

Using conjoint analysis to determine customer willingness to pay for environmental initiatives in hotels in Helsinki

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<p>Environmental initiatives have growing demand from many stakeholders in the hotel industry. Customers are constantly looking for more information about environmental activities when looking for hotels. The aim of this thesis is to find out whether customers are willing to pay a price premium to stay at environmentally friendly hotels. The scope of this thesis is set at the environmental part of sustainability.</p> <p>This thesis is research based with a literature review and an empirical part. The literature review is aimed at finding out the most important environmental initiatives in the hotel industry and the value they create, which is tested in the empirical part in the setting of Helsinki. The empirical part is based on the theoretical framework created by the author.</p> <p>The research method used in this thesis is conjoint analysis. Choice-based conjoint analysis gives respondents randomly matched sets of products or services out of which they choose their favourite, creating a set of utilities and market shares from which it is possible to calculate willingness to pay and revenue generated. Conjoint analysis works in the form of an online survey, to which this thesis got 217 responses.</p> <p>The responses show that on average the respondents were willing to pay an 11 € price premium. There were differences between different respondent groups in terms of willingness to pay such, as age and nationality. The thesis also looked at how the environmental responsibility of the respondents themselves affects results, as well as what the respondents see that the responsibility of the hotel is.</p> <p>Based on average importances to the respondents, the willingness to pay figures, and the literature review, it would be recommended for hotels to take on all three environmental initiatives studied in the thesis, as even after they lose competitive advantage by becoming more popular in time, they are still beneficial in cost keeping and branding. The thesis was written between February and August 2014.</p>	
<p>Keywords Willingness to pay, environmental management, hotels, conjoint analysis</p>	

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1 Introduction

Customers are interested in green hotel practices (Ogbeide 2012, 5). In terms of research there is still a gap in information on what the consumer preferences are for green goods and services in the lodging industry. This means that there is a potential to reveal a lot of new information, and this information can be very beneficial for hotels, especially as several other industries are able to get customers to pay a price premium for green products and services such as hybrid cars, solar electricity and eco-labelled sea-food. (Kuminoff, Rudi & Zhang 2010, 468.) As discussed in the literature review, several studies have found that customers are willing to pay more to stay in a green hotel room, but the topic continues to bring up controversial results.

The topic has been touched very little in the Finnish market. This thesis starts with a literature review which evaluates the current situation of environmental management in hotels, opening the topic from the point of view from different relevant stakeholders such as customers, legislative bodies, booking channels and hotels themselves. All of these play a role in formulating the mind-set of the value of environmental management in hotels. It goes on to look at existing and upcoming green trends, as well as presents current findings in terms of willingness to pay for environmental initiatives in hotels. The literature review is opened with a review of willingness to pay and value creation, making it easier for the reader to follow the correct scope and terminology used throughout the thesis. It ends with a theoretical framework which is used as a basis for creating the empirical part.

The research method used is conjoint analysis. Conjoint analysis measures utilities, and was developed in order to understand how the development of preferences for objects, such as services, happens in people (Anderson, Babin, Black & Hair 2010, 278). It has been chosen for this thesis for a number of reasons. Firstly, it is a method that is able to attract a large number of respondents due to the effectiveness in time and the simplicity of answering for the participants. Secondly, it allows the researcher to keep the actual purpose of the study hidden from the participants. This way, the willingness to pay is collected from the participants indirectly, which may bring more credibility to

the results. It is also seldom used in the hospitality industry and there is growing interest due to its qualities of being able to detect the best possible combination of attributes in products or services. Conjoint analysis is also of personal interest to the author, as she has done an intensive course in conjoint analysis, where one of the aims was to try it out in the industry and bring it more into the knowledge of future industry developers.

The results were gathered via a conjoint survey, which got altogether 217 respondents. The results gathered both conjoint and non-conjoint or segmentation data, making it possible to assess willingness to pay and revenue sensitivity not only for the whole group but different respondent groups based on age, gender, nationality and the feeling or responsibility of the respondents on the hotel and for themselves.

The topic has high current relevance and the findings of this research are of interest to hotel owners in Finland and may help guide them towards certain environmental investments. It may also bring certain views into their attention to help guide their own research considering their own hotel, and to help get an overview of the situation in their own market.

1.1 Research objectives and scope

This study focuses on environmental factors. This specification has been made because of the limited number of attributes that can be used in conjoint analysis, but also in order to provide a closer look at one of the parts in sustainability, and to make the research focused enough to provide relevant results. The research focuses on 3-4 star hotels in Helsinki, as these hotels are the biggest players in the market and thus have the biggest potential impact on the environment.

The main research question in this thesis is “Are customers willing to pay for environmental initiatives in hotels in Helsinki?” It brings forth a list of objectives that the study wishes to consult. The objectives of this thesis, in addition to finding out the willingness to pay are:

- O1: to research what environmental attributes bring most added value
- O2: to find out who are willing to pay for environmental attributes
- O3: to experiment the use of conjoint analysis in the service-minded hospitality industry

The aim of this research is thus to find out whether people are willing to pay more for staying at hotels using environmental practices. This does not indicate profitability, however, but merely focuses on the customer willingness to pay, which may have a positive contribution to the bottom line.

1.2 Concepts

Environmental management employs some key terms, some of which form a so-called umbrella concept with smaller entities inside. In order to understand the correct scope of this thesis it is important to know the difference between some of the following concepts. Even though the focus of the thesis itself is on environmental advances in the hotel industry, some of the concepts below occur frequently in literature and discussion on the topic.

An environmental initiative

The term was chosen to be used in the header because this thesis deals with both existing environmentally managed activities as well as change or in other words new environmental initiatives. An initiative is thus in this case depicting all kinds of environmental activity that goes on, or is planned, in a hotel. In the course of the thesis these initiatives may also be referred to as attributes, to reference the attributes used in conjoint analysis.

Corporate Social Responsibility (CSR)

Corporate social responsibility is divided into three parts: financial, social and environmental responsibility. CSR is often seen as a voluntary activity for companies. (Belz & Peattie 2012, 32.) It goes along the same lines of sustainability, but focuses on a

company's responsibility and its relationship to its surroundings like the market and stakeholders. This thesis only deals with environmental responsibility.

Customer versus Guest

It is a common pitfall for companies and hotel industry individuals alike to not always refer to their customers as guests. A guest refers not to someone buying things from a shop but instead to people who e.g. pay to stay at a hotel (Cadman 2011). It thus seems to refer to something more than simply a monetary relationship. For clarity purposes and to avoid confusion, however, the word customer is used throughout this thesis.

Sustainability

Sustainability is divided into three main areas: environmental, social and economical sustainability. Sustainable tourism is defined by the United Nations World Travel Organisation UNWTO (1997 in Black, Bricker & Cottrell 2013, 9) in the following way: "tourism which leads to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity and life support systems".

2 The value of the environment in the hotel industry

The literature review looks at different factors and steps that take place in the environmental management process from the perspective of different stakeholders. The process is quite complicated and keeps evolving, making it a sum of different theories, trends and expert insights that will be the backbone for the conjoint analysis later in the empirical part of this thesis. At the end of this chapter, there is a combined theoretical framework of the literature review topics that will be used in the conjoint analysis. Together, these will help the process of determining what environmental initiatives to take on and what customers are potentially willing to pay for them.

2.1 Value creation and willingness to pay

Aside from understanding the direction that environmental management is going to in the hotel industry, it is important to first understand the underlying motivations of why people value some things over others, how it affects pricing, and what value in itself means. It is also important to investigate where the line goes between creating value for customers and having them actually be willing to pay for it. This chapter looks at value creation, its relationship to pricing and customer willingness to pay.

2.1.1 Value creation

The first thing to do in understanding value creation is to define value. Macdivitt and Wilkinson discuss this in their book on value-based pricing, coming to conclusion that value is understanding exactly what people want and giving it to them (Macdivitt & Wilkinson 2012, 10). Another helpful insight is the formula of value, which is Perceived Value equals Personal Profit added to Selling Price (Hayes & Miller 2011, 69). By this definition it is possible in theory to be satisfied with lower quality if the price is perceived as low.

But the question is, why does value creation matter? Macdivitt and Wilkinson discuss this from the point of view that ever more frequently salespeople hear the challenge that their products are merely commodities (Macdivitt & Wilkinson 2012, 12). Trans-

ferring this to the hotel industry, the services there, just like bread and milk, can be considered by many as nothing more than a bed, a roof on the head, and a door to close, which are all modern day necessities for spending a night. In order to have customers look for anything but the lowest price, it is important to create additional value to the service product.

One should keep in mind, however, that quality and value are not synonymous. This is a good observation as it is very easy to think that during a bad time one should lower prices to attract more customers. A further point to keep in mind is that a low price does not automatically mean higher value for a customer in the hospitality industry. For example if a customer is offered a too low price for a motel room, they may be wary of the value that this proposition could deliver. (Hayes & Miller 2011, 76.)

Contrary to popular belief, Barry Schwartz's book *The Paradox of Choice* unveiled an interesting issue that modern society is facing in terms of buying and selling, and the value that it creates to a customer. He finds that giving customers too many options, such as having a 50-item menu list at a restaurant, will rather put them off than inspire them to stay and buy (Schwartz 2005). Michael Wheeler, a professor at Harvard Business School and an important figure in the art of negotiation, also quoted Schwartz's book in an article he wrote on the professional social media LinkedIn. He gives an intriguing point: "When you pull out the color chart, you've lost the sale." In his view people freeze up with too many options. The information that customers get in a situation like this becomes an overload and they experience anticipated regret of making the wrong choice after having thought about the choices. (Wheeler 2014.)

This is why, in this thesis, it is important to find the biggest environmental triggers for customers when they want to buy a hotel room, because as said, offering everything may not be what the customers want, but it is even more important to find the correct ones to focus on and communicate them accurately.

2.1.2 The relationship between value creation and pricing

As will be discussed in the part on environmental management, the demand is there for environmental initiatives to happen in hotels. In order to have a chance at turning these initiatives into profit, one must be able to turn them into value. As selling price is one of the factors that constitute value, it is important to understand how different types of pricing function, which one of them is closest to bringing value, and why it is not necessarily the lowest possible price to do it. In their 2012 book Macdivitt and Wilkinson discuss three types of pricing also commonly used in the hotel industry. These are cost-based pricing, competition-based pricing (also known as market-based pricing) and value-based pricing. (Macdivitt & Wilkinson 2012.)

The first two, the conventional pricing approaches, represent the majority of pricing decisions in Eurozone companies (Fabiani, Loupias, Martins & Sabbatini 2007 in Macdivitt & Wilkinson 2012, 65). Cost-based pricing is based on the assumed total costs of making or delivering a product or service. The other existing assumption in it is that the product or service will be profitable, as all costs have been taken into account. This method of pricing is both overly simplistic and dangerously misleading as there is never a certainty of a projected volume being sold and thus of getting the invested money back. (Macdivitt & Wilkinson 2012, 49, 51-21.) It can be said that people who base their pricing in costs are correct in cost sustainability but have misunderstood pricing (Hayes & Miller 2011, 53). In competition-based pricing, also known as market-based pricing, the product or service is compared to the competition and it is then concluded how the product should be positioned and priced (Macdivitt & Wilkinson 2012, 65).

Macdivitt and Wilkinson offer the following definition for value based pricing:

A value-based price is designed and communicated such that all parties understand, recognize and accept the distinctive worth of products and services purchased in the transaction and participate optimally in the gains created by their use.
(Macdivitt & Wilkinson 2012, 106.)

They continue with saying that the discussion between the buyer and seller in the conventional methods becomes adversarial as the point is not in common benefit but in satisfying the needs of the company, resulting in a win-lose situation. Value-based pricing aims at creating a win-win situation where both parties agree on a suitable price. This type of pricing should not be confused with being only about a higher profit or prices, but about doing better business. (Macdivitt & Wilkinson 2012, 105-107). This is especially important in the hotel industry where hoteliers benefit significantly from having a good and long-lasting relationship to the customers, instead of trying to find new ones for every room night.

Hayes and Miller also discuss the role of value in pricing and note that in the service industry the perceived value that customers have of a service is often at least partially an intangible benefit. This hard to measure and subjective aspect of value is signature to the service industry. They also point out that reasonable or not, these perspectives will ultimately determine the success of the business and are thus not to be ignored. (Hayes & Miller 2011, 69-70). The idea of value-based pricing itself suggests that it is important to try to measure also these so called invisible factors, and that it would thus in theory be possible to price a rather intangible and sometimes emotionally driven factor like the environment.

2.1.3 Customer willingness to pay

Lastly, before going to the environmental part, customer willingness to pay is discussed. This is one of the key concepts in this thesis as it aims to find out whether customers would be willing to pay more when a hotel uses environmental initiatives.

Willingness to pay can be defined as the maximum amount that a customer is willing to pay for a product or service. The customer will thus only purchase something if it is below this maximum limit. The willingness to pay limit changes, however, when circumstances and tastes of the customers change. (Phillips 2005, 46, 48.) Relating this to the hotel industry, a customer might be willing to pay more on a Friday than a Sunday night, or want to pay more for a hotel with a modern interior design. The flexibility of

willingness to pay, when adding or removing certain variables, suggests that it is possible to raise the willingness to pay by creating added value.

Phillips (2005, 48) also mentions that the willingness-to-pay formulation assumes that customers are considering only a single purchase, which is a disadvantage for the theory. Conjoint analysis is one of the tools able to confront this problem a little bit by examining different purchase possibilities, putting them against each other and at the end determining what the willingness to pay would be for different kinds of products or services. Phillips (2005, 48) goes on to recognise that increasing one person's willingness to pay tends to be balanced by another's decreasing willingness to pay. If a hotel would thus want to attract customers with environmental management, they would need to be able to communicate to and attract the ones in specific that it brings added value to, in order to see a monetary difference in the return of their pricing.

2.2 Environmental management in hotels

According to Gustin and Weaver (in Ogbeide 2012, 1) there has been a dramatic growth in environmentally responsible behaviour over the years and it has now become a major concern. The concern is not simply linked to customer behaviour but it has also been found that 86.6 per cent of European hoteliers are concerned about the environment (Bohdanowicz 2005, 196). Furthermore, the task of environmental responsibility is fundamentally shared by the local government, companies, consumers and the media alike (García-Pozo, Marchante-Mera & Sánchez-Ollero 2014, 31). This seems to indicate that there is demand for environmentally sustainable services on all sides of the hospitality sector, bringing a lot of potential value to all parties linked.

In the following subchapters the opportunities and challenges that environmental management brings to the hotel industry are gone through. The issue is also looked at from other perspectives like legislative bodies, customer demand is analysed, and a look is taken at the communication of environmental management and how it is linked to creating value for environmental initiatives to hotel customers.

2.2.1 Opportunities of environmental change in hotels

In the past 60 years the amount of people travelling abroad has increased from 25 million to hitting the 1 billion milestone in 2012. According to Mr Taleb Rifai, the Secretary General of the United Nations World Tourism Organisation UNWTO, world leaders agree that tourism can make an important contribution to climate change. (UNWTO 2013, 2.)

In 2012, UNWTO released a report called *Tourism in the Green Economy*, which states many of the challenges and opportunities that climate change presents the industry with. As opportunities, the report states sizing and growth of the sector, changing consumer patterns, potential poverty reduction, and social and local development (UNWTO 2012). Contrary to what they state as challenges, the opportunities are not as linked with the environment as they are with social sustainability. However it is possible to find opportunities also here for environmental management, as the first of these has to do with the growth of the sector, and tourism is one of the major forces in the world's economy (Cooper, Fletcher, Fyall, Gilbert & Wanhill 2008, 3). It means that the industry has the possibility to be a forerunner in environmental development and lead the way into a more sustainable future.

Adapting environmental initiatives is not only a victory for the climate, though. García-Pozo et al. (2014, 37) concluded in their recent study that it is possible for a hotel to increase the number of customers by investing in sustainability measures and making them known to potential clients. As most travellers are willing to stay in green hotels (Ogbeide 2012, 7), this presents a huge opportunity and gives way to environmental change and research in the hotel industry.

It is still not simply a case of saving the environment or attracting customers or profits with environmental sustainability. According to Bohdanowicz (2005, 188) many hoteliers rely on the natural environment to attract guests to their hotels. She concluded that the industry would do well in becoming more environmentally conscious and pointed out how environmental stewardship has in many cases taken a backseat to operational concerns (Bohdanowicz 2005, 188). This suggests that environmental management not

only brings additional benefits to hotels but also gives them an opportunity to again put more focus on the state of their product, out of which the destination is undoubtedly a big part.

Environmental management has a lot of other opportunities for hotels as well the possibility of increased profit or climate-related perks. Graci and Kuehnel wrote in 2010 that through environmental management hotels can gain things like customer loyalty, employee retention, awards and recognition, regulatory compliance, risk management and increased brand value. All of these things have potential of real economic benefits. Graci and Kuehnel (2010) continue to point out that these benefits can be gained in hotels through implementing environmental and social initiatives many times with little or no capital. At the end they also mention the frequently occurring, although slightly vague notion that environmental management is the right thing to do. A similar argument was given in Butler's study (2008, 239) where he found that given the minimal challenges of initiating environmental social responsibility, and the overwhelmingly positive sentiments, it is the right thing to do. Given the positive attitude towards it, hotels have a bigger opportunity to also go forth with these actions as there is less risk of it being perceived in a negative way.

The shift towards increasing environmental initiatives seems to be happening, as several studies have found it to have increased importance for hotel companies. Kim, McCleary and Park (2014, 95) found in their study on top management's environmental attitudes on hotel companies' environmental management that it has risen to an important component of the strategic agenda and CSR of a firm. TripAdvisor, the world's largest travel site, also found in their 2012 survey that green initiatives have an increasing priority for hospitality businesses that try to reduce their environmental footprint (TripAdvisor 2012). The reason behind this shift seems to be a growing realisation of environmental action as a competitive advantage (Ogbeide 2012, 7; Valorinta 2014; Graci & Kuehnel 2010).

One good example of a company that has really benefited from measuring environmental impacts is Hilton. Hilton, who previously has not been known for its advances

towards environmentally friendly practices, published a significant figure from their LightStay program which helps calculate and analyse environmental impact. With LightStay, they managed to save up to 29 million dollars in 2009 alone, simply by monitoring their operational practices and being able to make more informed choices based on the numbers provided. Hilton is also using a third-party auditing firm to perform a series of audits on LightStay. (Environmental Leader 2010.) From an environmental perspective it can be said that it is good thing when big chains take environmental initiative, because it raises standards for everyone and brings media and customer attention.

2.2.2 Challenges of initiating environmental change in hotels

Hotels focus a lot on CSR programs (Lenhart 2008). Yet, during economic downtime, a common phenomenon is that companies decide to cut down on their CSR programs (Singal 2014, 19). This makes sense because for many hotel companies CSR is still a way of branding rather than economic saving, as calculating the impact of all environmental changes takes both time and money, while the effect on branding has a potentially more immediate benefit. Cutting down on CSR programs is not necessarily a wise business decision, however, as this is precisely the time when the economic savings from environmental initiatives would be most needed. A further challenge is that hotel developers and managers may see green hotel development as a risk because such trends have come and gone in the past (Butler 2008, 234).

The effects of environmental change are different everywhere in the world. In most places it brings almost solely negative effects. In terms of climate change in Finland the media has long been aware of the potential benefits that may come out of it in terms of for example agriculture. The impact is seen as so big that according to an EU commission research centre report, a 2.5 degree temperature increase by the year 2080 could increase the GDP of Nordic EU countries by as much as 0.5 to 0.7 per cent. It is also argued there that it could affect tourism negatively in certain countries because temperatures are simply too high. (Yle 2009.) From the point of view of a city like Helsinki this would be a good thing but at the same time tourism and thus hotel nights in Northern Finland could decrease due to its heavy reliance on the ski industry, making

it a serious issue for one of the biggest tourism areas of Finland. Nevertheless, even with the possible benefits in mind, Finland has been a forerunner in fighting climate change. In recent years, the country has also been reminded of how much its economy is dependent on how other EU countries are doing, which in the case of climate change would be economically considerably worse according to Yle's article (Yle 2009).

It may be argued that the current advances towards sustainability in the tourism industry happen by the major players (Leslie 2012, 9). This seems only fair, as in the hotel industry they as entities create the largest impacts also environmentally. It should not be forgotten, however, that especially in the hotel industry, waste and consumption happens by individuals rather than machines, and it is thus changes in human actions that have the biggest impact for the environment. Smaller companies can thus not push the responsibility to larger companies, but every hotel is able to contribute their fair share.

The UNWTO report *Tourism in the Green Economy* states many opportunities but also many challenges for the hospitality industry. Unlike with the opportunities, a lot of the challenges have to do with environmental factors, such as energy, GHG emissions, water consumption, waste management, water quality and loss of biological diversity. (UNWTO 2012.) Every hotel has an effect on several of these in one way or another. It may, however, be difficult for a hotel to evaluate where its biggest impact lies. This presents a challenge because if a hotel decides to invest largely on for example water quality, it may actually be harming the biological diversity more, which may have a great affect on the brand negatively at some point. An important observation on the issue of choosing what initiatives to take on was found by Kuminoff et al. (2010, 469). They state that while going green can decrease a hotel's rate of energy and water consumption, at the same time it can produce large costs in energy and water efficient appliances as well as ascend operating costs like purchasing environmentally friendly cleaning supplies and recycled paper products. The cost of these may be passed on to travellers through higher room rates. (Kuminoff et al. 2010, 469.) This raises a key question in the challenges of environmental management: does the customer see your initiatives as saving money or investing in the future of the environment? The answer

may have a big effect in demand and willingness to pay, as will be discussed in the upcoming subchapters.

A similar cost notion was found by García-Pozo et al. (2014, 37). They found that implementing environmental measures may potentially have high fixed costs. This is a big challenge for most hotels, as the industry is already heavily burdened by high fixed costs and having a fluctuating and small profit margin. Implementing an environmentally friendly procedure is a risk for any hotel for this reason. However, as environmental quality improves, positive customer response tends to follow, making it an incentive for hotels to invest in environmental measures (García-Pozo et al. 2014, 37). A positive customer response may nowadays also reflect positively on the brand as the study of Mondéjar-Jiménez, Peiró-Signes, Segarra-Oña, Vargas-Vargas and Verma (2014, 9) shows that it is common to leave public reviews of hotels on sites like Booking.com, where peer-reviews are very powerful in the buying decision process.

It is not only hoteliers that are vary of the costs of environmental management, however. According to Ogbeide (2012, 5) there is a perception among customers that staying in a green hotel might be more expensive than staying in a non-green hotel. Furthermore, it has been found that engaging in green practices diminishes the luxury that is associated with staying at a hotel (Baker, Davis & Weaver 2014, 96). According to Baker et al., some respondents mentioned that while staying in hotels they take advantage of things they cannot do at home. According to them, offsetting this perception is a key challenge for the industry.

Continuing with the thought of diminished luxury, the quality of the hotel seems to have a significant impact on environmental attitudes of customers. In their 2014 study, Mondéjar-Jiménez et al. (2014, 4) found that luxury or five star hotels did not gain distinctive advantage from having ISO 14001 certification, a widely used environmental certification. Neither did the three star hotels but for a different reason: here customers were simply seen as too price sensitive for it to have an affect. The rating that did benefit significantly was four star hotels, which, together with the equivalent of three star hotels, are studied in the empirical part of this thesis.

An interesting challenge that Ville Valorinta, a hotel industry environmental management specialist, observed is that many hotels are probably doing some sort of environmental activities but may have not recognised that they are doing this. This is a challenge because it makes it impossible for them to turn it into a competitive advantage or marketing trick, and makes them lose their competitive advantage if they were to get some with an original initiative. He also mentions how some hoteliers are ashamed of not doing anything. This may be seen an opportunity as well as a challenge, however at the moment it is a bad thing as managing environmental change is not rocket science but may be seen as such by some. According to Valorinta, however, it is never too late to be sustainable and it just requires the decision to do so, as well as commitment, information, facts and figures. (Valorinta 2014.)

There are many challenges to environmental management in hotels also from a guest perspective. One is that contrary to Ogbeide's (2008, 7) theory that most people are willing to stay in green hotels, Susskind (2014, 9) found that only 30 per cent would choose a hotel based on their commitment to sustainability initiatives. He also points out that guests are not fully ready or committed to seeking out hotels that have a bigger focus on sustainability, even if they were willing to stay in one if the opportunity arose.

2.2.3 The effect of legislation

An important party that has a large effect in the way and pace that environmental management moves are the legislative bodies in different countries and continents. Examples of these are local governments and larger regulatory entities like the United Nations or the European Union. One of the problems that slows down environmental change at the moment is lack of legislation. A big thing to realise, also, is that the important and fought for regulations and treaties of the United Nations and the UN-WTO are suggestions and guidelines instead of laws. This is an important notion as while people tend to rather act on restrictions than laws, thinking it was their own choice, it must be noted that the lack of environmental legislation still has a big effect in the pace in which these changes and initiatives take place, and especially where,

which can affect the severity greatly (United Nations Headquarters 24 Dec 2014.) Big countries like the United States, that constitute to a large share of the worlds environmental pollution, have frequently left environmental treaties unsigned (Anderson 2002, 12).

In 1999 the UNWTO generated a Global Code of Ethics for Tourism that has been in use since it was put into practice in Santiago, Chile. The Code of Ethics includes ten articles that state the rights of different tourism stakeholders such as employees and the environment. Article 3 Act 2 stresses the importance of all forms of tourism to save precious resources such as water and energy, minimising the consumption of waste, and interestingly that they should be the priority of and be given encouragement by authorities on all levels such as national, regional and local public authorities. (UNWTO 2001, 4.)

Even while abiding to international regulations is largely up to the country itself, according to Butler (2008, 234) governments are in fact beginning to mandate things like reduced energy use and emissions. Kim et al. (2014, 95-96) also mention several studies that support the fact that EM practices are likely to be affected by local factors like government regulations or initiatives and infrastructure to name a few. Governments are also pushed by Bohdanowicz to become involved and to provide incentives to the industry. A possible incentive would be to attract funding with a lower interest rate. (Bodhanowicz 2005, 200.)

One of the biggest efforts that has spread from a government to the industry is the LEED certification. According to Heisterkamp (2009 in Ogbeide 2012, 1) the way to LEED was led by the local governments in different states in the United States. LEED stands for Leadership in Energy Environmental Design and was created to help design and certify environmentally sustainable buildings, and since its creation it has spread fast and wide. The use of this certification is slowly landing also to Finland brings potential also to the hotel industry.

An interesting finding among European hoteliers is that the initiatives of local governments and NGOs or non-governmental organisations seem to be familiar only to large and chain-associated hotels. This is a problem as like mentioned earlier, each hotel has its own environmental footprint and it can thus not only be so that the large hotels take part in fighting climate change. It is suggested that these bodies need to intensify their efforts to inform and reach unaffiliated hotels. (Bohdanowicz 2005, 198.) A similar result was found in a Spanish study of ISO 14001 certification in the hotel industry, stating that the hotels that have the certification in Spain are generally larger than those that have not done it (Mondéjar-Jiménez et al. 2014, 16).

In terms of environmental legislation, environmental protection laws in Finland are largely based on the European Union legislation. In some cases, however, the laws are even stricter in standards and limits. Finland has for example very extensive waste regulation. (Ministry of the Environment 2014.) One everyday example of a working but internationally rare practice is the money deposit gotten from returning plastic or glass bottles. As these environmental actions are commonplace things for Finns, it is possible that in their mind these environmental initiatives are something that the government takes care of when the need arises, and that they will follow it once it is in place. It could be argued that things like waste management or recycling would thus not bring added value for a Finnish hotel customer, even though this would not necessarily be the case for them in terms of hotels abroad. A foreign incoming hotel guest's perspective may also be different. For them, waste management like this may be a novelty for which they may be much more willing to pay a premium than a Finnish customer travelling inside of Finland. It remains unanswered how big the gap is from treating these things as a norm or a necessity for hotels, to thinking it is an advanced system that they are implementing and which could also potentially rise the value in the eyes of a customer.

2.2.4 Customer demand

Customers are interested in green hotel practices (Ogbeide 2012, 5). Customer demand cannot be explained in general terms for everyone, as the perceived importance of environmental initiatives is unique for everyone (Barbaro-Forleo, Bergeron & Laroche

2001, 513). It has also been found that the biggest effector in willingness to stay in green hotels is the customer's assessment of being environmentally friendly (Baker et al. 2014, 92). The demand for environmental products and services is not straightforward. Picket et al. found already in 1993 that a customer doing one thing like recycling may not buy eco-friendly detergent. This example goes to remind the hotel industry that even though they would find evidence of a certain customer group engaging in a certain environmental practice, it does not mean that they would be willing to do, or as highly appreciate, another one offered by the hotel. (Barbaro-Forleo et al. 2001, 515.) Baker et al. go on to recognise factors that affect customer demand. Inconvenience and concerns about luxury have the largest effects on the intention to stay at a green hotel but surprisingly the severity of the environmental problem or the level of corporate responsibility were not significant. (Baker et al. 2014, 92-93.) This suggests that as long as the hotel communicates the existence and easiness of their environmental initiatives, they should be well on their way to attract old and new customers.

When discussing customer demand, it is good to go deeper into motivation to see where the motivation for environmental initiatives may come from. According to Cooper and al. (2008, 46) Maslow is a common psychological theorist borrowed by tourism authors. He has provided a set of labels, which are relatively easily understood and also fit well to tourism. One such theory is the hierarchy of needs, which starts with the human need to first fulfil their basic needs, which hotels are initially about, and only later fulfilling needs of self-esteem and the esteem of others. They argue thus that Maslow's theory could also be understood in moral terms. It seems to suggest that people will grow out of their concern for the materialistic aspects of life if the circumstances are right, and become more interested in so called higher things. (Cooper et al. 2008, 46). The implication of this can also be of environmental interest, and it is one of the most applied and used theories even in this area of hospitality.

Continuing with the theory, people that can travel often are wealthy enough to have the basic biological needs taken of. In theory, this means that they are on a level in the hierarchy where they could also be interested in other things than necessities, such as culture and people, and thus in things that do not only concern themselves, like esteem

for others (Cooper et al. 2008, 45). Linked in the book with a discussion on sustainability, this could also mean care for the environment in which other people live. The authors have not failed to recognize the common criticism received by Maslow's theory, which states that a person can enjoy things higher in the hierarchy even without having their immediate basic necessities taken care of (Cooper et al. 2008, 46).

In order to know which environmental factors are most attractive to customers, it is good to step into their shoes and also look at other sources than scientific literature that may bring us closer to a more realistic and timely perspective that does not come from the industry itself. An example of this is a book called *Green Rooms*, which puts under questioning hotel operators that are trying to "cash in the eco" with for example the installation of some low-energy light bulbs, an environmental but relatively small action (Climate Care 2008, 16). *Green Rooms* lists environmental accommodation criteria that indicate how environmentally friendly a hotel is acting. A selection of these criteria are the materials used in the construction of the building, green architectural features, water-saving devices, washing towels and bed linen unnecessarily often, renewable energy sources and type of cleaning products (Climate Care 2008, 16-17). Even though it may seem more lucrative and beneficial for a hotel to focus on a few main things in their environmental policy, the list shows that people are aware of, and keep an eye on, a much larger variety of things that affect the environment.

Green Rooms is a publication by a climate care organisation, which may imply that they are trying to guide the opinions of people rather than stating them. Nonetheless, even as a source printed six years ago, it acts as a good example of such a source and may be closer to reality than what science can find in a fast changing industry. Their current webpage does state, however, that they are a world-class project developer and expert in climate finance (Climate Care 2014) indicating that they have a sound understanding of not only customer wishes and what is best for the environment, but also what is best for companies and how they can make the most financially viable decisions in their CSR policies.

2.2.5 Communication of environmental initiatives

Based on observing the industry and the lack of studies on the topic, communication of environmental initiatives does not yet seem to be in a big role in the environmental management process. Existing literature on preferences and willingness to pay for environmental initiatives finds a considerable gap in what hotels are doing and how they are conveying this information to the customers, indicating it should be in a bigger role. One such study is by Baker et al. finding that green hotels have poor advertising of their policies and need to advertise their greenness better (Baker et al. 2014, 95). This subchapter aims to explain why communication is so important in environmental management.

A benefit of focusing on communication is that it allows the focus to be put more closely on target groups, as this is a big part of any marketing. Research has found that married females with at least one child living at home are more likely to be willing to pay for environmentally friendly products (Barbaro-Forleo et al. 2001, 503). A similar observation as made much later by Susskind in 2014 (9), stating that out of those willing to pay a higher rate for sustainability many were women or older guests. Research has also found that when it comes to preferences in room attributes, both business and leisure travellers are attracted to the same attributes, and hoteliers would thus not need to differentiate between these two types of travellers when marketing but do similar campaigns instead (Baloglu & Millar 2011, 307, 309). Observations like this are important when seeking out customers to pay for a hotel's environmental initiatives.

One of the challenges of environmental communication coming from hotels is the possibility of greenwashing, meaning that customers may believe that a company is trying to seem environmentally friendly only for marketing or customer satisfaction purposes without being so in reality. Hoteliers were warned of greenwashing by Baker et al. (2014, 96) where they mentioned two classical examples of this happening in the hotel industry. The first one is when some hotels mention that they have a towel re-use policy but change towels every day anyhow, and the other mentions customers running into housekeepers that empty all recycling bins in one large bin. In other industries different eco labels have also been seen as greenwashing, a word of warning also rec-

ognised in hotel industry studies like Baloglu and Millar (2011, 308). In terms of who believes environmental communication, it has been found in a survey of more than 700 U.S. travellers that 40 per cent of people mostly believe hotels' claims to be eco friendly, 32 per cent do so rarely and 20 per cent do not know. This indicates a huge potential for improvement. The study goes on to recognise that 41 per cent of people believe claims to be eco-friendly if they have witnessed it in practice and 24 per cent believe it if they see certification. Disregarding certain initiatives, 60 per cent feel rarely informed and 13 per cent never do. (TripAdvisor 2012.)

Another challenge is that customers are not fully committed to seeking out hotels that put focus on sustainability. This makes it even more important for hotels and all channels alike to take the first step in improving their communication and finding more ways to deliver the greenness to guests. (Susskind 2014, 9). Another statement that supports this is the TripAdvisor survey finding that customers are hungry for more information on environmental initiatives (TripAdvisor 2012). Communication also has a big role in reversing the thoughts of decreased luxury and perceived expensiveness of green hotels mentioned earlier.

Linking this chapter to Wheeler's (2014) thought of customers freezing up in the buying decision with too many options in part 2.1.1, it is important in this thesis to find out which environmental attributes are most interesting to customers in order to be able to communicate these initiatives efficiently. As mentioned by Baloglu and Millar in 2011 (308), understanding how important and influential different types of attributes are can help hoteliers highlight specific characteristics as a part of their marketing campaign. A good way to market them is to market these attributes as a competitive advantage (Ogbeide 2012, 7).

Studies do not fail to give suggestions of improvement for communication, however minimal the actual environmental communication is in the industry. An important source of communication is naturally the staff of a hotel. It would thus make sense for managers to strive to implement and maintain an education system for their employees and tenants on how they play a part in the success of their environmental management.

(Uecker-Mercado & Walker 2012, 11.) Another way would be to test different messages to customers, such as different in-room cards (Baker et al. 2014, 95). In 2001, before the real take off of the Internet and social media marketing, Barbaro-Forleo et al. (2001, 519) suggested the following ways of communication: info cards, window displays and videos throughout stores to let customers know about the environmental and social effects of the purchasing decision. Even though in most cases with hotels the purchasing decision is and was not even back then made on site at the hotel, the physical environment of a hotel itself should not be underestimated as each and every customer must themselves come and walk through the halls and this is and remains a good potential communication channel of environmental initiatives for hotels worldwide.

2.3 Green trends

As mentioned earlier, it may be difficult for a hotel to figure out where its biggest environmental impact lies. The same applies for customers. From a customer perspective, it may be difficult to recognise the most influential or significant ways for a hotel to save things like energy as it is an entity comprising of so many units, parts, and people. This is important to find out, however, as their reactions to hotel design and green initiatives help shape the discussion regarding hotel sustainability development (Susskind 2011, 1). In order to find out what they are willing to pay for these initiatives, it is thus important to find out what makes them tick, and what they think are the biggest affecters. For some it may be easy to rely on certifications as they have a stamp of approval from another company than the hotel itself. For some, however, certifications may not be as trustworthy or visible, especially if they have a more specified interest, such as the use of alternative energy sources such as solar power.

As the method used in the empirical part of this thesis is conjoint analysis, it is important to find a certain set of recognizable attributes that people can choose between in the conjoint survey. The attributes are gathered based on this part of the literature review on current and upcoming green trends. This is because in order to pay a price premium for something people need to know that it exists, and thus interviewing hotel staff on what their current practices are would make less sense at this stage in finding

out attributes for the study. It may also be more practical to interview customers instead of hotel staff on what they would most like to see in a hotel to get the right perspective but in this thesis for time and budget reasons the attributes built for the conjoint analysis are based on information found on the literature and the Internet as it could be found by anyone looking for a hotel or information on hotels with green values. The following trends are thus based on readily available information to get the most realistic and all-abiding view of what is out there right now and what has sparked most interest in the public for new and upcoming trends.

Current literature has several initiatives in common that are either tested or found to be important. Some of them are environmental certifications, energy saving, recycling and waste management, guest participation, and water saving, to name a few. The most frequently occurring ones and the ones with highest value to customers are discussed in detail below.

2.3.1 Environmental certifications

In previous studies, environmental certification was found to be an important environmental initiative. One study that found so was done by Baloglu and Millar in 2011 and was published in the *Cornell Hospitality Quarterly*. The study is one of the few that also uses conjoint analysis, this time to determine customer preferences for green hotel room attributes. Even though the study does not have main focus on willingness to pay, it is nonetheless a similar study from the field that recognised many important attributes for their conjoint analysis. The conjoint analysis was answered to by 517 respondents in the United States, business and leisure customers roughly half and half. In their survey they used the following attributes: recycling, refillable shampoo dispensers, using key cards to turn power off, using energy efficient light bulbs, towel re-use, sheets changed on request for stays up to three nights, and green hotel certification. Each attribute had a yes or no level. Out of these, green certification was the most influential attribute to both business and leisure customers.

The study was one of the first to compare the two groups of leisure and business customers. It was found that the utilities were the same way around with both groups,

although the importance ranking differed slightly. They also found a desire for some sort of regulation in the industry to give customers a clear picture of what constitutes a green hotel. This is slightly controversial as green certification was already the most important attribute, but can be seen as a push for the industry and governments to generalise the regulation more. The study also mentioned the fact that linen re-use and efficient lighting are already widespread but occupancy sensors not as much yet. Dispensers of soap and shampoo were also already more widespread in Europe and Asia but not the United States, indicating areal differences in which attributes are more known and accepted by customers and the industry alike. It is thus also important to seek information on the importance of certifications in European and Finnish hotels.

A European study that sides with the use of certification is a 2005 study done in Sweden. Here it was found that already then certificates had the potential to become a valuable marketing tool to reach environmentally conscious travellers. The by far most mentioned organisation in terms of labelling was the Nordic Ecolabeling – SIS Miljömarking which issues the Nordic Swan eco-label. (Bohdanowicz 2005, 201, 197.) This same label is widely used in Finland so this Europe-wide study, albeit heavily influenced by Swedish respondents, suggests that this certification could also be of importance in Finland. A Spanish study on the environmental management certification ISO 14001 also found support for environmental certification in hotels. According to it research is generally supportive of the positive impacts of environmental management systems and that especially four-star hotels have a possibility to get an extra point of differentiation from ISO 14001. Based on higher ratings ISO14001 seems to contribute to a hotel's overall value creation. It is, however, mentioned that out of these ratings the effect was most significant in housekeeping, comfort, location and services, but not in monetary value itself. In all but location this can be explained by improvement of the facilities, perhaps due to increased awareness or attention to these matters through ISO14001 as it covers a lot of areas in detail. (Mondéjar-Jiménez et al. 2014, 10.)

An interesting criticism towards environmental certifications comes from Ville Valorinta (2014) who has a background in working at the travel booking site Hotelzon and

today has his own company aiming to distribute unbiased and comparable hotel carbon footprint information. He states that in 2020 there will be 1,7 billion eco certifications in the world – the number of travellers by then according to the World Travel Organisation. This is a loud cry for a more universal certification system, and further shows the focus and belief in environmental certification.

There is also a new set of players in the certification game. Online travel agents or OTAs and different hotel comparison websites like TripAdvisor are also mandating their own green recognition programs and certificates, as they are under increasing pressure by customers to specify which hotels are green and how they can be compared with each other. Major booking websites like Expedia, Travelocity and Orbitz all include information on greenness with regards to each hotel (Kuminoff et al. 2011, 470). As it is very difficult to compare different certificates or non-certified environmental actions with one another, TripAdvisor as an example has created their own GreenLeaders and GreenPartners programs. GreenLeaders brings focus to hotels that are committed to green practices, such as recycling, water efficiency and alternative energy. GreenPartners, the pre-phase of the more extensive program, has minimum requirements like tracking energy usage and educating staff and guests on green practices. (TripAdvisor 2014.)

2.3.2 Energy saving

Another initiative that was often mentioned in previous studies is energy saving. This could be done in the form of tightening the current use of energy or alternatively using renewable energy sources. Ogbeide's study provides firm support for energy saving as it was found that energy conservation was the most important attribute out of the following: water and energy conservation, waste reduction, and the general importance of green practices (Ogbeide 2012, 4-5, 7).

Energy saving is also supported by the fact that it has been found that it is possible to substitute energy saving technologies in hotel rooms without interfering with guest experience (Susskind 2014, 8). As mentioned in chapter 2.2.2 by Baker that engaging in environmental activities diminishes the luxury of a hotel stay, Susskind's finding is es-

pecially important as it gives also luxury hotels a way of implementing environmental initiatives which the guests find important but do not find are disturbing the experience. It has also been found that customers accept room cards to control electricity rather than motion detectors (Baloglu & Millar 2011, 310), indicating that guests are willing to endure and take part in energy saving activities, without it interfering with their guest experience.

Looking into the future, trend predictions also indicate the importance of energy saving. Designer Adam Tihany's view of a hotel room in 2020 includes several energy saving hacks. These include the use of low energy LED lights, using eco materials that seem natural but are not in order to save nature, as well as a futuristic idea of a robotic body dryer instead of towels. (Tihany 2014, 94, 99.) Another interesting trend that made headlines in several countries was the implementation of exercise bikes that generate electricity in a Crowne Plaza hotel in the Danish capital Copenhagen. Here the guests were asked to bike a relatively easy amount of time which would earn them a free meal. Even though the amount of electricity generated would light a light bulb for hardly even an hour, the hotel admitted that they wanted the target to be achievable in order for many people to be able to participate. Whether this will save the hotel a lot of energy or not, it has given them a lot of focus in the media as a green hotel and gives the customers an extra insight on how difficult energy is to produce, and thus perhaps gives them a higher respect towards it. (Robbins 2010.)

2.3.3 Customer participation in environmental activities

When comparing the hotel industry to other industries, it is significantly different when it comes to the role that customers play in creating the carbon footprint of the business (Valorinta 2014). Customer participation is an attribute that has interested many researchers. This is both due to the risky nature of it possibly ruining a customer's experience of a relaxed stay, but also because it is the closest one can get to a customer with environmental thinking in a hotel and is a potentially very cost saving thing for managers to implement. According to Baker et al., a better understanding of a customer's desire to participate in green activities can lead to organisations designing green programs that are more efficient and effective. A respondent of the study also pointed out

that green hotels sometimes offer unique experiences. This sounds very promising, but the reality of it is still that there are not many other initiatives to take part in than linen or towel re-use programs. Hotels should make it more user friendly to be green. This is not only because of variety but also if the participation is inconvenient, which it often is, customers will not participate. (Baker et al. 2011, 89, 94-96.)

In their 2012 study, TripAdvisor asked U.S. travellers for their top three eco practices. 88 per cent answered turning off the lights when leaving the hotel room, 80 per cent said they participate in linen or towel re-use programs and 57 per cent said they recycle during their stay. The top three eco practices that hotels use from a customer's perspective were towel or linen re-use at 58 per cent, having an adjustable thermostat at 37 per cent, and using water-efficient low flow toilets and showerheads at 32 per cent. (TripAdvisor 2012.) As it can be seen, there is a difference between these two lists and thus implementing and communicating practices that the customers think are the best would do good for the hotel industry.

A lot of focus was also put on water saving. As a lot of it is shown in previous studies in practice as voluntary linen or towel re-use, in this thesis it is grouped under customer participation. Another reason for this is that it is important for the author to suggest what kind of measures a hotel can take on that will be beneficial also in the future, and grouping them into very distinct categories is thus important.

2.3.4 Recycling

A frequently occurring attribute both in environmental studies and certifications is recycling and waste management. One frequent source for environmental customer check ups is TripAdvisor, and their 2014 rerun of the previously mentioned 2012 study shows a 24 per cent increase in travellers recycling during their visit (HTrends 2014). Another interesting study featuring recycling was done on consumer attitude and behaviour towards green practices in the lodging industry in India in 2007 by Jauhari and Manaktola. They did a structured questionnaire with 66 respondents that measured variables like training employees, visible communication, partnerships or certification, sensors or timers to save energy, having a recycling program, disposal and waste reduc-

tion, responsible cleaners, light bulbs, linen re-use, detecting and repairing water leakages, providing environmentally friendly products such as low toxic, organic and local products, and encouraging business with environmentally friendly service providers. Recycling and waste management were mentioned many times and indicate that it is of high environmental importance. (Jauhari & Manaktola 2007, 369-371).

It should be remembered that in terms of recycling and waste management India and Finland are very different. As mentioned in chapter 2.2.3, the necessary means of recycling are dictated very clearly in Finnish law and many choose to do that even more carefully than required. A very important notion when it comes to environmental initiatives came up from a few sources and has to do with competitive advantage. It was noted that if all hotels implemented the same environmental initiatives, the customers' willingness to pay could decrease (García-Pozo et al. 2014, 37). A similar notion was made by Graci and Kuehnel (2014). According to them, customers become more demanding when a green practice becomes a baseline requirement. They argue that therefore, if a company wants to achieve competitive advantage with green practices, they have the best opportunity of doing so by being ahead of the emerging sustainability curve.

Combining this with the comparison of Finland as a recycling country and of the importance of recycling in other countries, recycling and waste management would most likely not bring significant competitive advantage to a hotel in Helsinki. This is because almost the same measures are already taken by each hotel in the city. Distinguishing ones hotel would thus be easier with other means than recycling. It is not a wasted effort, however, to communicate these actions to international guests, as for them it may come as news. It has also been found that the recycling of a person was not a good predictor of their willingness to pay more for green products (Barbaro-Forleo et al. 2001, 520). As this thesis is on willingness to pay, the competitive advantage gained from initiating environmental actions is taken very seriously, and taking everything into consideration, recycling will not be included as an attribute in the empirical part of this study.

2.4 Findings on willingness to pay for green hotel rooms

While both the need of the environment and the demand of the consumers for more environmentally friendly practices is clear, limited amount of research has been made with regards to whether people would be willing to pay for these changes, or if it is merely seen as a collective effort of individuals and companies doing their share for the greater good. Furthermore, the willingness of customers to pay for environmental initiatives remains a very untouched area in Finnish hospitality research. It is also a topic that evolves very quickly, as environmental practices such as recycling become more common all over the world. This makes it very important to view the up-to-datedness of the sources critically. The research so far shows no unified view on whether customers are willing to pay more, in other words a price premium, for a green hotel room. The conclusions vary from a very high price premium to the hotel actually owing to the customer, all the way to it not affecting the price at all.

One study in favour of the price premium existing is by García-Pozo et al et al. They found that room prices increase due to increased quality of the hotel services that come through environmental sustainability measures. They believe it is because of the positive value customers place on the implementation of such measures. It increases their utility and they are thus willing to pay a price premium for the service the hotel provides. (García-Pozo et al., 2014. 36-37.) The study was conducted in Spain, and they also found that the greatest impact on price is for hotels either being located on the coast or hotels that have a spa and a pool. When studying how things like price and values correlate, it is of utmost importance to recognise other factors that possibly affect the results such as they have done here. This way wrong assumptions of causal relationships can be minimised.

Susskind also found hopeful results in his U.S. study for increased willingness to pay. There, 45 per cent were willing to pay a higher rate for sustainability, especially women and older guests. He also mentioned a study done by Dodds et al. in 2010 where it was found that in Southeast Asia 79-95 per cent of guests indicated that they would be willing to pay a tax that supports the environment of their destination. (Susskind 2011, 9). From here it can be seen that destination can affect willingness to pay and that guests

are perhaps more inclined to pay more if nature plays a big part in the trip or if they feel like the destination is not able to independently fund its environmental protection.

Another study that finds a price premium for a standard room in a green hotel in the U.S. comes from Kuminoff et al. in 2010 (483). They find an 8.97-25.43 dollar point estimate of a price premium that travellers can expect to pay. According to them the magnitude is not so clear but the existence of the premium yes, and it also depends on which environmental initiatives are in place. They make an interesting point in saying that statistically a price premium is almost always found for green hotel rooms. This is true in some studies that have not asked for the willingness to pay from customers but have rather compared prices of green and non-green hotels. Another point supporting the price premium is that it exists for customers in several other industries as well like hybrid cars, solar electricity and eco-labelled seafood. (Kuminoff et al. 2010, 468.) It is not possible to generalise simply based on other industries or certain practices, however, as Barbaro-Forleo et al. (2001, 520) found that those who participate in green activities may not always be willing to pay more for green goods. In addition to the findings of Kuminoff et al., it has also been found that hotel room prices in Spain increase 5.14 per cent with every environmental measure implemented, and that the price could increase as much as 36.05 per cent (García-Pozo et al. 2014, 36-37). Even though these studies seem to base on price comparison instead of a customer perspective, García-Pozo et al. go on to say that the customers' utility increases because they value the implementation measures positively, and they are thus willing to pay a price premium.

TripAdvisor respondents also seem to be inclined to pay more to stay at a green hotel. In their 2012 study, half of the respondents indicate that they would pay more, 23 per cent would pay 25 extra dollars per night and nine per cent 25-50 dollars extra per night (TripAdvisor 2012.) This is quite a significant result for any hotel. The study goes on to find that 75 per cent of people say that the economic landscape does not affect their interest in environmentally friendly hotels. This is big news as the economic downturn of the past years has really affected consumer behaviour in a customers' purchasing ability, and as mentioned in chapter 2.2.2, hotels also tend to push back their environmental actions in economically tough times but this suggest the right opposite.

There are also several studies against the notion that customers would be willing to pay a higher price for environmental initiatives in hotel rooms. Jauhari and Manaktola (2007, 370), who studied consumer behaviour towards green practices in the lodging industry in India, found that while customers expect a tangible demonstration towards green practices, only a third of the participants felt that the cost responsibility of adapting these measures was shared by the customers and the hotel. Furthermore 52 per cent felt like the cost were on the hotel, indicating that most respondents thought it was not their responsibility at all. Out of the people willing to share responsibility 40 per cent were willing to pay 4-6 per cent more for their stay at a green hotel. One significant finding of the study is that 71 per cent of respondents feel like they should be rewarded with more frequent guest reward points. (Jauhari & Manaktola, 2007, 372-373.)

Ogbeide came to a similar conclusion in his study. He found that almost half of the respondents believe that it is the hotel that should pay for the costs of initiating environmental change. 75 per cent would pay the same or less to stay in a green hotel, and half of the respondents would like reward points or a discount to participate in some of the environmental practices. He recommends thus that hoteliers come up with ways to give incentives to customers, as most of them are not willing to pay for it. In fact, only 25 per cent were willing to pay more. (Ogbeide 2012, 5, 7.)

Baloglu and Millar found that guests are supportive of environmental initiatives but largely unwilling to pay extra, some would even want to pay less. An absolute majority would pay the same price of both business and leisure customers, while around 5 per cent in each group would like to pay less. Out of business customers only 18 per cent would and of leisure customers only 9.8 per cent would pay more. This indicates a slightly lower price sensitivity for business customers. The study does not fail to notice how results from different studies tend to go from one extreme to the other and thus suggest that further research is needed on the matter. (Baloglu & Millar 2011, 307-308.) This is especially important for hotels outside of the United States as less research has been done there on the topic.

The discussion of whether customers are willing to pay more to stay at a green hotel is controversial. One very important notion in terms of environmental pricing is that customers loathe to participate in case they think that the actions are aimed at cutting costs. This is because they see it as monetary saving for the hotel and perceive it as unfair if they do not get a discount or a financial incentive to participate by coming to the hotel. (Baker et al. 2014, 96.) It could thus be recommended for hotels not to associate green with reducing costs. This is especially important as it has also been found, slightly controversially, that green hotels are perceived as being more expensive to stay in (Baloglu & Millar 2011, 308). Finding a common base of value for both companies and customers is of utmost importance. Even if no price premium exists, it is important knowledge for a hotel that aims to market their environmental initiatives, so that they are able to plan the best possible communication and the best possible environmental design. If a price premium does exist, it is equally important as hotels can then include it in their value-based pricing strategy and focus on communicating to it the right customers.

2.5 Theoretical framework

This literature review is concluded with a theoretical framework, which summarises the information from the above literature review that will be used in the conjoint analysis survey. The literature review sought to find the most important environmental initiatives for 3-4 star hotels in Helsinki. The biggest ones are explained in Figure 1. below, along with hotel type and the price used in the survey. The literature review has worked both as background and as justification for the following framework.

Attribute	Justification
Hotel Type	<ul style="list-style-type: none"> • 4 star hotels gained a significant competitive advantage (Mondéjar-Jiménez et al. 2014, 4) • Finland has no classification system, classification method chosen by trader (ECC-Net, 2009) • → To avoid upward biases and to grasp a view of a typical Finnish hotel, both 3 and 4 star hotels are studied to create a most general image of hotel class
Certification	<ul style="list-style-type: none"> • Green certification was the most influential attribute (Baloglu & Millar 2011, 306-307) • Major booking sites give greenness information on hotels (Kuminoff et al. 2010, 470) and some have their own programs (TripAdvisor 2014)
Alternative energy	<ul style="list-style-type: none"> • Energy conservation most important (Ogbeide 2012, 7) • Many highest rated green hotels have renewable energy (HTrends 2014) • Guests accept energy saving technologies (Susskind 2014, 8) • Energy saving vs. energy creating = old vs .new • Solar panels not yet common (Kuminoff et al. 2010, 472) but alternative energy use is coming to Helsinki (Laitinen, 2014)
Possibility to participate	<ul style="list-style-type: none"> • The hotel industry is unique when it comes to role of the customer regarding carbon footprint (Valorinta 2014) • Cost of green continues to decrease when guests take an active role in the process during their visit (Sigala 2014 in Susskind 2014, 9) • Deeper understanding of willingness to participate can lead to more effective and efficient green programs (Baker et al. 2014, 89)
Recycling	<ul style="list-style-type: none"> • Recycling is an attribute in many green studies (Baloglu & Millar 2011; Jauhari & Manaktola 2007) • One of the top green practices of travellers in the U.S. (TripAdvisor 2012) • A competitive advantage only if not all are doing it (García-Pozo et al. 2014, 37; Graci & Kuehnel 2014) • → Thus recycling is not chosen for this study
Price	<ul style="list-style-type: none"> • Hotel room price per night calculated from STR reports on the average daily rate in Helsinki and of hotels the level studied in this survey (STR Global 2014, STR Global Limited 2013) • A +/- 20 Euro range is chosen as significant but realistic enough to differentiate between views on the different environmental initiatives

Figure 1. A framework for empirical research based on the literature review (Valkama 2014)

3 Method and data collection

Using the right research design is crucial in empirical research for getting good data to work with, in order to provide results that are valid and reliable, and that can provide information of significance. No alternative is perfect and there are many considerations to take into account when making the decision, such as practical and methodological considerations (Brotherton 2008, 105). This chapter goes through the chosen research method for this thesis: conjoint analysis. In this particular thesis the methodology is perhaps lifted to a slightly higher role than usual, as one of the objectives of is to experiment the use of conjoint analysis in the hospitality industry. It is thus important to introduce the method properly and study its young and complicated relationship to the service industry.

The research questions are gone through first in this chapter. It will also review what the research aims to do, and the questions make it easier to relate the methodology to this particular research. Some central research terms such as quantitative research are explained, as is conjoint analysis itself and how its different characteristics are involved in strengthening or limiting the research in this thesis. The data collection process is also highlighted. Lastly, the structure and process of making the conjoint survey is introduced.

3.1 Research questions

The research questions of this thesis strictly follow the line set by the aim and help guide the research towards it. The sub-questions are also in line with the objectives of this research, which along with the aim were presented in the introduction.

The main research question, henceforth MRQ, in this thesis is “Are customers willing to pay for environmental attributes in hotels in Helsinki?”. The sub research questions, henceforth SRQs, are following:

- SRQ1: What environmental attributes bring most added value?
- SRQ2: Who are ready to pay for environmental attributes?

- SRQ3: How did using conjoint analysis work in this particular research in a service industry topic?

3.2 Quantitative research

There are two main types of research methods that frequently occur in education: quantitative and qualitative methods. Quantitative research collects numerical data, which is a prerequisite for using mathematically based methods for analysis. Quantitative research is thus all about collecting numerical data for the purposes of explaining a particular phenomenon. (Muijs 2010, 1-2). Quantitative research is perhaps more straightforward than qualitative data, the analysing of which tends to be more challenging and interpretive (Brotherton 2008, 207). It is a common view that the nature of qualitative research is quite dependent on the analysis of the researcher, whereas it may be easier for two different researchers to come to the same conclusions from numerical data, indicating that with quantitative methods it may be easier to produce results with high reliability.

A limited amount of quantitative and qualitative studies are available on customer willingness to pay for environmental factors. What they tend to have in common is that the willingness to pay is confronted in a rather direct manner that more easily allows respondents to answer with bias towards what they wish they would do or what they would like to happen. This is one of the key strengths in using conjoint analysis in this thesis, as the question is asked indirectly. The big challenge with conjoint analysis is that the survey generates an enormous amount of data. It is thus not so much the content or shape of the results that brings the challenge like in qualitative research (Brotherton 2008, 207) but picking the relevant data for analysis, which is a big responsibility for the researcher. In some cases, due to lack of resources to fully investigate all possible relationships, or simply due to interest in certain parts of the results, some relevant information may stay hidden in the data pool. A researcher may also be either not qualified or capable enough to look through the entire scope of answers.

When pairing the research method of conjoint analysis with the topic, also other research methods were compared in order to evaluate its suitability for this particular

thesis. While conjoint analysis can give answers of great specification and depth, other research methods, like one-on-one interviews, may be better at revealing also unexpected results that could be useful for further research. They are, however, more time consuming both in collecting and transliterating the results. A traditional closed survey could also have been used to decipher willingness to pay. With this method, however, the utilities would not be as easy to compare and there may be more bias on the willingness to pay when asked directly.

In addition to quantitative versus qualitative, another categorisation is commonly used in research: a deductive and inductive approach. Out of these two, this thesis uses a deductive approach because instead of starting with the empirical part, it begins with the production of a theoretical framework and starts the research process only after getting acquainted with literature. (Brotherton 2008, 16-18.)

3.3 Conjoint analysis

Conjoint analysis was developed in the 1970s (Anderson et al. 2010, 261). It was developed in order to help understand how respondents develop preferences for any type of object, whether it be it a product, service or idea. It is a multivariate technique, which utilises the existence and combination of several variables, in this case attributes and levels. One of the most fundamental concepts of conjoint analysis is that it measures utilities. A utility is a subjective judgement of preference that is unique to each respondent. It is also the conceptual basis for measuring value, a concept very important for this research and discussed in detail in chapter 2.1.1. (Anderson et al 2010, 266.)

According to Sawtooth Software, the provider of the programs used in this thesis, some of the most common applications of conjoint analysis include designing new products, product line extensions, estimating brand equity, measuring price sensitivity or elasticity, as well as branding and packaging. It is one of the most widely-used quantitative methods in marketing research and is used, among others, to evaluate how changes in price affect demand and to forecast the likely acceptance of a product if it were to be brought to the market. (Sawtooth Software 2014a). Because we are relying heavily on Sawtooth Software to build and conduct the research, it makes sense to use

their website as a source while helping to explain what it is, how it is used and what it is used for. A textbook explaining and comparing multivariate data analysis methods by Anderson et al. published in 2010 is also used in order to get an objective view on the purposes of conjoint analysis as well as the strengths and limitations of the method. A number of criticisms are also from the author herself, based on conjoint analysis lectures and experience with using the program.

There are several different types of conjoint analysis. The one used in this thesis is called Choice-Based conjoint analysis, henceforth CBC, which has become the most often used conjoint method in the world. The main difference between choice-based and other types of conjoint analysis is that the respondents choose from sets of concepts rather than rating or ranking them, likewise leading to an understanding of preferences. One of the definite strengths of CBC is that the process that happens in the survey is a very natural and simple task that anyone can understand; choosing a preferred product from a group of products is what they actually do in the marketplace. Another strength is that CBC is able to deal with interactions, e.g. when different colours work better with different styles (Sawtooth Software 2014b.) CBC is commonly used is when a new or modified product is planned and the supplier wants to find out what the product should be like. CBC helps find the optimal set of utilities from a buyers perspective and is thus in many cases able to provide very useful information.

One of the main reasons behind choosing conjoint analysis for this research is the difficult factor of meaning versus action. Conjoint analysis allows the investigation of willingness to pay without directly stating that this is the purpose of the research. In terms of environmental thinking this may be an advantage, as environmental thinking is usually linked to be a positive thing or something to be encouraged. Thus, asking for the willingness to pay from a person indirectly, in this case having them focus on a package that brings them most utility, a person may find themselves less inclined to answer favourably or manipulate the answer towards the one which would show they are ready to pay a higher price as long as it would be better for the environment, simply because they would like this to happen. The purpose of this research is not to find out how

people think they should act in terms of environmental pricing but what they would, in real life, also be willing to pay for.

This problem arises partly due to difficulties in sampling, which will be more closely discussed in the data collection chapter, but the idea is that it is very easy for people to do the survey who are not necessarily in the target group or have no intention or possibility to even buy the product or service in question. For example in the CBC sample survey on the Sawtooth Software website, the effect of this is tried to lower by letting the respondents know in the beginning, that it is important that they answer as if they were buying golf balls (Sawtooth Software 2014c, 5). It should also be remembered that even though this might happen to some extent, conjoint analysis is also used for studies of preferences for hypothetical objects (Anderson 2010, 226) and is most widely known for its contribution towards product development pre-entering the market. From this it can be concluded that an element of hypotheses is characteristic to conjoint analysis and does not thus disable people with a situational understanding of travelling to Helsinki, even without a direct need to do so, from answering the survey.

To this day conjoint analysis has very seldom been used in the hotel industry. The reason for this comes from the difficult nature of the service industry, which brings certain difficulties to the survey and leaves more to interpretation of both the respondents and the researcher. While a conjoint analysis for a product may have an attribute like colour with specific levels like red, green and yellow, a service attribute like quality of service is more difficult to put into levels that are good for research purposes. In the example of service quality, the levels could be bad, average and good service, all of which depend a lot on the experiences and views of all parties involved. The answers may thus not bring as valid results as they are intended to. Environmental initiatives are open to interpretation but grouping them in yes or no levels helps and is a good solution in trying to approach the usability of conjoint analysis in the hospitality industry.

3.4 Data collection

Because conjoint analysis allows people to a certain extent to answer based on a hypothetical situation, it is possible to ask almost anyone to fill in the survey and give their answers as data in the context of the research topic. However, an optimal sample population could be defined as people who, while visiting Helsinki, stay in hotels instead of friends and family. In order to be able to make the purchase decision at a hotel, one must be at least 18 years of age and this is a principal assumption for anyone filling in the survey.

The data was collected during a time period of one and a half weeks in May-June 2014. This is the time when the conjoint survey was up and open online. It is no longer possible to answer the survey and it was closed before any results were put into analysis in order to work with a uniform set of data. Where possible, the respondents were not revealed the true intention of the survey, willingness to pay, before responding. Instead, they were told the survey was on how customers value different environmental choices of hotels, to keep the indirect nature of researching willingness to pay.

3.5 Conjoint survey

The conjoint survey used in this thesis for questioning respondents was made through SSi Web of Sawtooth Software. An imprint of the survey can be seen in Attachment 1. The survey uses both conjoint, or preference questions, as well as non-conjoint, or segmentation questions, which are used to define the sample and as a backbone for comparison. In this thesis it was chosen to use eight conjoint questions. The non-conjoint questions have to do with age, gender, nationality, opinion on what hotels should do about the environment, as well as how environmentally responsible the respondents feel they are themselves. Out of these questions all but age are closed multiple-choice questions. Age is an open-ended question with the possibility to answer with a number between 18 and 100. This is to allow the author to more accurately group the responses when the age spread is known. The non-conjoint questions can be seen in Figure 7. of Attachment 1.

A pilot study was made with four people. Each were told to take the survey as they would on their own time and present any findings or problems after. All of the responses were timed, coming to a mean of 3.7 minutes. As one respondent took longer than five minutes to complete the survey, the estimated time stated in the survey was kept at around five minutes. After completing the survey the pilot respondents were able to discuss the experience with the author individually and could ask questions and give comments and feedback, also allowing the author to ask clarifying questions about their experience. The survey was altered accordingly.

Prior to launching the survey it was also ran through a system check to figure out the appearance values for each of the levels. They matched with a variance of maximum two out of two or three thousand in each attribute category, indicating a good balance in which levels show up when the questionnaire is opened by different people, as the combination of levels changes every time the survey is opened.

The basic survey of Sawtooth Software allows for a maximum of 250 responses. The minimum amount of responses suggested for a CBC survey is 70 so that it is possible make any comparison between different attributes and non-conjoint categories. 150 responses is seen as an adequate amount, although the more responses the higher the chance of significance as in all research. (Van der Rest, J.P. August 2013.) This thesis had an aim of 200 responses, which was reached in a little over a week through sharing the survey with friends and colleagues who distributed it further.

4 Results and findings

This chapter goes through the results that were obtained from the conjoint survey. The results are derived from both the conjoint and non-conjoint questions and together form a basis for answering the research questions. The programs used to analyse the results are the SMRT program of Sawtooth Software and Microsoft Excel.

4.1 Pool of respondents

The pool of respondents in the survey is quite varied. The total number of completed responses was 217. There were no disqualified respondents out of the completed due to carefully planned answer options and must-answer questions (refer to Figures 4. and 8. in Attachment 1). The following figures show the responses to the non-conjoint questions.

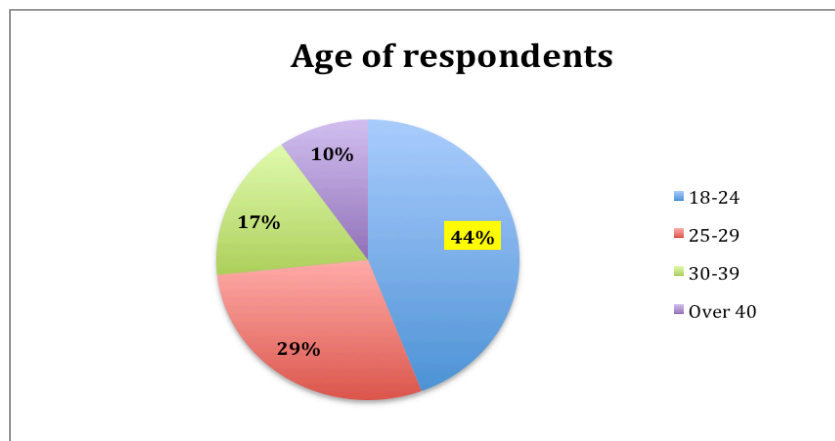


Figure 2. The age divide of the respondents (n=217)

The survey had respondents from ages between 18 and 89. Age was an open question in the survey and was grouped after the survey was finished to introduce a few key age groups with a large enough amount of respondents to be able to do a comparison with. The groups are illustrated in Figure 2. They were also divided according to approximate life phases to indicate possible behavioural differences. The largest respondent group was the 18-24 year olds with 93 responses. This group consists of individuals who are likely to have recently left their home and have started their own economies, but are likely not to be fully financially independent yet as students or working in jobs

with lower pay. The second largest group was the 25-29 year olds, who may already have finished studies but have the potential freedom to travel more freely when not yet necessarily having a family. The survey had 37 30-39 year old respondents, who in many cases have a steady job but may be settled down with a young family or new house, which can have a significant affect on consumption of for example holidays or travelling. The last group became the over 40 year olds. These people are usually financially stable and have more freedom in terms of family life to travel. When it comes to environmental thinking, there may be a generation gap, the existence of which will be looked at further in the results.

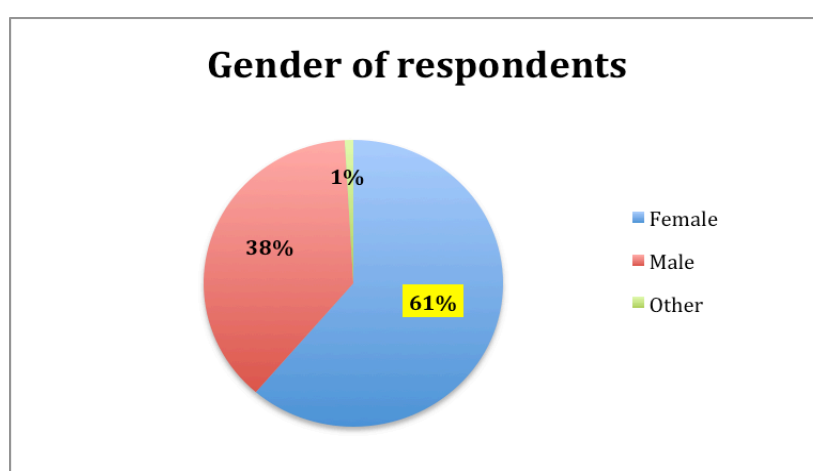


Figure 3. Gender of the respondents (n=217)

As illustrated by Figure 3, more women than men answered the survey. Both genders are represented with a good amount of answers, however. There were only two respondents in the neither gender which is not enough for a comparison on a significant level. This is why the neither gender responses are merely shown in the results section of this thesis but cannot be used as a basis for analysis. However rare the neither-gender response may be, it represents 1 % of the sample here and is important to offer as an option. The neither gender will be an interesting customer group once it becomes more common socially not to make a division between women and men, and their insights may thus perhaps act as foresight to where to market is going.

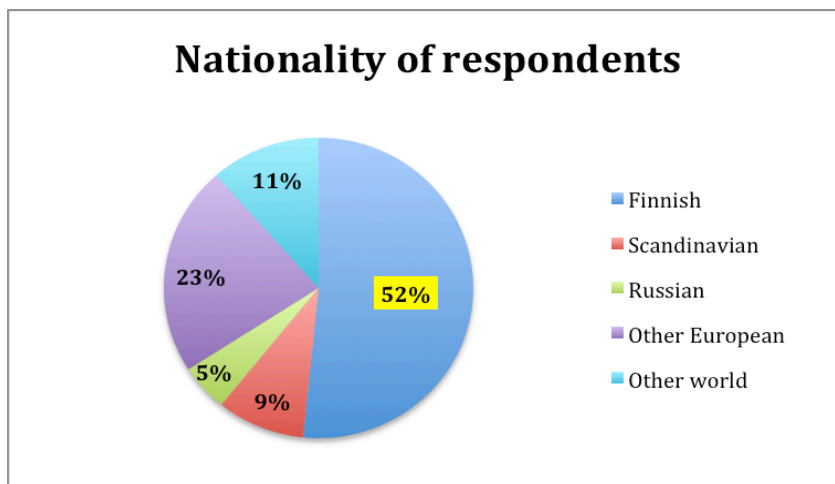


Figure 4. Nationality of the respondents (n=217)

Out of all respondents slightly over a half were Finns. Almost a fourth of the respondents were from other European countries than Finland, the area of Scandinavia, or Russia. Respondents answered from all over the world, as 11 % of the respondents were from outside of Europe. (Figure 4.)

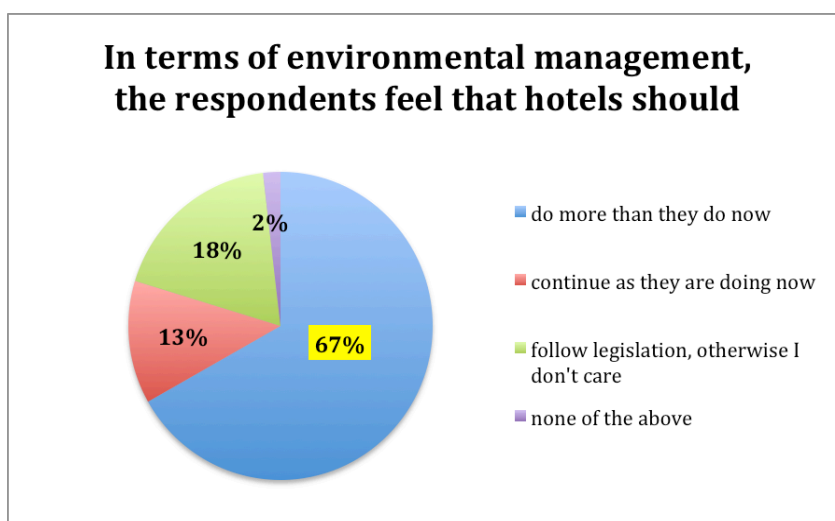


Figure 5. What respondents feel like hotels should do in terms of environmental management (n=217)

The fourth non-conjoint question offers a very interesting insight from an environmental perspective. The respondents were asked about what they feel hotels should do in terms of environmental management and their responses are summed up in Figure 5. Two thirds of the respondents feel like hotels should do more than they do now. Almost a fifth would be content with hotels following legislation, indicating that a sig-

nificant part of people put their trust in governmental bodies when it comes to environmental management in hotels. This group may be more difficult to market environmental initiatives to if they do not actively seek this information when booking a room.

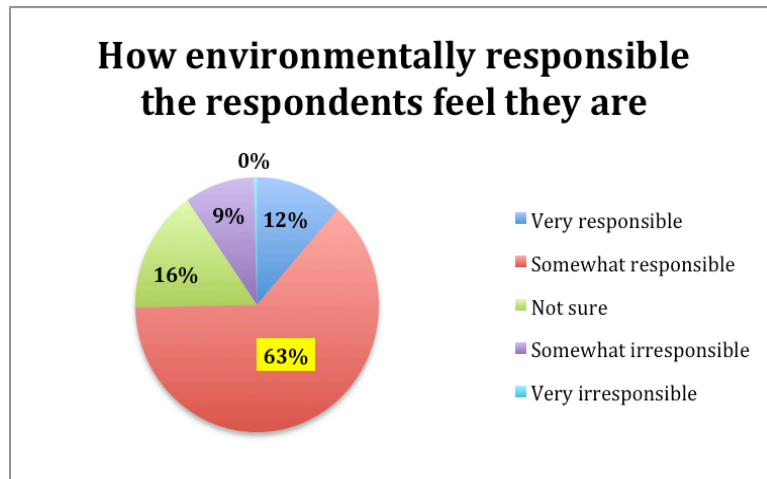


Figure 6. Shows how environmentally responsible the respondents feel they are (n=217)

Three fourths of the respondents feel like they are very or somewhat environmentally responsible (Figure 6.) Even though only 9 per cent said they are somewhat irresponsible and only one person that they are very irresponsible, 16 per cent of the respondents were not sure when answering, making it impossible to group them in either direction with certainty.

4.2 Cross analysis

The segmentation questions bring forth a lot of interesting insights when they are cross-examined. Tables 1. and 2. show how age, gender and nationality affect the respondents' views on the environmental responsibilities of the hotel and themselves respectively. In Table 1. age does not seem to indicate big differences in opinion on how hotels should do in their environmental management. Respondents over 40 seem to place more trust in legislation but the percentage does not descend with age to the other groups. All age groups think hotels should do more, over 40 year olds least so.

There is an over 10 per cent difference with this group compared to the other groups in thinking that hotels should either follow legislation or continue as they are doing.

Table 1. How age, gender and nationality affect preferences in what the respondents think hotels should do in terms of environmental management: do more than they do now, continue as they are doing, follow legislation, or none of these

Age	No of responses	Do more	Continue	Follow Legislation	None	Total
18-24	96	68%	11%	20%	1%	100%
25-29	63	70%	13%	17%	0%	100%
30-39	37	65%	14%	14%	8%	100%
Over 40	21	57%	19%	24%	0%	100%
Total	217					
Gender	No of responses	Do more	Continue	Follow legislation	None	Total
Female	133	74%	11%	15%	1%	100%
Male	82	56%	17%	23%	4%	100%
Other	2	50%	0%	50%	0%	100%
Total	217					
Nationality	No of responses	Do more	Continue	Follow legislation	None	Total
Finnish	112	73%	12%	13%	2%	100%
Scandinavian	20	40%	25%	30%	5%	100%
Russian	11	36%	9%	55%	0%	100%
Other Euro-pean	49	69%	14%	14%	2%	100%
Other world	25	68%	8%	24%	0%	100%
Total	217					

In terms of gender, women seem to be more of the opinion than hotels should do more than men, while men rely more on the hotel itself or legislation. There are interesting differences in what different nationalities think hotels should do. Other groups than Scandinavians or Russians fairly unanimously think that hotels should do more, while there is a 30 per cent drop in this with Scandinavian and Russian respondents. The results do not show why this is and it could be an interesting point of further research, although the Scandinavian and Russian respondent groups are also among the smallest in this thesis, making them less reliable than other results.

Table 2. How age, gender and nationality affect what the respondents feel their personal level of environmental responsibility is

Age	No of responses	Very responsible	Somewhat responsible	Not sure	Somewhat irresponsible	Very irresponsible	Total
18-24	96	9%	58%	19%	14%	0%	100%
25-29	63	13%	67%	14%	6%	0%	100%
30-39	37	14%	68%	11%	8%	0%	100%
Over 40	21	14%	67%	14%	0%	5%	100%
Total	217						
Gender	No of responses	Very responsible	Somewhat responsible	Not sure	Somewhat irresponsible	Very irresponsible	Total
Female	133	13%	58%	21%	8%	0%	100%
Male	82	10%	72%	6%	11%	1%	100%
Other	2	0%	50%	50%	0%	0%	100%
Total	217						
Nationality	No of responses	Very responsible	Somewhat responsible	Not sure	Somewhat irresponsible	Very irresponsible	Total
Finnish	112	13%	69%	13%	5%	0%	100%
Scandinavian	20	15%	60%	10%	15%	0%	100%
Russian	11	18%	55%	27%	0%	0%	100%
Other European	49	6%	61%	16%	14%	2%	100%
Other world	25	12%	48%	24%	16%	0%	100%
Total	217						

In Table 2. age does not have large differences either when comparing it to the respondents' feeling of their own level of environmental responsibility. 18 to 24 year olds seem to be most insecure or irresponsible about their behaviour when compared to other age groups. While in the previous graph women were more likely to think hotels should do more, Table 2. does not show a recurring pattern but rather has differences between the sexes both ways in either end of the spectrum. In terms of nationality, there seem to be most Russians among the very responsible people. At the same time they are a group who are least in favour of the idea of hotels doing more in terms of environmental management. With all groups of nationalities, gender and age, the largest share of respondents believe they are somewhat responsible.

Table 3. How personal environmental responsibility affects the preferences in what hotels should do in terms of environmental management. The most popular combinations of each option are marked with yellow

How responsible the respondents feel	No of responses	Do more	Continue	Follow legislation	None of these	Total
Very responsible	25	88%	4%	8%	0%	100%
Somewhat responsible	137	67%	15%	15%	2%	100%
Not sure	34	62%	15%	24%	0%	100%
Somewhat irresponsible	20	50%	5%	40%	5%	100%
Very irresponsible	1	0%	0%	100%	0%	100%
Total	217					

Table 3. shows and interesting statistics on how personal environmental responsibility affects the responsibility put on the hotel or other stakeholders when purchasing a hotel room. The table shows a nice relationship in yellow on how environmentally responsible respondents also wish hotels should do more, how those in between feel that hotels should continue as they are doing, and how the environmentally irresponsible respondents feel like hotels do enough by following legislation. This seems to indicate that the more interested or involved you are in environmental matters, the more you feel should be done by everyone involved.

4.3 Competitive set

An important step in coming to the results of this thesis was to establish a competitive set. The SMRT software can give sensitivity information without a competitive set but it is not very realistic as it only looks at the products versus the none-response option (Sawtooth Software Customer Support 24 Jul 2014). A competitive set was thus created after careful examination of the hotel scene in Helsinki and what the offering is concerning pricing as well as current and upcoming environmental trends. Creating a realistic set was perhaps harder than it would have been with a named hotel in the survey, but nonetheless the hotels give a comprehensive and varied overview of the mid-scale market in Helsinki. The competitive set can be seen in Table 4.

Table 4. The competitive set in Hotels B-E as well as the base hotels with different environmental situations: the current situation A1.1 with the participation initiative, the current situation with alternative energy added in A1.2, and a situation with all three environmental initiatives in A2

Name	Situation	Certification	Alternative energy	Participation	Price
Hotel A1.1	Current	No	No	Yes	105
Hotel A1.2	Current + alt. energy	No	Yes	Yes	105
Hotel A2	All initiatives	Yes	Yes	Yes	105
Hotel B	Competitor 1	No	No	Yes	125
Hotel C	Competitor 2	Yes	No	Yes	105
Hotel D	Competitor 3	No	Yes	No	125
Hotel E	Competitor 4	No	No	Yes	85

Table 4. shows the competitors (Hotels B-E) as well as the different base cases that the competitors are viewed against in the upcoming results. In the current situation example A1.1, the hotel has an average price of 105 € per night and only one environmental initiative: the possibility to participate. The second base case is hotel A1.2, which is identical to A1.1 except that it also uses alternative energy. The final, perhaps ideal situation is base case hotel A2, which offers all three environmental initiatives at the average price. For competitor hotels B-E a few different combinations were tried but on an overall comparison they did not make a very noticeable difference in the big picture. The competitors stay the same in each analysis and the use of these of each base case against the competitive set is mentioned in the results as they come.

One quick way to test the affect that a certain attribute has on the business demand is to do a cannibalisation chart. The charts show the gain or loss of the share of preference when certain levels are changed, like with the case of Hotels A1.1-A2, the existence of an environmental initiative. In other words the chart measures, based on the respondents' answers, how much utility each hotel would have against each other in a market situation. Hotels A1.1 and A1.2 are used solely for the cannibalisation charts in this thesis to emphasise the effect that the existence of the different environmental initiatives has on the share of preference that the hotel has when using or not using them against the competition. As the subchapters following will focus heavily on

changes in price, Figures 7.-9. illustrate the change in growth of market share when a hotel does nothing to change the price but simply adds on environmental initiatives.

Figure 7. shows the starting point market share in the current situation with base hotel A1.1. It should be kept in mind that a hotel cannot exceed market share over its number of rooms so it is unrealistic that any of these hotels would have more than, say, a fifth of the market share, assuming the hotels are of approximately the same size in terms of room capacity. The cannibalization charts do, however, show us the share of preference and how powerfully certain attributes affect the customer division. In a normal situation at the moment a mid priced hotel with nothing but a possibility to participate as an environmental value point, hotel A1.1 has a tiny market share.

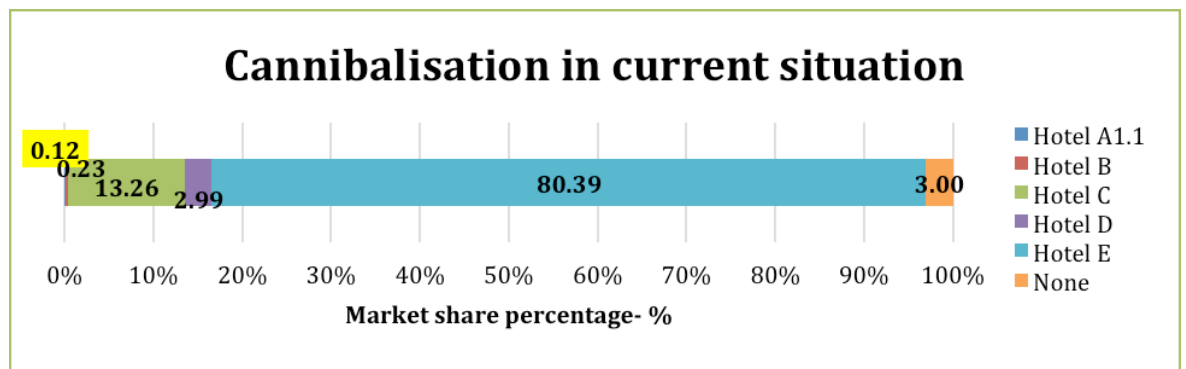


Figure 7. Cannibalisation graph of the current market situation. The market share of the base case hotel A1.1 is marked with yellow

If alternative energy is added to the situation, keeping everything else constant, market share takes a 13.86 per cent rise (Figure 8.). The same effect is gained when adding environmental certification in Figure 9. There, market share jumps to 32.56 per cent. Having the possibility to participate attribute in the current situation and still having such a low market share seems to imply that it does not have a big effect on buying decision, especially when it comes to raising the price.

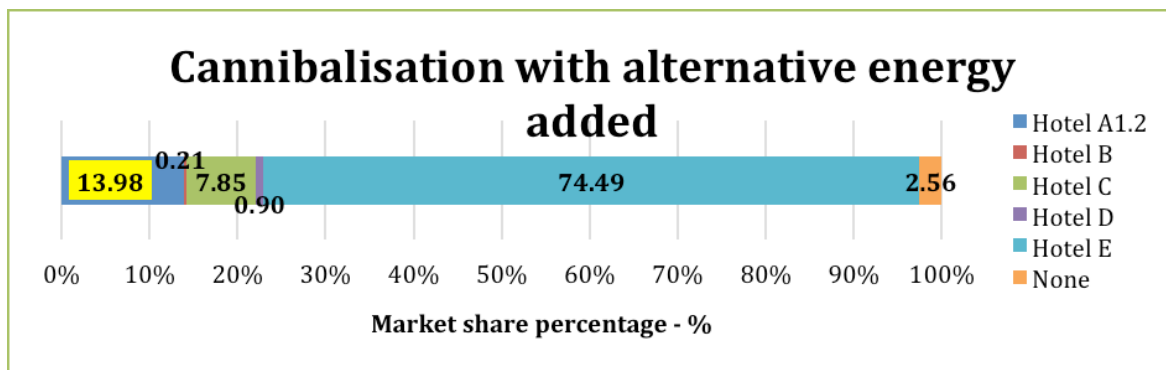


Figure 8. Cannibalisation graph of the current market situation with alternative energy added in base hotel A1.2. The market share of the hotel is marked with yellow

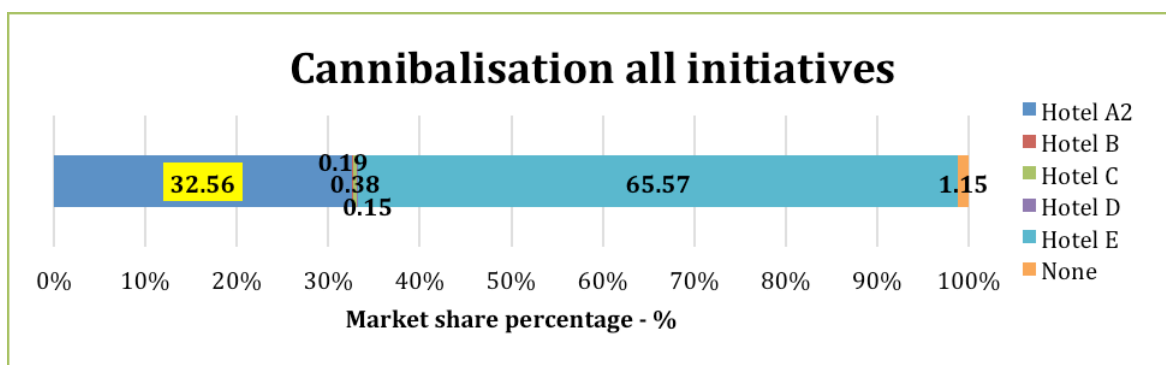


Figure 9. Cannibalisation graph of the market during a situation where Hotel A2 has all three environmental initiatives. The market share of the base hotel is marked with yellow

The importance of the price factor will be shown in the next subchapters, but combined with this information it re-confirms the price sensitivity of the industry and how even a small change in other offerings can significantly improve a hotel's competitive advantage.

4.4 Most popular and least popular environmental attributes

The most popular and least popular attributes out of the four presented in this study, environmental certification, using alternative energy sources, offering the possibility to participate and room price, can be measured by average importances. Average importances are calculated directly in SMRT. Average importances do not vary based on competitive sets as they simply indicate the utilities that different respondent groups found in each attribute.

The following figures show the average importances of the different respondent groups. Here both conjoint and non-conjoint questions are used together. The figures help telling what customers value the most out of the given options and what brings them highest or lowest utilities. This is very important, as mentioned in the literature review, creating added value does not simply come by lowering a price but can consist of a variety of things that can be as different from one person to another as their taste in music. Neither does value added always show as a monetary benefit. It may also add to things like customer loyalty, which can be very beneficial for a hotel for many reasons. Grouping answers based on the segmentation questions helps guide the hotel to create the most optimal services to their customers or alternatively guide hotels to better target the best fitting groups in their communication. Utilities are also important in terms of willingness to pay because they can help show what attributes people find most value in and thus could pay most for.

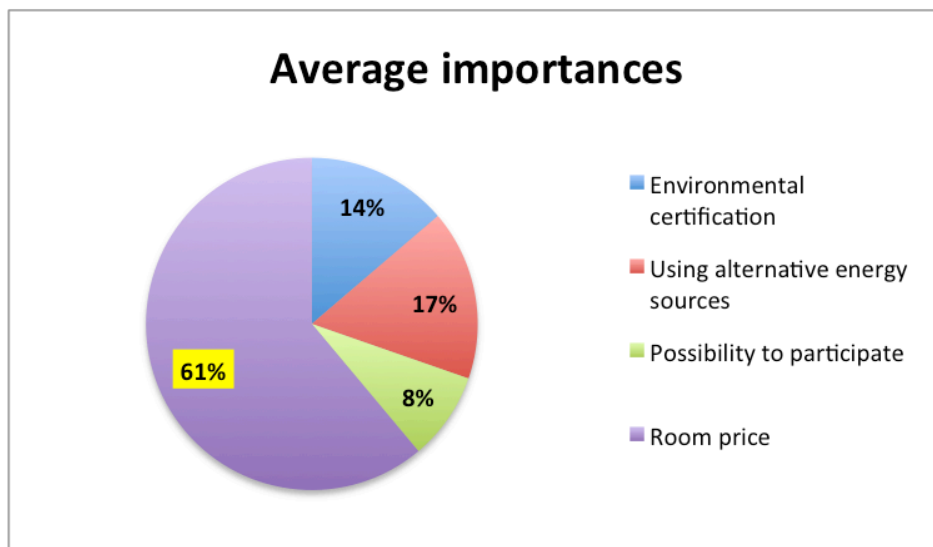
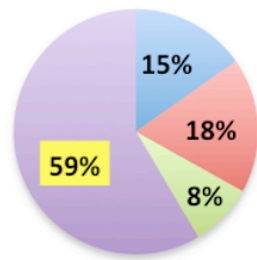


Figure 10. Average importances spread out amongst all attributes studied for all respondents (n=217)

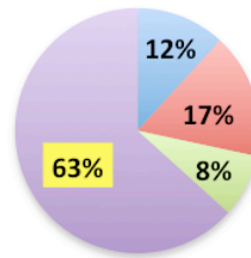
Figure 10. shows the average importances of all respondents. 61 per cent of the overall utility comes from price, which indicates price sensitivity. Each environmental initiative brings its fair share of utility to customers but alternative energy is highest with 3 per cent higher utility to having environmental certification, and more than doubling utility compared to the participation attribute.

Average importances for

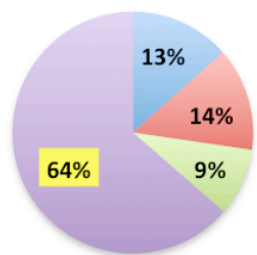
ages 18 to 24



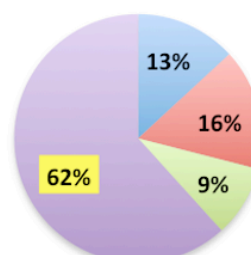
ages 25 to 29



ages 30 to 39



ages over 40



■ Environmental certification ■ Using alternative energy sources
■ Possibility to participate ■ Room price

Figure 11. Average importances spread out amongst all attributes studied for ages 18 to 24 (n=96), 25 to 29 (n=63), 30 to 39 (n=37) and over 40 (n=21)

When it comes to age, average importances are fairly constant. The biggest difference seems to be that price brings least utility for 18 to 24 year olds (Figure 11.) Men and women on the other hand are fairly similar in their utilities, with women being slightly more price conscious than men. It does not by itself indicate that a very significant effect would be gained by focusing communication on either gender. (Figure 12.)

Average importances for

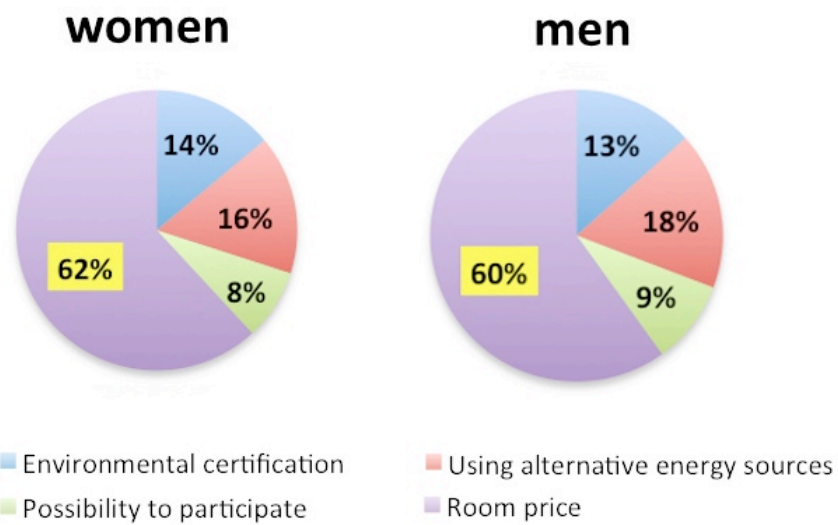


Figure 12. Average importances spread out amongst all attributes studied for women (n=133) and men (n=82)

Out of all nationalities represented by the respondents, all find most utility in price but unlike all other respondents, as portrayed in Figure 13 on page 54. Scandinavians and Russians find environmental certification more important than the use of alternative energy.

Average importances for

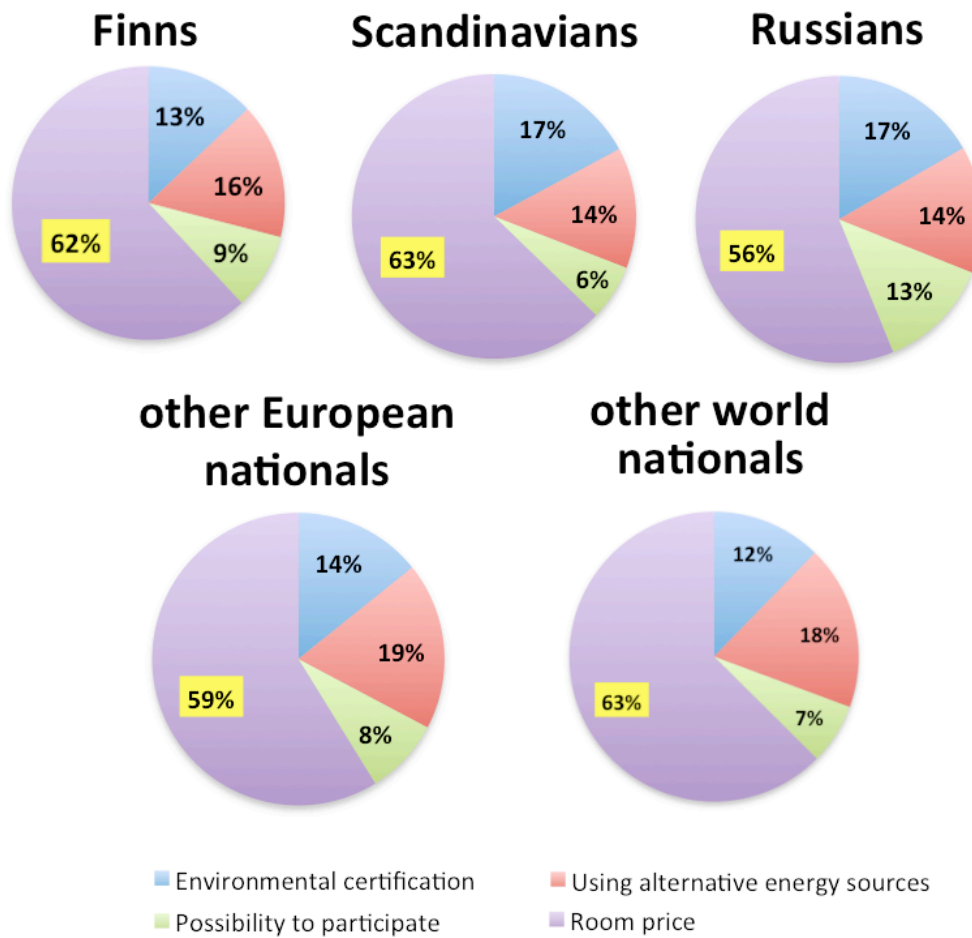


Figure 13. Average importances spread out amongst all attributes studied for all Finns (n=112), Scandinavians (n=20), Russians (n=11), other European nationals (n=49) and other world nationals (n=25)

Average importances for respondents who think hotels should

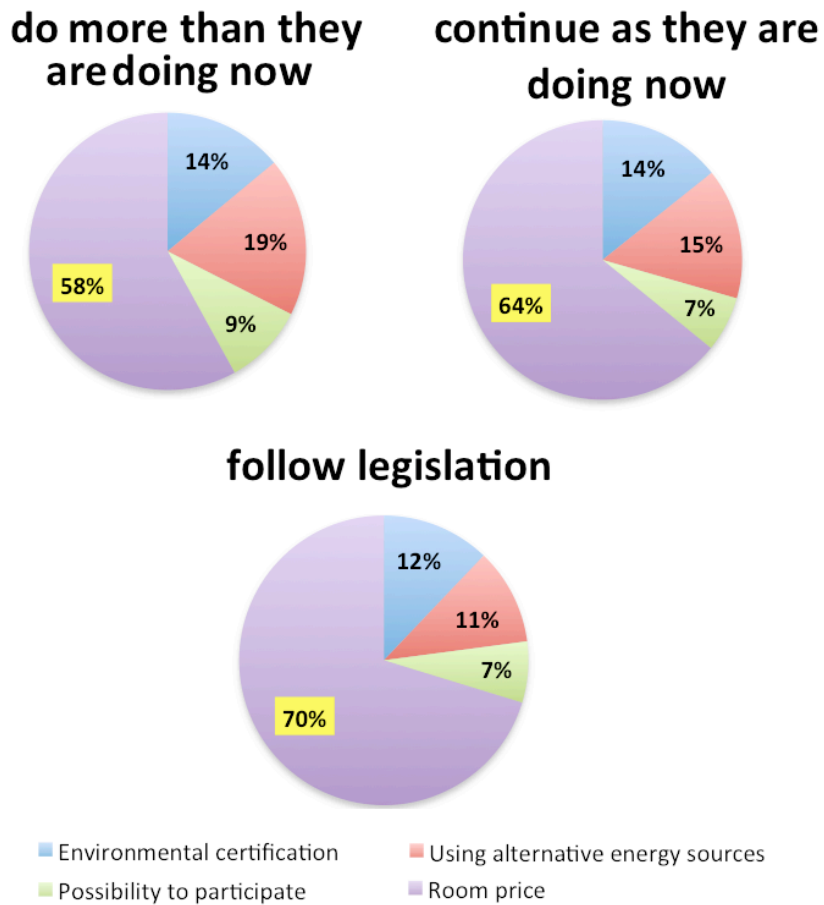


Figure 14. Average importances spread out amongst all attributes studied for respondents who think hotels should do more than they do now (n=145), who think hotels should continue as they are doing now (n=28), and who think hotels should follow legislation (n=40)

The more the respondents felt environmental responsibility lied on the hotel, the more utility they found in environmental attributes. While for those who think hotels should do more, price only accounts for 58 per cent of average importance, it rises to 70 per cent with those people who think hotels should follow legislation. For those who think hotels should follow legislation, environmental certification is the most important environmental attribute. (Figure 14.) Four respondents said that they feel like none of three answer options matched their opinion.

Average importances for respondents who

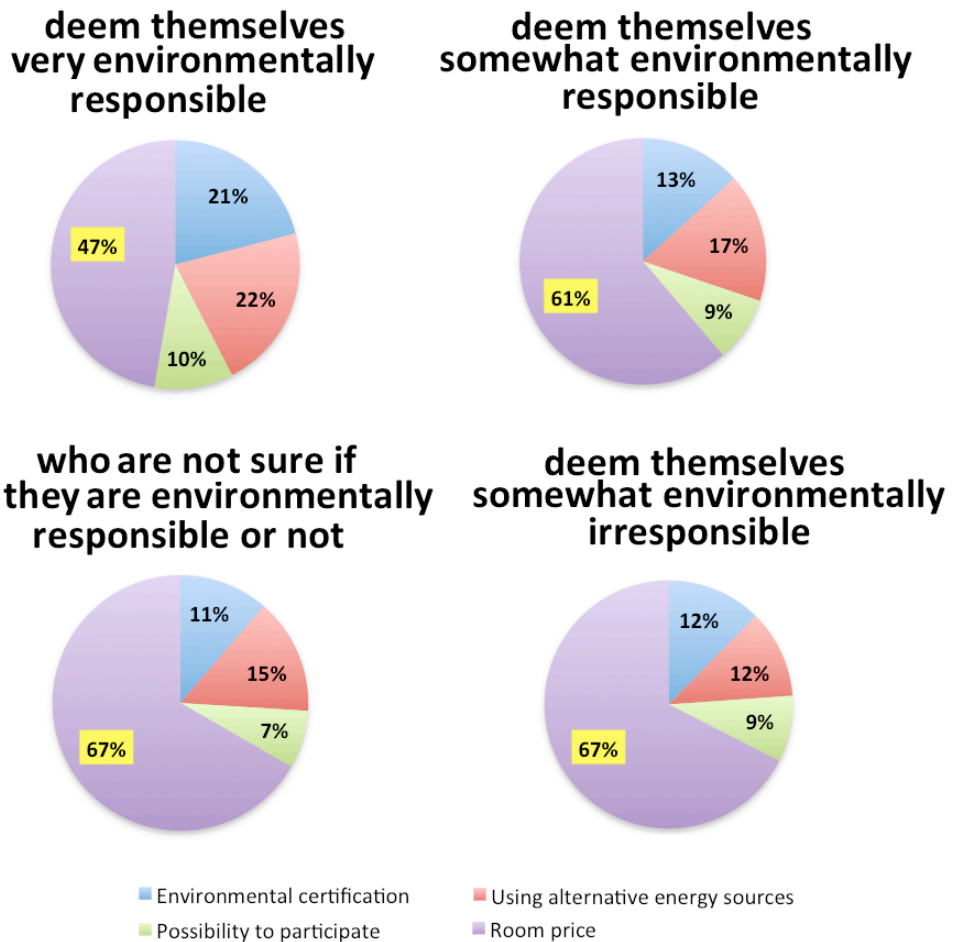


Figure 15. Average importances spread out amongst all attributes studied for respondents who are according to themselves very environmentally responsible (n=25), somewhat environmentally responsible (n=137), not sure (n=34) and somewhat environmentally responsible (n=20)

The largest differences seem to be amongst respondents who feel or do not feel environmentally responsible. Those who feel very responsible get significantly higher utility from environmental attributes than others. In terms of certification and alternative energy there is a fairly big drop in utilities from the very responsible to the somewhat irresponsible. Possibility to participate on the other hand kept its utility level fairly steady. Only one respondent said they were very environmentally responsible, which is too few to take into account in the comparison.

4.5 Willingness to pay

There are two major things to take into consideration when calculating willingness to pay: price and revenue sensitivity. In order to find out either one, it helps to find a market share for your product or service. As the study is about hotels, capacity is calculated by total number of rooms. It is common for a three to four star hotel in Helsinki to have 100 to 300 rooms. As there were no set competitors, a capacity of 150 rooms was decided on, making the market share 20 per cent for each hotel in the competitive set built for the case (Table 5.). The amount of rooms is not as important as the market share but a figure is named to be able to calculate it as a percentage. The amount of rooms does not make a difference to price sensitivity in calculations but it does to revenue sensitivity. One should thus remember to calculate revenue with a correct number of rooms and when doing a comparison, and rather look at percentage changes.

Table 5. Market share in number of rooms for the competitive set studied. Full capacity of rooms is also the full market share per hotel

Competitive set hotel	Full capacity in no of rooms	Market share in percentages
Hotel A2	150	20%
Hotel B	150	20%
Hotel C	150	20%
Hotel D	150	20%
Hotel E	150	20%
Total	750	100%

Price sensitivity can be calculated from a trendline with the help of a mathematical equation but it can also be seen with the bare eye from a detailed enough graph. The problem with trendlines is that they tend to be further from some points than others as can be seen in Figure 16, making it less accurate than it could be when finding it out from the actual graph line. Figure 16. shows a price sensitivity graph for all 217 respondents of this thesis. A similar graph was done with this and each respondent group to find out the price sensitivities and willingness to pay figures quoted in the next pages. The graph layout that price sensitivity was deciphered from was by one Euro and one could see clearly the point of intersection at the full market share of 20 per cent. The price point at 20 per cent market share was added to the figure below to

show the reader how it crosses where the indicated price sensitivity or willingness to pay is.

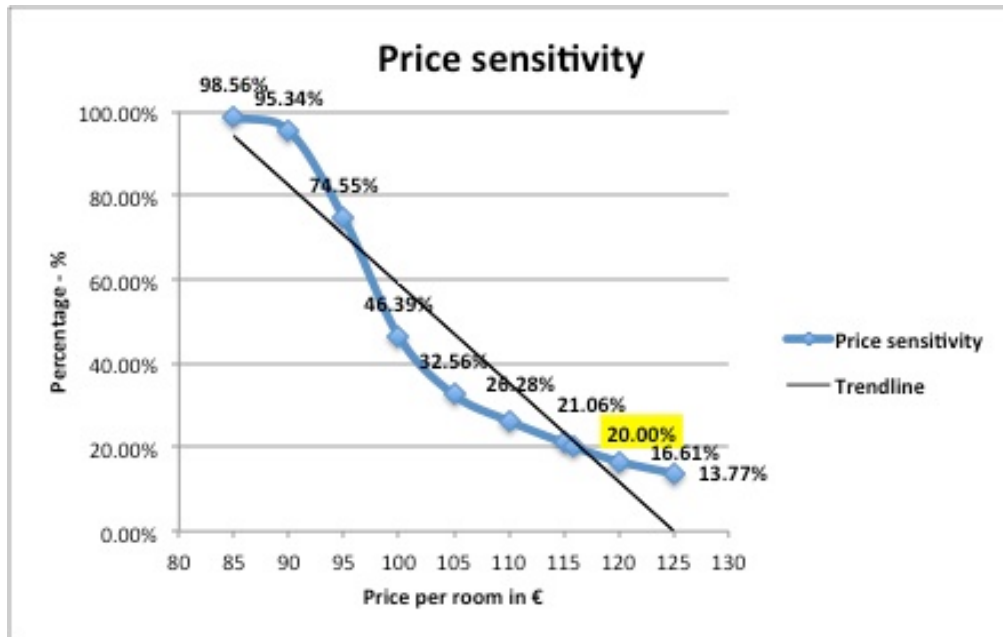


Figure 16. Price sensitivity shown by market share percentage at different prices at 5 € intervals. Full market share for the hotel studied is marked in yellow

The answers of price sensitivity are given with an approximately +/- 1 € certainty as a few were closer to halfway points between for example 115 € and 116 €. Another important reason for this is that the price points in SMRT were given with 5 € intervals, making it possible that some single figures would be presented on the curve at steeper or more even phases. It is unlikely, however, that such a steep difference would happen between the nine price points between 85 € and 125 €. It is not possible to give the SMRT software a market share and get a price at exactly 20 per cent so to find an exact number would require an immense amount of trial and error that is very inefficient time and cost wise and mainly has to do with decimals anyway.

It is not enough to simply find a price with which a hotel is full, however. One should carefully look at what price brings most money altogether. This is where revenue sensitivity comes in. Revenue sensitivity is illustrated in Figure 17. The figure is calculated by multiplying willingness to pay with the number of sold rooms, in this case the assumed full capacity. In the case of this thesis revenue is always at its highest at the

highest willingness to pay at full capacity. However there are many cases studied with conjoint analysis where the price range is so big that you would get higher revenue even if you lost a bit of market share simply because the price on the next level is so much higher.

In the case of this thesis a drop in market share drops revenue quite quickly, as even the change from a 20.00 per cent market share to a 16.61 per cent market share drops the nightly revenue by 2,451.00 €, even though the hotel raised the price by a further 4 € per room. (Figure 17.)

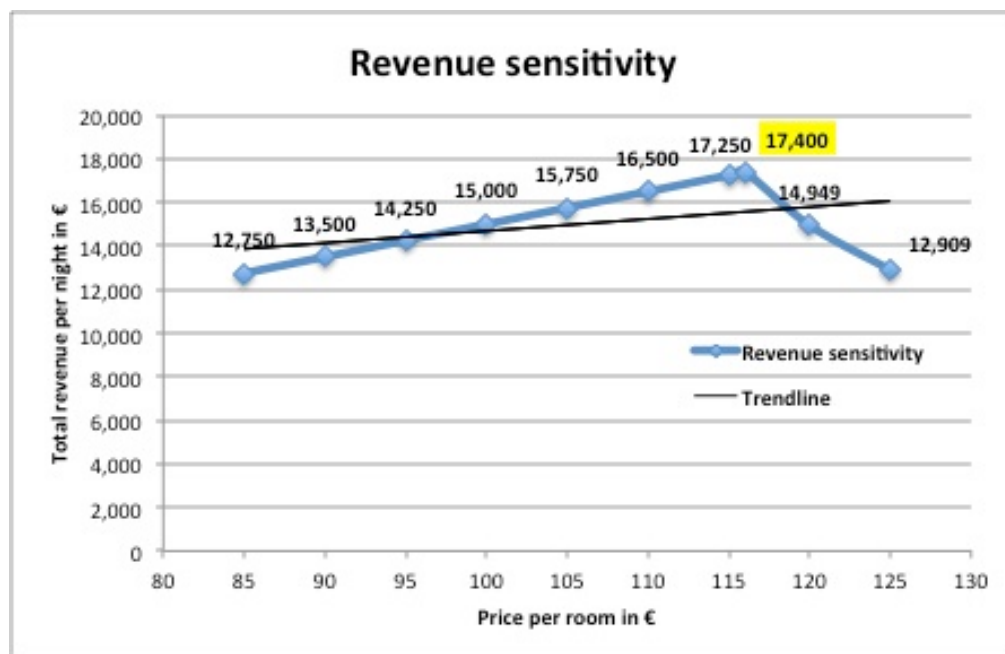


Figure 17. Revenue gained per night shown at capacity times price. Maximum capacity has been taken into account. The figure in yellow is an added number representing the revenue sensitivity at the point of full capacity, in this case 150 rooms at a price sensitivity of 116 €

The following tables represent the price and revenue sensitivities for different respondent groups. The price sensitivity at full room capacity or market share is also the willingness to pay figure, as it is the highest amount that customers are willing to pay to stay at the hotel which still has the hotel full. The SMRT software calculates and combines different scenarios 200,000 times based on the responses obtained from the sur-

vey. This way it can give fairly accurate results even with slightly smaller respondent counts in some segments.

Table 6. Price and revenue sensitivity for different age groups in the study at full capacity or market share (n=217). Willingness to pay given at +/- 1 € certainty

Age	Willingness to pay at full capacity (€)	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity (€)	No of respondents
Ages 18-24	120	20%	150	100%	18,000	96
Ages 25-29	112	20%	150	100%	16,800	63
Ages 30-39	105	20%	150	100%	15,750	37
Ages over 40	116	20%	150	100%	17,400	21
Total						217

Table 6. shows that, perhaps surprisingly compared to monetary resources available, 18 to 24 year olds are willing to pay the highest price to stay at a hotel with all three environmental initiatives. This may be due to environmentally favourable thinking, or the possibility that due to limited resources they may have answered more hypothetically than other age groups, thus also indicating a higher price than which would work similarly in real life purchasing situations. Deeper research is needed to conclude the reason behind this happening. The other age groups seem to go roughly according to the predicted life phase estimation given in chapter 4.1, being that groups 25 to 29 and over 40 are financially less tied than people with young families or houses mortgages in their thirties.

Table 7. Price and revenue sensitivity for different genders in the study at full capacity or market share (n=217). Willingness to pay given at +/- 1 € certainty

Gender	Willingness to pay at full capacity (€)	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity (€)	No of respondents
Female	115	20%	150	100%	17,250	133
Male	118	20%	150	100%	17,700	82
Neither gender	116	20%	150	100%	17,400	2
Total						217

The differences in gender willingness to pay are not as radical as in age, but according to the results men would pay 3 € more per night to stay at an environmentally conscious hotel. This may not seem like a big difference but as seen in the revenue sensitivity column, it would bring in 450 € more per night, which is something to think about in a small profit business. (Table 7.) This result differs from Susskind's (2014, 9) finding in the literature review that women would be willing to pay a higher price.

Table 8. Price and revenue sensitivity for different nationalities in the study at full capacity or market share (n=217). Willingness to pay given at +/- 1 € certainty

Nationality	Willingness to pay at full capacity (€)	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity (€)	No of respondents
Finns	116	20%	150	100%	17,400	112
Scandinavians	115	20%	150	100%	17,250	11
Russians	122	20%	150	100%	18,300	20
Other Europeans	116	20%	150	100%	17,400	49
Other world	116	20%	150	100%	17,400	25
Total						217

In terms of nationality there is very little difference in willingness to pay except for Russians, who are willing to pay a roughly 6 € price premium compared to any other nationality questioned in the study (Table 8).

Table 9. Price and revenue sensitivity for respondents belonging to different groups in terms of their environmental responsibility at full capacity or market share (n=217).

Willingness to pay given at +/- 1 € certainty

Rate of own responsibility	Willingness to pay at full capacity (€)	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity (€)	No of respondents
Very responsible	123	20%	150	100%	18,450	25
Somewhat responsible	117	20%	150	100%	17,550	137
Not sure	107	20%	150	100%	16,050	34
Somewhat irresponsible	104	20%	150	100%	15,600	20
Very irresponsible	100	20%	150	100%	15,000	1
Total						217

Table 9. shows us that willingness to pay increases with level of personal environmental responsibility. Naturally, it also increases revenue sensitivity.

Table 10. Price and revenue sensitivity for respondents belonging to different groups in terms of what they think hotels should do for environmental management at full capacity or market share (n=217). Willingness to pay given at +/- 1 € certainty

Responsibility of the hotel	Willingness to pay at full capacity (€)	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity (€)	No of respondents
Do more	122	20%	150	100%	18,300	145
Continue	115	20%	150	100%	17,250	28
Legislation	102	20%	150	100%	15,300	40
None of the above	99	20%	150	100%	14,850	4
						217

Lastly, Table 10. shows us very similar results as Table 9. as also here the bigger the level of responsibility at the hotel, the more people are willing to pay to stay there. This heavily suggests that, as mentioned in several studies in the literature review, people do not mind sharing costs for environmental initiatives.

5 Discussion and conclusion

In a study like this done with conjoint analysis on willingness to pay and most important attributes, the results largely speak for themselves. It is important, however, to open up each research question and make sure that each gets a concise answer without having to read each graph and table separately. It is also possible to get past the information in the tables and bring forth new ideas and viewpoints, and connect it to existing theory. This is why this chapter goes through the research questions to see that they were all answered to and gives recommendations based on the vast amount of results created based on the conjoint survey.

5.1 MRQ: Are customers willing to pay for environmental initiatives in hotels in Helsinki?

The main research question and aim of this thesis was to find out if customers are willing to pay for environmental initiatives when staying in hotels in Helsinki. The literature review suggested several different outcomes but none managed to give a present view of the market in Finland or Helsinki. The results, however, are able to open up the market a little bit more.

If one wants to have an overall answer to the main research question, looking at WTP of the overall respondents, it was 116 € per room night. This is 11 € higher than the average daily rate of mid scale hotels in Helsinki and also the situation presented in the research on both the current situation and the future situation with all three environmental initiatives. It can thus be concluded that based on the results of this thesis, even though people are very price sensitive, they are willing to pay a price premium for environmental initiatives in hotels in Helsinki.

It should be kept in mind that the 11 € price premium has been calculated with a certain competitive set which should keep approximately the same for this effect to take place. This means also that in order to enjoy a price premium for the environmental initiatives studied in this thesis, an environmentally conscious hotel should take action right now while they still have the possibility to act as a single player with all three big

environmental initiatives. In order to fully enjoy the product of their investment the hotel should also make sure that it has effective communication of the existence of these initiatives.

5.1.1 SRQ1: What environmental attributes bring most added value?

Out of all the attributes in this thesis, price was by far the most important for all respondent groups. Between these groups anywhere from a third to over a half of the overall utility created was left for environmental initiatives, however, and the sub research question can be answered based on these results.

For those respondent groups that valued following legislation highest out of all respondents, Scandinavian and Russian nationals, certification was slightly more important than alternative energy. To all other respondent groups alternative energy was the most important environmental attribute.

Throughout the pool of respondents, no matter their characteristics or environmental opinions, the possibility to participate was the least important attribute. It also only gave little contribution to market share in the cannibalisation graphs. It was also depicted in the current situation in this thesis, indicating that perhaps people are already used to this being offered in hotels and are thus not willing to pay more for it. The same reasoning was used when recycling was left out of the survey of hotels in Helsinki. Another reason for this may be that the attribute was defined very broadly even in the survey as can be seen on Figure 5. in Attachment 1. Furthermore, it may have been left unclear to some respondents.

In order to offer the greatest value with their hotel and also to possibly gain most revenue from their environmental investments, based on the results of this thesis hotels should start with alternative energy. Environmental certification is not far behind in results but is and is becoming more common in Helsinki, making it less of a competitive advantage looking into the near future. A partial competitive advantage can still exist even if several competing hotels have the same environmental initiative as some may communicate it better than others. The importance of communication is very big

for environmental management, as discussed in the literature review, as a customer may not face information about environmental choices of the hotel while making a booking and the hotel has limited effect on the multiple different booking channels.

5.1.2 SRQ2: Who are ready to pay for environmental attributes?

The levels of willingness to pay were introduced in the results and findings chapter by segments like age and gender. For the purpose of answering the sub-research question of who is willing to pay for environmental attributes, a summary was created, in Table 11. below, combining the willingness to pay and revenue sensitivity figures of all respondent groups. The three groups with less than ten answers each are marked with grey and are not enough by themselves to show the WTP of the group in question but are left in the table for clarity purposes and their possible value in indicating what the groups may have valued. No conclusions will be drawn based on these three groups.

Table 11. Summaries price and revenue sensitivity table of all respondent groups studied. Willingness to pay figures given at +/- 1 € certainty

Respondent group	Willingness to pay at full capacity	Market share at full capacity	Room capacity per night	Room capacity per night in %	Revenue sensitivity at full capacity	No of respondents
Very responsible	€123.00	20%	150	100%	€18,450.00	25
Russians	€122.00	20%	150	100%	€18,300.00	11
Do more	€122.00	20%	150	100%	€18,300.00	145
Ages 18-24	€120.00	20%	150	100%	€18,000.00	96
Male	€118.00	20%	150	100%	€17,700.00	82
Somewhat responsible	€117.00	20%	150	100%	€17,550.00	137
Finns	€116.00	20%	150	100%	€17,400.00	112
ALL RESPONDENTS	€116.00	20%	150	100%	€17,400.00	217
Ages over 40	€116.00	20%	150	100%	€17,400.00	21
Neither gender	€116.00	20%	150	100%	€17,400.00	2
Other Europeans	€116.00	20%	150	100%	€17,400.00	49
Other world nationals	€116.00	20%	150	100%	€17,400.00	25
Scandinavians	€115.00	20%	150	100%	€17,250.00	20
Female	€115.00	20%	150	100%	€17,250.00	133
Continue	€115.00	20%	150	100%	€17,250.00	28
Ages 25-29	€112.00	20%	150	100%	€16,800.00	63
Not sure	€107.00	20%	150	100%	€16,050.00	34
Ages 30-39	€105.00	20%	150	100%	€15,750.00	37
Somewhat irresponsible	€104.00	20%	150	100%	€15,600.00	20
Legislation	€102.00	20%	150	100%	€15,300.00	40
Very irresponsible	€100.00	20%	150	100%	€15,000.00	1
None of the above	€99.00	20%	150	100%	€14,850.00	4

Respondents from all ages, genders and nationalities are willing to pay at least the average daily rate of 105 €. All but one of them are willing to pay an even higher price. Out of these three groups, full capacity can be reached with the highest price with Russian customers.

Out of opinion segments, not surprisingly those people that feel very responsible and feel like hotels should do more are also willing to pay the highest prices. At the other end of the WTP spectrum are the respondents that believe themselves to be somewhat irresponsible and think hotels do enough by following legislation. There is an interesting controversy between how Russian respondents are among those with the highest WTP but at the same time they rely heavily on legislation in terms of environmental management. It should be remembered, however, that these two respondent groups are not the same but separate entities.

If a hotel would like to attract customers that pay the most for environmental initiatives, they should target their communication towards people who are already involved with environmental matters, Russians and people of ages 18 to 24. It seems like effectively reaching these people could higher nightly revenue of a hotel from rooms by up to 2,700.00 €. If this is multiplied with the number of days in a year, the difference adds up to 985,500.00 € - almost a million Euro per year. This is an encouraging thought when thinking about the costs of investment in any of the environmental initiatives studied.

At the same time in the highly competitive hotel industry it does not make sense to not also communicate to or target other customer groups like Finns or over 40 year olds who make up a big part of the customers of a hotel in Helsinki. Hotels are also able to raise their average daily rate for these customers with the right environmental initiatives in place, gaining additional revenue, just not as much as with other customer groups. It should be remembered, however, that with a partially empty hotel, revenue quickly drops. Unless a hotel is certain that they can fill their hotel with the customer groups that pay most, they should perhaps be more cautious about raising prices to the maximum of said groups.

In a city like Helsinki with multiple chain hotels, creating an environmentally friendly brand for the whole chain in the region would be a good idea, as it would mean that market share would not have to depend on a single hotel but the hotel chain may be able to direct customers to other units, given that they offer the same environmental services and given that this is the focus point of the customer and the hotels have the approximately same price. As the cannibalisation charts showed, with the right initiatives and the right price, a market share far beyond that of a single hotel can be reached.

5.1.3 SRQ3: How did using conjoint analysis work in this particular research in a service industry topic?

One of the first objectives when starting this thesis was to test the use of conjoint analysis in the service-minded hospitality industry. The use of the method proved both challenging and rewarding, as the ability to use the software and the applicability of the method to the topic unveiled throughout the process. Concerning the results, the method seems to have been a good fit for the topic in question as all original research questions could be answered. The results are also very specific, making it easier to draw conclusions. The online survey was quick to fill in for the respondents and easy to distribute which shows as a high number of respondents. It would thus also fit the use of a hotel as it is harder for them to ask their customers for much of their time in the form of for example an interview. Conjoint analysis also seems to work better in figuring out willingness to pay than a conventional survey with the direct questions, as conjoint analysis lets respondents choose from sets or products or services with pre-set randomly matched levels and calculates the willingness to pay from there.

In terms of attributes, the author would recommend making sure that each attribute is very clearly defined. Using yes and no options as levels seemed to serve its purpose well. In case an attribute is very broad, like the possibility to participate was in this thesis, it would have been good to divide it into more specific levels. This would enable both respondent and researcher to place more emphasis on the attribute instead of having to leave it more in the background.

Had this experiment been done in a real hotel instead of as a student project, one of the biggest challenges would have been the complexity of the software. It requires a lot of work to get into the different programs that enable conjoint analysis, and there is a high risk of making an unintended error by making the wrong choice in many of the details that require choosing without previous experience in what the effects of these different features are. Another option would of course be for a hotel to have research done by a third party company but this can be very expensive. Should the hotel have resources for this or training an employee to handle the program, the hotel could benefit from it greatly, as the willingness to pay and revenue figures show.

5.2 Recommendations for the industry

There are several things in this thesis that the hotel industry in Helsinki can take into consideration in their business. First of all, instead of focusing environmental management as a part of CSR, hotels should focus on making it a strategic competitive advantage. The study shows significant rise in ADR in the hotel that had all three environmental initiatives compared to those that had one or even two. Furthermore, the benefits of environmental management are shared by all parties, even the customers paying a higher price.

Based on the theoretical framework and the results, the author would recommend hotels to take on use of all three initiatives. While the benefits of using alternative energy and environmental certification are more in control of the hotel, offering the possibility to participate is key in an industry like hospitality where customers constitute a large share of the hotel's environmental footprint (Valorinta 2014). Each environmental attribute brought added value to all customer groups identified in the survey. Environmental initiatives are also good investments as they continue to help the hotel save resources and thus money even after losing competitive advantage, if they were to become characteristics of all hotels in Helsinki.

The author would also recommend hotels to check how their competitive set matches the one of this study and should it be dissimilar, to conduct either a full research on

their own set or alternatively study the average importances of the attributes to their customers. This is because average importances and willingness to pay seem to correlate. A hotel manager with a lower budget could thus focus on finding out preferences of their wished environmental attributes against price. This would most likely give them an indication of what their customers would value most and thus perhaps be willing to pay a premium for even without knowing a direct price.

The author has agreed to share the results with representatives of two hotel companies. This indicates that there is interest in the field but perhaps not enough time to conduct research by the companies by themselves. To make a cost efficient start and to keep an eye on how long the results stay relevant, hotels should keep up to date on the environmental policies of their competitor hotels, see which initiatives are implied in most hotels around them, and what environmental trends are succeeding abroad but are first entering the Finnish market. Hotels in Helsinki are in a lucky position as a lot of environmental innovation comes from Finland and they have several universities teaching CSR subjects who may have students willing to take on case projects.

In terms of environmental management and communication, hotels would also do well in checking what initiatives they are already implicating. As Valorinta mentioned in his article in 2014, many hotels do environmentally friendly actions without noticing it or sharing it with anyone. This means that there is a possibility that some hotels are already doing enough to use it as a competitive advantage but have failed in the communication of their efforts in reaching the customers and general public.

5.3 Feedback of the survey

Throughout the survey part of the research, respondent feedback was monitored closely. It was not possible to make the pilot survey online before launch so all pilot respondents answered the survey on the same computer. The first respondents after launch, however, were asked to use different mobile devices like iPhones or Samsung phones to see whether there was an error that should be mentioned in the beginning of the survey and if a re-launch was necessary. Both appliances worked well so the research was carried out with the existing survey. Two respondents of the online survey

mentioned that they had failed to complete it on a tablet, which may have increased the rate of incomplete answers.

Another technical issue was that the hover-function, as illustrated in Figure 2. of Attachment 1., did not work on mobile devices. The possibility to participate, perhaps the most difficult attribute to decipher for someone not acquainted with hotels or related literature, was used as the example in the introduction, however. Environmental certification and use of alternative energy were assumed to be more self-explanatory and thus not being able to see their examples through the hover function is assumed not have significantly affected the results.

The unusual look of the survey also generated some interest among the respondents. It was also mentioned by one respondent that they felt like a do not know option was missing when the price was the same: in their view, neither was not the choice but they simply did not find a reason to choose one hotel over the other.

5.4 Non-response analysis

Even though the survey was finished by 217 people, it was started by 332. This leaves 115 incomplete answers. It is not uncommon for a conjoint survey to have a large number of incomplete answers due to its special layout and the extra effort it takes to figure out the pattern of the questions. The incomplete amount was not raised by the author as she did not start the online survey but only watched it being done by others while checking that it worked up to standard.

The response rate was quite high for random sampling as almost two thirds finished the survey, but there are nonetheless many possible reasons why so many people left the survey midway. The non-response rate could be explained by insufficient targeting: as the population is defined as anyone between the ages of 18 and 100, it is very likely that this includes many people who have stumbled upon the survey and do not participate for a variety of reasons, such as no interest in hotels or the environment, no intention of visiting Helsinki, unfitting appliances for finishing the survey, too big of an ef-

fort to get to know a new survey method, or a poor design and unmotivating introduction from the researcher.

The non-response rate was not raised by people who visited the first page, as the counting started once respondents pressed the first continue button. This way double visits by the same people were not counted as tries if they decided to check out the link but wanted to come back to fill it in later. The second introduction page explaining the task was the part with by far the highest number of quits; altogether 17 per cent of those who started the survey quit there. Also, more people stopped in the first conjoint question than the other conjoint questions combined. (Table 12.)

Table 12. Places in the conjoint survey where respondents decided to quit, resulting in incomplete answers

Last Question Seen	Incompletes	% of Respondents out of 332	
Introduction	58	17%	
Conjoint_Random1	33	9%	
Conjoint_Random2	6	1%	
Conjoint_Random3	3	0%	
Conjoint_Random4	6	1%	
Conjoint_Random5	2	0%	
Conjoint_Random6	2	0%	
Conjoint_Random7	2	0%	
Age	3	0%	
Total incompletes	115	28%	

5.5 Validity and reliability

The number of respondents in this thesis was large, indicating a level of reliability since in order to get similar results if replicated, respondent number plays a big part. However as the population of this study was anyone over 18 with the hypothetical possibility to visit Helsinki and stay at a hotel, the results could be very different with a different group of respondents. The respondents also answered to the survey from a completely hypothetical albeit realistic starting point, which may have altered the results in a way of “If I had money” and “If I ever visited Helsinki” which may not be a reality for all respondents.

The results gotten from the software measured what the researcher intended to find out, indicating validity. The scope of the study in terms of environment and not CSR or sustainability in general was also a good thing as it enabled a closer look at one specific area instead of more general results from a general topic. All of the complete data were usable as the design was strict in making sure that only people from the population answered the survey and that those that did finished each question properly. The standard error for the market share, from which price sensitivity and thus willingness to pay and revenue sensitivity was calculated, was always below five, indicating that the results are statistically significant.

In terms of study ethics, it was made sure that people can answer anonymously by not asking for any personal details, and the option of saving the respondents' IP address was also removed. The author sees no reason to believe that many answers would have come from the same person, even if one or two had used the same device for responding. An ethical consideration that hotels should ask themselves is that should they simply use environmental management as part of their CSR and branding process, or are they, while they can, willing to make it a business point and profit from it also financially.

The results only apply when there are not multiple hotels using the same environmental initiatives. It should thus be kept in mind that the results are not to be used as a long term strategy for higher market share or profitability but more as giving hotels extra time in innovating and coming up with new ways to stand out from competition. In other words the reliability of the results is likely to fade in time, even though the replicability of the study itself would be fairly easy when based on a similar survey. It is likely that in some time in the future it is not that uncommon for hotels to use alternative energy in Helsinki, have environmental certification or allow customers to take part in environmental saving. The results may give indication for other cities or hotel markets but are in itself not generalizable to for example hotels in other countries, as the basis of environmental management behaviour largely differs by area.

Even though the thesis used randomised sampling, it was up to the author to distribute the thesis to possible willing participants. As many of the people in the surroundings of the author are working in the hotel industry or are studying the topic, in order to minimize the effect of this the author put effort in making sure that respondents are from varied fields and points of life. This was just a precautionary measure, however, as there no research evidence that shows that working in the hotel industry would alter your opinion on environmental or pricing matters. If anything, these respondents may have a better indication of what was meant by each of the attributes.

5.6 Conclusion

Until today research has not been able to come to a clear understanding of whether environmental initiatives can raise price of hotel rooms. Very little research has been done on the topic in Finland or Helsinki, making it an interesting case to work on.

The results of this thesis suggest that on average people would be willing to pay an 11 € price premium to stay at a hotel with all three environmental initiatives studied: environmental certification, using alternative energy and offering the possibility to participate. It should be kept in mind that this particular finding is true only when the competitors do not make the same move. It does show, however, how big of a competitive advantage can be gained by applying environmental initiatives. Environmental initiatives are good investments not only because of their potential to bring in higher revenues, but also because they are an investment that does not lose its purpose even after the competitive edge has gone. It would thus be highly recommended for all hotels to take on environmental management.

The objectives of this thesis were to research what environmental attributes bring most added value, to find out who are willing to pay for environmental attributes, and to experiment the use of conjoint analysis in the service-minded hospitality industry. Through the results and analysis it can be said that the aim and objectives were reached.

6 Assessment of the thesis process

This function of this chapter is to evaluate the thesis process. Even with careful planning and attention to detail when handling the results, there are several limitations in the study. These are gone through, as well as suggestions for further research. The chapter ends with a self-assessment by the author of the thesis process.

6.1 Limitations of the study

Some of the respondent groups like different nationalities could have had a more equal amount of responses. The author tried to direct the survey to people that fit this description during the time the survey was online, but was not able to reach an even amount of respondents in all groups.

The participation attribute should also have been specified more. At the moment most hotels offer participation in one form or the other like declining sheet or towel change for a couple of days in a row, which made it hard to show that hotels in the current situation or competitive set do not offer this possibility. It was thus included in the current situation as well as in the future one and its effect is less visible in this thesis than of the other two initiatives. Altogether the average importances show that out of all it was the least important attribute introduced in the survey.

Another limitation of the study were the technical issues. The possibility to participate attribute was weakened even more by the fact that some of the respondents were not able to see the explanation of what it meant, as explained in chapter 5.3. This could have been avoided with a larger test group in the pilot study of the survey. The author was also the first student to do a conjoint analysis at her home university of applied sciences, giving room for unintentional errors in using the conjoint software programs or analysing the results. The results could also have been more specific with better knowledge of the system and more time and space for the analysis, but the author sees the current results as descriptive for the purpose and objectives of this thesis.

When conducting research, there is a possibility that respondents answer based on what they would like to see happen instead of what they would actually do in a purchase situation. As the topic of the thesis was about environmental management, there may be many respondents who would like to see a lot of the initiatives take place in hotels and may have thought that choosing the highest price would push hotels in the right direction.

6.2 Suggestions for further research

This thesis has focused on finding the most relevant environmental attributes and how they affect price for potential customers of hotels in Helsinki. As there is limited research on the topic, it would be good to continue research that indirectly question pricing and willingness to pay in different hotel markets around Finland and the world.

It would also be interesting to do a comparative study of what the differences are between customers and hotel managers on what they see as the most significant environmental attributes in hotels. This is because the net profit that a hotel makes is not only based on willingness to pay but also on the hotel's willingness to save. In some cases the monetary value of saving on one environmental attribute might be higher than the price premium paid by customers for another one.

As the aim of this thesis was finding out how much people were willing to pay for a room night in a hotel with environmental initiatives, it merely touched upon the matter of why different target groups choose to do this. It would thus be very interesting to research the motivation behind these choices, why some people choose to pay a higher or lower price than others.

Lastly, it would be very interesting to further develop the use of conjoint analysis in the service industry and especially study the use of service related attributes and levels that can be very subjective. In this case the author would recommend choosing a case company as it makes it easier to come up with a realistic competitive set and price range.

6.3 Self-assessment

The thesis process was guided by the author's interest in testing the use of conjoint analysis in the hospitality industry. Environmental responsibility is also of high interest to the author and she is interested in developing the industry in a direction of environmental sustainability. Throughout the process the topic of the thesis contained its value for the researcher and was interesting to work on. A high personal interest in the topic made it possible to pursue sources that were of high quality even when the topic lacks recognisable theories. It also helped in the conjoint analysis process, which the author largely completed independently.

Two of the biggest challenges were finding a suitable topic for the thesis and writing the literature review. The author was previously familiar with research by experience from smaller research projects in other fields like biology and English. The literature review was challenging for the author as the topic regarding hotels lacks recognisable theories and the uncertainty of the worthiness of the sources caused a lot of trouble for the author, as did the nature of writing with many academic sources. A lot of the sources were published during or after the beginning of the writing process, both helping immensely but also making the author question the readiness of the product. Making this thesis especially strengthened the author's capability to write a literature review.

The independence of the work came both as a challenge and as a reminder of the nature of professional research: it is done on a personal timetable and the framework of the content and schedule is set by the authors themselves. This is a valuable lesson for anyone pursuing an academic career or looking to do research at the workplace.

The writing of the thesis took place between February and August 2014. The survey was conducted in May-June. The thesis process increased the author's knowledge of the current state of environmental management in Finnish hotels and strengthened her capabilities to do research, especially with conjoint analysis. The use of conjoint analysis was beneficial for the future as it gives the author professional competitive advantage.

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Attachments

Attachment 1. Survey layout

Figure 1. Welcome page

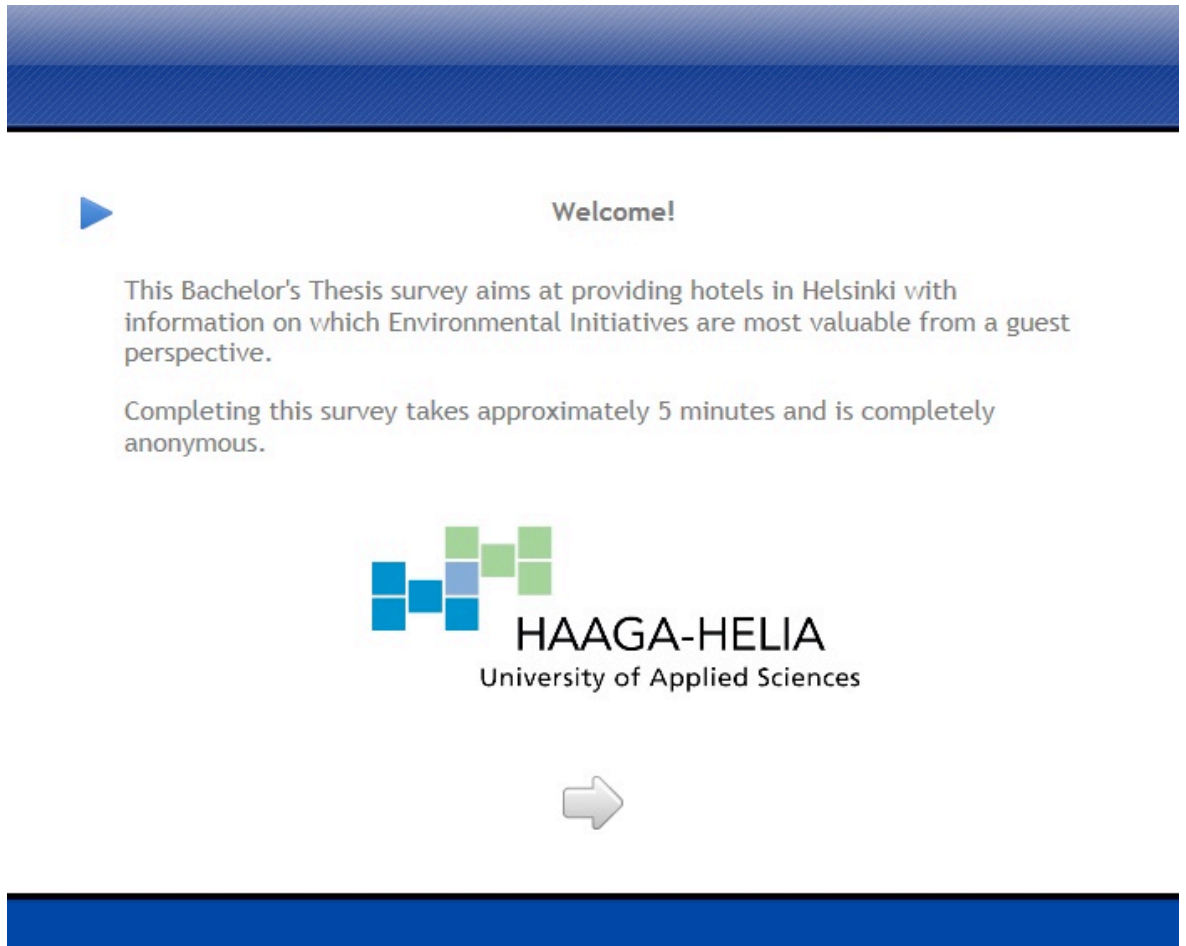


Figure 2. Introduction to the survey situation



Survey situation:

Imagine you are coming to Helsinki and have chosen to stay overnight in a typical 3 to 4 star mid-scale hotel. You are buying a double room with breakfast and WiFi included. You will be asked to choose between two hotels like this with different prices and environmental activities. You will be asked the same question 8 times but note how the variables change with each question.

For help:

Let your cursor hover over an attribute and you will see examples.

	No	Yes
Possibility to participate	<input type="radio"/>	<input type="radio"/>
Room	<input type="radio"/>	<input type="radio"/>

Examples: the hotel lets you re-use your towels or linen, offers gym bikes that generate electricity when biking

← →

0% 100%



Figure 3. First conjoint question



▶ If these were your only options, which would you choose?
Choose by clicking one of the buttons below:

(1 of 8)

	Hotel 1 Including breakfast and WiFi	Hotel 2 Including breakfast and WiFi	Neither
Environmental certification	No	Yes	NONE: I wouldn't choose either of these.
Using alternative energy sources	No	Yes	
Possibility to participate	Yes	No	
Room price	125 EUR	85 EUR	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



0%  100%



Figure 4. Error page of conjoint question page



An error has occurred on this page. Please try again by choosing one of the options given.

A response is required.

▶ If these were your only options, which would you choose?
Choose by clicking one of the buttons below:
(1 of 8)

	Hotel 1 Including breakfast and WiFi	Hotel 2 Including breakfast and WiFi	Neither
Environmental certification	No	Yes	NONE: I wouldn't choose either of these.
Using alternative energy sources	No	Yes	
Possibility to participate	Yes	No	
Room price	125 EUR	85 EUR	
	<input type="radio"/>	<input type="radio"/>	



0%  100%



Figure 5. Survey attribute examples shown in one picture



▶ If these were your only options, which would you choose?
Choose by clicking one of the buttons below:

(2 of 8)

	Hotel 1 Including breakfast and WiFi	Hotel 2 Including breakfast and WiFi	Neither
Environmental certification <small>Examples: Swan Label/Nordic Eco Label, ISO 14001, LEED</small>	Yes	No	NONE: I wouldn't choose either of these.
Using alternative energy <small>Examples: solar energy or wind power</small>	Yes	No	
Pool <small>Examples: the hotel lets you re-use your towels or linen, offers gym bikes that generate electricity when biking</small>	Yes	No	
Price <small>Price per night for 1 or 2 people</small>	125 EUR	105 EUR	
	<input type="radio"/>	<input type="radio"/>	



0%  100%



Figure 6. Another conjoint question, showing the rest of the attribute levels



▶ If these were your only options, which would you choose?
Choose by clicking one of the buttons below:

(3 of 8)

	Hotel 1 Including breakfast and WiFi	Hotel 2 Including breakfast and WiFi	Neither
Environmental certification	Yes	No	NONE: I wouldn't choose either of these.
Using alternative energy sources	Yes	Yes	
Possibility to participate	Yes	No	
Room price	85 EUR	105 EUR	
	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



0% 100%



Figure 7. Non-conjoint question page



Age

Gender

- Female
- Male
- Other

Which region best matches your nationality

- Finnish
- Scandinavian
- Russian
- Other European
- Other world

In terms of environmental management, I feel that hotels should

- do more than they do now
- continue as they are doing now
- follow legislation, otherwise I don't care
- none of the above

Do you consider yourself environmentally responsible?

- Very responsible
- Somewhat responsible
- Not sure
- Somewhat irresponsible
- Very irresponsible



0%  100%



Figure 8. Error page of non-conjoint questions

An error has occurred on this page. Please try again by choosing one of the options given.

The response must be between 18 and 100.

Age

A response is required.

Gender

Female

Male

Other

A response is required.

Which region best matches your nationality

Finnish

Scandinavian

Russian

Other European

Other world

A response is required.

In terms of environmental management, I feel that hotels should

do more than they do now

continue as they are doing now

follow legislation, otherwise I don't care

none of the above

A response is required.

Do you consider yourself environmentally responsible?



Very responsible

Somewhat responsible

Not sure

Somewhat irresponsible

Very irresponsible


0%  100%

Figure 9. Thank you page



Thank you for completing this survey!

Now it is your turn to snowball it to someone else :-)

bit.ly/1kk8EVy

For study results or any inquiries please contact a1003884@my.haaga-helia.fi.

0%  100%

