Environmental attitudes of golf tourists and their willingness to pay a premium: Towards a more sustainable future of golf

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“Golf is the closest game to the game we call life.
You get bad breaks from good shots; you get good breaks from bad shots- but you have to play the ball where it lies.”

BOBBY JONES

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ABSTRACT

Tourism and its sustainability have been of interest in many of the past studies, however, golf tourism which is a generator of some serious income to tourism destinations is yet to be scarcely studied, especially in the fields of environmental attitudes and willingness to pay a premium for a round of golf. As environmental consciousness of people has grown it affects to all industries and we shouldn't forget the possibilities to further develop the sustainability of the golf sector which is the largest sector in the sport tourism market. This study attempts to fill the gap by exploring the opportunities that golf has to further improve its sustainability.

This study aims to determine the environmental attitudes of Finnish golfers and whether they would be willing to pay an environmental premium. A quantitative method was applied to this study and an online survey was used to collect answers from golfers around the world but since the majority of the respondents were from Finland this study mainly focuses on the Finnish perspective. In this study, the answers are cross tabulated mainly by the frequency of play and gender in order to distinguish some determinants that would indicate who exactly is the golfer who is concerned about the sustainability of golf courses and who is more willing to pay a premium.

The results suggest that golfers are interested in the golf related sustainability matters and they expect golf courses to work towards making their golf courses more sustainable. In addition, it was found out that golfers do have WTP for environmental premium that could further help the golf courses to work towards the sustainable goals as long as the premium is clearly earmarked for some specific target. These results could be of interest for different stakeholders within golf industry who would be interested to apply a premium or eco-tax on their green fee prices in order to work towards more sustainable future of golf.

Keywords: Sustainable golf tourism, environmental attitudes, willingness to pay a premium

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LIST OF ABBREVIATIONS

ACSP	The Audubon Cooperative Sanctuary Program
ASTMA	Australian Sports Turf Managers Association
EHS	Environment, health and safety
EMI	The Environmental Management Initiative
ETIS	The European Tourism Indicator System
GEAs	Golf Environment Awards
IAGTO	International Association of Golf Tour Operators
OECD	The Organization for Economic Co-operation and Development
R&A	Royal and Ancient Golf Club of St Andrews
RSPB	The Royal Society for the Protection of Birds
SCM	Sport commitment model
SDG's	Sustainable Development Goals
TPB	The Theory of Planned Behaviour
UN	United Nations
UNEP	United Nations Environment Programme
UNWTO	World Tourism Organization
USGA	The United States Golf Association
VEPs	Voluntary Environmental Programmes
WCED	World Commission on Environment and Development
WTP	Willingness to pay
WTTC	World Travel and Tourism Council

1. Introduction

Golf is the largest sport-related travel market with nearly half of the golfers travelling around the world to play golf and this sector has been valued at US 22.9 Billion dollars (Hudson&Hudson, 2014). Golf tourism is an important part of the sport tourism sector and it doesn't only generate some serious income to the destination, but it is a good strategic tool to modify seasonal visitation and to extend the tourism season. In addition, it creates both direct and indirect employment, new business opportunities, increases local property values and increases the quality of tourism (Hudson&Hudson,2014). However, golf and tourism related to it creates social and political controversies, especially due to the environmental impacts of golf courses (Park, Morrison, Wu & Kong, 2018).

As environmental consciousness of people grows it effects to all sectors within tourism industry. The negative environmental impact of golf courses has been a topic of discussion and a reason for concern, it is worth to explore the opportunities available in order it to be more sustainable. For golf courses to be more sustainable not only the managers need to be ecologically aware, but it is needed for the golfers to have pro-environmental behaviour (López-Bonilla, Reyes-Rodríguez & López-Bonilla, 2020). However, it seems that little is known about the golf tourists and their environmental attitudes as not many studies have been done while environmental attitudes, pro-environmental behaviour and WTP has been studied extensively within the other areas of tourism.

As we talk about a big niche market within the sport sector in tourism and the fact that there are nearly 40 000 golf courses to explore in the world it is time to study the opportunities and possibilities available on how to take a step towards more sustainable golf in the future. This study intents to fill this gap by researching the environmental attitudes of Finnish golf tourists and their willingness to pay an environmental premium in order to help making golf courses more sustainable. In addition, trying to understand the general perception and importance of environmental matters to the golfers as well as identifying the targets where the premium collected should be allocated to and how much this possible premium could be. In order to understand the golf tourists, the results have been analysed by trying to segment the golfers by their gender and golfographics such as the commitment to the game of golf. As females has been considered in many studies more pro-environmental it is important to see whether it applies to this study as well. Committed or so-called heavy golfers tend to travel and play golf more and, in that sense, creating the highest CO2 footprint. As heavy golfers are the most committed does it also mean that they are interested in the environmental factors and so forts willing to pay for the emissions created.

The main research questions:

What are the environmental attitudes of golf tourists?

Are golfers willing to pay an environmental premium?

Sub-questions:

Are golf tourists aware of the environmental certifications for golf courses?

Does frequency of play effect the willingness to pay?

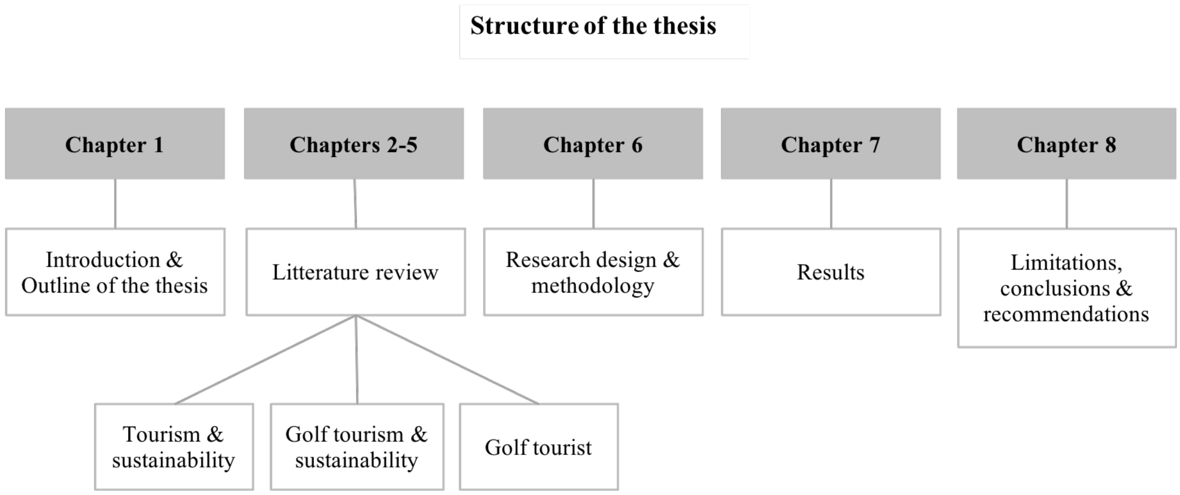
How much golfers would be willing to pay extra on top of the green fee in order to help golf become more sustainable?

How socio-demographics effect on the environmental attitudes and willingness to pay?

1.1. Outline of the thesis

The thesis is divided in 5 parts. The first part is the introduction where reader should achieve an overview of the thesis and to get a general understanding of the structure as well as the purpose of the thesis. The second part is the literature review that will be covered in chapters 2-5. The literature review will discuss topics such as tourism in the past, now and in the future, tourism and its sustainability, golf tourism and its sustainability as well as who are the golf tourists. The third part of the thesis is the methodology that will be covered in chapter 6. The methodology chapter presents the methodological approach, and it explains data collection methods. Fourth part of the thesis will be the results and findings that will be presented and analysed. The fifth and last part of the thesis are the chapters 7-8 that will cover the limitations associated with the research, discussion and conclusions associated with the results and recommendations for future studies as well as for stakeholders working within the field of golf tourism. Figure 1 presents the overview of the structure of the thesis.

Figure 1: *Overview of the structure of the thesis*



Source: Author

2. Tourism and travel trends in Europe

Throughout the times people have always been intrigued by the unknown and going back the history we can see that the early beginning of the tourism can be considered to be already around 4000 B.C.E when the Sumerians invented money and the use of it for business transactions (Goeldner, Ritchie, 2012). In 2700 B.C.E pharaohs started to build burial tombs, pyramids and the sphinx, and these wonders started attracting large numbers of visitors in 1600 to 1200 B.C.E. It is said that in 1480 B.C.E the first journey for the purpose of tourism and leisure was organised by the Queen Hatsheput (Goeldner, Ritchie, 2012). However, the period of the 'Grand Tour' in the seventeenth and eighteenth centuries can be considered to be one of the most significant eras' in the history of tourism. During the Grand Tour students and young aristocrats travelled to important European cities for pleasure and studying. In addition, this is the time when guidebooks started appearing and within the next 200 years the travel literature were the 'bestsellers' of the books sold (Ryan, 2003). The coverage of road and rail network grew in time and the invention of airplanes revolutionised the easiness of travelling from one place to another. Through times travelling became quicker, faster, cheaper and more available to people. The easiness of travelling boosted the travelling and tourism, not only for the wealthy but it became possible for everyone no matter of their social status (Goeldner, Ritchie, 2012). Tourism grew to be one of the biggest industries of today.

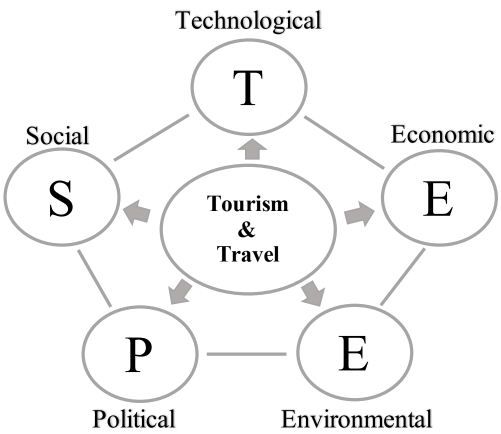
According to the World Travel and Tourism Council (WTTC)(2020a) the travel and tourism sector has had a strong growth for nine consecutive years and yet again, year 2019 was another great year for the sector with growth rate of 3,5%. In 2019 the tourism industry generated 10,3% of global GDP and provided 330 million jobs compared to the 319 million jobs in 2018. Furthermore, travel and tourism sector create 1 in 10 jobs around the world (WTTC, 2019 & WTTC, 2020a). Europe has stayed as the largest region for international visitor spending (37%) and Spain has remained as the top country in Europe and third in the world in relation to the visitor spending. In addition, the travel and tourism sector grew 2,4% while the whole economy grew just 1,3% (WTTC, 2020a). World Tourism Organization (UNWTO) made in 2011 a long-term tourism base projection for 2030 with 2010 as the base year for the projections. After six years from the projections UNWTO was already able to see that the international tourist arrivals especially to Europe were growing faster than expected. It was suspected that "the increased air connectivity, more affordable travel and the rise of new tourism and information services through digital platforms have contributed to this remarkable growth" (UNWTO, 2018, p.65).

What future will hold for the travel & tourism industry will stay as a mystery due to the COVID-19 pandemic that started in the beginning of the year 2020. According to WTTC (2020b) the pandemic has been a big tragedy for mankind and travel & tourism industry has not been immune to these changes that has been had to be made to live and conquer the pandemic. In addition, the COVID-19 brought with it a large amount of travel restrictions and new protocols that made international visitor arrivals to drop approximately 60-80% by September in 2020 and approximately 121 million jobs were impacted. The travel and tourism sector consist of 80% of small/medium companies that COVID-19 has forced to freeze or cease their operations completely and it is expected that this fastest growing sector for nine consecutive years straight will suffer devastating ripple effects that will reach beyond the travel & tourism sector. However, WTTC (2020b) also believes that this can be the new beginning and time to adapt to the new normal. It is expected that domestic travel will recover the quickest and this is where the marketing should be placed at first by the governments and tourism operators. The recovery of the domestic travel will be followed by the medium haul regions and lastly by international travel. To quicken the recovery, the health and safety concerns needs to be tackled by implementing new contactless digital solutions as well as digital identities. Even though the future for tourism at the moment will seem uncertain WTTC (2020b) still anticipates that the challenges can be converted into opportunities, but the sector will need the proactivity of the key players in the sector and them coming together and supporting the travel & tourism sector.

The growth and development of tourism is mainly the combination of tourism, technology and travel. These three T's has reinforced the development of each and created many possibilities how to develop and combine these sectors to be beneficial to one another (Ryan, 2003). Throughout times major cities and attractions has invited masses of tourists to visit the locations that has caused overtourism and pressure to some of the destinations. The evolution of tourism and demand for travel has created large tourism companies offering standardized packages to masses of clientele to maximise efficiency. Hence, the conventional mass tourism market is slowly changing, and tourists are ever more interested in the alternative options available. The awareness of tourists has increased, and their wants and wishes are increasingly catered for that has caused new trends to appear within the tourism industry (Novelli, 2005).

There are some forecasting models available to forecast the forces of change and travel. One of the models is the STEEP model that was developed by Fahey and Narayan (1986). The model consisted of following segments – a social, economic, political and technological. By categorizing the macro level into four sectors the forces of change and trends can be analysed in general level. Later the model was completed by adding the environmental segment, see figure 2. The STEEP is an acronym that stands for the five segments previously explained. Furthermore, the STEEP was developed to serve as a general tool to be used by the strategic planning and management to predict future trends. Later STEEP model was applied to tourism by Freyer (1995). In 2005 Nordin used STEEP model as an analytical framework for identifying some of the drivers affecting travel and tourism trends in the future. The tourists were divided into different age groups and they were asked to rank the top five interest/activities. The study showed that travellers want more out their holidays than just basic beach holidays. Especially active holidays and activities combining body, mind and soul were challenging the traditional holidays. In addition, already in 2005 the trend forecast showed increasing interest towards environmental responsibility, self-fulfilment by making dreams come true and experiencing hidden places. Furthermore, the main trends suspected in the report of Tourism of Tomorrow by Nordin (2005) has been the growing trends of tourism for the past decade.

Figure 2: *The STEEP model*



Note: Adapted from Nordin, 2005, p.10

The future trends are hard to predict so the tourism industry needs to carefully look into the past and present trends, make assumptions, as well as, read the weak signals to grasp an idea of the forthcoming trends. Some of the present and rising trends are related to sustainability, well-being, commune thinking, creative tourism and sport tourism to name a few. However, different tourism forecasts emphasize different trends, but everyone seems to agree that tourism has more and more options available and there are no limits for imagination when creating new tourism products (Nordin, 2005; Novelli, 2005 & Pellešová, 2020). At the same time the needs and expectations of tourists are growing that creates more pressure to create wider range of tourism products (Heinemann, 2016). However, the pandemic caused by the COVID-19 virus can be expected to alter the trends that has been predominant for the past decades. It is expected by the WTTC (2020b) that the future trends will require greater cooperation from different bodies within travel & tourism sector to create and restore overall safety and comfort of the tourists to sustain travel & tourism in the future. The post-pandemic era can be an opportunity for the governments to promote lesser-known destinations since tourists have already in the past been favouring "of the beaten path" journeys but in the future, there will be even more demand for this type of destinations since tourists are avoiding crowds. In addition, when expanding tourism to rural destinations it is advised to extend the digital infrastructure to these new destinations (WTTC, 2020b).

The todays tourist has absorbed so called 'snacking' culture and they want to collect as many experiences as possible during multiple short trips instead of one longer trip. Most of the pre-trip planning and overview of products and services has been done by reading and conversations within social media. It can be considered that today's travellers are more "serious" due to the fact that the boundaries of work and free time are getting blurrier. People are placing more pressure on themselves by the need of self-development, constantly learning something new and to achieve as much possible. The travellers are more and more in the search of experiences that has a meaning and purpose (Puhakka, 2011). In 2018 TrekkSoft surveyed 958 people all over the world to find out the travel trends and the coming trends of tours and activities sector. The results showed that the demand is growing towards unique experiences, ecological tours, local experiences, adrenaline pumping activities and virtual reality. The Finnish futurist Hiltunen (2019) stated that the future and its trends are the result of the decisions made today and that we have a great potential to guide the trends and mega trends to the direction that will benefit the most societies and travel industry and make the future travel grow sustainably. According to Euronews.travel article the future trends of tourism in 2021 and after, indicates a shift towards off-the-beaten track, alternative holidays, coworking camps and regenerative travel. Especially regenerating traveling is an interesting step towards a new form of sustainable tourism where the travellers will actively improve social or environmental conditions of the host country by contributing to it. This can happen for example, through compensating for certain causes or projects at the host destination by donations or paying a premium (Palmer, 2020).

3. Tourism and sustainability

3.1 Introduction

Tourism and its sustainability have gained a lot of attention since it is one of the largest industries in the world. It is considered that tourism activities have a significant impact on environment within destinations. While tourism includes diverse range of activities in terms of consumption and production its environmental and sociocultural impacts vary both spatially and temporally. The impacts are often emphasized as negative consequences even though it can be considered that there is also mutual dependency, since tourism occurs in a diverse range of environments and in some cases, it can even help regenerating past industrial processes. Unfortunately, many times the economic benefits gained from tourism attracts in the expense of environmental and sociocultural aspects. Furthermore, it is utmost important when planning and developing the tourism sector to think in the long term because tourism can easily be the one affecting negatively to its own industry (Shaw & Williams 2002).

The term sustainable development states back to the 1980's when it started to create broader discuss and the concept was popularized by the report of the World Commission on Environment and Development (WCED), also known as the Brundtland Report in 1987. The report defined the sustainable development as 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED, 1987, p.37). This same idea can be applied to tourism sector and how to sustainably develop it. The global climate change and increased environmental awareness and importance of sustainability has created a subdiscipline of sustainable tourism within tourism industry (Shaw & Williams 2002).

The increase of mass tourism from the 1970's onwards and its impacts on the physical, sociocultural, and economic environments within destinations has not gone unnoticed. The tourism industry is dominated by conventional mass tourism products and activities due to the interest of governments and communities to pursue this trend in the hope of greater economic benefits (Shaw & Williams 2002). Even though many destinations have preferred the conventional mass tourism model, the todays world has started to resent it in the busiest European tourist destinations and in some extent, we can call this even "tourismphobia". Mass tourism and its changing to an overtourism has been studied increasingly in recent years and the impact it is causing within environment and residents. In 2018 the resentment of the locals was studied by Martín, J, Martínez, J and Fernández, J. The results indicated that the increasing number of incoming tourists had forced the prices of living and goods in Barcelona to rise and this has affected negatively to the citizens attitudes and support on tourism. In addition, similar kind of study was conducted in Venice to understand the extensive tourism growth between 2008 to 2019 and at the same time the growing resentment of the locals towards tourism (Bertocchi, Visentin 2019).The studies conducted within the fields of overtourism and its pressure to the environment, heritage conservation as well as socio cultural aspects has created increasing amount of studies regarding how to sustainably develop destinations and how to manage smarter these destinations like the visitor-flow monitoring study (Zubiaga, Izkara Gandini, Alonso, Saralegui 2019) and strategic framework to deal with negative impacts on tourism (Postma, Schmuecker 2017).

There has been a lot of discussion about tourism and its impact on global environmental change. While tourism is one of the largest industries contributing to the climate change it also will be dramatically affected by it (Gössling & Hall 2006, Hall & Higham 2005). Nevertheless, it is one of the reasons why several tourism studies and guides have been conducted to better understand how tourism affects to the environment, how these environmental changes affect to tourism and what to do to decrease the negative impacts it creates. The United Nations (UN) has created an Agenda 2030 for sustainable development with 17 development goals and 169 targets adopted by all UN member states in 2015. In addition, UN and World Tourism Organization (UNWTO) has joined forces and UNWTO believes that tourism has a potential to contribute to the goals set by the UN either directly or indirectly, but it will require a clear implementation framework, adequate financing, infrastructure and human recourses. From the 17 Sustainable Development Goals (SDG's) set by the UN particularly 3 goals are targeted directly to tourism and these 3 goals are related in sustainable economic growth, responsible consumption and production as well as the sustainable use of the oceans (UNWTO, Tourism for SDGS). SDG's are presented in figure 3.

-.,**Figure 3:** *Sustainable development goals*

Note: Reprinted from UNWTO website https://www.unwto.org/tourism-in-2030-agenda

3.2 Instruments for sustainable tourism

As discussed earlier, tourism is one of the sectors contributing to the global climate change and also the one to be affected by it makes it important for tourism to try to develop it to be more sustainable. Since tourism has clear environmental, social and economic impacts both negative and positive, it is important to decrease the negative impacts by trying to sustainably develop it. There are several tools/instruments that can be used to develop the sustainable tourism. United Nations Environment Programme (UNEP) together with World Tourism Organization (UNWTO) has created a guide for policy makers to make tourism more sustainable. The guide defines five key instruments for making tourism more sustainable; measurement instruments, command and control instruments, economic instruments, voluntary instruments and supporting instruments that will be briefly discussed below.

3.2.1 Measurement Instruments

To be able to measure it is important early in the process to define the indicators. The indicators can help clarifying goals and makes it possible to monitor changes. Indicators can be used to show the current state of the industry. When objectives are made, they need to be monitored to see whether the goals are respected and met. There are several different ways of monitoring sustainability such as measuring environmental, economic and social conditions. Measurement instruments help determine the level of tourism and its impact. The indicators should be chosen so that they are comparable with other destinations alike (UNEP & UNWTO, 2005). One good tool for measuring sustainability is The European Tourism Indicator System (ETIS) that was launched in 2013. ETIS gives destinations a set of 27 core indicators and 40 optional indicators that helps destinations to measure and compare tourism performance (European Commission, 2016).

3.2.2 Economic Instruments

Economic instruments include financial means of influencing in behaviour and impact by using means such as environmental taxes and charges. By using economic instruments such as taxes and charges can help changing behaviour of consumers and enterprises to avoid negative environmental impacts such as polluting. The revenues gained from the taxes and charges can be used to support conservation and communities to achieve greater sustainability (UNEP & UNWTO, 2005). One example of economic instruments is the study conducted by Markandya (2000) who examined the application of eco-tax in Hvar due to the increased number of tourists and its stress caused to the environment. The proposed instrument was named as “tourist eco-charge” and it was earmarked with the purpose of environmental improvement and to reduce/prevent pollution of the coast and coastal sea. The study showed that the tourists were willing to pay (WTP) for environmental improvements approximately 0,65€ per day.

3.2.3 Command and control instruments

According to the guide for policy makers by UNEP & UNWTO, the tools for command and control include legislation, regulation and licencing where the governments stand in a great position to apply them. The actions that governments take to develop certain areas can influence people’s behaviour at the same time. The areas within tourism that can be controlled through legislation and regulations to make tourism more sustainable include areas such as employee rights and conditions, nature and community development, visitor safety and responsible use of resources. In general, the main function is to protect the environment, communities, visitors and the businesses. Tourism laws should be set in the manner that they support sustainable development of tourism in the long term and to support communities as well as protecting the natural resources. In addition, the general specific laws regarding for example the employment rights and environmental management should be synchronized with tourism laws for them to work in harmony to avoid confusing duplication of powers and responsibilities (UNEP & UNWTO, 2005).

3.2.4 Voluntary Instruments

Voluntary instruments normally include guidelines, certification and code of conduct to help companies and tourists/clients to understand what is expected of them (UNEP &UNWTO, 2005). If we consider sport establishments such as golf courses, they often have on their website and/or on their premises a written code of conduct with do's and don'ts within the golf course area. Golf can be considered to be a stricter on their guidelines due to the long history of the sport and its association to elite. Some of the guidelines for golfers include how to dress appropriately and how to behave within the golf course. The R&A governs the rules and the sport of golf in Europe, but they also have player conduct and spirit of the game guide that is followed by golf clubs throughout the Europe. The principles of this guide are to act with integrity, consider other players, taking care of the course and to pay attention to the safety issues (R&A, Player conduct and spirit of the game).

Minoli and Smith (2011) explored Voluntary Environmental Programmes (VEPs) within golf industry. While environmental programmes are well established in other industries such as manufacturing, they are still fairly recent to the sports sector. VEPs can be considered as an important complementary measure to take part in within golf industry due to its heavy irrigation and pesticide application in some of the golf courses. The VEPs are becoming more widespread due to the growing environmental awareness and pressures on golf facilities to improve their environmental performance. There are VEPs such as The Audubon Cooperative Sanctuary Program (ACSP) that is predominately employed in the USA that has been already functioning since the beginning of the 1990s while Geo Foundation that targets for European market was launched only in 2007 (Aubudon International, 2018 & Geo Foundation).

3.2.5 Supporting instruments

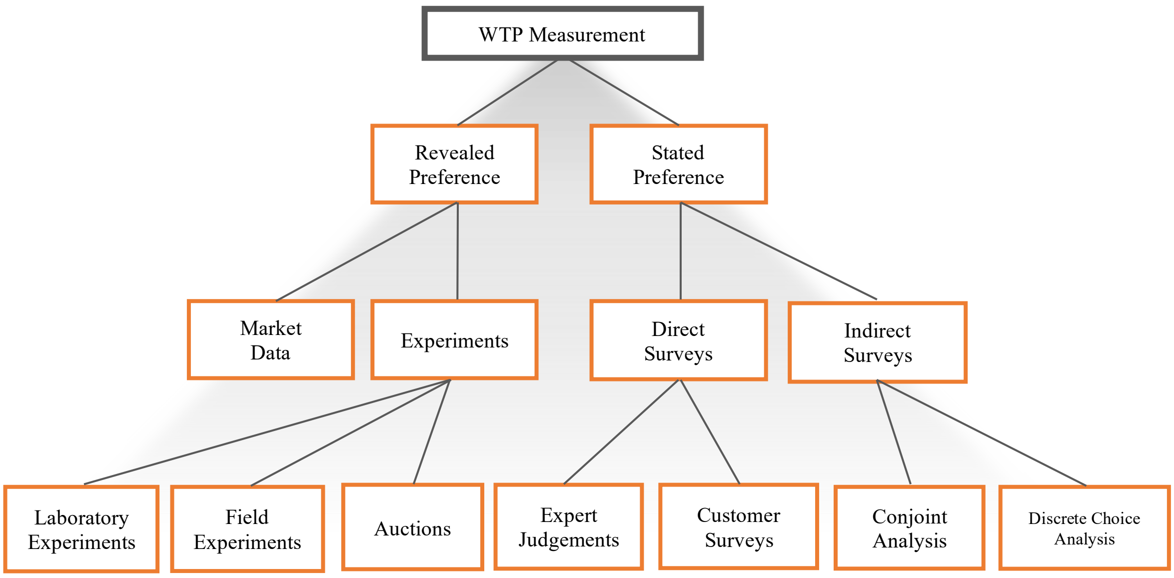
For tourism to be generally more sustainable it is important to consider some supporting instruments that relates to the infrastructure and services such as transportation, telecommunication, water, energy, sewage, security and so on. In some of the cases it is good to consider whether public and private sectors should work together and share the costs if for example the local communities will benefit from the increased transportation network, effective telecommunication network or well-planned health and fire services that are able to respond to the needs of locals and visitors (UNEP & UNWTO, 2005).

3.3 Willingness to pay for environmental improvements

Willingness to pay (WTP) can be considered as an economic instrument that can further help to fulfil sustainability goals and to increase pro-environmental behaviours and measures (Birdir, Ünal, Birdir, & Williams, 2013; Bigerna, Micheli & Polinori, 2019). WTP is normally defined as the maximum amount a person is willing to pay for a good or service. The Organization for Economic Co-operation and Development (OECD) has defined WTP as “The stated price that an individual would accept to pay for avoiding the loss or the diminution of an environmental service”. Even though, WTP can be affected by several different factors it still is one of the best ways to conceptualize overall demand. One of the first willingness to pay methods was used in the study by Acton (1973) to see how much a person is willing to pay for avoiding a heart attack. Ever since, the WTP has been used increasingly to study willingness to pay in different settings. In addition, as the overall concern for the environmental factors has been increasing, it seems that the sustainable tourist behaviour studies has become an interesting field of study (Weeden, 2013).

There are several methods how to collect and measure WTP but in the classification framework they are divided into two parts: revealed preference and stated preference. Revealed methods are normally either actual stimulated price responses that has been obtained by observing market or collected by experiments. The experiments can be done either in the laboratory or in the field. While as, stated preferences utilize surveying techniques and they can be either direct or indirect. In addition, by direct surveys one can get more direct information on how much the respondents are willing to pay while as indirect method normally has some sort of ranking system to get an estimate of the WTP (Breidert, Hahsler & Reutterer, 2006). The data collection methods are presented in Figure 4.

Figure 4: *Classification framework for methods to measure willingness-to-pay*



Note: Adapted from Breidert, hahsler&Reutterer, 2005, p.10.

As the environmental consciousness grows people are ever more interested in the sustainability matters, at least that is what the trends indicate (Nordin 2005; Heinemann 2016; Palmer, 2020). WTP has been studied in different settings such as mass tourism destinations (López-Sánchez and Pulido-Fernández, 2016a), ecotourism (Hultman, Kazeminia, Ghazemi, 2015), conservation of natural resources (Kamri, 2013) etc. The studies conducted from the field of sustainability and the WTP gives us a good general understanding of tourist's attitudes and behaviour. Hence, the context where the study was conducted gives variations to the results. López-Sánchez and Pulido-Fernández (2016a) study indicates that majority (89%) of the respondents consider sustainability as an important matter and that it is something that should be worked on. Nevertheless, the same study concludes that even the most respondents considered sustainability important, only 26,6% were ready to pay for it. On the other hand, it has been noticed that the WTP seems to be higher when the amount has been earmarked for something or tourists know what they are going to pay for (López-Sánchez & Pulido-Fernández, 2016a; Cetin, Alrawadieh, Dincer, Dincer & Ioannides 2017). Some similarities have been found in the studies conducted on environmentalism and WTP. Considering socio-demographic variables gender seems to be the strongest predictor of behaviour. Many studies point out that females tend to have a higher WTP than men and that women have stronger intensions for pro-environmental behaviour (Tikka, Kuitunen & Tynys 2000; Diamantopoulos, Schlegelmilch, Sinkovics, Bohlen 2003; Klerk, Haarhoff 2015). Even a lot of studies indicate that women tend to have more environmentally conscious behaviour there are some studies with contradictory information and no gender differences have been found. The study conducted by Reynisdottir, Song and Agrusa (2008) on WTP entrance fees to natural attractions didn't find any gender differences in WTP: The same study also concluded that the level of income affects the WTP and visitors with lower income may be deterred if fees were to be implemented. Similar findings have been found in other studies and greater WTP has been found in the medium or higher income groups (López-Sánchez & Pulido- Fernández, 2016a; Shao, Tian, Fan 2018). While gender and income has been the strongest predictors of environmental behaviour and WTP, studies have also indicated that other socio-demographic characteristics like education and age has some effect on the behaviour. The priority segment with the highest WTP tends to be people with a university degree and who are in the between of ages 31-45 years old (López-Sánchez & Pulido- Fernández, 2016a; Shao, Tian, Fan 2018). Another interesting finding is that tourists travelling for a shorter time have higher WTP than long-stays even though short trips tend to create more emissions while long-stays are more eco-efficient (López-Sánchez & Pulido-Fernández, 2016a; Gössling S, Peeters P, Ceron JP, Dubois G, Patterson T, Richardson RB. 2005)

3.3.1 Environmental friendly purchase behaviour

The theory of planned behaviour (TPB) which is a psycho-social model of human behaviour has been used in analysing pro-environmental behaviour. The core of the theory is attitude-intention-behaviour relationship where favourable or unfavourable attitude towards the behaviour will affect the intensions and then the intentions are assumed to influence the actual behaviour. In addition, salient beliefs have a special place in the theory since they are considered to be the prevailing determinant of a person's intention or action. Although many authors have suggested that TBP should include a moral obligation component because moral norms and social responsibility affect people's environmental attitude (Ajzen, 1991).

There are several different values, norms and beliefs that affect the consumers environmental purchase behaviour. Several theories suggest that individual's belief system contains three levels: global values, domain-specific values and attitudes. Global values can be regarded as the most central belief since it sets standards on a global level what is the preferred behaviour. Hence, the global values can be very abstract and can be difficult directly relate to specific attitudes. Domain-specific values are also called by some authors as value orientation and they are seen more personal due to their relation to economic, social, religious and other interests that influence attitudes. Attitudes are considered as beliefs towards products or brands and attitudes can be influenced by values. In addition, attitudes can be seen more specific than domain-specific values and are normally directed towards specific situations, objects or behaviour (Honkanen, Verplanken & Olsen, 2006).

Even though people in general expresses their concerns over sustainability it is completely different matter who is actually willing to pay for it. Scientists argue that there are gaps between attitude-intention-behaviour and often the behaviour is inconsistent or contradictory to the intensions (Weeden 2013). López-Sánchez and Pulido-Fernández (2016b) has identified and compared three different tourist groups to show their knowledge, commitment, attitude and behaviour towards sustainability. The groups were named as" reflective tourist"," unconcerned tourist" and" pro-sustainable tourist. The purpose of this study was to demonstrate that the tourists can be divided in different groups by their knowledge and/or behaviour towards sustainability in mature destinations. In addition, this segmentation of tourists seems to be a good predictor on tourists' behaviour and WTP for sustainability (López-Sánchez & Pulido- Fernández, 2016a).

The value-attitude-intension-behaviour has been the main conceptual framework in many studies. Follows and Jobber (2000) stated that it has not been tested in purchasing a specific environmentally responsible product. They believed that even people place high importance on conservation values and are generally concerned about environment but if it isn't a general norm, people do not want to complicate their lives with it. They emphasized that it is socially acceptable choice to prefer environmentally responsible products and due to that the intensions can be stronger than the actual behaviour. For this reason, it is important for researches to differentiate and acknowledge the environmentally responsible intention and behaviour. When measuring concerns and attitudes towards environmental responsibility it would be advised to measure rather specific instead of general attitudes because broad measures do not tend to reflect the behaviour in individual level.

4. Golf tourism and sustainability

4.1 Golf tourism

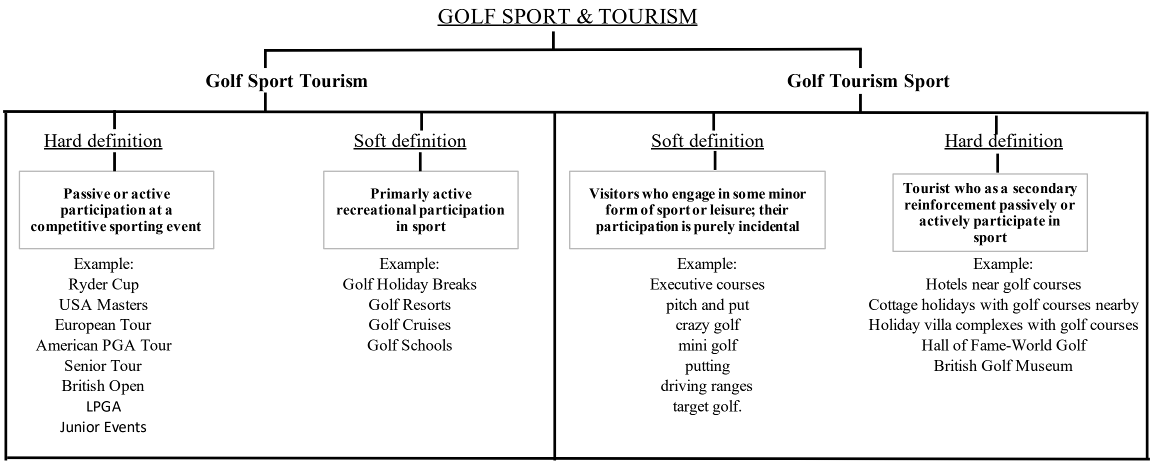
Sport related travel has been one of the trending markets within tourism for the past decades. Some prominent trends in the western societies like interest in the health and fitness, changes in social attitudes and values as well as television broadcasting has influenced in the "sportification of society" (Higham, 2005). Nowadays, sport tourism is one of the fastest growing sectors in tourism and destinations has turned sports, sport events and facilities into tourism attractions. The expansion of the sport tourism and the varied and complex needs of sport tourists has created diverse opportunities and niche markets to the sector. The conceptualization of sport as a tourism attraction may perform varied functions at the destination and it can contribute to the uniqueness of the destination (Hinch&Higham, 2004).

Golf tourism is one of the niche markets in the sport tourism and it is a sector that has been growing steadily worldwide with golf visitor arrivals as well as in sales. Tiger Woods has been one of the biggest ambassadors of golf and when he won the Masters' tournament in 1997 the game of golf got trendier across different generations, cultures and genders. Furthermore, in 2016 when golf got accepted to be part of the Rio de Janeiro Olympic games after 112 years of break, it has been expected that the wide media exposure that golf got will affect positively to the golf participation as well as in golf tourism. Nowadays, golf is one of the most critical sectors for tourism industry and it is said to be the largest sport tourism market (Hudson&Hudson, 2014) There are many definitions for golf tourism but one of the most commonly used is the one made by Hudson & Hudson (2014) 'Golf tourism is travelling away from home to participate in or observe the sport of golf, or to visit attractions associated with golf'.

In 2004, Gammon and Robinson separated sport tourism and tourism sport and each was divided into either hard or soft definition. In the sport tourism individuals or groups travel outside their usual environment to actively or passively participate in a sport while in tourism sport individuals or groups travel outside their usual environment and sport is the secondary or merely incidental activity on their trip. The model was later adapted to golf by

Hudson & Hudson (2014). Figure 5 demonstrates the structure and four different definitions of golf sport & tourism.

Figure 5: *Consumer classification of golf sport & tourism*



Note: Adapted from Hudson&Hudson, 2014, p.4

In 2014, the global golf tourism market was worth over US 20 billion dollars. The golf tourism market that has been previously dominated by the US and Europe, but it is now experiencing new emerging markets such as the Middle East as well as Asia due to the realization of golf tourists' high expenditures (Hudson&Hudson, 2014). Golf is a significant niche market of sport tourism sector and a generator of some serious business at the destinations.

It is estimated that there are over 60 million golfers in the world and that the game of golf is played on every continent creates a lot of possibilities for this niche industry. From the 60 million golfers nearly half travel worldwide with the motivation of playing golf while on holiday (R&A, The truth about golf, 2018; Matuszewski, 2018). The golf tourism industry has been growing steadily for the past decade and according to the International association of Golf Tour Operators (IAGTO) survey from the 2019 showed that golf destinations worldwide received 4,6% more golf tourist than in the previous year of 2018 which also experienced growth rate of 3,2%.

By the end of year 2018 there were 38, 864 golf courses in the world. Majority of the golf courses are in the North and South America (53%) while Europe holds the second place (23%) and Asia third (16%). From the statistics we can clearly see that most of the golf courses (78%) are located in only 10 countries (R&A, Golf around the world, 2019). The table 1 shows the amount of golf courses within the top 10 golfing countries.

Table 1: *Top 10 countries by number of golf courses*

Country	Courses
United States	16,752
Japan	3,169
Canada	2,633
England	2,270
Australia	1,616
Germany	1,050
France	804
Korea	798
Sweden	662
Scotland	614

Note: Adapted from R&A, Golf around the world, 2019.

In the end of 2018, there were in planning 336 and under construction 198 golf courses. The total of 534 courses that are under development is the evidence that golf continues to expand. In addition, the fact that 64% of these courses are related to resort developments indicates functional attraction between golf, tourism and economic development. Furthermore, Europe is the busiest continent with 151 golf courses under development in 28 countries which suggests that golf continues trending in Europe (R&A, Golf around the world, 2019). Even Europe is considered as a mature market in golf it still has a lot of growth potential since the participation to golf remains low- less than 1% of the population (Hudson&Hudson, 2014).

Golf tourism can be considered as a geographically ´mobile´ sport. Even though the prominent golf tourism market has been considered to be USA, UK and Japan, we can also see a rising development of golf tourism within the whole Europe. More specifically the southern parts of Europe since golf can be considered as a tourism development strategy to attract tourists during mid and low season (Hinch &Higham, 2004). The 10 top destinations for golf tourism in 2014 for IAGTO golf tour operators can be seen in the table 2.

Table 2: *Top 10 golf tourism destinations*

Position	Country
1.	Spain
2.	Portugal
3.	Ireland
4.	Scotland
5.	Turkey
6.	USA
7.	Thailand
8.	France
9.	Morocco
10.	Italy

Note: Adapted from https://www.iagto.com/pressrelease/details/95233643-e1d3-4214-b0d6-181182520faa access date: 23.11.2020

Golf is preferred by many destinations not only by the high expenditures of golf tourists but also to modify seasonal visitation and it has been used as a strategic tool to extend the tourism season. The competition in golf tourism is increasing and traditional markets are challenged by the emerging golf destinations such as Mexico, Egypt, China, Malaysia and Thailand. These new destinations are able to offer high quality golfing experiences with affordable prices. The most recent emerging golf destination is India where golf tourism promotion is just beginning. Previously the golf courses in India has not been part of resorts or residential community but this has been changing and the new trend within realty sector has been residential dwellings around the golf courses (Hudson&Hudson, 2014).

4.2. Sustainability of golf

Golf and golf tourism create one of the biggest social and political controversies, especially due to the environmental impacts of golf courses. While the golf tourism keeps on growing year by year so does the controversies since golf related tourism developments are normally based on large scale real estate developments (Park, Morrison, Wu & Kong, 2018). The expansion of golf tourism has several economic, social and environmental impacts at the destination (López-Bonilla, Reys-Rodriguez & López-Bonilla, 2020). One of the main advantages of golf tourism has been the fact that it generates a lot more income than some other tourism products. Even though it is considered positive that golf generates a lot of money there has been some debate and critique on how much of the money actually stays within the country (Hudson&Hudson, 2014). Hudson & Hudson (2014) has listed some of the advantages and disadvantages of golf courses according to the experts and these impacts are shown in the table 3.

Table 3: *Positive and negative impacts of golf*

Advantages	Disadvantages
Employment and income benefits, both direct and indirect	Loss of biodiversity
Tax benefits to local, regional and national governments	Eutrophication of river or seawater through use of fertilizers
Attracts new firms to the region	Heavy user of water for irrigation
Health and social benefits. Careers can benefit through 'networking'.	Biocides used to maintain the greenness of the 'greens', control insects, fungicides and weeds, contaminate both the air and water
Attracts the higher-spending social groups	Golf clubs often portray an elitist and exclusive lifestyle
Helps conserve valuable fragments of coastal habitat from encroaching urbanization and agriculture	Leads to an increase in road traffic
Increases local property values	Raises property prices beyond the reach of local young people
Waste can be recycled	Displacement through land occupancy
Quality of tourism increases	Creates elitism
Counteract problems of seasonality	Creates pressures on land

Note: Adapted from Hudson & Hudson, 2014, p.236

Sustainability of tourism has been one of the hot topics in the academic research papers and tourism journals. However, the field of sustainable golf tourism hasn't been exhaustively studied but yet there seem to be five fields of research. The five prominent fields on golf tourism and sustainability are environmental impacts that is the most prolific one, environmental management, conflict of interests, sustainable management and planning as well as environmental attitudes and behaviours which is the least frequent line of study (López-Bonilla, Reys-Rodriguez & López-Bonilla, 2020). The studies available reflect confrontation between the negative and positive impacts of golf tourism, golf resorts and golf courses

4.2.1. Negative impacts of Golf

Originally golf courses and the game of golf was shaped by the existing landscape, not so that the game itself shaped the land. However, time has shaped the perceptions and expectations of what the golf courses should be like. One of the biggest reasons for this has been television broadcasting and so called 'Augusta National Syndrome' (Keast, 2001 p.37) that is named by the famous Augusta National golf course that organizes one of the biggest competitions of the year, The Masters tournament, that has been organized since 1934. Ronald G. Dobson of Aubudon International even commented in the interview with Golf Digest that 'Augusta National, it's really a television studio, not a golf course' (Golf Digest, 2008). Due to the false image given by the television broadcasting many players, superintendent's and managers dreams or feels pressured to have a similar looking golf course which in reality has needed a lot of chemicals to look like what Augusta looks like on TV as well as to shut down for four months after the competition to recover from the damage that the competition and beautifying of the golf course caused (Wheeler & Nauright, 2006; Keast, 2001). According to Keast (2001) 'For any ordinary golf course to become as verdant as the grounds that host a prestigious televised golf tournament would require a chemical fog thicker than that used in the most intensive of agricultural operations'. Keast (2001) also believes that due to the false beliefs of what golf courses should be like nowadays has caused the courses built in the end of 20^{th} century to pay a little attention to the environmental impacts.

These 'Augusta' type' golf courses hasn't gone unnoticed by the public either and opposition towards golf related developments began to appear in the early1990's. On the No-Golf day in 29 Abril 1993 three different groups, The Thailand based Asian Tourism Network (ANTENNA), the Malaysia based Asia Pacific People's Environmental Network (APPEN) and the Global Network for Anti-Golf Course Action got together and launched the Global Anti-Golf Movement (GAG'M). This movement is particularly active in Europe and in USA (Wheeler & Nauright, 2006)

Golf courses interact with the specific area they are located in and since they are part of the region it will have economic, social and environmental impacts. From the socio-economic view the biggest direct negative impact would be the real estate development within the area while purely negative environmental impacts would be increase of chemicals in the area and water recourses use. In addition, to socio-economic and environmental impacts there are some intangible negative impacts such as the wildlife affected and changing of landscape as well as some tangible negative impacts like increase of soil price for residents, changing infrastructures and traffic increase. The previous examples are not exhaustive and some of the mentioned can impact multiple categories (Salgot&Tapias, 2006).

The main concerns regarding sustainability in the context of environment in the past studies have been about water consumption, control and application of pesticides and fertilizers. Furthermore, considerable amount of the golf related researches are focused in these negative environmental impacts (Salgot,Priestley & Folch, 2012).

Golf courses require a lot of water to keep the playing surface playable and according to The United States Golf Association (USGA) an 18-hole golf course covers in average 150 acres of land and approximately 80% of it is irrigated. However, the amount of water used in each golf course will depend significantly on the agronomic region, but it has been estimated that every day 2,5 billion gallons of water is needed to irrigate worlds golf courses (Worldwatch Institute, 2004 cited by Tourism concern 2009). In addition, the water usage in the tourism industry and in the developing countries are highly criticized because tourism industry heavily invests in the infrastructure of the destination to please and meet the tourists needs. These well-groomed destinations with flushing toilets and lush golf courses will require a lot of water that are diverted from the communal supplies to cater tourists (Tourism concern, 2009). When considering golf courses in tropical countries such as Thailand, UNESCO has estimated that it will need 1,500 kilograms of pesticides, fertilizers and herbicides per year, according to Tourism Concern (2009). Furthermore, it is not only the amount of chemicals put to the land but also the health risks they can have to the people working with them or being nearby. Even though, golf has advanced a lot from the early day’s usage of heavy metals and farm-grade fertilizers to fewer toxic chemicals. Jay Feldman from Beyond Pesticides interviewed by Golfdigest.com believes that there are still dangers in the pesticides used in the golf courses today. Feldman believes that they can cause acute and chronic health risks to the people using them and even to golfers and people living nearby (Golf Digest, 2008)

4.2.2. Positive impacts of golf

While real estate developments were previously considered as a negative impact, they can also be considered as a positive impact and create positive urban development. Some of the positive socio-economic impacts are considered to be direct jobs, indirect jobs, tourism quality and real estate development (Salgot & Tapias, 2006).

Land use of golf courses is often argued to be a waste of space but in fact golf courses can be very beneficial choice for areas that has been previously used as an abandoned industrial sites, landfill or mining areas. These areas are often unsuitable for many other purposes and in that sense golf courses can create green areas with a safe place for wildlife which would otherwise be a condemned land (Sewell, 2019; Salgot&Tapias,2006). Studies have shown that golf courses can be a safe large open area for birds so that they can live in peace without predators. According to Vulinec's and Warlich's study presented on the website of ESA (2011) demonstrates that golf courses could be a good refuge for bats due to the white nose syndrome that is threatening the bat populations in the USA. Golf courses could be used as an innovative opportunity to offer habitat for the bats and at the same time the bats could be beneficial to the course managers since they could act as a pest predator's.

The opportunities and importance for wildlife conservation hasn't gone unnoticed by the golf associations either which is why USGA and Audubon society of New York has created Audubon Cooperative Sanctuary Program for Golf Courses (ACSP) already in 1991. The purpose of this program is to help and enhance the habitat of animals on golf courses because golf courses can give a safe place to many species. Furthermore, this program helps golf courses to make environmentally safe maintenance choices in the golf course in the daily operations (USGA, 2015). According to USGA (2015) wildlife is not the only beneficial aspect of golf courses, they have also listed golf courses to protect topsoil from water and wind erosion, improve community aesthetics, absorb and filter rain, improve health and reduce stress, improve air quality and make substantial contributions to the communities' economy, among others.

In Europe similar initiative as the one between USGA and ASCP was launched in January 2020 between R&A who governs the rules and regulations within Europe and The Royal Society for the Protection of Birds (RSPB). R&A and RSPB agreed to a partnership for the conservation of wildlife and management of natural habitats in United Kingdom. The aim of this cooperation is to advise golf clubs on the management of wildlife species and to support their conservation aims. The Director of Sustainability at the R&A, Steve Isaac believes that 'Golf courses can provide significant opportunities for the conservation of rare and protected species' (R&A, 2020).

One good example according to Butler (2018) of positive contribution to overall sustainability of golf tourism is the case of St Andrews in Scotland. The small town (population of 18,000) of St Andrews holds the reputation of being 'the Home of Golf'. Golf tourism generates majority of the tourism related income to the town. Thus, like in many other destinations with golf courses, the golf courses in St Andrews belongs to the residents and to the town. The four main courses within the area are located in the sand spit and the courses have been built respecting the natural forms and local landscape. Butler has used in his work the three traditional elements of sustainability (environmental, social, economic) and applied it with the reference to Briassoulis (2009) criteria of "soft sustainability test", which helped to indicate positive and negative elements of sustainability and the impact of golf and golf tourism in St Andrews (Butler, 2018). The major impacts of golf tourism on St Andrews can be seen in Table 4.

Table 4: *Major impacts on golf tourism on St Andrews*

Major impacts of golf tourism on St Andrews		
Environmental	Minor modification of landscape Regular maintenance of courses Natural fertilisers/pesticides	No major modification in past century Retention and replanting of indigenous species Local grass replacement Local water supply with no issues Dune rehabilitation and stabilisation Continuous litter collection
Social	Some congestion in town during major tournaments Old course closed to walkers on Sundays during tournaments	Low fees for locals, free for children Provision of seven golf courses and related facilities open to residents Priority starting places for locals Safeguarding of St Andrews name Civic pride as Home of Golf
Economic	Slight increase in some prices during major tournaments	Major economic benefit through tourist expenditures on play and spactating Local employment, full-and part-time Rental possibilities for local residents Wider range of retail and service establishments than would be expected for the size of the town

Note: Adapted from Butler, 2018, p.6

After examining the case and the role of golf tourism from the three elements of sustainable tourism Butler (2018) concludes that golf tourism to the town of St. Andrews is positive in all the three areas even few environmental issues were detected. Golf tourism which is not always completely sustainable can play a major role in sustaining the viability of the town when appropriately integrated with the community’s desires (Butler, 2018).

From the general tourism perspective, golf tourism can be added to modify the seasonality of the destination and it can be seen as a strategic tool to prolong destinations touristic season. Garau-Vadell & Borja-Solé (2008) studied as a longitude study between years 1997-2005 the impacts of golf tourism in prolonging the tourism season. The results indicated that golf tourism can balance the traditional seasonal peaks with its seasonality patterns and tourism expenditure levels. In addition, they stated that golf tourism can compensate destinations with seasonality challenges, and it could be a good strategy for mature tourism destinations.

4.2.3. Towards more sustainable golf

There could have been some serious consequences to the environment if the leading golf continents haven't started working towards more sustainable future for the golf. Especially USA, Europe and Australia have been actively trying to find new ways to reduce the negative impacts of golf and finding ways for golf to contribute to the environment. Within the past 30 years several environmental initiatives and programmes has been created in order to reduce the negative impacts related to golf by researching, certifying, creating environmental management programs and awarding. The major initiatives towards more sustainable future of golf are represented below.

In 1989 USGA started heavily sponsoring research on environmental issues related to pesticides, fertilizers and groundwater (Wheeler & Nauright, 2006). One of the first initiatives towards more environmentally friendly golf operations has been the collaboration between USGA and ACSP that begun in 1991 (Aubudon International, 2018). Later the importance of environmental matters and the issues related to the environmental impact of golf got major golfing bodies and all the leading national environmental groups in USA to sit down together in January 1995 at Pebble Beach. It was one of the first meetings where golf and environmental matters were discussed with the purpose of finding ways to make golf eco-friendlier. This meeting has led to five national conferences in the USA and creation of guidebooks, reports and educational videos. Later this initiative has been known as Golf& the Environment initiative (Golf Digest, 2018).

Since 1995, the UK based STRI has given yearly Golf Environment Awards (GEA's) with the purpose of awarding golf clubs and individuals who undertake best environmental practises. GEA's have four different categories to be recognized by; Environmental Golf Course of the Year, Conservation Greenkeeper Award, Outstanding Environmental Project of the Year and Operation Pollinator Award (The Golf Environment Awards).

Epar is an environment, health and safety (EHS) software company that provides EHS management solutions within Australia and internationally. Founded in 2003, epar was created for golf clubs and facilities to manage their productivity, compliance and sustainability. Their newest solution is Connect 2.0 which is epar's 5th golf specific compliance platform and sustainability app ecosystem (Golf industry central, 2019; Golf Management Australia, 2019).

The leading environmental certification programs and eco-labels for golf are the USA based ACSP and UK based GEO Foundation. ACSP offers award winning education and certification for golf courses. The program helps courses to protect the environment and preserve natural heritage of the game of golf. By following the standard environmental management practises can lead to the golf certification in average of one to three years (Aubudon International-ACSP for Golf). For now, 585 facilities have been designated as Certified Aubudon Cooperative Sanctuaries by fulfilling all the requirements (USGA-Aubudon Sanctuary Program). The UK based Geo foundation was founded in 2007 and it offers three different programmes: OnCourse® facilities, OnCourse® Developments and OnCourse® Tournaments. Participation to any of the three OnCourse® programs will lead to the internationally recognized distinction of GEO Certified®. Geo foundation has 310 GEO Certified® golf facilities in the world (GEO Foundation).

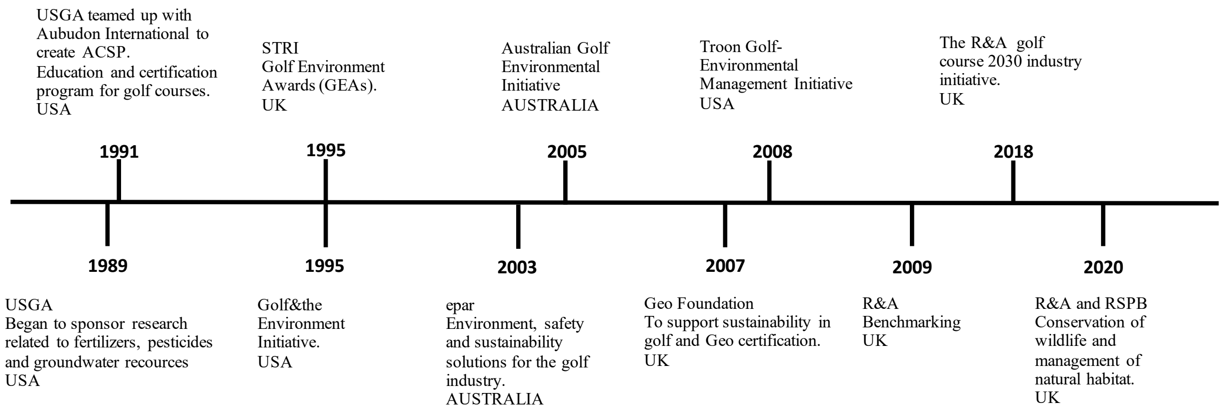
Other important events in the past towards more sustainable future of golf worth mentioning for has been the Australian Golf Initiative (2005) that was established by Australian Sports Turf Managers Association (ASTMA) in partnership with Golf Australia to promote and foster the environment, to recognise the environmental values, to encourage to develop and enact an ISO 14001 as well as to communicate the environmental values of Australian golf courses (Australian Sports Turf Managers Association).

USA based Troon Golf launched in 2008 the Troon Golf Environmental Management Initiative (EMI) which was the first unified plan for environmental protection and stewardship in the golf industry. EMI combines three environmental programs together and it sets performance goals that create sustainable solutions for Troon Golf-managed courses (Golf Industry Central, 2008).

In Europe the R&A has taken many initiatives during the past decade such as benchmarking service to track down golf courses' progress from year to year and to compare them with similar courses, to monitor the changes and minimising any impact on playing quality, cost and environmental footprint (R&A update: Benchmarking and the EGA GCC). In addition, R&A- golf course 2030 industry initiative was created to fund projects that tackle the challenges and opportunities that face golf course management, i.e., climate change (R&A, Golf Course 2030-Projects). In January 2020, R&A formed a partnership with RSPB for the Conservation of wildlife and management of natural habitat in UK (R&A, 2020).

The major events in history for more sustainable future of golf can be found in chronological order from the figure 6. The timeline is not exhaustive but serves as a baseline for the most important actions that has been taken towards sustainable golf during the past three decades.

Figure 6: *The major events in history for more sustainable future of golf*



Source: Author

5. Golf tourist

5.1. Profile of golfers

Golf is a game of precision in the outdoors and during the 4-5 hours that one spends on the golf course it is a great time for building relationships. However, the best part of golf is that it is for all ages from juniors to seniors, in addition, everyone from beginner to professional can play together and compete against each other due to the handicap system. Even the game of golf is suitable for all ages and is independent of a gender, yet the predominant profile of a golfer worldwide tends to be middle-aged or in early retirement aged wealthier male. In addition, very commonly the golfers are highly educated who typically are business owners, managers or independent professionals (Hudson &Hudson, 2014). The roots for the male domination in golf goes far back in the history due to the pasts discriminatory practise of excluding women from golf. Even the numbers of females playing golf has grown from the past, yet exclusion still exists but more as a cultural factor where women exclude themselves (Reis & Correia, 2013).

According to the R&A and the International golf federation, in 2018 it was estimated that there were over 60 million golfers in the world which indicates the popularity of the sport. USA is the largest market with the total participation of 33.5 million golfers in 2018, however, 9.3 million of them do not play golf on course instead their participation is through other popular forms of the game such as Topgolf and indoor simulators. From the total 24.2 million on course golfers 16,1 million (66,5%) were men, 5,6 million (23,2%) were females and 2.5 million (10,3%) were juniors. In addition, five consecutive years the number of newcomers to the golf has been growing in USA and 2,6 million newcomers were registered in 2018 (NGF, 2019a).

The statistics from the European market indicate similar kind of results than in USA even though the European market is significantly smaller than the USA one. In Europe, there were 4,1 million registered golfers in 2018 and 2,8 million (68%) of them were men, 1 million (25%) were women and 0.3 million (7%) were juniors. The leading countries with the highest number of registered golfers in Europe were England, Germany and Sweden with an indication that nearly 43% of all registered players in Europe are from these three countries (KPMG, 2019).

An interesting ripple effect of the COVID-19 pandemic was the increased popularity of the game of golf in Finland. According to the Finnish Golf Union the number of registered golfers achieved the highest of 140 000 golfers in Finland in 2010 and by the mid-2010 the number of registered golfers were already decreasing. However, while the world and most of the sport activities got into a halt after the beginning of the pandemic, golf was one of the only sports that remained open in Finland, since it was an outdoor sport were distancing between people were easy to maintain (Pallonen, 2020). The director Hanna Hartikainen from the Finnish Golf Union stated in the article by Pallonen (2020) “This has been all time biggest golf summer”. In result, by the end of August 2020 the number of registered golfers had grown by 8000 (5,7%) and half of the new golfers were under 30 years old which will be great news to the future of golf in Finland since they have had hard time attracting younger players to the game (Pallonen, 2020).

One part of being a golfer is travelling to play golf either in the home country or abroad. With whom golfers travel with and the reasons behind the trips varies. There can be many different reasons for travelling to play golf but according to NGF’s 2018 travel report, 39% of the adult golfers took a trip with an overnight stay during which they played at least one round of golf and 72% of these golf travellers travelled for leisure (Matuszewski, 2018). Statista surveyed 10 000 golfers who play more that 10 rounds of golf per year from Great Britain and Ireland, Sweden, France and Germany between 2014-2018 and they found out that the average duration for non-domestic golf holidays was in average 6-8 days (Statista, 2020). When golfers travel push and pull forces affect their choice of destination. Push forces are based on tourists’ internal desire and pull forces come from the destination’s attributes such as their position, marketing and attractions (Cha, Mccleary & Uysal, 1995). The key pull forces for golfers often are the quality and beauty of the golf courses, price of the package, accessibility and number of golf courses within the area (Anuar & Sulaiman, 2017).

The most commonly used definition for a golf tourist is "Golf tourist is a person who travels and stays away from home 1. to play golf as a primary purpose 2. to play golf as a secondary activity in their vacation or business trip 3. to attend in a golf tournament as a spectator or visit golf-related attractions" (Hudson & Hudson, 2010). The existing literature has very little information on golf tourists and their personal variable’s, which is why Hennessey, MacDonald & MacEachern (2008) created a framework to better understand golf travellers. The framework was created for profiling golfers as well as conceptualising golfer's behaviour by three sets of variables' which were influence sets, decision sets and outcomes. In addition, the golfers were divided in three different groups by their golfing frequency per year, players who played 5 or less rounds were called infrequent golfers, 6-25 rounds were called as moderate golfers and players who played over 25 rounds per year were called as dedicated golfers. The study was conducted for visitors in Prince Edward Island from June through October in 2005. The results indicated significant differences between groups and that the dedicated golfers tend to be older, wealthier, play more golf and spend more money on their trip. In conclusion, the study suggested that by simply knowing the amount of golf played in a year can help the golf industry in any location to target specific market because the needs of golf visitors tend to depend on their dedication level. The framework was created to make tourism planning easier since it provides means to understand the complexity and dynamics of golfer's behaviours.

5.2. Golfer's environmental attitudes

The environmental attitudes refer to a positive or negative feeling of a person, group or culture towards some other person, object or issue but the actual attitudes have been found to have a small impact on pro-environmental behaviour (Kollmuss & Agyeman, 2002). Naturally one would expect people to act and live according to their values but as few studies on golfers has shown it seems that there is similar type of trends to be seen.

The environmental attitudes and behaviour have been extensively studied in the fields of sustainable tourism (Juvan & Dolnicar, 2017; Luo, Tang, Jiang & Su, 2020) and from the environmentally aware consumers perspective (Schlegelmilch, Bohlen &Diamantopoulos, 1996; Honkanen, Verplanken & Olsen, 2006) but the environmental attitudes and behaviour of golf tourists is fairly unstudied area. However, some studies have been conducted in the recent years on environmental attitudes of golfers, but the achieved results are somewhat contradicting.

Minoli, Goode & Metcalfe (2017) studied the environmental worldviews of Welsh and UK golfer's by using the NEP scale and the results indicated two extreme ends of environmental worldviews and they believe that it is possible that golfer's do not perceive the need to change at the moment. In addition, the results indicated that there might be a lack of understanding of environmental issues and what it actually needed to take care of a golf course. Furthermore, due to these findings it was considered that the changes regarding more environmentally friendly golf should start from the top e.g. management. Lópes-Bonilla, Reyes- Rodriguez and Lópes-Bonilla (2018) studied the environmental attitudes of European golf tourists and the study focused on the most frequent golf tourists in Andalusia which were Spanish, German and British. According to the results Spanish had the greatest environmental responsibility followed by the British and lastly by the Germans, but all the groups of study had strong association between environmental attitude and ecological behaviour. Hence, the higher environmental responsibility of the Spanish was suggested to be the result of Spanish feeling more identified with their own country. In addition, Klerk & Haarhoff (2015) carried out a study in the South Africa on green golf and they found out that 61% of the respondents would rather play on an environmentally friendly golf course but they expect the golf course to have the responsibility of the eco-friendliness of the course. Lastly, the study conducted by Sustainable golf project (2012) indicate high environmental concern of golfers. Sustainable Golf Projects found out that 95,8% of the respondents require their golf course to become more sustainable which indicates that people are concerned and interested in the sustainability and when asked if they would be willing to make a CO2-compensation for the round of golf, 52,3% of the respondents were willing to compensate.

To better understand the golfer's environmental attitudes, Golf Digest (2008) wanted to see what golfer's overall perception of the climate change is. The study conducted by Golf digest in America showed us some harsh values like the fact that 41% of the golfers believed that global warming is a myth while only 27% of the non-golfers believed it to be a myth. In addition, they concluded that we have to take into account that 50% of the nongolfers were women while only 15% of the golfers were women and that females tends to take the threat of global warming more seriously which can affect to the results. The same study also revealed that 91% of the golfer's agree that golf is an environmentally friendly/compatible sport which goes in align with the findings by Minoli, Goode & Metcalfe (2017) since they stated in their study that many golfers view golf already highly environmentally friendly sport.

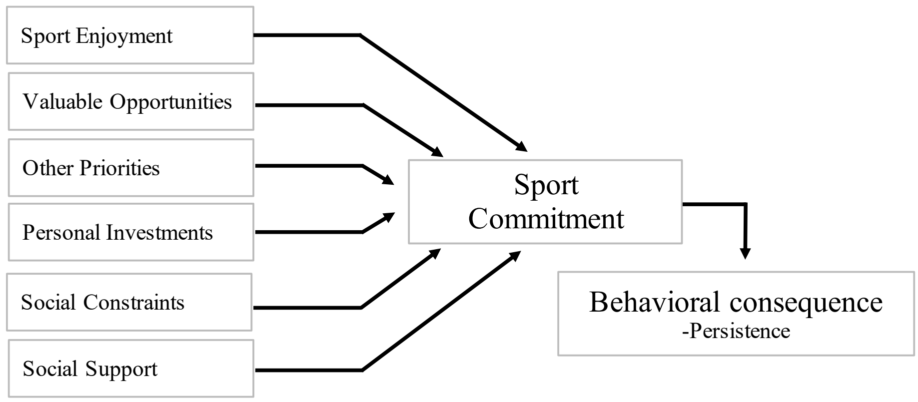
Due to the fact that the environmental attitudes and behaviours of golfer's is still fairly unstudied area some further research on the matter should be conducted to better understand the whole picture. Furthermore, it has been recommended to further study this field by segmenting tourists and carrying out cross-sectional studies (López-Bonilla, Reyes-Rodriguez & López-Bonilla, 2020).

5.3. Commitment to golf

Golf commitment and the average amount of golf rounds played in a year varies by countries and golfer's age as well as who made the study. The statistics from USA and UK show big differences between the rounds played in a year by the average golfer. According to Golf Monthly Magazines article, Insurers Golf Care surveyed in 2014 that average UK golfer plays 81 times in a year their home course (Easdale, 2015). In USA the average player plays 18.2 rounds in a year but the rounds played varies a lot by the golfers age, and the baby boomers aged over 65 years played 36 rounds a year while 18-34 year olds played only 12 rounds (NGF, 2019b). Moreover, the pace of play global survey conducted by R&A from September 2014- March 2015 revealed somewhat different results of the rounds played in a year for example the average for North America was 66.2 rounds and for UK & Ireland the average was 84.8 rounds per year. The rounds of golf played annually were also broken down by the age category that revealed similar pattern that of the survey made by NGF (2019b) that total number of rounds played in a year grows with the age and baby boomers were the most active golfers (R&A,2015). In 2009, the Finnish Golf Union tried to identify the average golfer in Finland and the survey results showed that the average Finnish golfer is a 40-45-year-old male with handicap of 18,4 who plays in average 45 rounds of golf in Finland and 1-10 rounds abroad (Suomen golfin strategia, 2020).

Sport commitment is defined as the "psychological construct representing the desire and resolve to continue sport participation" (Scanlan, Carpenter, Simons, Schmidt & Keeler, 1993, p.6) and it was created to understand and examine the reasons why people continue participating in sports. The commitment to a sport is constructed and predicted by sport enjoyment, valuable opportunities, other priorities, personal investments, social support and social constraints. The basic model of sport commitment model (SCM) from 1993 has stayed unchanged, however some additions and refinements were added to further elucidate the commitment process in 2009 (Scanlan, Russell, Magyar & Scanlan, 2009. The sport commitment model can be seen in Figure 7.

Figure 7: *Sport commitment model*



Note: Adapted from Scanlan, Russell, Magyar & Scanlan, 2009, p.686

In previous studies the enjoyment has been found to be the biggest predictor of the commitment and it has been seen as a mediator of all the other sources which is why Weiss & Amorose (2008) created similar model than seen on Figure 7 but they removed all the other arrows except the sport enjoyment.

The golf commitment can be viewed through the sport commitment model and especially by the enjoyment/fun parameter. Sustainable Golf Project (2012) surveyed golfers' motivations to play golf and they found out that experiencing the nature and fun were chosen as the prime reasons to play golf. The same study also indicated that the committed golfers who were also called as golf-intensive golfers were most willing to compensate the CO_2 for their round of golf by paying a premium. Hennessey, MacDonald and MacEachern (2008) had similar kind of findings in their study when they divided golfers by dedication to the sport by the number of rounds played annually. The results indicated that there were significant differences based on the golfing frequency. The dedicated golfers were more committed and in result more willing to spend money and to re-visit a destination.

6. Research design and methodology

6.1. Introduction

Sustainability in golf tourism is yet to be scarcely researched even though the sustainability and climate change are increasingly discussed topics in the world. As the ecological issues related to golf has been called as the Achilles heel of golf (López-Bonilla, Reyes-Rodríguez and López-Bonilla, 2020), it is justified to research more of the field and trying to find new methods to advance its more sustainable future. As the environmental attitudes and WTP an environmental premium of golfers is fairly under-researched topic, this study attempts to fill that gap.

The main research questions that this study is trying to find answers to are to determine what the environmental attitudes of golf tourists are as well as are the golf tourists willing to pay a premium. In addition, there were some sub-questions that this study tries to find answers to. Environmental certification and eco-taxes are increasingly more popular in many tourism products and the awareness of them has grown among people. Golf is not an exception and it has its own certification program by GEO foundation which is widely adopted by golf courses around the world. This study tries to find out how aware the golfers are of these certificates because knowing about them can implicate increased interest towards the sustainability of golf. Past studies have used the golfographics and especially frequency of play to create a multi-variable profiles for golfers in order to profile behavioural intentions. According to this framework the second sub question tries to find an answer whether the frequency of play has an effect on pro-environmental behaviour through the willingness to pay a premium and how much this premium could be. Lastly, various studies regarding the socio-demographic characteristics has implicated that females tend to have more pro-environmental attitudes than males so the third sub-question will want to determine if this is true in this study.

The study was conducted by using quantitative method and the data collection method was an online survey. Quantitative method was chosen since it helps identifying patterns and categorizing survey results in more generalized manner. In addition, quantitative method generates numerical data that can be easily transformed into statistics. Identifying patterns, attitudes and intentions of golfers can be projected to larger population and explained easily so that the different stakeholders within golf industry can possibly use the information received in order to take steps towards more sustainable future of golf. However, studying environmental attitudes can be considered as an ethical question and as Follows & Jobber (2000) found out that the social pressures towards more environmentally friendly attitude can implicate higher intentions than actual behaviour which is why it is important to take this into a consideration when reading the data.

6.2. Data collection

The original data collection method was supposed to be a paper questionnaire that would have been handed to golf tourists in Praia D'el Rey and West Cliffs golf courses in Portugal. The pilot questionnaire was done at this way in November 2019 in expectance of conducting the final data collection by similar manner with the revised questionnaire during the first peak season of golf in Portugal (March-April 2020). Hence, due to the COVID-19 pandemic that started at the same time than the data collection was supposed to begin, the data collection was postponed to the second high-season of the year (October-November 2020). Unfortunately, the high seasons never came and in the end the paper questionnaire was transformed into an online survey.

In November 2019, a pilot test of the questionnaire was conducted. The questionnaires duration was 5min and it contained altogether 14 questions and 3 sub-questions, and it was handed over to 9 Finnish golf tourists who were on a group holiday for one week in Praia D'el Rey golf resort, Portugal. The group included 4 females and 5 males who were born between years 1965-1994, most of the group members did not know each other prior. The group had a good diversity by the age and sex of the respondents and the results and comments received from the pilot test helped to further develop the final survey. The purpose of the pilot test was to determine whether the questions were understandable, coherent and identifying smaller and major issues that the questionnaire could possibly have. After filling the questionnaire, a group discussion was conducted where the respondents could express their thoughts on the questionnaire and the feedback received was taken into consideration when the final version of the online questionnaire was created, see Appendix A.

As mentioned earlier the paper questionnaire was changed in the end to an online survey. Due to the change of the survey type, the questionnaire was modified to fit better in the online world and several new questions were added and four sections were created: golfographics, travel habits, sustainability and socio-demographic characterization.

The final survey consisted altogether 33 questions and the completion duration were approximately 10 minutes. The survey had 22 multiple-choice questions, 6 questions with 5-point Likert scale and 5 open-ended questions. The survey was open for answers between 1st of November 2020 until 31st of December 2020 and it was shared via LinkedIn, several European Facebook golf groups (Finland, UK, Spain, Portugal) and it was shared by the owners of Laajasalon Golf in Helsinki, Finland for their members and friends. The survey was filled anonymously and altogether 223 replies were received by the end of December 2020.

Before analysis, the data was collected from the Google Forms and transformed into an Excel. The dataset was checked for missing data, cleaned and variables were transformed so that it can be inserted in the SPSS. Finally, the results were analysed by the statistical tool SPSS v 27.

Golfographics

Golfographic section included variables such as handicap, rounds played per year, season of the year when most rounds are played in, golf trips taken etc. The purpose of this section was to get a general comprehension of what type of golfers the respondents are, what motivates them to play golf and when and how often they travel to play golf. This section was expected to give important predictors to the WTP especially by the variable of frequency of play. In the past, golfographic variables has been fairly unstudied area but according to Hennessey, MacDonald and MacEachern (2008) rounds played per year can serve as a good predictor to revisit a destination but also the study revealed that dedicated golfers spend more money on golf, holidays and other services. However, their study evaluated golfers who play more than 25 rounds of golf in a year as dedicated/heavy golfers. Moreover, 25 rounds in a year would mean that golfers would play only two times per month in countries where golf season lasts for 12 months and four times a month were the golf season is only 6 months of the year. Hence, 25 rounds is very low threshold which is why this study will have over 60 rounds played in a year as a threshold. As there were very few respondents who chose the option of playing under 10 rounds of golf per year these results were added together with respondents who play 10-30 rounds per year. For the purpose of this study the golfers were segmented into 3 categories by the frequency of play. The respondents playing 0-30 rounds of golf per year will be called as basic golfers, 31-60 rounds of golf per year will be called as active golfers and over 60 rounds of golf per year will be called as heavy golfers. It is expected that the commitment to golf can be better distinguished with a larger scale for rounds played in a year. This higher number may help to determine whether the dedication level to the game will also affect the WTP for environmental improvements.

Travel habits

This section aimed to find out where the golfers typically travel to play golf, length of the trip, size of the group, golfing activity at the destination as well as the trends. To better understand the golf tourist's environmental behaviour and WTP it is important to determine some background information on their travel habits. These could include the number of days played golf during the holiday and if the golfers play every single day of their holiday, will they be less likely to pay extra on sustainability or do they feel more commitment to pay for the emissions they have created. Travel habits can also reveal patterns for certain demographic groups as well as reveal some forthcoming trends.

Sustainability

The purpose of sustainability part was to determine the general attitudes of the golfers towards golf and its sustainability. Respondents were asked to tell if they were aware of the environmental certificates for the golf courses because this question in itself can determine how knowledged and interested they are regarding golf related sustainability issues. In addition, the respondents were asked to express their WTP for more sustainable golf, how much would it be as well as where would they like the money to be allocated to. Past studies has shown that WTP grows when the money is earmarked for improvements (Cetin, Alrawadieh, Dincer, Dincer & Ioannides 2017), which is why a question was added to the survey to see if the willingness grows when the golfers know for what the money would be used for.

Socio-demographic characterization

The survey ended with socio-demographic section were the respondents were asked about their background details to find out who the respondents were exactly. The questions asked in this section reveal the gender, age, professional status, education level, income and nationality of the respondents. These details are important variables to compare with other received data and to see whether there are differences between them compared to WTP as well as environmental attitudes.

7. Results

7.1 Demographic characteristics

The socio-demographic data was asked to be filled by all the respondents as these variables according to several studies can affect the WTP and environmental attitudes, however, some respondents have left some of the variables blanc while answering. Even some variables were not answered the missing answers were rather low and the question were the respondents were most unlikely to answer was the annual pre-tax income question. The demographic dataset in detail of all the respondents can be seen in Table 5.

The results showed that the majority of the respondents were male (76%) which was expected due to the average golf participation numbers of females and males worldwide that were introduced in section 5.1. Most of the respondents belonged to the so-called baby boomer and Gen X generations (61,6%) since the largest age groups chosen by the surveyed in this sample were 55-65 (35,6%) years old, followed by the age group of 45-54 (26%).

The respondents were highly educated (72,2%), as 27.4% had at least Bachelor's Degree while as many as 44,8% had concluded also Master's Degree. The majority of the participants were employed (58,7%) followed by retired (17,5%) and freelancer/self-employed (17%). The distribution of annual pre-tax income level was spread to all income groups but 28,3% of the surveyed responded to earn over 80 000€ annually which was the highest income group.

Lastly, the online survey was distributed internationally in the hopes of getting answers from several different countries, however, the majority (80,3%) of the respondents were from Finland followed by Portugal (7,6%) and UK (6,3%). Due to the high number of replies from Finland, the results will be presented mainly from the Finnish perspective, if major deviations are found between Finnish and other nationalities they will be mentioned separately.

According to the results received by the socio-demographic's section indicate that golfer's predominant profile is highly educated male in his 50's with a high income.

Table 5: *Demographic dataset*

	Frequency	Percentage
Gender		
Male	169	76,1 %
Female	53	23,9 %
Age		
Under 18	2	0,9 %
18-24	5	2,2 %
25-34	16	7,2 %
35-44	34	15,2 %
45-54	58	26,0 %
55-64	79	35,6 %
65-74	26	11,7 %
Over 75	2	0,9 %
Missing	1	0,4 %
Professional status		
Employed	131	58,7 %
Freelancer/self employed	38	17,0 %
Unemployed	1	0,4%
Student	9	4,0 %
Retired	39	17,5%
Other	4	2 %

	Frequency	Percentage
Education		
Secondary School	44	19,7 %
Bachelor's Degree	61	27,4%
Master's Degree	100	44,8 %
Doctoral	7	3,1 %
Other	9	4,0 %
Missing	2	0,9%
Nationality		
British	14	6,3 %
Finnish	179	80,3 %
German	3	1,3 %
Portugues	17	7,6 %
Spanish	1	0,4 %
Swedish	2	0,9 %
Swiss	1	0,4 %
Missing	6	2,7 %
Average annual pre-tax income		
Less than 20 000€	10	4,5 %
20 000 - 29 999€	10	4,5 %
30 000 - 39 999€	28	12,6 %
40 000 - 49 999€	29	13,0 %
50 000 - 59 999€	24	10,8 %
60 000 - 69 999€	29	13,0 %
70 000 - 79 999€	9	4,0 %
Over 80 000€	63	28,3 %
Missing	21	9,4 %

7.2. Golfographics

The respondents were asked to give their handicaps and the number of golf rounds played yearly to better understand their experience and commitment to the sport. The results indicated that most (85,2%) of the surveyed had a handicap lower than 25. The responses fell quite evenly to all given handicap groups below 25 with handicap group of 15,1-20 (19,1%) holding the biggest share followed by 10,1-15 (18,6%) and 5,1-10 (18,6%). See table 6.

Table 6: *Respondents handicaps*

Handicap

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 5	22	12.0	12.0	12.0
	5,1-10	34	18.6	18.6	30.6
	10,1-15	34	18.6	18.6	49.2
	15,1-20	35	19.1	19.1	68.3
	20,1-25	31	16.9	16.9	85.2
	25,1-30	16	8.7	8.7	94.0
	30,1-35	6	3.3	3.3	97.3
	Over 35	5	2.7	2.7	100.0
	Total	183	100.0	100.0	

To obtain a smaller handicap in golf typically requires more rounds to be played in a year to be able to lower and maintain the handicap which can be considered a good indication why the majority (76,5%) of the respondents expressed to play more than 30 rounds of golf in a year. As table 7 shows, 43,7% of the respondents played more than 60 rounds of golf per year and 32,8% played 31-60 rounds per year. These results indicate that most of the respondents were either active or heavy golfers by the frequency of rounds played annually.

Table 7: *Number of golf rounds played annually*

Number of golf rounds played annually

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-30	42	23.0	23.1	23.1
	31-60	60	32.8	33.0	56.0
	Over 60	80	43.7	44.0	100.0
	Total	182	99.5	100.0	
Missing	System	1	.5		
Total		183	100.0		

The distribution of the rounds played per year showed that most of the rounds are played during the summer season (June-August). The respondents were able to choose more than one option in this question and the summer season was chosen altogether 177 times and relative to the other options it held the share of 78,3% compared to the other seasons. As the golfing season in Finland typically lasts from April until October it was expected that most of the rounds will be played during this time. While summer season was the most chosen option for the Finnish respondents, the distribution between seasons for other nationalities was rather uniform, summer (34,6%), Spring (31,8%) and autumn (21,5%). Table 8 shows the seasons when the majority of the rounds are played in by Finnish respondents.

Table 8: *Season when golf rounds are played*

The season when majority of the golf rounds are played in

		Responses		Percent of Cases
		N	Percent	
Season[a]	Spring	24	10.6%	13.1%
	Summer	177	78.3%	96.7%
	Autumn	18	8.0%	9.8%
	Winter	7	3.1%	3.8%
Total		226	100.0%	123.5%

a. Dichotomy group tabulated at value 1.

When asked the reasons why the respondent play golf, eight options were given, however, four of the options outnumbered the other options. Contradicting to the beliefs that people play golf for the purpose of networking and business (Lee, Evans & Downen, 2020) this category was the least chosen option in all categories, instead, people play golf for fun, social activity, exercising, relaxing and to compete. The order of the top 3 varied depending if only Finnish were asked or the other nationalities. The top 3 for Finnish were fun (1^{st}), social activity (2^{nd}) and relaxation (3^{rd}) while for the other nationalities the top 3 was exercising (1^{st}), fun (2^{nd}) and social activity (2^{nd}). Nevertheless, figure 8 shows the comparison of the results between Finnish and other nationalities.

Figure 8: *The most important reasons why the respondents play golf*

The golfopgraphic section shows us that the respondents were either active or heavy golfers with handicap lower than 20 and they play more than 30 rounds of golf per year. They like to play golf for fun, for the social activity of the sport, to exercise as well as relaxation.

7.3. Travel habits

This section tries to understand the travel habits of the golfers such as, how often do the respondents travel, where do they travel to, with whom they travel with and how do they book their trips.

What comes to travelling nationally or internationally the respondents were asked to tell how many times per year they travel nationally and internationally to play golf. Respondents were able to choose only one option and all of the respondents answered to this question. Table 9 shows that 88% of the Finnish respondents travel to play golf at least once per year either nationally or internationally. The majority (50,3%) of the respondents travel 1-2 per year and 21% travel 3-4 times per year. Altogether 37,2% of the respondents travel 1-2 in their own country and 26,2% travel 3-4 times per year. The international travelling to play golf was mainly limited to 1-2 per year as 63,4% of the respondents chose this option. The active and heavy golfers were more likely to travel more often nationally and internationally to play golf than the basic golfers, see appendix B, tables 1&2.

Table 9: *Frequency of golf travelling nationally & internationally*

Travelling nationally & internationally

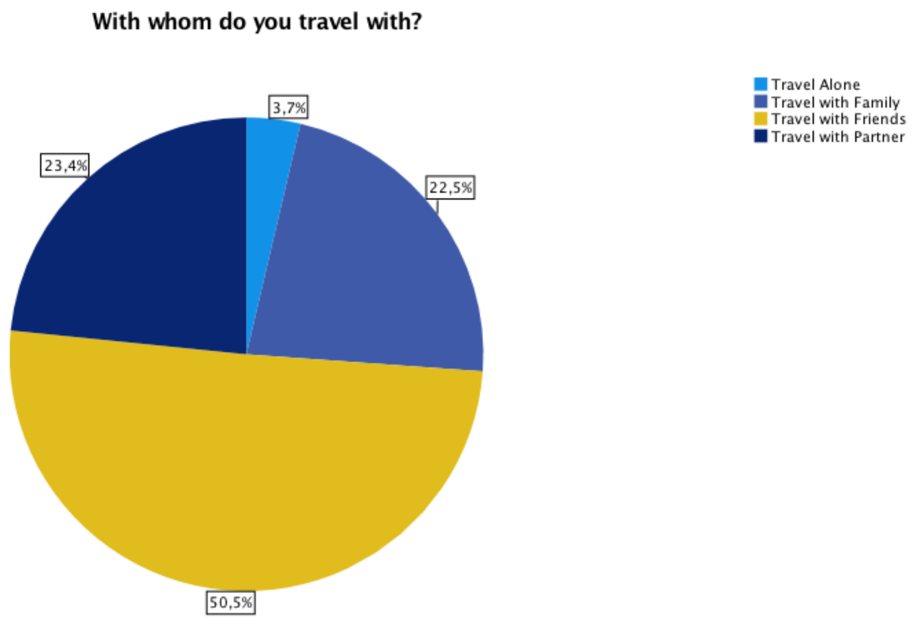
		Responses		Percent of Cases
		N	Percent	
Frequency[a]	0	44	12.0%	24.0%
	1-2	184	50.3%	100.5%
	3-4	77	21.0%	42.1%
	5-6	26	7.1%	14.2%
	7-8	16	4.4%	8.7%
	9-10	5	1.4%	2.7%
	Over 10	14	3.8%	7.7%
Total		366	100.0%	200.0%

a. Group

The respondents were asked where they typically travel to play golf to, as well as where would they like to travel on their next trip. The respondents typically travel to Spain or Portugal which didn’t come as a surprise since both of these countries has been very popular golf destinations for quite some time now. In 2014, IAGTO listed the most popular golf tourism destinations (see Table 2) and in that list Spain held the first place and Portugal second. To get an idea of the future trends, the respondents were asked to write down the country/destination where would they like to travel on their next trip. Altogether 36 different destinations were written by the respondents and 55% of the respondents wanted to travel next to a destination in Europe. The most chosen country was Spain, the second place was shared by Portugal and Scotland and third place was shared by Thailand and South Africa. According to these results Spain and Portugal will be maintaining their position as a most popular golf destination in the future.

The respondents were most likely to travel with their friends since 50,5% of them chose that option, it was followed by travelling with partner (23,4%) and travelling with family (22,5%). The respondents were least likely to travel alone as only 3,7% of the respondents chose this option, see Figure 9. This can be an important piece of information to anyone promoting the golf destination because the needs of a group of friends and travelling with a partner/family can be quite different.

Figure 9: *Travel companions*



The respondents were asked regarding travel information sources and how they primarily receive their information. The question had 7 options (family/friends, Internet, travel agencies, social media, magazines/brochures, previous experiences and other) to choose from and the respondents were able to choose more than one option since many times information is received through several channels. The respondents primarily receive their information from internet (34,5%) followed by family and friends (20,2%) and previous experiences (19,9%). According to the results travel magazines and brochures is rarely used as an information source since only 3,9% of the respondents had chosen it to be their chosen source of information when choosing their destination, see Appendix B, table 3. Furthermore, when booking the golf rounds for the destination as many as 37,9% of the respondents book their rounds via some site in internet that sells green fees to the particular golf course or by destinations own website. In addition, tour operator and travel agencies are also used to book the rounds of golf for 28,7% of the respondents, see Appendix B, table 4.

When going on a golf holiday the respondents usually stay either 7-10 days (36,1%) or 4-6 days (31,7%). The majority of 67,8% of the answers fell in these two categories. During these trips the respondents play in average of 3-4 days or 5-6 days of golf. As can be seen in Table 10, when golf holiday lasts 4-6 days 73,3% of the respondents indicated to play 3-4 rounds of golf and while on holiday that lasts 7-10 days 63,3% play 7-8 rounds of golf. A pattern can be seen from the table 10 that the respondents tend to play almost as many rounds as they stay days on the holiday. These results indicate that the golfers tend to concentrate in golf intensive holidays where not much of the time is used for other activities during the trip. Especially if, two of the holiday days are used purely on travelling to the destination and back as well as when taking into consideration how time-consuming golf is since one round of golf lasts approximately 4,5 hours.

Table 10: *Duration of the golf holiday vs rounds played*

Rounds of golf played vs duration of the holiday

			Average duration of the golf holiday					
			1-3 days	4-6 days	7-10 days	11-14 days	Over 15 days	Total
Golf rounds played in average while on holiday	1-2 days	Count	7	2	2	0	1	12
		% within How many days play golf	58.3%	16.7%	16.7%	0.0%	8.3%	100.0%
	3-4 days	Count	1	33	10	1	0	45
		% within How many days play golf	2.2%	73.3%	22.2%	2.2%	0.0%	100.0%
	5-6 days	Count	0	22	27	4	1	54
		% within How many days play golf	0.0%	40.7%	50.0%	7.4%	1.9%	100.0%
	7-8 days	Count	0	0	19	8	3	30
		% within How many days play golf	0.0%	0.0%	63.3%	26.7%	10.0%	100.0%
	9-10 days	Count	0	0	8	9	2	19
		% within How many days play golf	0.0%	0.0%	42.1%	47.4%	10.5%	100.0%
	11-12 days	Count	0	0	0	2	1	3
		% within How many days play golf	0.0%	0.0%	0.0%	66.7%	33.3%	100.0%
	13-14 days	Count	0	0	0	2	3	5
		% within How many days play golf	0.0%	0.0%	0.0%	40.0%	60.0%	100.0%
	Over 15 days	Count	0	0	0	0	8	8
		% within How many days play golf	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
Total		Count	8	57	66	26	19	176
		% within How many days play golf	4.5%	32.4%	37.5%	14.8%	10.8%	100.0%

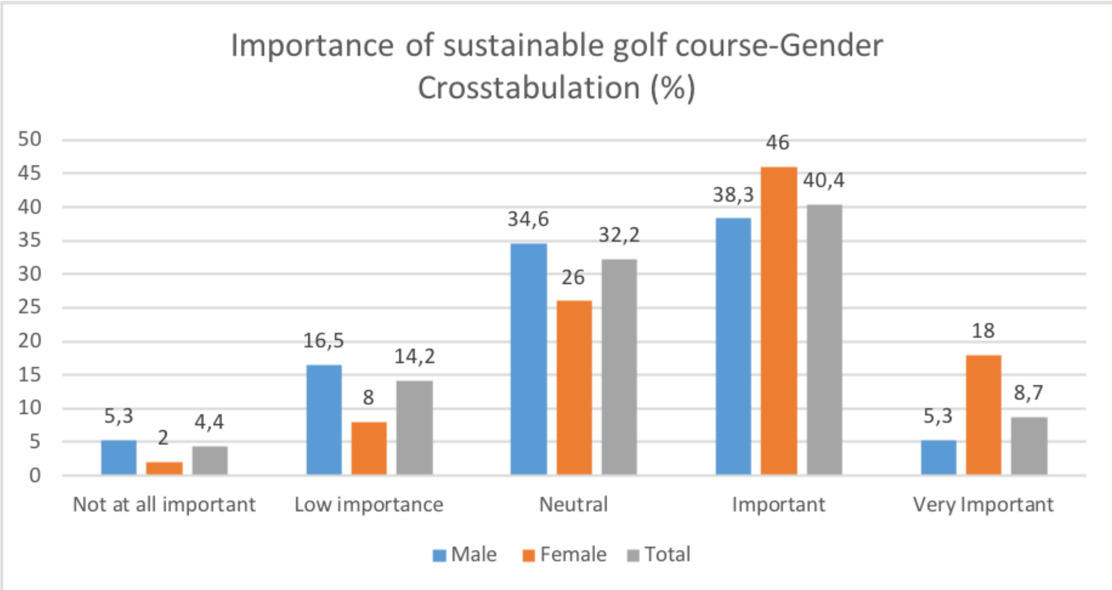
From this section we can make a conclusion that typically the respondents travel with their friends 1-2 times per year to southern Europe. When choosing a travel destination, they tend to get the information from internet, or they trust the recommendation from their family and friends as well as their own previous experiences. The respondents are very self-sufficient with the bookings and many of them book their own rounds through internet. The normal duration of the trips tends to be either 7-10 or 4-6 days long and playing golf during the holiday is the primary activity.

7.4. Environmental attitudes and WTP

This section of the questionnaire concentrates on the environmental attitudes and WTP of the respondents. Altogether 10 questions were asked to better understand respondents' environmental attitudes and the relation of these environmental aspects, as well as its importance to golf.

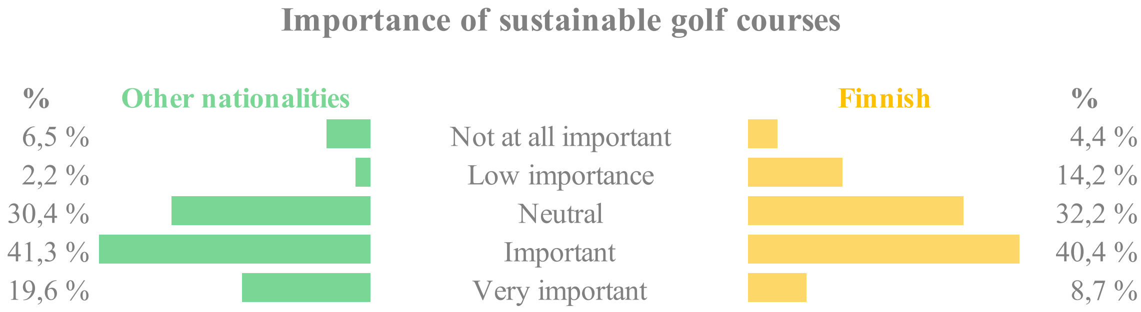
The first question was to see how important sustainable golf courses are to the respondents. The question was presented as a five-point Likert scale where 1 was equal to not at all important and 5 for very important. According to the results 49,1% of the respondents consider sustainable golf courses either important or very important, however important was more frequently chosen option with a share of 40,4% from the total number of answers. Hence, after cross tabulating the importance of sustainable golf courses by gender, we can see that females have a higher tendency to consider sustainable golf courses important as 64% of the females consider sustainable golf courses either important or very important while the percentage for males was 43,6%. See Figure 10.

Figure 10: *Importance of sustainable golf courses by gender*



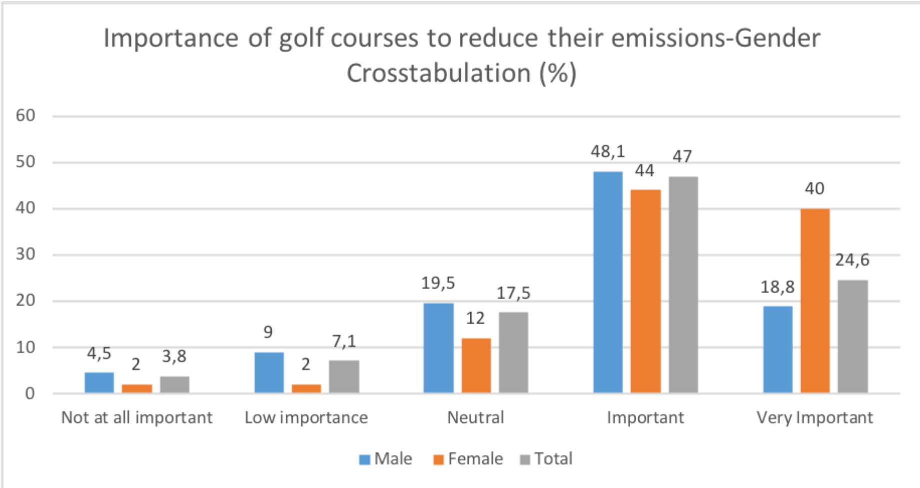
No significant differences were found when comparing the frequency of play and importance of sustainable golf courses. The active golfers considered sustainable golf courses slightly more important than other groups as 48,3% of them considered them important and 5% of them considered it to be very important. Basic golfers were second more likely to consider sustainable golf courses important as 38,1% of them considered them important and 11,9% very important. However, when comparing the importance of sustainable golf courses by Finnish and other nationalities some differences were found as other nationalities were more likely to consider sustainable golf courses very important. Altogether 19,6% of the respondents from other nationalities considered sustainable golf courses very important while for the Finnish it was only 8,7%, See figure 11.

Figure 11: *Comparison of importance of sustainable golf courses between Finnish and other nationalitites*



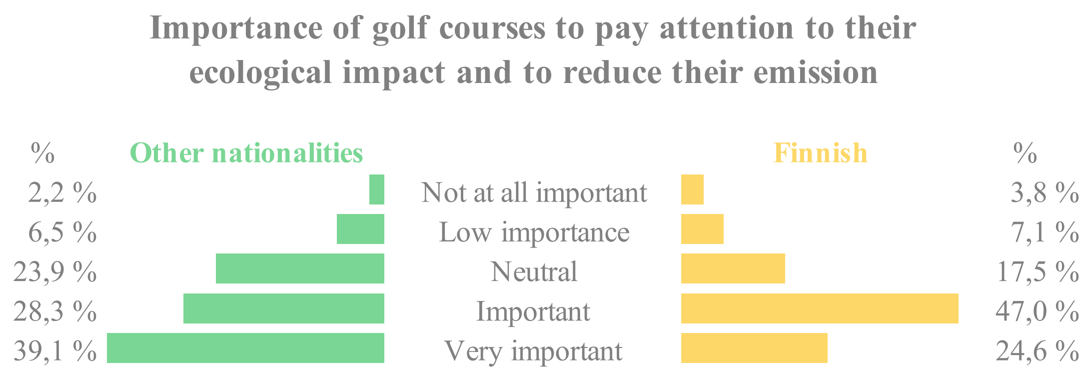
As sustainability and social responsibility have become increasingly more important for different industries in recent years, it was important to understand what golfer's perception on sustainable golf courses is and do they consider it important that golf courses pay attention to their ecological impact, as well as how aware golfers are of the environmental certificates for golf courses. The question regarding the importance of golf courses to pay attention to their ecological impact was presented in the survey as a Likert-scale where 1 indicated not at all important and 5 very important. The results clearly indicated that golfers are interested in the ecological impact of the golf courses and that golf courses should pay attention to it. As many as 72,2% of the respondents considered that it was important or very important for golf courses to pay attention to their ecological impact and the mean for the results was 3.81 with standard deviation of 1.010. Figure 12 presents the distribution of chosen answers by gender of the Finnish respondents. Yet again, females were more concerned and 84% of the female respondents expressed it to be either important or very important for golf courses to try and reduce their ecological impact while the percentage for males was 66,4%.

Figure 12: *Importance of golf courses to reduce their emissions by gender*



Interestingly, when comparing the results by frequency of play the heavy golfers were the ones who considered it to be most important for golf courses to try and reduce their emissions even though they weren't the ones who considered sustainable golf courses most important. There seems to be a little bit of contradiction in the answer's since only 46,3% of the heavy golfers considered sustainable golf courses important but at the same time 76,3% of them consider it important that golf courses pay attention to their ecological impact. The mean for the replies from other nationalities was 3.96 which was fairly even with the Finnish mean, however, respondents from other countries were more likely to consider the responsibility of golf courses to reduce their ecological impact as very important, see figure 13.

Figure 13: *Importance of golf courses to reduce their emission comparison between Finnish and other nationalities*

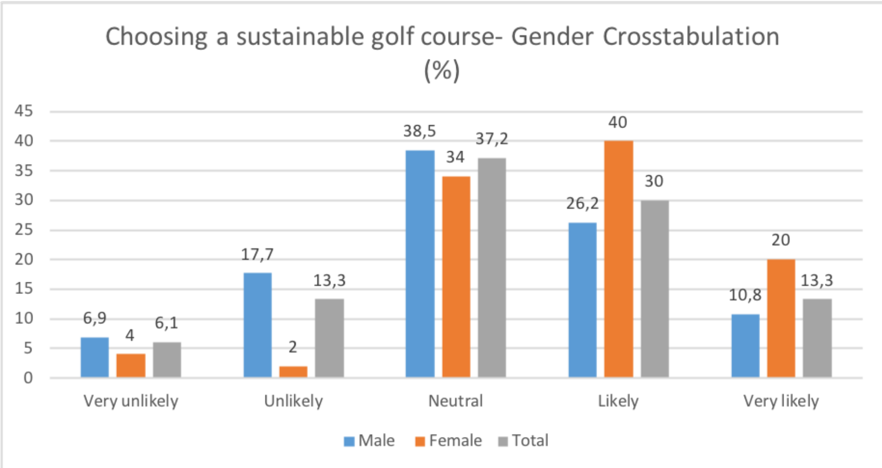


The respondents were also asked whether they are acquainted with the environmental certification for golf courses and 59,9% indicated that they have heard of them. However, when asked if they would remember the name of the environmental certificate 92,8% of the respondents either didn't remember the name of the certificate or didn't know it. The two major certification bodies are ACSP based in USA and GEO foundation that is based in Europe. Only GEO was remembered by the respondents which wasn't surprising since all the respondents were from Europe. According to the Geo foundations website altogether seven golf courses in Finland are GEO certified, however, when visiting the websites of the certified golf courses only one of the golf courses had the eco-label on their footer of the webpage and three other golf courses mentioned about the certification but finding that information required a little bit of detective work. The information regarding the certification was not found at all from three of the golf courses websites. This could be one of the explanations why the respondents couldn't remember the name of the certificate since the golf courses do not promote their certifications on their websites.

The respondents were asked how important they consider environmental certification for the golf courses and 41,4% expressed to be neutral, followed by 29,7% considered it to be important and 6,3% considered it to be very important. The frequency of play didn't have a strong impact on the results, however, the active golfers, as well as females were more likely to consider environmental certification important. As one third of the respondents consider environmental certificates important as well as 72,2% consider that it is important for golf courses to pay attention to their ecological impact it would be wise to have a visible eco-label or information about the participation to the OnCourse programme on the website. By doing so it would give the golfers more assurance that the golf courses are working on making their golf course more sustainable. In addition, it would be important for the golf courses to show that they have an eco-label because it creates a positive image of the company and it can even create an advantage compared to other golf courses that are yet to have one.

The question regarding choosing a sustainable golf course with advanced sustainability measures indicates interest towards sustainable golf courses. Altogether 43,3% percent of the respondents were either likely (29,1%) or very likely (13,1%) to choose a golf course with advanced sustainability measures compared to a golf course that doesn't have any measures. However, when comparing by gender the females were more likely to choose a sustainable golf course as 60,4% of them would choose likely or very likely an eco-friendly golf course, see Figure 14. Moreover, when analysing by the frequency of play no big differences were found between basic, active and heavy golfers.

Figure 14: *Choosing a sustainable golf course by gender*



The respondents were asked in general how likely would they be willing to pay a premium for a round of golf in order to help making golf more sustainable. The question was presented as 5-point Likert-scale and according to the results 42,8% of the Finnish respondents were unlikely or very unlikely willing to pay any extra for sustainability. Neutral opinion was chosen by 35,2% of the respondents and 20,2% were likely or very likely willing to pay a premium. The females had more WTP since 34,7% expressed their willingness while for men it was only 17,3%. When comparing frequency of play with WTP, the willingness to pay a premium was highest for the basic golfers who play under 30 rounds per year while the heavy golfers who play over 60 rounds per year were least likely willing to pay, see table 11.

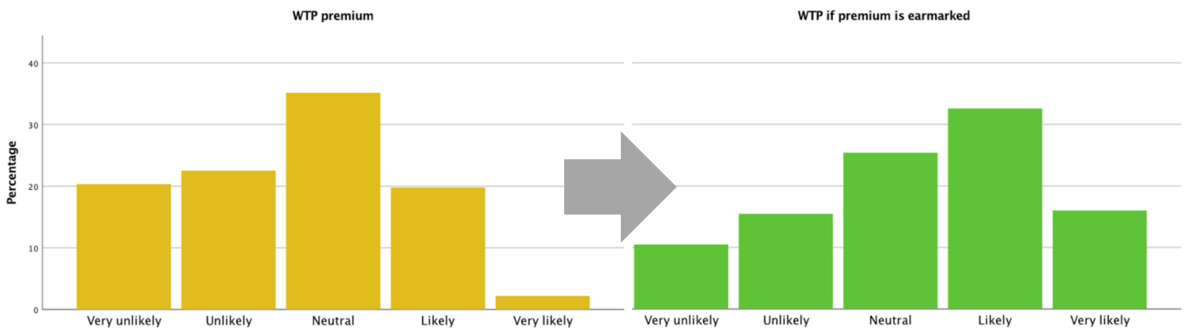
Table 11: *Willingness to pay a premium for a round of golf compared with the frequency of play*

WTP premium crosstabulated with number of rounds played per year

			WTP premium					
			Very unlikely	Unlikely	Neutral	Likely	Very likely	Total
Number of golf rounds played annually	1-30	Count	7	7	14	13	1	42
		% within Number of golf rounds played annually	16.7%	16.7%	33.3%	31.0%	2.4%	100.0%
	31-60	Count	12	13	24	9	1	59
		% within Number of golf rounds played annually	20.3%	22.0%	40.7%	15.3%	1.7%	100.0%
	Over 60	Count	17	21	26	14	2	80
		% within Number of golf rounds played annually	21.3%	26.3%	32.5%	17.5%	2.5%	100.0%
Total		Count	36	41	64	36	4	181
		% within Number of golf rounds played annually	19.9%	22.7%	35.4%	19.9%	2.2%	100.0%

The WTP rises if the money collected is earmarked for something so that the golfers will know exactly what the money will be used for. Likert-scale 1-5 was also used for this question and Figure 15 clearly demonstrates how the WTP rises when it is earmarked for something from neutral to likely or very likely to pay a premium. While the mean for WTP premium in general was 2.61 it arises to 3.28 when the money is earmarked for something.

Figure 15: *WTP premium vs WTP if premium is earmarked*



These results indicate that high importance should be placed in how to present the voluntary premium and to clearly state for what the money will be used for exactly. By earmarking the premium and having a transparent communication with the golfers will increase the likelihood of golfers to pay the premium for sustainable improvements.

To clarify the reasons why the respondents would not be willing to pay a premium the respondents were given an option to state their reasons. Altogether 48 replies were received and the main reasons why the respondents would be unwilling to pay a premium were the reasons that golf is already considered expensive, respondents expect this fee to be already included in the green fee price and they see it unnecessary since sustainability should come as a standard in the golf course. Some of the respondents also commented that golf is not the worst regarding sustainability and that there are more important things to fix first than golf courses. In addition, many of the respondents expressed that the location and good quality golf course are the main determinants for them when choosing a golf course and not the environmental matters. The list of all answers can be found as an appendix C.

Even though the question regarding the WTP a premium got somewhat negative response from the respondents, the results regarding how much they would be willing to pay indicated that only 17% of the respondents would not be willing to pay anything at all. As the distribution of the answers was scattered around all income groups with higher emphasis on the higher income groups, this study has re-grouped the income groups into three categories that will help in the analysis of the results. The three groups will be called lower income group (0-39 999€), medium income group (40 000- 69 999€) and high-income group (70 000- over 80 000€). The ones least likely to pay anything were the ones belonging to the highest income group as 24,6% of them were unwilling to pay anything at all while the percentage for medium income group was 15,5% and for the lowest income group 6,1%. Another interesting fact that can be seen in the Table 12 is that the lowest income group was most likely to pay higher amounts compared to the other income groups as 51,6% of the respondents belonging to the lowest income group was willing to pay a premium more than 5€ per each round. The willingness decreases with the increase in the income since 38% of the respondents belonging to the medium income group was willing to pay over 5€ and for the highest income group the percentage was 31,2%

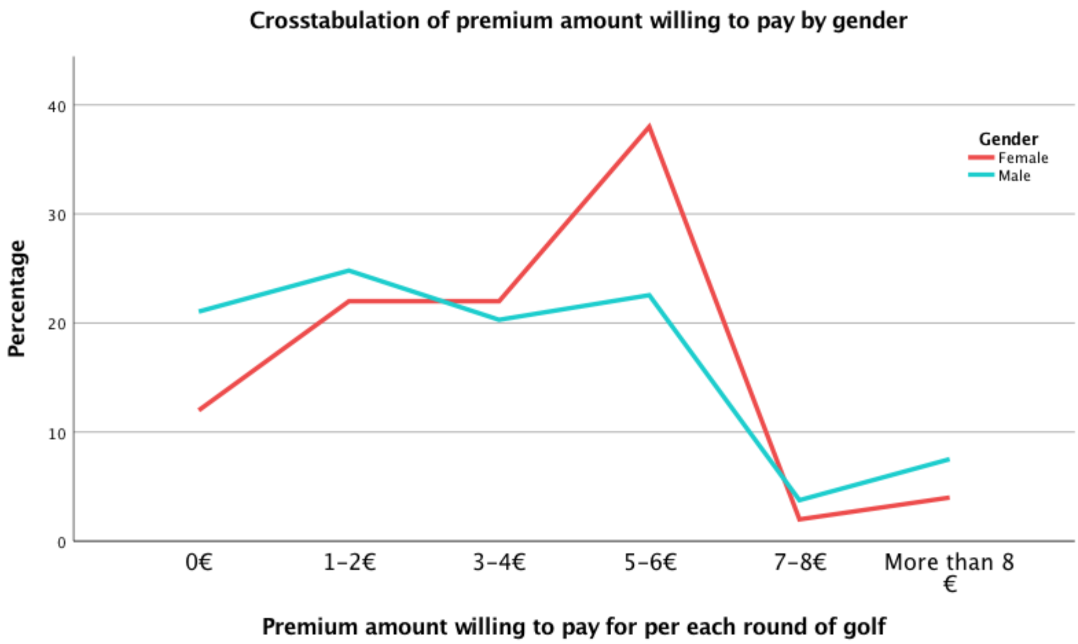
Table 12: *The amount of premium crostabulated with the pre-tax income*

The amount of premium crosstabulated with pre-tax income

			Amount in €						
			0€	1-2€	3-4€	5-6€	7-8€	Over 8€	Total
Pre-tax income	0- 39 999€	Count	2	5	9	12	2	3	33
		% within Pre-tax income	6.1%	15.2%	27.3%	36.4%	6.1%	9.1%	100.0%
	40 000-69 999€	Count	11	22	11	25	1	1	71
		% within Pre-tax income	15.5%	31.0%	15.5%	35.2%	1.4%	1.4%	100.0%
	70 000-Over 80 000€	Count	15	11	16	9	2	8	61
		% within Pre-tax income	24.6%	18.0%	26.2%	14.8%	3.3%	13.1%	100.0%
Total		Count	28	38	36	46	5	12	165
		% within Pre-tax income	17.0%	23.0%	21.8%	27.9%	3.0%	7.3%	100.0%

Similar pattern was noticed with the frequency of play as the basic golfers were more likely to pay more compared to active or heavy golfers. 47,6% of the basic golfers were willing to pay more than 5€ for each round while the percentage for active golfer's was 35% and for the heavy golfers it was 32,5%. Furthermore, as many golfers stated that they were unwilling to pay a premium since golf was already considered expensive it is expected that it could be one of the reasons why active and heavy golfers are unwilling to pay higher amounts as they already spend more on golf in general as they play more frequently. In addition, females were more likely to pay more as 44% of them were willing to pay more than 4€ for each round while 33,9% of men were willing to pay more than 4€ also males were more unlikely to pay anything at all as 21,1% expressed to pay 0€ while only 12% of females were unwilling to pay anything at all, see figure 16.

Figure 16: Crostabulation of premium amount by gender



The last question of the sustainability section wanted to clarify where the respondents would like the money collected to be earmarked to. The respondents were able to choose 3 most important targets from 12 options available. For Finnish respondents the top 3 chosen options were Long-term environmental management program, recycling and protection of wildlife and biological diversity and the least chosen option was coastline and dunes. However, when comparing these results with the other nationalities we can see some differences in the preferences where the money should be used to. Respondents from other nationalities had chosen as their top 3, Protection of wildlife and biological diversity, decreasing water consumption and research & development and the least chosen option was chemical pest control. See figure 17 for results where the respondents from Finland and from other countries would like to see the money collected to be earmarked.

Figure 17: Allocation of premium targets for Finnish and other nationalities

In summary, the sustainability section demonstrates that the respondents are unaware of the environmental certificates as they were unable to name bodies issuing the certificates, but they do acknowledge that these certificates exist. In addition, the golf courses are expected to take sustainable measures seriously as 72,2% of the respondents considered it important for the golf courses to reduce their emissions especially since 43,3% expressed an interest in choosing a sustainable golf course compared to a one that doesn't have any sustainability measures. females tend to have higher concern and more pro-environmental attitude towards sustainability issues regarding golf courses as they repeatedly were more concerned, as well, as more willing to pay a premium. Some differences were found between Finnish respondents and respondents from other nationalities and these were from importance of sustainable golf courses to where the premium should be allocated to. Having a larger international sample with similar questions could further clarify whether the differences found are true and could be of interest for future studies. Furthermore, according to the results the respondents were willing to pay anything between 1-6€ per each round in order to help golf courses to become more sustainable and for the Finnish respondent's the collected money should be ideally targeted to a long-term environmental management program, recycling and to the protection of wildlife and biological diversity. However, to increase the willingness to pay the premium it is utmost important for the golf courses to clearly state for what they will use the premium exactly as it increases the WTP greatly.

8. Conclusions and recommendations

8.1. Conclusions and Recommendations

The main objective of this study was to investigate golfers' environmental attitudes and WTP a premium in order to make golf more sustainable. In order to reveal golfers' environmental attitudes and WTP an online survey was conducted and shared in several different social media platforms. The survey was intended to reveal attitudes and WTP of golfers from several different countries, however, the majority of the answers were received from Finland. As most of the answers were from Finland the results were analysed mainly according to the Finnish perspective and generalizations were only be able to made to this demographic group even the results were at times cross examined with the respondents of other nationalities.

The results were analysed and relationships between commitment to golf, gender, other nationalities and income were used to investigate the possible differences. As previous studies have shown the females tend to have higher pro-environmental intention. This study makes no exception and females were more likely to consider sustainable golf courses important and they believed that golf courses should work towards making golf courses more sustainable and to reduce their emissions. In addition, females were more likely to choose a sustainable golf course as well as pay a premium and to pay more than males.

Golfographic variables has been used in the past as a means to predict satisfaction and intention to re-visit a destination but golfographics were not considered as good predictors for these variables. However, according to the findings made by Hennessey, McDonald, McEachern (2008) there were significant differences between golfers by their golfing frequency. The study revealed that dedicated golfers who play more than 25 rounds of golf per year were more likely to spend more money during their holiday at PEI while infrequent and moderate players were the ones more likely seeking economic holidays. This framework was used in this study to understand whether the golfing frequency has some effect on the WTP an environmental premium. As majority of the respondents played more than 30 rounds per year the hypotheses were that these active and heavy golfers would be willing to pay an environmental fee as they are the most committed to the sport. However, the results didn't indicate higher WTP for the active and heavy golfers instead the basic golfers were slightly more likely to pay a premium.

The frequency of play was not found as a good predictor for the WTP an environmental premium, moreover, the higher the frequency of play the less WTP a premium they had. It can be suggested that even the commitment to golf is greater by the higher numbers of rounds played per year, the pro-environmental intention of the respondents do not grow with the higher commitment to the game of golf. However, there were indication that the heavy golfers tended to travel internationally for golf more frequently, stay longer and play more rounds of golf during their holiday than other groups. It could be suggested to study this connection in the future studies from other perspectives such as how does heavy golfers support local communities within the destination as they have a tendency of travelling more and for longer periods. From that perspective the frequency of play possibly could serve as a good predictor.

Sustainable Golf Project (2002) studied golfers' willingness to compensate the CO2 emissions for their round. There were several different ways to compensate and paying a premium was one of them. While 52,3% of the respondents were willing to compensate for one way or another, only 28% of them were willing to pay a premium. Similar kind of findings were found in this study as only 20,2% of the respondents were likely or very likely to pay a premium, however, the likeliness rises to 48,6% if the golfers know exactly for what the money will be used for. In conclusion, if premium will be implemented with a purpose of environmental improvements, it will be highly advised to clearly state for what the premium will be used for due to the higher willingness to pay this voluntary premium if it is earmarked for something specific. Another means of implementing an environmental improvement fee could be by including it in the price as a percentage portion of the green fee with explanation e.g., in the receipt for what for the eco-tax has been collected for.

For future studies it is recommended to study and compare the intentions of WTP with the actual behaviour. Since intentions themselves do not reflect directly to the behaviour, it would be important to determine whether the intended amount that golfers are willing to pay for more sustainable golf would correlate with the actual amount they will pay at site as well as to understand in percentage how many people are willing to pay anything at all.

The results of this study indicated a lack of knowledge of environmental certification by the respondents. Even 59,9% of the respondents stated that they have heard of environmental certification for golf courses, 92,8% was unable to say the name of the certificate. As respondents clearly consider environmental initiatives taken by the golf courses important as well as they expect them to work towards it, it is advised for the golf courses to clearly state on their websites what sort of actions they are taking towards making their golf course more sustainable. Presenting the participation to the Geo Foundations OnCourse program as well as clearly presenting already achieved Eco-labels can be considered a good way of communicating to the golfers that something is being done as well as enhancing the awareness of the ecolabels to the golfers.

8.2. Limitations

Several limitations should be considered when interpretating the results. First of all, as the survey was conducted online and the respondents were volunteering to answer, it may mean that the sample size could be over-represented by those golfers who are more willing to complete online surveys, as well as, by more golf invested golfers that actively participate in golf groups in social media which can indicate more certain demographic groups. However, even this can be considered as a potential sampling bias many online surveys have similar issues.

Secondly, the survey was spread internationally but, in the end, the majority of 80,3% of the respondents were from Finland. That being said, this study can only represent and generalize the attitudes and WTP of the Finnish people even though sometimes the results were compared with the answers of other nationalities. In addition, the majority of the answers were from males and this might shift the overall averages lower than if the ratio would have been 50/50 since females have a tendency to be more environmentally concerned than men.

Lastly, this study might hold some social desirability bias as individuals have a tendency of replying more socially acceptable answers and not according to their true beliefs. What comes to the environmental attitudes, people have a tendency of following the global norms and what is generally socially acceptable, this can implicate in the response's higher importance of sustainable golf courses than they in reality are for the respondents. In addition, attitudes and actual behaviour do not always walk hand in hand so the respondents could have expressed higher WTP for environmental premium than what they would in real life pay.

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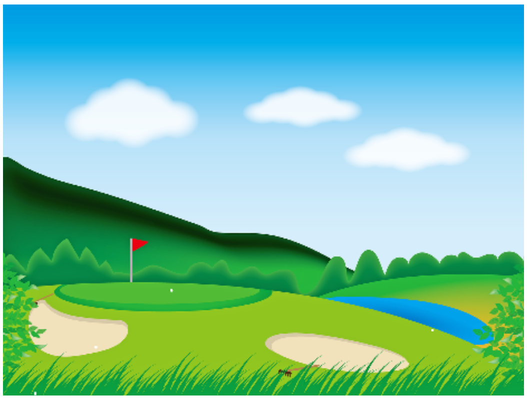
APPENDIX A: Questionnaire

SURVEY-Golf tourism, environmental attitudes and willingness to pay a premium



GOLFOGRAPHICS

1. What is your handicap?

   Under 5 ☐
   5,1-10 ☐
   10,1-15 ☐
   15,1-20 ☐
   20,1-25 ☐
   25,1-30 ☐
   30,1-35 ☐
   Over 35 ☐

2. In average, how many rounds of golf do you play annually? (including all the rounds played in your own country and abroad)

   Under 10 ☐
   10-30 ☐
   31-60 ☐
   Over 60 ☐

3. When do you play majority of the golf rounds?

   Autumn (Sep-Nov) ☐
   Winter (Dec-Feb) ☐
   Spring (Mar-May) ☐
   Summer (Jun-Aug) ☐

4. Why do you play golf?

Relaxation	☐	Social Activity	☐
Fun	☐	Exercising	☐
Experiencing nature	☐	To compete	☐
Networking & Business relationships	☐	Family activity	☐

5. In average, how many times in a year do you travel and stay away from home to play golf in your own country?

0	☐
1-2	☐
3-4	☐
5-6	☐
7-8	☐
9-10	☐
Over 10	☐

6. In average, how many times in a year do you travel abroad to play golf?

0	☐
1-2	☐
3-4	☐
5-6	☐
7-8	☐
9-10	☐
Over 10	☐

TRAVEL HABITS

7. Which time of the year do you normally travel to play golf?

Autumn (Sep-Nov)	☐
Winter (Dec-Feb)	☐
Spring (Mar-May)	☐
Summer (Jun-Aug)	☐

8. Typically, where do you travel when travelling abroad in the purpose of playing golf?

Nordic countries	☐	Asia	☐
Central Europe	☐	Africa	☐
South Europe	☐	Other ________________	
North America	☐		

9. Could you please specify which of the following countries do you typically travel to play golf?

Sweden	☐	Denmark	☐	England	☐
Scotland	☐	Germany	☐	Netherlands	☐
France	☐	Spain	☐	Portugal	☐
Italy	☐	Turkey	☐	Tunisia	☐
United States	☐	Canada	☐	Japan	☐
China	☐	Dubai	☐	Thailand	☐
Australia	☐	New Zealand	☐	South Africa	☐

Other____________________________

10. Which country would you like to travel to play golf on your next trip?

____

11. With whom do you normally travel with?

Alone	☐
Partner	☐
Family/relative	☐
Friends	☐

12. Which of the following travel information sources do you mostly use when choosing a golf holiday destination?

Family/friends	☐	Previous experiences	☐
Internet	☐	Travel agency	☐
Travel magazines/brochures	☐	Golf travel agency	☐
Social media	☐	Other________________________________	

13. How many days do you usually stay when you are on golf vacation?

1-3 ☐ 4-6 ☐ 7-10 ☐ 11-14 ☐ More than 15 days ☐

14. How many of these days do you play golf?

1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐

11-12 ☐ 13-14 ☐ More than 15 days ☐

15. How do you book/buy your golf rounds for your trips?

At the golf course	☐
Tour operator/Travel agency	☐
Phone or email	☐
Internet/website	☐

SUSTAINABILITY

16. How important sustainable golf courses are to you? (1. Not at all important 5. Very important)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

17. Have you heard about environmental certificates for golf courses?

    Yes ☐ No ☐

18. Do you remember the name of the environmental certificate(s) for golf courses you have heard of?

    ____

19. How important environmental certificates for golf courses are to you? (1. Not at all important 5. Very important)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

20. In your opinion, how important is it for the golf courses to pay attention to their ecological impact and to reduce their emissions? (1. Not at all important 5. Very important)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

21. If you have a choice, how likely would you choose a golf course with advanced sustainability measures compared to golf course that doesn't have any sustainability measures? (1. Very unlikely 5. Very likely)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

22. How likely, would you be willing to pay a premium for a round of golf to make golf more sustainable (1. Very unlikely 5. Very likely)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

23. Would you more likely pay a premium if you would know where the money would be used to? (1. Very unlikely 5. Very likely)

    1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

24. In case you are very unlikely to pay a premium for a round of golf, could you please explain your reasons?

____

____

____

25. How much would you be willing to pay for each round to make golf more sustainable?

0€ ☐ 1-2€ ☐ 3-4€ ☐ 5-6€ ☐ 7-8€ ☐ More than 8€ ☐

26. Where would you like to see the premium collected to be allocated to? (Choose max.3 options)

Environmental certification	☐
Research and development of alternative (non-chemical) pesticides and nutrients	☐
Chemical pest control	☐
Long-term environmental management program	☐
Decreasing water consumption by incorporating a grass that is drought tolerant, addition of wetting agents and adding moisture sensors.	☐
Protection of sites wildlife and maintaining biological diversity	☐
Environmental management training for golf course maintenance staff	☐
Supporting local communities' socio-cultural structures and promoting local products	☐
Stabilization of coastline and dunes	☐
Reduction of land-based sources of pollution	☐
Recycling and waste management	☐

SOCIO-DEMOGRAPHIC CHARACTERISZATION

27. Gender

Female ☐

Male ☐

28. Nationality

___

29. Country of residence

___

30. Age

Under 18 ☐

18-24 ☐

25-34 ☐

35-44 ☐

45-54 ☐

55-64 ☐

65-74 ☐

Over 75 ☐

31. Professional status

Employed ☐

Freelancer/Self-employment ☐

Unemployed ☐

Student ☐

Retired ☐

Other ☐

32. Education

    Secondary School ☐
    Bachelor’s Degree ☐
    Master’s Degree ☐
    Doctoral Dedree ☐
    Other ☐

33. What is your annual pre-tax income?

    Less than 20 000€ ☐
    20 000-29 999€ ☐
    30 000-39 999€ ☐
    40 000-49 999€ ☐
    50 000-59 999€ ☐
    60 000-69 999€ ☐
    70 000-79 999€ ☐
    Over 80 000€ ☐

APPENDIX B: Extra tables for the results section

Table 1

Number of golf rounds played annually * Travelling nationally Crosstabulation

			Travelling nationally							
			0	1-2	3-4	5-6	7-8	9-10	Over 10	Total
Number of golf rounds played annually	1-30	Count	12	20	4	2	3	1	0	42
		% within Number of golf rounds played annually	28.6%	47.6%	9.5%	4.8%	7.1%	2.4%	0.0%	100.0%
	31-60	Count	3	21	18	7	2	3	6	60
		% within Number of golf rounds played annually	5.0%	35.0%	30.0%	11.7%	3.3%	5.0%	10.0%	100.0%
	Over 60	Count	3	27	25	7	9	1	8	80
		% within Number of golf rounds played annually	3.8%	33.8%	31.3%	8.8%	11.3%	1.3%	10.0%	100.0%
Total		Count	18	68	47	16	14	5	14	182
		% within Number of golf rounds played annually	9.9%	37.4%	25.8%	8.8%	7.7%	2.7%	7.7%	100.0%

Table 2

Number of golf rounds played annually * Travelling internationally Crosstabulation

			Travelling internationally					
			0	1-2	3-4	5-6	7-8	Total
Number of golf rounds played annually	1-30	Count	11	26	2	3	0	42
		% within Number of golf rounds played annually	26.2%	61.9%	4.8%	7.1%	0.0%	100.0%
	31-60	Count	6	38	11	3	2	60
		% within Number of golf rounds played annually	10.0%	63.3%	18.3%	5.0%	3.3%	100.0%
	Over 60	Count	9	52	15	4	0	80
		% within Number of golf rounds played annually	11.3%	65.0%	18.8%	5.0%	0.0%	100.0%
Total		Count	26	116	28	10	2	182
		% within Number of golf rounds played annually	14.3%	63.7%	15.4%	5.5%	1.1%	100.0%

Table 3

Travel information sources

		Responses		Percent of Cases
		N	Percent	
Sources[a]	Family/Friends	72	20.2%	40.4%
	Internet	123	34.5%	69.1%
	Travel Agencies	41	11.5%	23.0%
	Social Media	29	8.1%	16.3%
	Magazines/Brochures	14	3.9%	7.9%
	Other	7	2.0%	3.9%
	Previous experiences	71	19.9%	39.9%
Total		357	100.0%	200.6%

a. Dichotomy group tabulated at value 1.

Table 4

Booking golf rounds

		Responses		Percent of Cases
		N	Percent	
Booking[a]	Golf Course	37	14.2%	20.8%
	Phone/Email	50	19.2%	28.1%
	Internet/Website	99	37.9%	55.6%
	Tour Operator/Travel agency	75	28.7%	42.1%
Total		261	100.0%	146.6%

a. Dichotomy group tabulated at value 1.

Table 5

Number of golf rounds played annually * Importance of sustainable golf courses Crosstabulation

			Importance of sustainable golf courses					
			Not at all important	Low importance	Neutral	Important	Very important	Total
Number of golf rounds played annually	1-30	Count	3	5	13	16	5	42
		% within Number of golf rounds played annually	7.1%	11.9%	31.0%	38.1%	11.9%	100.0%
	31-60	Count	2	11	15	29	3	60
		% within Number of golf rounds played annually	3.3%	18.3%	25.0%	48.3%	5.0%	100.0%
	Over 60	Count	3	10	30	29	8	80
		% within Number of golf rounds played annually	3.8%	12.5%	37.5%	36.3%	10.0%	100.0%
Total		Count	8	26	58	74	16	182
		% within Number of golf rounds played annually	4.4%	14.3%	31.9%	40.7%	8.8%	100.0%

Table 6

Number of golf rounds played annually * Importance of environmental certification Crosstabulation

			Importance of environmental certification					
			Not at all important	Low importance	Neutral	Important	Very important	Total
Number of golf rounds played annually	1-30	Count	3	5	23	7	4	42
		% within Number of golf rounds played annually	7.1%	11.9%	54.8%	16.7%	9.5%	100.0%
	31-60	Count	8	11	18	22	1	60
		% within Number of golf rounds played annually	13.3%	18.3%	30.0%	36.7%	1.7%	100.0%
	Over 60	Count	6	11	39	19	5	80
		% within Number of golf rounds played annually	7.5%	13.8%	48.8%	23.8%	6.3%	100.0%
Total		Count	17	27	80	48	10	182
		% within Number of golf rounds played annually	9.3%	14.8%	44.0%	26.4%	5.5%	100.0%

Table 7

Gender * Importance of environmental certification Crosstabulation

			Importance of environmental certification					
			Not at all important	Low importance	Neutral	Important	Very important	Total
Gender	Male	Count	16	21	59	32	5	133
		% within Gender	12.0%	15.8%	44.4%	24.1%	3.8%	100.0%
	Female	Count	1	6	22	16	5	50
		% within Gender	2.0%	12.0%	44.0%	32.0%	10.0%	100.0%
Total		Count	17	27	81	48	10	183
		% within Gender	9.3%	14.8%	44.3%	26.2%	5.5%	100.0%

Table 8

Gender * WTP premium Crosstabulation

			WTP premium					
			Very unlikely	Unlikely	Neutral	Likely	Very likely	Total
Gender	Male	Count	31	35	44	22	1	133
		% within Gender	23.3%	26.3%	33.1%	16.5%	0.8%	100.0%
	Female	Count	6	6	20	14	3	49
		% within Gender	12.2%	12.2%	40.8%	28.6%	6.1%	100.0%
Total		Count	37	41	64	36	4	182
		% within Gender	20.3%	22.5%	35.2%	19.8%	2.2%	100.0%

Table 9

Gender * How much WTP Crosstabulation

			How much WTP						
			0€	1-2€	3-4€	5-6€	7-8€	Over 8€	Total
Gender	Male	Count	28	33	27	30	5	10	133
		% within Gender	21.1%	24.8%	20.3%	22.6%	3.8%	7.5%	100.0%
	Female	Count	6	11	11	19	1	2	50
		% within Gender	12.0%	22.0%	22.0%	38.0%	2.0%	4.0%	100.0%
Total		Count	34	44	38	49	6	12	183
		% within Gender	18.6%	24.0%	20.8%	26.8%	3.3%	6.6%	100.0%

APPENDIX C: Open answers from the questionnaire

	Reasons why unwilling to pay the premium
1	Have to watch my budget
2	It is already expensive
3	Golf is already expensive as it is
4	Supports local economy
5	Golf courses in Portugal already ask for high fees. Those with such certificates are amongst the highest in premium fees.
6	I always try to find special offers for green fees
7	Supports local economy
8	If you already pay high greenfee, no extra cost is good, . It has to be aleeady in the greenfee
9	Toivottavasti se sisältyy jo greenfeehen
10	Golf is not among the worst hobbies concerning sustainability.
11	I assume this should be done in any responsible golf course anyway
12	I pay premium fir premium experience, not environmental issues. They come standard.
13	We have only one planet and course are part of it.
14	I want to support responsible courses
15	I'll rather get a maximal playing experience, than pay extra for something else
16	I'm confident courses are generally on acceptable level with sustainability. Thus that is not really a way to differentiate nor a compelling reason to pay premium.
17	Don't believe in virtue signalling
18	Willingness is highly dependable of the amount of money
19	this is not case i choose my golf club, it is always location
20	I think it is obvomious that every course ahould act the way mentioned
21	I want to play best courses available. I believe these premium courses are also taking care of environmental topics.
22	You newer know if the money is used in any enviromental development
23	Playing golf is the main thing
24	Don't see reason for this
25	golf is expencive enough without premiums
26	I personally think there are much greater environmental problems on earth than golf - I support sustainable thinking but golf should not be on the forefront, expect maybe in such countries where fresh water is very limited
27	To me i rather spend my money on a quality golf course that is in great condition and is played by professionals
28	Greenfee should cover all the services...
29	Golf is expencive allready
30	I pay the greenfee
31	My course has allready certificat
32	Money
33	More important and impactfull things to fix first than golf couses.
34	Best thing is that the course is good.
35	Choosing a course is much other things than sustainability. That should be automatic for a course.
36	Not important
37	Expensive enough now
38	i dont trust
39	Location and course matter most
40	One cannot know where the money is spent. Overall, pricing mechanism is not only a calculation of Cost and margin, but also other immaterial factors. Do you add this on top or is it a driver of immaterial pricing? If in, I suppose, I would be willing to Pay it.
41	Possibility of greenwashing
42	For me the course itself is the reason to play.
43	already expensive hobby
44	I don't want to pay premiums
45	Saving money
46	Sustainable courses will win at the end and it will become standard
47	Woke shit
48	Have to watch my budget