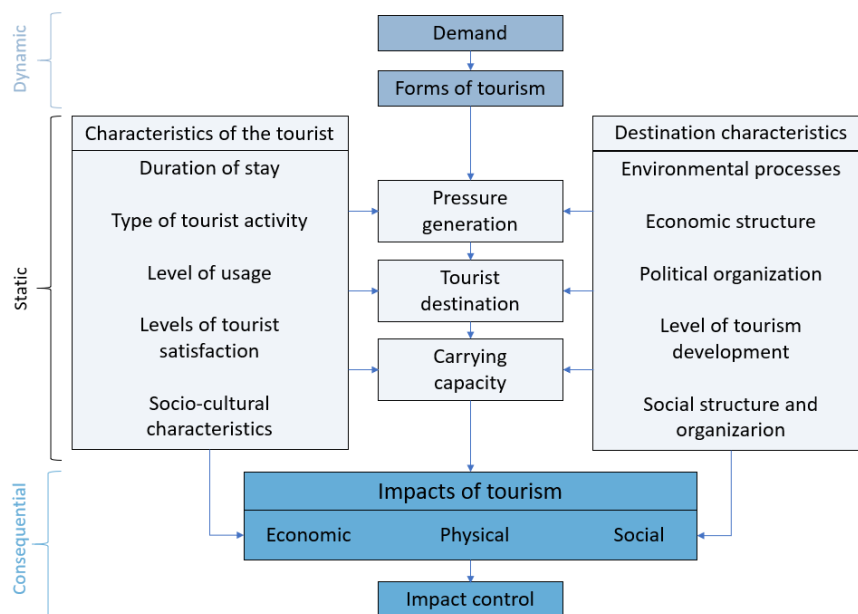

Figure 2. Framework of tourism. Source: after Mathieson & Wall 1982 p. 15

Tourism concept contains multiple variables that are not separate factors of the framework but interact with each other.

Three basic elements can be recognized to compose tourism:

1. Dynamic element: identifies the factors that contribute to the aspects that increase the tourism growth;
2. Static: the phase of staying in a destination; and
3. Consequential element: results from the dynamic and static elements, namely the economic, social and physical impacts.

Dynamic element includes the demand and the forms of tourism. Changes in the demand are partly responsible for the growth of the travel boom (Mathieson & Wall, p. 17). Factors that support the increase of the demand include the growth of leisure time, increase in the disposable income and the decline of price levels, especially those of airplane tickets. In addition, infrastructure allows easier and more convenient transport between destinations and makes traveling faster and safer than before. Moreover, media and information society enable an easy way to gather information about destinations of interest. (Verhelä 2014, p.16)

3.1 Environmental effects of tourism

To take care of the environment and maintain its sustainable form is important for the tourism industry since environment's quality affects the tourism sector. The rapid growth of tourist activities in certain areas on specific time is one of the reasons why tourism is affecting the environment. (Boers & Bosch 1994 p. 19,23)

Some of the consequences on the environment caused by tourism are: erosion and changes in landscape as well as in flora and fauna, waste disposal problems, litter, problems related to water such as contamination and shortage of drinking water (Hemmi 2005, p.42)

Examples of negative effects of tourism on the environment are:

1. Tourism depletes area's resources and pollutes the air, soil and water.
2. Tourism can negatively affect diversity of nature; animal and plant species and deteriorate habitats of those.
3. Tourism can diminish the attractiveness of landscapes

Environmental pollution is affecting tourism and tourism is, to some extent, increasing the pollution. Pollution of the environment might threaten some tourist destinations; after all, as mentioned earlier, a good quality of environment is important for the destinations in order to maintain tourists' interest in returning to the area. Pollution can negatively affect the destination's air, soil and water. Damages can be seen in forests and in places with cultural heritage value. Exhaust gas emissions cause environments acidification, which can harm the cultural heritage sites in destinations and forest areas. Acid precipitation is harming buildings and other monuments with historic value. (Boers & Bosch 1994 p. 23)

Water pollution affects lakes, rivers, seas as well as ponds in destinations which can lead to the prohibition of swimming. This can be harmful for the reputation of destinations where water elements are the main attractions. Pollution of the soil means that substances that are toxic can be found in the ground. Other threats that pollution can have are issues with smog, depletion of ozone layer and greenhouse effect among others. (Boers & Bosch 1994 pp. 25-26)

Tourist destinations are also affected by transportation and traffic, as they cause fuel consumption, pollution of the air and noise issues. In addition, infrastructure that is built for a higher capacity than would be sufficient only for the locals has an impact on nature and landscapes.

Airplanes are the most common transportation option among travelers. The impact of air traveling is considerably great since the pollution stays in the atmosphere. Flying also allows tourists to visit more remote and exotic destinations than before. (Hemmi 2005, p. 43)

3.2 Social effects of tourism

The social impacts of tourism are changes in the quality of life that the residents of local communities experience. Tourism's social and cultural consequences can be divided into three categories:

1. Tourists – Cultivate change in the host society by exemplifying differentiating traits such as cultural, linguistic and wealth differences. This exposure induces change in the individual as well as their own society.
2. Hosts – Provide the tourism experience in their native environment and interact directly with tourists while living and working in the particular destination.
3. The relationship between tourists and hosts – This interaction helps bridge the cultural gap between societies but both experience long-term consequences when they interact. (Cooper 2016 p.101)

Both the type and the number of tourists influence tourism's social and cultural impacts. The impact of the contact between a tourist and a host can vary depending on the encounter itself. There are numerous scenes where the contact can occur. Firstly, tourist can be side by side with host in public areas such as at a beach. Secondly, commercial transactions represent often brief contacts. Thirdly, tourist and the host can have face to face conversation. (Mathieson & Wall 1982 p. 135-137)

A member of a host society can be affected by tourism even if one has no personal contact with tourists. The host society that is regularly dealing with tourism can draw influences concerning the common opinions and attitudes which then spread through the community. Tourism can drive locals to change their behavior and living patterns. (Cooper 2016, p.103-106)

Types of tourists can be roughly categorized based on the impacts on the local communities and environment that the tourist has and based on the experience the tourist gains. Classification made by Cohen (See Mathieson & Wall, p. 19) suggests that tourists can be divided in four categories based on the roles tourists take. Tourists in different categories seek elements of familiarity and novelty in different levels in destinations.

1. The organized mass tourist – attends in package tours which the organizer has fixed for the tourist. Mass tourists want familiarity, and minimum amount of novelty

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2. The individual mass tourist – to whom a travel organizer makes all the major travel arrangements, and who still has a little control regarding timetable and planning.

3. The explorer – plans their own trips and avoid tourist attractions. Has a desire to be in contact with the local residents. Here, a complete integration to host society does not occur but novelty is dominating element.

4. The drifter – has full control over his or her trips. Lives with locals and immerses him or herself with the local culture. Avoids the main tourist attractions. Values novelty and avoids familiarity in destinations. (Mathieson & Wall 1982 p. 19)

Different tourist groups adapt to local environment in different ways. The drifters and explorers represent early stage tourists; they adapt fully to the local conditions. The opposite of them is the group of organized mass tourists. The adaption of those is poor and organized mass tourists demand their own amenities. (Cooper 2016, p.102)

3.3 Carrying capacity

When examining the impacts of overtourism on the environment carrying capacity becomes term of interest as carrying capacity determines the relationship between environment and the tourism (Cooper 2016, p.79). Mathieson and Wall (1982 p. 21) have described carrying capacity as following: "The maximum number who can use a site without unacceptable deterioration in the physical environment and without unacceptable decline in the quality of experience gained by visitors"

Carrying capacity is a criterion and a way to measure the relationship between the stress caused by the tourism for the environment and its capability to tolerate it. The relationship between these two should be balanced so that the carrying capacity of the place would not be exceeded. The problem with the concept of carrying capacity is that as a measurement it is not objective, in addition it is equivocal. (Hemmi, 2005, p. 87)

Carrying capacity of specific resource determines the relationship between environment and tourism. When the number of visitors surpasses the carrying capacity, the environ-

ment is under a stress to cope with it. The subjective nature of the matter makes it diffi-cult to measure; there are no proper tools or measurements to determine when the envi-ronment is suffering from tourism, in fact different stakeholders; locals, visitors, man-agers, can have very different perceptions on when the environment is under pressure. (Cooper 2016, p.79)

The type of carrying capacity can be divided in groups. Five types of carrying capacity can be described:

1. **Physical** – refers to measuring the space; for example, the seat in an airplane or a parking space. The most straightforward type of carrying capacity to measure and can be expressed with numeric values such as percentages.
2. **Environmental or biological –** refers to the usage level of environment before harming it. The limit of the use in the ecosystem is when the environment is not harmed yet.
3. **Psychological or behavioral** – refers to the perceptual level of the tolerance that a visitor feels comfortable with, and the level of not being bothered about the number of other visitors in the scene. When this capacity is exceeded the tourist feels that a great number of other visitors in the scene is ruining one's experi-ence. The limit that a tourist is willing to tolerate before feeling that the number of other visitors is diminishing the experience is a perceptual point and individu-al for every visitor. However, too few additional visitors might also be perceived as negative, thus crowding of a place is not the only thing that should be con-cerned
4. **Social –** refers to a host community's capability to tolerate tourism.
5. **Economic –** refers to the point at in which the needed economic investments for maintaining the level of environmental quality become excessive. (Cooper 2016, p.80)

The characteristics of the tourists and those of the destination both affect the carrying capacity and the impacts on the destination. Tourist characteristics are important as they influence the interaction between the physical places and the locals in the destinations as well as the magnitude and frequency of those. The type of tourist characteristics can

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vary the magnitude of the influence that the visitors have on the destination and its carrying capacity. (Mathieson & Wall 1982 p. 22)

3.4 Seasonality in tourism

Tourism activities are often centralized in certain areas due to the infrastructure built for them. Where infrastructure can, on demand, be built in different areas to regulate the tourism, the concentration on time can be more difficult to control. Concentration on time means that most of the tourist stays occur in certain months or during a specific time, which means that some destinations face overcrowding during the peak season whereas during the low season they face desolation. This is problematic for various reasons, and for different parties; both for the host community and for the visitor him or herself. (Boers & Bosch 1994 p. 28)

Many tourist destinations have variations in climate in different seasons which makes it more appealing for tourists to visit during certain months. The visitor's own preferences and availability to go on holiday are also reasons for time concentration. Seasonality causes problems since it is creating such fluctuations in the demand of services for tourists. The peak season's demand should determine the capacity of the place. However, in some destinations the infrastructure is insufficient for the large number of visitors during the high season which can lead to pollution in water and soil. (Boers & Bosch 1994 p. 28)

3.5 Doxey's Irridex

The most well-known theory on guests and hosts interaction is Doxey's theory (1976). According to the theory the increase in traveler amounts impacts the attitudes of the hosts. As the visitor numbers increase the feelings shift from positive to negative (Figure 3).
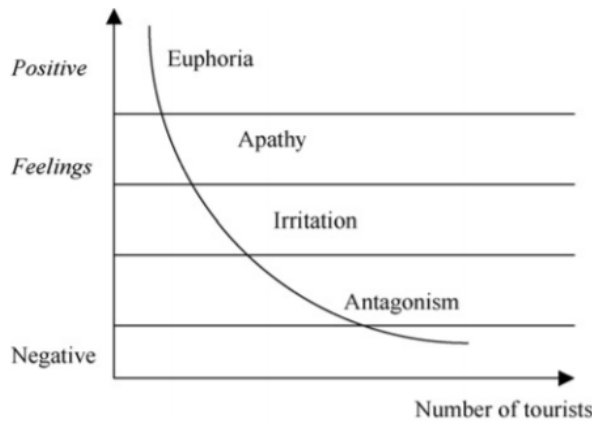
Figure 3 Doxey's Irridex "Irritation Index" (Reisinger 2009, p. 221)

The theory suggests that when touristic activity in the area is low, tourists evoke interest among the locals and their presence is welcomed (Euphoria stage). As the tourist numbers increase, the contact between hosts and tourists evolve into more formal interaction and the locals lose their interest in the tourists (Apathy stage). When the growth of tourism rate is expected to increase, and the maximum number of tourists is reached, the locals become concerned of issues such as crime, price rises and tourist rudeness (Saturation stage). After that the hosts become irritated by the number of tourists which leads to annoyance (Irritation stage). Eventually tourists are seen as a burden and are treated hostilely by the hosts (Antagonism stage). The locals blame tourists for wrongdoings in the host society, which is seen as an entitlement to exploit the visitors. (Reisinger, 2009 pp. 220-221)

4 METHODOLOGY

Research methods are those methods and techniques chosen by the researcher to perform the research operations, in other words methods are tools that are used to collect the data (Kothari 2004, p.7; Dawson 2009, p.37). This study was conducted as a desktop research. Desktop research is a method where the researcher does not collect primary data but uses secondary one to answer the research questions. Therefore, the obtained results were gathered by utilizing existing data and information. Secondary sources are

primary data of other researchers and thus initially collected for other purposes than for which they are used in this study. (Sachdeva 2008, p.109; Dingemanse, 2014)

4.1 Method

The main purpose of the thesis is to investigate the environmental and socio-cultural impacts that overtourism has on destinations. This thesis is desktop research based on secondary data. The desktop research method was chosen for few reasons as the use of secondary data provides some benefits. Desktop research is suitable approach when studying phenomena as it allows a collection of data from various sources. Advantage of conducting desktop research was that it was possible to base the study on large scope of data, which was essential when studying the impacts of the chosen phenomenon. The aim of choosing this method was to gain broad understanding of the topic at hand. By using secondary data as the source for the study, the scope of the data was larger than primary data would have been. Furthermore, basing the thesis research on secondary data and not collecting primary data gives the opportunity to use data that has been collected over a long period of time. Longitudinal and historical data provided a better understanding about the topic at hand especially since the overtourism was thought as a phenomenon that has been evolving over time. (OxbridgeEssays, 2017)

Desktop research method has some disadvantages as well. The researcher has no control over the data collected and therefore cannot be sure about the accuracy nor the bounds of error. The accuracy of already collected data can be difficult to evaluate. In addition, the data might be outdated and therefore not valid for the study. It should also be noted that the validity of the data might vary depending on the source. Some of the data used in this study have been collected from newspaper and online articles. Data published in those outlets might be according to so called journalistic standards. Furthermore, the data might not be matching exactly to the problem in hand since the information has originally been collected to other purposes. Also, all the selections concerning the data collection has been predetermined by someone else based on their research question or problem. In this study the some of the data which was collected and evaluated concerning the impacts were impacts of tourism not specifically impacts of overtourism. Other

limitations of this study have been discussed earlier in section 1.3. (Sachdeva 2008, p. 110; Dingemanse, 2014)

4.2 Data collection

This desktop research for this study was conducted by the following steps. Selection of key words and terms, search for relevant sources, selection of most suitable data for answering the research questions, procession of the gathered information and conclusion of findings. The model of the desktop research process is illustrated in the Figure 4.

Initial interest for the chosen topic came from the report by WTTC & McKinsey "Coping with success". From the report, the writer decided to focus more profoundly on some of the impacts mentioned. Based on the report the impacts of tourism on the environment are occurring on ground, water and air. Furthermore, the search was narrowed on the impacts that the tourist, him or herself, can influence by altering their own behavior while traveling. Those include the choice of accommodation at the destination, water usage, littering, mode of transportation and the tourist activities at the destination.

The study started off with searching relevant articles about the topic at hand. After browsing through multiple articles about the topic, these impacts seemed to be prevalent in many destinations. When searching overall information about the topic and focusing on understanding the effects some socio-cultural issues seemed to arise more frequently than others. These issues included rising rent prices, demonstrations against tourists, declining resident numbers and increasing numbers of short-term rental apartments offered for tourists.

The desk research was conducted by selecting couple key words to start the online search. The data was attempted to be generated by using key terms such as "overtourism", "impacts of overtourism", "too many tourist", "water consumption and tourism", "tourism and water quality", "tourism and pollution", and "social impacts of tourism". As it was discovered, the term "overtourism" has somewhat recently emerged to describe the issue regarding environmental impacts and as a result, additional information was implemented utilizing alternate keywords. Some of the data has been collected

from the official pages of organizations such as The World Travel & Tourism Council (WTTC) and World Tourism Organization (UNWTO). Data collection meant the selection of the most suitable data for answering the research questions. In data analysis phase the gathered information was evaluated and later the conclusions of the study were drawn based on the analyzed results.

| Review of existing literature - Determining the research Q's | Selection of key words & search terms | Data collection – collection of secodanry data | Data analysis | Study conclusions |
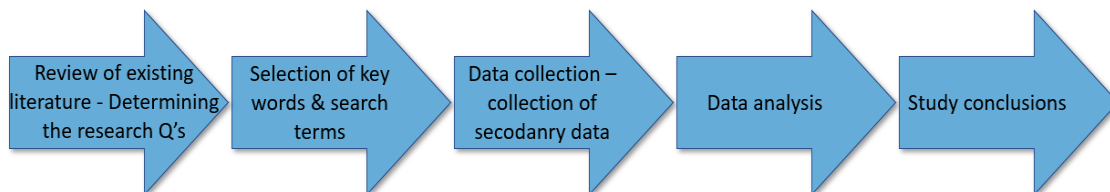
Figure 4 Desktop research process

5   RESULTS

The following chapter will present the findings of the study. Environmental impacts are presented first, followed by the socio-cultural impacts.

5.1 Environmental impacts

5.1.1 Water consumption & quality

Mediterranean area is a significant tourist destination on a global level with millions of visitors annually. Tourist numbers in the region are expected to reach from 235 to 355 million people by the year of 2025. The high season is on the summer months, at the same time when the water availability is at the lowest level. (De Stefano, 2004)

On average, Europe is not suffering from so-called water stress. Daily water supply for households per capita is about 102 liters per person. In Europe, renewable water is abundant, yet water usage has caused problems in the Mediterranean region. Recent examples can be found: in the summer of 2014 approximately 40% of the residents in the Mediterranean region had to live under water stress conditions due to overexploitation

of groundwater. Tourism is part of the water scarcity problem and the issue is most noticeable in small and highly populated areas in the Mediterranean region. (EEA, 2017)

Problems with water consumption in the tourism sector are field specific:

- Water consumption is concentrated seasonally. The high season and the peaks in water consumption coincide with the summer period, when the water resources are scanty.
- Tourism is spatially concentrated on the coastal areas, usually on the sites where the local water resources are scarce, such as small islands and on naturally sensitive areas.
- Many tourist destinations are based on aquatic facilities; swimming pools and golf courses. These aquatic centers consume enormous amounts of water.
- Competition between tourism industry and the local population might occur as the water used by both is mainly drawn on municipal supply. (Eurostat 2009; EarthCheck Research Institute, 2014)

In various European destinations tourism has increased the pressure on the public water supplies, tourism is acting as a driving force in that matter. Each year millions of people temporarily relocate themselves from homes to different locations in Europe. About 9 percent of the total annual water use in Europe is attributed to accommodation and food service activities. The increase is caused by mobility of travelers. Tourism practiced especially in Mediterranean islands influences greatly on the water use. (EEA, 2017)

Fresh water usage has been measured by water exploitation index plus (WEI+). The index indicates the pressure or stress on freshwater resources. WEI+ is assessed based on the total amount of freshwater used out of the total available renewable freshwater resources. The relation is shown as percentages. Percentages over 20 indicate that the water unit is experiencing stress. Index being over 40% implies to serious stress and is a sign of unsustainable manner or resource use. On average the annual number of tourists on those Mediterranean islands is 16 times more than that of the permanent residents. The growing number of tourists is creating high pressure on the use of the renewable water resources. Despite the seasonality of tourism, on small Mediterranean islands

WEI+ stays constantly above 20 percent per year which indicates that the water unit is under stress. (EEA, 2017)

From the year 2002 to 2012, there was 78% increase in water abstraction for tourism purposes. In western Europe, the increase was 150%. The highest water abstraction levels per visitor is in southern Europe, the region that is the most prone to water scarcity. Spain, Greece and Italy are in a high or an extremely high risk at having water shortage by the year 2040. (Welt) One of driest countries in Europe is Spain which at the same time remains one of the top destinations in Europe. (Eurostat 2009; EarthCheck Research Institute, 2014)

The most rapidly growing sector of tourism is coastal tourism. 80% percent of tourism is in coastal areas. Beaches and coral reefs are among the top visited destinations for tourists (WWF). In the Mediterranean basin half of the Mediterranean's coastline has infrastructure (Turunen 2010, p.10).

The fast phase of the growth in the coastal tourism increases the need for infrastructure such as hotels and second homes, recreational water and sport activities. These types of tourism activities impact the coastal environment. (Sánchez-Quiles & Tovar-Sánchez, 2015) In some cases, tourism leads locals to take actions that are harmful for natural resources. For example, corals and shells are collected by the locals to sell them as souvenirs to tourists, which can damage corals. Guided boat tours can locally damage coral reefs when the anchors are dragged through the reefs. (Holden 2000, p. 89)

Water pollution due tourism is another concern of increasing tourism. Not only does tourism cause stress on the water resources but also water pollution. According to a study conducted by Sánchez-Quiles and Tovar-Sánchez (2015), sunscreen used by beachgoers might damage marine organisms such as the coral reefs. According to the study the use of sunscreens might have increased the concentration of hydrogen peroxide in coastal marine waters, which increases stress levels of marine organisms. The study estimates that during a summer day in a popular beach among tourists nearly 4 kilograms of nanoparticles are released into the seawater due to the use of sunscreens.

Sunscreens cause ecological consequences on coastal marine ecosystems due to chemicals released by them.

Some of the chemicals contained by sunscreens are oxybenzone and octinoxate. These chemicals can be released into the water when swimming or when showering. Moreover, sunscreens packed in aerosol containers can spray the substance onto sand, where it will be washed into the sea. Once the chemicals such as oxybenzone are introduced to the water, they can be absorbed by corals. This can eventually lead to bleaching of the corals as the substances of the chemicals might disrupt the growth cycles and reproduction of the corals. (Butler 2018; Zachos, 2018)

Some destinations outside Europe have taken actions to reduce the impacts of those substances. Governments of Palau and Hawaii have passed a bill which will ban the sale of sunscreens that contain oxybenzone and octinoxate. Safer alternatives than sun blocks containing oxybenzone are on the markets. Sunscreens that are mineral-based and use zinc oxide and titanium dioxide are more environmentally friendly options. (Zachos, 2018)

5.1.2 Marine litter and waste

Human activities generate a great amount of litter and waste. On densely-populated tourist areas especially on coastal areas the tourism industry and overtourism stress the environment partially due to lack of a proper waste disposal. Litter items are often incorrectly disposed to the ground or to the sea. (UNEP/MAP, 2015)

In some seaside destinations tourism temporarily doubles the population during the summer, compared to winter season. The temporary increase in population also affects the amount of waste generated. In some tourist destinations over 75% of the total annual waste production is created during the summer period. It is estimated that on average a tourist generates 10-15% more waste than a local resident. (UNEP/MAP, 2015) The Mediterranean Sea is among the areas that have been affected most by the marine litter. In the area the annual municipal solid waste per person is 208-760/kg per year which is among the highest in the world (Eco-union, 2017).

Researchers from the Institute of Environmental Science and Technology of the Universitat Autònoma de Barcelona gathered data from eight Mediterranean islands. According to the research litter generated by tourists triples during the summertime, and in some of the most popular tourist beaches there is a sevenfold increase in the amount. Waste management related infrastructures in destinations experience a vast burden due to a huge number of consumers concentrated in a few peak season months. Litter caused by tourists during the high season (May to September) was, on average 250,000 items of waste per day per square kilometer. The highest figures where from July to August when the number rose to 316,000 items per day per km^2. These numbers compared to low season, which was 81,000 items daily per km^2, indicate distinctively how seasonality affects the waste generation in tourist destinations. (UAB, 2018)

Determining the primary origin of various littered items is not as simple as the sea currents transporting some litter to shorelines. However, litter items found on Mediterranean shores indicate that the majority of it originated from recreational tourism and smoking-related activities. (UNEP/MAP, 2015) High tourist and visitor numbers can increase the marine litter on beaches up to 40% in summer season (WWF, 2018).

Litter is consisted of three main materials; plastic, aluminum and glass. From these, plastic is the main litter component. Approximately 95% of waste and litter gathered from the coastlines, surface of the ocean and from the sea floor is plastic or contains plastic. From the overall litter pollution synthetic materials such as bags, bottles, lids, caps, polystyrene, fishing nets and other unknown small parts of plastic account for the largest proportion of recreational litter in various locations in Mediterranean Sea. Plastic items are usually disposed after single use. Plastic is not biodegradable and takes years to degrade when discarded in the environment. For example, plastic bag takes 10-20 years to degrade, plastic cup 50 years, plastic straws 200 years and plastic bottle more than 450 years. Even cigarette filters take 1 to 5 years to degrade. (UNEP/MAP, 2015)

Therefore, plastic waste is a concern to the Mediterranean region due to the region's unique features. Despite the relatively small size of the sea, containing only 1% of all

the world's water, Mediterranean Sea holds about 7% of all the microplastic of the world. Microplastics are small plastic particles under the size of 5 millimeter. Plastic in the sea has direct and undirect impacts. It poses concern for the marine animals but also for humans. Fishes caught from the Mediterranean Sea might contain relatively large quantities of microplastics. It is estimated that, on average, a person eating fish in Europe might ingest as much as 11,000 pieces of microplastic annually. Mediterranean Sea contains 1.25 million fragments of microplastic per square kilometer. Annually 150,000-500,000 tons of macroplastics, the larger litter items, and 70,000-130,000 tons of microplastics enter the seas of Europe, mostly to Mediterranean Sea. (WWF, 2018)

As for smoking the UNEP report also shows that from all the marine litter, smoking related activities account for 40% of the total litter amount. Litter caused by it includes cigarette filters, lighters, cigar tips and packaging of tobacco product. These litter items are commonly found on land as well as in the sea. (UNEP/MAP, 2015)

Coastal Clean-up campaign from 2014 (see Hanke, 2016) shows top 10 litter items found in beaches out of eight Mediterranean countries. Results are displayed as items per 100 meters: Cigarette butts 175/100m (54,3%) straws 44/100m (13,7%), caps 29/100m (9,1%) and plastic bottles 20/100m (6,2%).

Most of the polluting waste is from Turkey and Spain. They are followed by Italy, Egypt and France. There are differences between coastal areas when it comes to litter. The litter amounts vary depending on the beaches. In Malta, the high touristic season can create 600,000 litter items per km^2 daily. That is seven times more than the European average. Next, Mallorca amasses an average of 400,000 litter items produced per km^2, Rab in Croatia with 270,000 items and Cyprus with 113,000 items per day. Cleanest beaches in the Mediterranean were Mykonos in Greece with 8,700 items (per square kilometer), Sicily in Italy with 29,000 items, Crete with 49,000 and Rhodes in Greece with 66,000 items of litter per day. (UAB, 2018)

5.1.3 Air pollution

In 2016 there were 1.235 million international tourist arrivals in the world, compared to the previous year when the number of tourist arrivals increased by 46 million visitors, by 3.9%. Flying was the most common mode of transportation. 55% of all the overnight travelers travelled to the destination by airplane. The next common mode of transportation was by road with a percentage of 39%. Travel options by water (4%) or by rail (2%) were less common. As for travelling purposes, in 2016, from all the international tourist arrivals, 657 million (53%) were made for recreation, holiday or other leisure reasons. The second most common reason for traveling was visiting friends and relatives (27%) and the third being business that accounted for (13%) from all the international tourist arrivals. (UNWTO, 2017)

Statistics from International Air Transport Association for commercial airlines, show the increase in both passenger traffic and passenger capacity. From 2012 to 2017 there have been increase in both on global level. (IATA, 2018)

According to a report, "The carbon footprint of global tourism" conducted by researchers of Sydney University (see Reiner, 2018) during the years 2009 to 2013, tourism has increased its carbon footprint from 3.9 to 4.5 billion tons of carbon dioxide. The amount is quadrupled compared to previous estimates. Tourism is responsible for almost one-tenth (8%) of all the greenhouse gas emissions produced in the world. Major contributors are transportation, goods, food services. Above all, aviation is a huge contributor for the environmental issue. The report also shows that tourism transportation alone emitted 2.173 million metric tons of carbon dioxide annually. Emissions from goods were 534, and food and beverage 421 metric tons of CO_2. That is to say, emissions of transport are nearly as much as those of goods, food, agriculture, services, accommodation and construction combined. (see Rathi, 2018)

A great portion of the environmental impacts tourism causes is generated during the transportation to and back from the destination. The emissions depend on the air craft model, nevertheless, on average, a non-stop trans-Atlantic trip causes 1000 tons of carbon dioxide per passenger. For an example, a flight from Helsinki to Bangkok causes 2,600 kilograms of CO_2, which is the same amount as a 15,000 kilometers drive with car would cause or how much a household refrigerator would cause in 20 years. (Kal-

mari 2009, p.49) Significant differences in emission amounts have been reported. Some airlines emit 50% more than others. (Neslen, 2015) Thus, the choice of airline impacts travelers carbon dioxide footprint.

About 70% of the emissions caused by flying is carbon dioxide, 30% is hydrocarbons (HC) and about 1% is oxides of nitrogen (NOx), Sulphur oxides (SOx) and soot emissions. Nitrogen oxides increase ozone but decrease methane in the atmosphere. Sulphur particles are generated from Sulphur oxide emissions which cool the globe by reflecting the solar radiation. Soot emissions contribute to climate change by absorbing thermal radiation. (Mikkonen, 2018)

Emissions generated by aviation impact the air quality. Aircrafts emit the greenhouse gasses to the higher atmosphere which makes the impacts more harmful for the climate change. (Hemmi p.43, 2005) The emitted carbon dioxide warms the climate 2-5 times more than the same amount of emissions generated on the ground. (Mikkonen, 2018)

Carbon dioxide emissions from air traffic have increased between years 1990 and 2014 by 80% and Nitrogen oxide emissions doubled during that time. The amount of emissions is only predicted to grow. From 2006 to 2018 the emissions have grown roughly over 30%. In 2015 the international aviation generated approximately 500 million metric tons of emissions. The growth has been gradual since 2011. By 2035 it is estimated that carbon dioxide increases by 45% and by nitrogen 43%. (Mikkonen, 2018) Furthermore, it is estimated that in 2050 the emissions will be between 900 to 1800 million tons (Rutherford, 2018). Besides environmental effects, tourism has significant social and cultural impacts. The findings of those impacts are discussed in the next section.

5.2 Socio-cultural impacts

5.2.1 Alienated local residents

In some touristic destinations, tourists are outnumbering the locals. In Venice, tourists outnumber the permanent inhabitants. The number of the residents is half of what it was 30 years ago (WTTC & McKinsey, 2017). When in 1950 the number of residents in Venice was 175,000, in 2016 it was only 55,000 (Ulkolinja, 2016). The number of tour-

ists a day, 60,000 is exceeding the number of local inhabitants by 5,000 (Straitstimes, 2016). During the peak season around 30,000 cruise ship passengers visit Venice (Rodriguez, 2016). Annually approximately 1,000 residents leave the city (Angela, 2017). It has been estimated that by 2030 there will be no full-time residents in Venice (Winston, 2015).

Dubrovnik in Croatia is also a popular tourist destination and during the peak season from April to October the city is visited by 1.7 million tourists. Daily, the number of visitors can be up to 15,000. Tourists outnumber the locals while the number of residents has declined. Currently, only 1000 people live in the city, whereas two decades ago the number was five times higher. Locals are pushed out of their city by overtourism. In addition to high rental prices and annoyance for tourists, work offerings or the lack of those force local people to move. Having tourism as the main industry, Dubrovnik is suffering of brain drain, as educated people move out of the city. Skills of the educated ones are no longer in demand. (Ulkolinja, 2016)

Overtourism in destinations is affecting the product selection offered by shopkeepers. Adapting to the needs of tourists is essential to most shopkeepers in order to secure the continuance of the businesses. Thus, store holders adjust their range of goods according to the demand. This change of supply, on the other hand, is partially functioning as a catalyst of why the locals are relocating themselves: many everyday services are no longer available. In Venice, souvenir shops have replaced places such as pharmacies, bakeries, butcheries and tailors. The adaptation to increasing tourist numbers can be detected in Barcelona's famous market of La Boqueria that used to be the main market among the locals. However, the adjustments to match the preferences of the tourists have made the market less appealing to the locals as the supply does not meet the demand of every day needs of the residents. Sellers are selling fresh fruit juices instead of fresh fruits to make better business out of tourism instead of offering value to the local residents. In addition, tourism has also increased the prices of the goods at the market. (Ulkolinja 2016; Crowded out: the story of overtourism)

In Barcelona the locals blame overtourism for the rising rent and higher prices at bars and stores, forcing them to relocate themselves to more affordable neighborhoods. In

the neighborhood of the Ramblas around 45% of the local residents have had to move elsewhere (Becker, 2017). The Mayor of Barcelona, Ada Colau, acknowledges the consequences of growing tourism and its impacts on the city and the residents. According to her, the city shouldn't tolerate the fact that tourism drives the locals away. Colau has addressed her concern that uncontrolled tourism increases rent prices and therefore the locals move away. Eventually cities become depopulated and turn into theme parks, where are no longer residents, only visitors. (Ulkolinja, 2016)

Moreover, overcrowding in tourist destinations can raise security concerns in destinations such as Dubrovnik. The structure of the city and the excessive visitor numbers raise safety and evacuation issues. A study has estimated that the center of Dubrovnik can fit maximum of 7000 people. However, some days the number is double to that. The city is surrounded by walls with only 3 entrances and exits. This poses critical safety and evacuation issues. According to city representative and a member of environmental party, Ljubo Nikolić, only 3,500 people can be evacuated safely in a case of emergency. In some days the number of visitors from cruise ships alone is more than 8,000. (Ulkolinja, 2016)

The dissatisfaction of the uncontrolled tourist influx has led to anti-tourist protests in various popular tourist hotspots. Among others, the residents of Barcelona have protested against the uncontrollable influx of tourists. Discontentment with tourism has led to vandalism against tourists and sabotaged actions towards popular tourist activities (Schaal, 2017). Anti-tourist protests indicate great dissatisfaction with tourists.

Privatization of areas such as beaches can restrict the locals' possibility to access resources that they used before. For instance, hotels deny the locals' access to the beaches so that only the hotel guests can access the beach area. (Holden 2000, pp. 76-77) Besides the restrictions in the areas that were accessible for the locals, tourism development may lead to a displacement of people. In underdeveloped countries, especially the poor may lack a right to own land and be unable get a legal representation to secure their land ownership. Therefore, the locals have no other option than move away from the tourism destination. (Holden 2000, pp. 76-77) Displacement of people is not only the concern of the lower income. In some destinations different home sharing platforms,

such as Airbnb, has made it appealing for the homeowners to rent their apartments for the tourists rather than for the locals (Aittokoski 2018, p. A8).

5.2.2 Short-term rentals

Statistics from Europe show results of the popularity of holiday and short-day accommodation compared to hotels. In the European region as a whole the number of holiday and short-stay accommodation establishments has experienced significant growth, approximately 128,001 more establishments, between 2011 and 2016 (Appendix 1). Whereas the number of hotels and similar accommodation has been slightly decreasing during that time (Appendix 2). (Eurostat, 2018)

On country level the statistics show similar results. In Spain the number of hotel and alike accommodation establishments has increased in more modest phase, with 889 increase (Appendix 2), than that of vacation and short-term rental establishments (7,528 increase). Italy has also experienced increase in the numbers. From 2016 to 2017 the growth was 18.66% compared to previous year. In hotel sector the involvement has been negative as the number of hotel and hotel alike accommodation decreased by 0.54%. Croatia is among the countries that experienced exponential growth from 2,117 in 2010 to 98,341 in 2017. From which the biggest growth has happened in the holiday and other short-term accommodation sector- 95,538 more establishments (Appendix 1). (Eurostat, 2018)

The statistics exclude illegal housing rentals. Although those have been a concern in some cities. Attempts of controlling the number of illegal vacation apartments have being made. For example, in Barcelona the city fined platform Airbnb with 600,000 euro fine of all the non-registered establishments. This led to removal of 2,577 listings that did not operate with city-approved license (O'Sullivan, 2018).

As referred before, home-sharing is a popular accommodation option among travelers. However, the increasing demand of short-term private tourist apartments means increase in supply as well. Short-term tourist rentals offer additional profitability for the landlords compared to traditional house rentals. Increasing demand raises prices in most requested tourist areas, which to many residents is unbearable. As the tourist rentals offer additional profitability for the landlords it becomes more common. This changes the

ratio of the housing offerings. Short-term tourist apartments raise rents and cause housing shortages. In Ibiza, for example, the home-sharing platform, Airbnb, has one rental apartment for every thirty residents. (Reuters, 2017) In Barcelona, in Gothic Quarter neighborhood, there is currently more beds offered for the tourists than for permanent residents (Jessop, 2018). Rental prices are increasing in the most requested tourist areas. In Barcelona the rental prices increased by 8.2% for the duration of six consecutive quarters by 2016 (Lourdes, 2017).

Overpricing and the use of sharing economy services are deteriorating the possibilities for the locals to live in their own cities. This was experienced in the island of Mallorca which had 12 million visitors in the year 2017, that is 10% growth from the previous year (Kirchhoff, 2018). In Palma de Mallorca the rental prices have increased by 40% during the years 2012 and 2017 (Reuters, 2017). Consequently, the city of Palma de Mallorca banned the renting possibilities of apartments to tourists. This is done due to resident's complaints about the high prices of the rents. (BBC, 2018)

5.2.3 Example of spatial concentration

Example of spatial concentration of tourism can be observed in Italy. Between 2010 and 2015, over 60% of international arrivals directed in just four areas: Veneto, Lazio, Tuscany and Lombardy. Venice, one of the tourist hot spots, is in the region of Veneto. (MiBACT)

According to Italy's tenant union in the city of Florence, 478 people were evicted from their homes by the landlords in order to create room for vacation rentals. The displacement of the residents occurred during a nine-month period. The number of short-term holiday rentals has increased significantly between 2014 and 2017. In 2014, there were 4,659 short-term rentals, when in 2017 the number was more than quadruple to that; 18,000. Researchers at the University of Siena estimate that in the historic center of Florence, approximately 20% of all the homes available are for tourists and listed only on holiday rental sites. (Rizzo, 2018)

Likewise, to other popular European tourist destinations, tourism has risen the prices of food and housing in the city. The cost of permanent housing has increased as private

owners have converted apartments into Airbnb rentals or hotels (Ross, 2015). Apartments are rented out to tourists as short-term holiday rentals. Shopping facilities have been converted to fit the needs of tourists rather than those of the locals. (Straitstimes, 2016)

Venice is under threat to be removed from UNECO's World Heritage Site if not reaching adequate progress in the implementation of recommendations given by The World Heritage Committee by 1st of December 2018. The city is at risk of being listed on the "List of the World Heritage in Danger". (UNESCO, 2017)

The city of Venice has taken some measures to manage the impacts caused by tourist influx. In 2017, Venice's authorities have submitted a plan that is to ban tourist accommodation in the city center. In addition, Venice has introduced so called tourist-only routes to separate visitors from the locals, as a counter action to local's complaints about the invasion of tourists. During the Easter weekend, 28th of April to 1st of May, in 2018 the city segregated tourists from locals by redirecting tourists to alternative routes at the popular landmarks such as at St Mark's Square and the Rialto Bridge. Luigi Brugnaro, the mayor of Venice, states that the actions are part of a signed decree which are to assure public safety and security as well as to protect the livability of the historic city. (see Squires, 2018)

According to UNESCO's report, "Venice and its Lagoon" urban functions have been altered in the city after the decline in inhabitants. High tourism volume has caused functional transformations in the city. Tourism related activities have replaced locals' houses and services; residences are converted for commercial use and for tourist accommodation. This has endangered the cultural and social integrity as well as the identity of the properties. (UNESCO)

6 DISCUSSION

The aim of this study was to investigate how has overtourism affected the environment of tourism destinations in Europe and what sort of consequences it has had on the residents of those destinations. The study addressed the initial assumption that overtourism is negatively affecting the environment and social construct of the tourism destinations. The results were gathered by using the desktop research method. It was considered to be

the most relevant data collection method considering the large scope of information accessible. In addition, it allowed the use of longitudinal data.

6.1 Environmental impacts

The vastly increasing tourist numbers are generating pressure on the destinations. Water consumption and litter amounts were discovered to increase significantly during the summer months, which is the high season in European tourism industry. The peak season coincides with the period of time when the water availability is at its lowest level. These increases in undesirable findings can be explained partially by spatial and time concentration of tourism.

On average, a tourist uses more water per day than a local. The number of tourists is only increasing, especially during the peak season this leads to even greater increase in water use already during the driest months. This way overtourism is contributing to the issue of water scarcity. In addition to water consumption, the water quality was also affected due to large tourist amounts. While the negative impacts on the water consumption and quality were expected, the sunscreen as a polluting factor was unexpected, especially in such large quantities. As noted in the findings section, there are differences in sunscreens. For example, mineral-based sunscreens without the harmful chemicals which are better alternatives as they are less damaging for the environment. Thus, the choice of the travel here as well can alleviate the negative impacts for the environment.

Human activities generate great amount of litter and waste. On densely-populated tourist areas especially on coastal areas the tourism industry and overtourism stresses the environment partially due to lack of proper waste disposal. Litter is incorrectly disposed to the ground or to the sea. Litter from recreational activities, including tourism and smoking related actives are generating most litter in the coastal areas, thus the generators of those should be addressed when seeking for solution. Regional policies and other campaigns that raise awareness of the issue could be alternatives.

Mathieson and Wall (1982) present the framework of tourism, illustrated in a graph located on page 13, in which the impacts of tourism occur. The characteristics of tourists

are only one variable that effect the tourism impacts. Level of usage is one of those characteristics. This level of usage of a tourist was found out to be greatly larger when compared to a local resident. As stated previously in this study and according to research conducted by United Nations Environment Programme and Mediterranean Action Plan (UNEP/MAP) (2015) waste produced by a local was ten to fifteen percent less in comparison to a tourist.

As it was found air travel is the most popular form of transportation but at the same time it is the largest contributor to pollution. The stress of the subject was brought on by the magnitude of the impacts caused by aviation due to the proximity of the elevation of the aircraft in the atmosphere. In addition, compared to other sectors in the tourism industry, it is generating more emissions. The footprint of tourism was explained to be larger than expected and has quadrupled to the previous estimates.

6.2 Socio-cultural impacts

Social impacts of overtourism in the cities investigated for this study were similar despite the country; Rising rents, housing shortages and rising prices on goods. As the Doxey's Irritation index suggests, the number of visitors affects the way the tourists are perceived by the locals. In destinations such Barcelona and Venice, locals have held demonstrations against the increasing tourist numbers. Anti-tourist protests and vandalism are indicators that the destination has reached the Antagonism stage (Figure 3). Vandalism and protests are acts to demonstrate negative feelings towards the visitors. In addition, protests are a sign that the social carrying capacity, in other words the tolerance of the host community towards tourism, has been exceeded.

According to Cooper (2016) a resident of a host society can be affected by tourism even if they are not in contact with tourists themselves. Shopkeepers' in some of the cities popular among the tourists have deemed it necessary to adjust their offerings to suit the needs of the tourists. This adjustment of offerings is an example of change in the behavior and living patterns and is affecting all the involved parties, even the ones that otherwise have no interaction with tourists nor work in the tourism field. Therefor the social impacts have a wider outreach than originally assumed. A consequence of this is the

residents choose to go to another shop, willingly or forcefully. In more extreme cases this has led to the relocation of the long-term inhabitants, which has happened in the investigated cities.

Other changes in neighborhoods in the investigated cities were found. The examples from Venice and Dubrovnik showed how the increasing tourist numbers have changed the number of local inhabitants. In fact, the locals are outnumbered by the tourists in these places. In addition, it could be argued that the physical carrying capacity (Cooper, 2016) of Dubrovnik, as an example, has been exceeded as the number of people that could be safely evacuated from the city, in case of emergency, is significantly less than the actual daily visitor number. This a concerning fact for both the locals and the visitors because despite the current awareness of the safety hazards, no known measures have been taken to regulate the exceeding influx of persons.

The tourist amounts have increased the popularity of the availability of short-term rental apartment platforms. The preferences of the tourist to stay in short term accommodations incentivizes the local homeowner to convert or investors in providing these services. Simultaneously goods and services reflect concurrent price increases. Reiterating the fact that the individual traveler's choices can alleviate the scale of the social impacts at the mentioned destinations.

Overcrowding can occur in destinations that can be very different in nature. Places with cultural and historical importance as well as destinations with environmentally fragile eco-systems can be experiencing pressure caused by too many visitors. The definition of 'too many' is somewhat subjective, therefore the solutions need to be tailored according to a destination. Single solution that could be applied to all destinations which would then provide equally successful solutions is unlikely to be found due to the differing characteristics of the destinations. Thus, destinations different in nature need different solutions. Nevertheless, a solution that is suitable in all circumstances is undoubtedly the correct method to take, some basic rules could be applied to majority of cases.

Recreational tourism causes a lot of problems as discussed in the thesis. To educate people about the negative impacts of tourism is most often recommendable. Yet many

people travel to take a break from normal life; the routines, hurry, worries and stress. If people are motivated to travel in order to alleviate those factors, is it reasonable to expect them to worry in the destination as well? While to make changes in one's traveling habits would not require major actions and are reasonable, it could be argued that the care for the wellbeing of the tourist destination should be executed by other players in the tourism industry.

7 CONCLUSION

The increasing tourist numbers in Europe demonstrate the importance of traveling for recreational purposes. Yet the tourism industry is impacting the environment in which it is most practiced in. These impacts are often multidimensional and complex as they are constructed by many components of the tourism field. Overtourism, as a term, was found to have been emerged quite recently, even though the overcrowding in tourist destinations is not a new phenomenon, as the history of mass tourism reflects.
It was found that the increasing tourist numbers in numerous destinations accelerate the impacts provoked by humans. Based on the findings spatial and time concentration of tourists seem to be important factors in many of the impacts and the magnitude of those. The impacts were discovered to be most prevalent during the summer months in the Mediterranean destinations.

Overtourism has caused impacts for the environment and for the locals. The study brings to light just a few of the many negative impacts incurred. Increased water consumption, litter amounts and emissions are all environmental ramifications. Dislocation of locals, housing shortages, rising rental and goods prices were the social aspects of the issue.

The information gained on the negative impacts of tourism might encourage changes in one's behavior and the manner in which one travels. Actions of the individual traveler can help to alleviate the negative impacts and are therefore important to be acknowledged. Traveling and tourism provide opportunities for individuals to explore the globe. For that reason alone, it should be continued to be practiced but in a way that secures the opportunity for the future generations to do so as well. That being said, tourism

should not be impoverishing its surroundings to insure the continuance of sensible travel patterns.

7.1 Shortcomings and ideas for future study

While the secondary data proved to be the most adequate and efficient method of collecting relevant information, it was initially preferred to also gather primary data to comprehend the issue first hand. As the study was conducted under a specific time frame, it was determined to investigate only small portions of environmental and socio-cultural impacts. The search and data were needed to be limited which affected the content and results of the study. The study reflects subjective description of the covered research problem, as the studied impacts and the areas were chosen by the researcher herself. It could be argued that other impacts could have provided slightly different results. The writer was able to cover the chosen issues to some extent, nonetheless the abundant information available made it impossible for the writer to discover and utilize all the available data. The study results should not be generalized as the thesis only focused on few of the impacts and only on the destinations in Mediterranean region. However, the study can be perceived as directional overview of the topic.

Furthermore, the study did not cover any of the proposed solutions for the discovered impacts. Since the impacts in this study have been investigated to some extent, future research could explore how these impacts have been managed in various destinations to develop proposed solutions. Seasonality seemed to be a partial reason for the environmental impacts, therefore it could be beneficial to research the travel motives behind the preferences of traveling during these favored months. Future studies could benefit by publishing additional research and exposing this issue to the general public.

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APPENDICES

Number Of Establishments, Bedrooms And Bed-Places 2010-2017

Appendix 1: Holiday And Other Short-Stay Accommodation

GEO / TIME	2010	2011	2012	2013	2014	2015	2016	2017
European Union (current com	255,478 (e)	250,051 (e)	323,822 (b)	331,192	339,215 (e)	356,125	378,052	426,319 (e)
European Union (before the a	254,525 (e)	249,210 (e)	267,404 (b)	270,607	272,971 (e)	284,231	296,483	329,741 (e)
Euro area (EA11-2000, EA12-	:	:	:	:	:	225,808	239,342	271,956 (e)
Belgium	957	926	2,636 (b)	2,839	3,064	6,074	6,342	6,705
Bulgaria	439	446	813 (b)	890	989	1,014	1,162	1,227
Czechia	2,455	2,558	3,193 (b)	3,163	2,667	2,655	2,636	2,525
Denmark	174	181	177 (b)	174	169	175	189	196
Germany (until 1990 former t	14,717	14,558	14,321 (b)	14,105	14,040	14,027	14,136	14,297
Estonia	627	645	848 (b)	916	1,009	1,003	1,041	1,068
Ireland	: (u)		5,060 (b)	4,915	4,044	704	704	:
Greece	24,830 (e)	23,409 (e)	23,580 (e)	23,683	24,088 (e)	24,259 (e)	24,369 (e)	25,645 (e)
Spain	22,096	23,882	24,957 (b)	25,630	26,878	27,348	27,914	29,624
France	3,476	3,505	3,500 (b)	3,620	3,642	3,586	3,483	:
Croatia	1,040	1,089	56,418 (b)	60,585	66,244	71,894	81,569	96,578
Italy	113,706	117,146	121,142 (b)	121,879	122,729	132,101	142,919	169,592
Cyprus	145	138	0	0	0	0	0	0
Latvia	90	96	275 (b)	269	277	298	357	694
Lithuania	154	139	1,220 (b)	1,402	1,619	1,878	2,240	2,531
Luxembourg	139	134	132 (b)	121	107	106	112	112
Hungary	683	721	1,699 (b)	1,676	1,800	1,908	1,978	2,016
Malta	:	:	8 (b)	17	17	17	20	20
Netherlands	1,526	1,559	1,537 (b)	2,338 (b)	2,523	2,559	2,462	2,499
Austria	6,323	6,324	6,601 (b)	6,692	6,904	7,091	7,646	8,121
Poland	3,862	3,619	5,746 (b)	5,974	5,933	5,992	6,236	6,293
Portugal	80	87	79 (b)	852 (b)	852	798	1,520	2,330
Romania	447	347	2,861 (b)	3,093	3,183	3,684	3,760	4,316
Slovenia	284	282	: (u)	: (u)	2,178 (u)	2,242 (u)	2,485 (u)	2,916 (u)
Slovakia	1,199	1,174	1,364 (b)	1,296	1,226	1,338	1,226	1,245
Finland	223	233	342 (b)	372	380	379	366	370
Sweden	1,053	1,078	1,088 (b)	1,131	1,158	1,114	1,094	1,126
United Kingdom	50,172	41,621	42,337 (b)	41,495	:	41,881	40,086	:
Iceland	328	:	344 (b)	414	544	561	513	498
Liechtenstein	112	106	53 (b)	52	45	51	52	51
Norway	383	368	297 (b)	807	797	748	706	674
Switzerland	:	:	:	:	:	:	35,964	:
Montenegro	:	:	152 (b)	:	:	:	26	29 (b)
Former Yugoslav Republic of	210	207	198 (b)	193	196	186	179	185

Appendix 2: Hotels and similar accommodation

GEO / TIME	2010	2011	2012	2013	2014	2015	2016	2017
European Union (current com	204,742	203,298	202,022	202,794	202,248 (e)	202,783	201,973	201,522 (e)
European Union (before the a	203,901	202,441	201,144	201,897	201,339 (e)	201,845	200,962	200,485 (e)
Euro area (EA11-2000, EA12-	:	:	:	:	:	142,793	141,714	141,095 (e)
Belgium	2,088	2,091	1,771	1,713	1,653	1,557	1,522	1,517
Bulgaria	1,823	1,862	1,936	2,055	2,166	2,180	2,158	2,110
Czechia	4,300	4,612	6,350 (b)	6,301	5,833	5,992	6,022	5,967
Denmark	482	519	515	514	533	525	537	559
Germany (until 1990 former t	35,867	35,579	35,215	34,692	33,997	33,635	33,061	32,749
Estonia	375	374	390	404	410	414	413	422
Ireland	3,451	3,071	2,945 (b)	2,462	2,438	2,348	2,348	:
Greece	10,008	10,114	9,666	9,677	10,123	10,111	9,987	9,772
Spain	18,635	19,262	19,532	19,610	19,563	19,718	19,524	19,630
France	17,290	17,189	17,189	17,171	17,336	18,328	18,424	:
Croatia	841	857	878 (b)	897	909	938	1,011	1,037
Italy	33,999	33,918	33,728	33,316	33,290	33,202	33,166	32,988
Cyprus	690	683	799	792	799	786	783	794
Latvia	495	496	247 (b)	255	258	332	343	349
Lithuania	381	379	397	414	421	418	420	411
Luxembourg	260	259	251 (b)	243	236	236	232	225
Hungary	2,033	1,927	2,094	2,064	2,123	2,185	2,202	2,184
Malta	153	149	150	153	149	161	164	183
Netherlands	3,172	3,194	3,155	3,510	3,561	3,525	3,585	3,636
Austria	13,461	13,134	13,203	13,073	12,839	12,625	12,366	12,153
Poland	3,223	3,285	3,414	3,485	3,646	3,723	3,965	4,064
Portugal	2,011	2,019	2,028	2,331	2,331	2,430	2,437	2,538
Romania	4,724	4,612	2,216 (b)	2,439	2,500	2,626	2,638	2,766
Slovenia	647	648	642	639	647	681	692	698
Slovakia	1,322	1,297	1,473	1,439	1,397	1,509	1,475	1,471
Finland	842	830	839	828	785	777	772	787
Sweden	1,985	1,998	2,003	2,045	2,033	1,992	2,011	2,025
United Kingdom	40,184	38,940	38,996 (b)	40,272	:	39,829	39,715	:
Iceland	343	:	332	344	379	402	397	405
Liechtenstein	40	40	38	36	40	35	38	35
Norway	1,128	1,115	1,102	1,201	1,145	1,082	1,106	1,058
Switzerland	5,477	5,396	5,257	5,191	5,129	5,055	4,949	:
Montenegro	:	: (u)	351	:	:	:	311	331
Former Yugoslav Republic of	172	186	209	225	233	249	263	274

Source: http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do