

# Research report

Visitors and killer whales, a guaranteed success?



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## Summary

The Tysfjord Turistsenter located in Storjord, Norway, is a hotel that offers a variety of nature related activities to their guests. The most popular activity is the nature- and killer whale safari that is offered in winter from the 1st of December until the 21th of February each year when the killer whales come to feed on the spawning herring in the nearby fjords. The nature- and killer whale safari has been adapted in the last few years because of the changing herring migration. Nowadays the guests have to travel by ferry and bus for three hours to the city of Andenes where the safari boat will leave to search for killer whales. No research was done about how the guests appreciate the updated nature- and killer whale safari or how the overall satisfaction of these guests could be improved and how more guests could be attracted. Therefore a research was executed with the research question: How can the marketing strategy of the nature- and killer whale safari be improved?

During the research project the 191 guests of the nature- and killer whale safari were asked to fill in a questionnaire before and after their participation in the tour. This questionnaire was based on literature study on eco/wildlife tourism and 175 guests eventually filled in the questionnaire. Also observations about the weather, wildlife sightings and vibe of the guests were executed during the tour. Next to this in-depth interviews were held on the bus ride back from Andenes to Storjord. The results of these methods were analysed in different ways. The interviews were coded, subjected for qualitative analysis and used for the in-depth information. The data of the questionnaires were used to perform a factor analysis. This way groups of variables could be made organized by the cohesion in level of appreciation. Two groups were formed, one based on the general appreciation of the tour and its wildlife sightings, the other based on the logistics and the information about the tour. By using linear mixed models in SPSS the researchers found out what factors of the tour had an influence on the guests' satisfaction of the tour.

It should be kept in mind that the results of this research were obtained within one season. The experiences and guests can differ from other seasons. Also, because the data are based on 30 tours, some factors that now seem to have no influence might turn out significant because in this season they correlate too much with for example the killer whales sightings. Lastly, during the interviews people sometimes seemed to only give positive answers, maybe because they felt obliged to give socially desirable answers, which means that the guests stated that they were more positive than they actually are.

After the analysis it can be concluded that the general appreciation of the tour strongly depends on whether killer whales were seen or not. In the adapted dataset the respondents who came with friends were more satisfied and the ones who came with co-workers less satisfied. On the second component the variables to what degree the guests came to Norway especially for the NKS, to what degree the guest normally participate in wildlife tourism, moose sightings, if the guests travelled with friends and if and what alternatives they considered were found relevant. Also the complaint that came back second next to the wildlife sightings was that the bus ride was too long. Therefore the conclusion of this research is that in order to improve the product the bus ride should be shortened and that people who do not get to see killer whales are very disappointed. For the promotion the adventurous feeling of the guests is very important. The recommendations that are given are therefore: Manage the expectation, show people that they can enjoy other parts of the tour as well. Shorten the bus ride, give compensation for those guests who do not get to see killer whales. Also for the promotion the guests should be encouraged to share their photos and experiences through social media with their friends and relatives so they might come and visit as well.

## Acknowledgement

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Hereby we would like to thank Edmundas Cikas, the manager of the Tysfjord Turistsenter, for his support and for the opportunity to do this assignment for the Tysfjord Turistsenter. Furthermore we would like to thank Agnè Stegvilaitė, Anthony Mayer, Anastassia Gnatjuk and Siim Valdo Lomp for their moral support and insights during our stay in Norway. Apart from that, we would like to thank all these people for their company, the good times we shared and for the possibility to stay with them during our data collection period at the Tysfjord Turistsenter.

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## 1. Introduction

This research report describes the research project conducted as the final thesis for the major "animal and society". This major is part of the bachelor course "animal management" at Van Hall Larenstein University of applied sciences, Leeuwarden, the Netherlands. The research project was an assignment from the Tysfjord Turistsenter (TT), located in Storjord, Norway.

The TT, besides accommodation, offers nature related tours to their guests. One of those tours is the "nature and killer whale safari". Due to a change in the migration of herring, the main food source for the killer whales in the Norwegian area, the tour has been a subject of change over the past seasons. The TT was interested in how they could change the tour and the marketing efforts supporting it, in order to attract more guests. However, the guest satisfaction of the tour had never been evaluated before, making it hard to make an informed decision. Therefore this research project focussed on the guest satisfaction and the marketing aspects of the nature-and killer whale safari (NKS). The satisfaction of the product (the NKS) was one of these aspects. Just as the price, the staff, the promotion and the place of the TT. To make sure the TT also knows the wishes of the guest extra well also a visitors profile was made. The question that was answered by the research project is: How can the marketing strategy of the nature-and killer whale safari be improved?

Besides for the management and staff of the TT, this report can be interesting for anyone working or interested in ecotourism. Also people working in the tourism industry can find this report interesting just as students of all directions in which visitor satisfaction is of importance.

Chapter 2 of this research report provides some background information on the TT, it explains what the nature and killer whale safari is, what the characteristics are of the nature and killer whale safari as a product and additionally it provides information about the characteristics of the guests participating in the tour. Chapter 3 explains the goal and the research questions that needed to be answered to reach that goal. Chapter 4 gives a detailed insight in the methodology and in the research methods used to find the answers to the research questions. Chapter 5 gives an overview of the data that was collected during the data collection period. Chapter 6 explains both the method and the result discussion. Chapter 7 describes the conclusions that can be drawn from the collected data. Chapter 8 presents the recommendations that were made based on this research.

## 2. Current situation

### 2.1 Background

#### 2.1.1 Tysfjord Turistsenter

The Tysfjord Turistsenter in Norway is a hotel that, besides accommodation, offers nature related activities to their guests. The hotel is situated 86km south of Narvik in the northern part of Norway. The tourist centre is surrounded by the Tysfjord fjord lands which are famous for the spectacular scenery, the northern lights and the variety of wildlife. (Tysfjord Turistsenter, 2014<sup>a</sup>)



Figure 1: Location Tysfjord Turistsenter (source: Google maps)

Tysfjord Turistsenter offers a variety of activities that can be described and perceived as ecotourism activity. Ecotourism is a form of nature based tourism in which tourists are educated about nature and the environment, and do so in an ecological, sustainable way (Reynolds, P.C. & Braithwaite, D., 1999). At Tysfjord, however, there are no particular goals for sustainability. Another term that fits the tour is wildlife tourism. Wildlife tourism is when an organisation does offer tours for guests to see wildlife but has no particular sustainability goal (Reynolds, P.C. & Braithwaite, D., 1999). Because ecotourism and wildlife tourism have so much overlap, in this research project they were considered the same. To avoid confusion in this report the tours are referred to as wildlife tourism.

### 2.1.2 Nature and killer whale safari

During the winter high season (1 December till 21 February) most guests visiting the tourist centre are attracted by the nature and killer whale safari (NKS). (E. Cikas, personal communication, 19 March 2014) This safari takes guests onto the fjord waters by boat to look for killer whales (*Orcinus orca*, Linnaeus 1758) and other wildlife such as fin whales (*Balaenoptera physalus*, Linnaeus 1758), humpback whales (*Megaptera novaeangliae*, Burrowski 1781) and white tailed eagles (*Haliaeetus abicilla*, Linnaeus 1758). (Tysfjord Turistsenter, 2014<sup>b</sup>) Most tourists seem specifically eager to see killer whales. (E. Cikas, personal communication, 19 March 2014)

Since 2013 the NKS is executed in the waters near Andenes, about 150 km north of the TT, where many killer whale families reside. To get to Andenes from the TT the guests are taken on a trip consisting of one hour on a ferry and two and a half hours on a bus. The route can be seen in figure 2. From there the guests are taken by boat to see the killer whales.

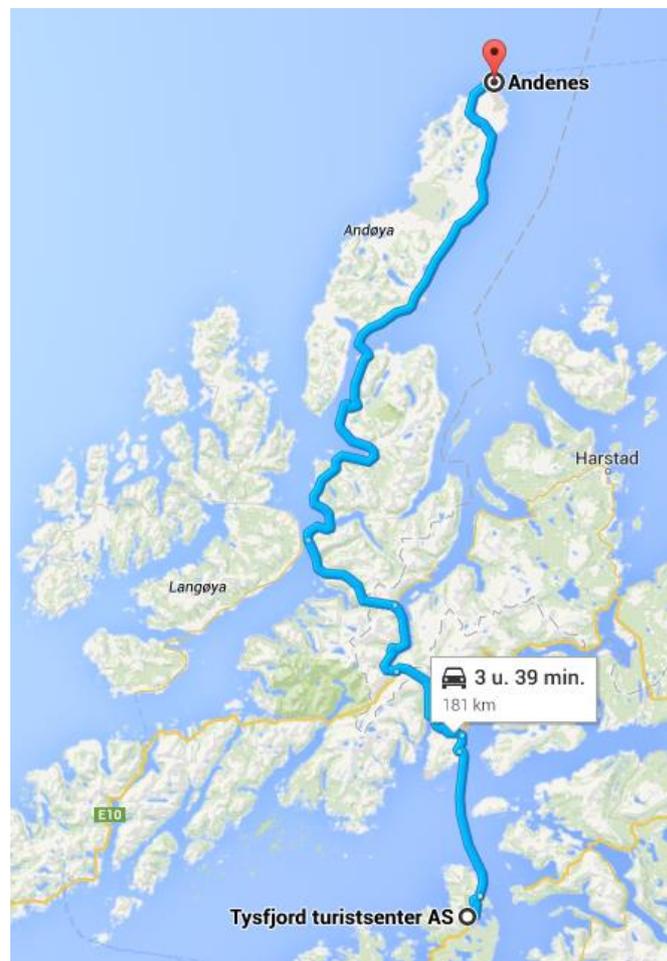


Figure 2: Route from the TT to Andenes. (Source: Google maps)

An NKS starts the day before, during the orca lecture. During this lecture the guests receive some information on the herring migration and on different killer whale behaviours they might get to see during the trip. The next day they leave by ferry and bus to Andenes. In Andenes the guests make a stop at a hotel in which they put on their inflatable suits or dry suits. The inflatable suits are for the people that only want to watch the killer whales from the boat, the dry suits for people that choose to snorkel with the killer whales. Also everyone gets a life vest. In the hotel, the guide informs the guests about the safety regulations and about the species that reside in the waters near Andenes. When this is done the guests go on the bus again that takes them to the harbour where the safari

boat leaves. After two to three hours the guests return. They are brought back to the hotel, change out of their inflatable suit or dry suit and get a bowl of soup and some bread. After this lunch the guests return to the bus to be driven back to the tourist centre. Back at the TT the tour concludes with an orca ceremony in which the guests put a sticker on a map, showing where they saw the orca's (if they saw any), and get a certificate as a reminder they participated in the tour.

## 2.2 Problem description

Until a couple of years ago, every year during the winter season herring came into the Tysfjord followed by many killer whale families. This enabled the TT to use a boat to take tourists to see the killer whales in the local waters. However, the herring migration has changed recently. There is almost no herring spending the winter in the Tysfjord anymore. Therefore many killer whale families are not returning to the Tysfjord either, making it very difficult to spot them there. As a result the tour has been relocated to Andenes. This relocation has changed the NKS as a product, since there is a lot of extra traveling time getting the guests from the hotel to the harbour in Andenes and back.

The TT was interested in knowing how the guests appreciated the NKS in order to understand how they could improve the NKS as a product. Also they were interested in attracting more people to the TT through the NKS, so they wanted to know how their promotional activities could be improved as well.

However, the NKS and the satisfaction of its participants had never been evaluated. Therefore there was no clear image of how the guests currently experience the NKS. Nor was there a known visitors profile to help with possible adaptations according to the wishes of the guests. Because of this lack of information TT was not able to make an informed decision on how to improve the NKS' marketing strategy. (E. Cikas, personal communication, 19 March 2014)

## 2.3 Theoretical framework

In order to find out what aspects can be of influence on the visitor satisfaction the researchers did some literature research before formulating the research questions. The following paragraphs will display the theoretical foundation of the research project.

### 2.2.1 Visitor characteristics

#### **Visitor satisfaction**

One of the important factors of marketing improvement is to make sure the product is appreciated by the target group. In other words, it is important to keep the guests satisfied. Satisfied guests could decide to come back or make their friends, family and social media contacts enthusiastic with their photos and stories. This could draw extra guests at lower marketing costs. (Cooper, C., Fletcher, J. Fyall, A., Gilbert, D. & Whanhill, S., 2005)

Visitor satisfaction occurs when there is a positive difference between expectations and experience. If an experience is better than expected the visitor will be satisfied. In order to increase the satisfaction it is important to know what visitors expect so the experience can be adapted to exceed the visitors' expectations. (Thomassen, J-P.R., 't Veld, E. & Winthorst, H.H., 1996)

### **Visitor profile**

As can be read above, it is important to know the guests expectations of the tour to offer them a product that will satisfy them. The expectations of the guests in general can be shown in a visitor profile. A visitor profile does not have to consist only of demographic characteristics such as age and gender but may also focus on behavioural characteristics. This is the case when the attitude of people does not depend on the demographic characteristics. A visitor profile based on behavioural characteristics often leads to conclusions that are more up to date and accurate compared to the old fashioned stereotypes based on demographic characteristics. (Rustenburg, G.B. & de Gouw, T. & de Geus, A.W., Buurman, R.H. & Smal, J.C.A., 2007) When it comes to wildlife tourism there are several categories in which behavioural characteristics can be shown:

- Naturalistic: Primary interest and affection for wildlife and outdoors.
- Ecological: Primary concern for environment as a wildlife-habitat system.
- Humanistic: Primary interest and strong affection for individual animals, mainly pets.
- Moralistic: Primary concern for the right and wrong treatment of animals, especially cruelty.
- Scientific: Primary interest in physical attributes and biological functioning of animals.
- Aesthetic: Primary interest in artistic and symbolic characteristics of animals.
- Utilitarian: Primary concern for practical and material value of animals or habitat.
- Dominionistic: Primary interest in mastery and control of animals, typically in sporting situations.
- Negativistic: Primarily active avoidance of animals due to indifference, dislike or fear.

(Reynolds, P.C. & Braithwaite, D., 1999)

Most members of the general public show the attitude of the humanistic and moralistic factors whereas most wildlife tour operators seem to be scientific, ecologic and utilitarian. This could suggest that in some cases there is a difference in what the general public wants to see and what some tour operators think the general public wants to see. (Kellert, S.R., 1980)

### 2.2.2 Product characteristics

#### **Quality of the tour**

When the expectations of the visitor are known it is also important to know which factors will attract the interest of the tourists during the tour. Six factors have been developed that capture the interests of tourists during wildlife tourism:

- Authenticity: How real is it? Do the visitors get a chance to see the real wild animals, or are they for example habituated?
- Intensity: How well can people see the wildlife? Do they only get to see a glimpse of the animal, or do they get a close encounter, for example by snorkelling with the killer whales
- Uniqueness: Is it special what the guests get to see? Are the guests used to seeing fjords and white tailed eagles? Are the killer whales the only thing that can make this tour special?
- Duration: Did the experience also satisfy in length?
- Species popularity: Are the species “attractive” enough for the visitors and do they get excited when they see them?
- Species status: Is the species rare?

(Reynolds, P.C. & Braithwaite, D., 1999)

### **Specialty good**

The Nature and Killer Whale Safari at the TT can be defined as a specialty good. A specialty good is a product that certain consumers are actively looking for to buy because of certain unique characteristics of the product. As a result these customers are willing to put a lot of effort in purchasing said product. The guests make this effort because they perceive the NKS as a specialty good, and with a specialty good come high expectations. (Verhage, 2007)

The product NKS lies in the high price segment. Norway is the most expensive country in Europe. (Eurostat, 2014) However, even for Norwegian standards the tour is costly. Products in the high price segment are often specialty goods, but not always. The product type may differ for different consumers. A consumer with an above average income might treat a certain product like a shopping good while another consumer with a lower income treats the same product as a specialty good. (Verhage, 2007)

Specialty goods are often not easy to come by. The consumer is often not able to find it in their direct surroundings and has to travel to be able to get the product. This is also the case for the NKS. In order to do an NKS, people have to travel to the TT in the northern part of Norway. The isolated location of the tourist centre makes it hard to reach for consumers outside of Norway and within Norway alike. (Personal communication, E. Cikas, 19 March 2014)

Another important characteristic of a specialty good is the time the consumer spends finding the right product. (Verhage, 2007) The NKS will, for most consumers, not be an impulse purchase but an informed choice. When booking a holiday there are several aspects tourists take into consideration before deciding where to go. The most important factors are safety, accessibility and the quality of the experience. For each of these factors the tourists decide if they think the price is fair for the value offered. This conflicts with the definition of a specialty good since this does not indicate brand loyalty and it shows price can be a factor in the decision making process. However, the guests still make a lot of effort to participate in the NKS, therefore in this research project the tour is still considered as a specialty good. Only when the most important factors that were mentioned earlier are perceived to be sufficient, tourists might look at cultural and environmental sustainability. This is consistent with Maslow's hierarchy of needs, which shows that people first look for safety before striving for creativity or in this case sustainability. This means in general people look for a safe, accessible and high quality product before looking at other variables. (Black, R. & Crabtree, A., 2007)

Other characteristics of a specialty good are qualified staff and status. Because guests buy a product for their status it is important they feel like they are being treated special by the organisation offering the product. Qualified staff is trained to provide this service, it will confirm that the guests made the right decision by going there. (Verhage, 2007)

### 2.2.3 Influences on - and of visitor satisfaction

The guests' experience during the tour is influenced by the pre-trip services, (Neal, D.J., Sirgy, M.J. & Uysal, M., 1999) meaning all the contact with TT before starting the NKS. Contact with TT after the tour may also influence the appreciation of the NKS. However, this research project focusses on the NKS and the marketing activities for this NKS. Therefore the services after the tour were not evaluated. The pre-trip services were included in the research project and the results will benefit the marketing and promotional activities of the TT.

For a successful tour the experiences before arrival are important. The pre-trip services include how easily the guests can find information on the tour and how easy it was to book the NKS. The experience with the pre-trip services are part of the overall satisfaction of the tour. (Neal, D.J., Sirgy, M.J. & Uysal, M., 1999)

There are many reasons why delivering a positive experience is of importance for a company like the TT:

Firstly, guests have an influence on the image their friends and close relatives develop of the TT. Satisfied customers may tell their friends and relatives about their positive experiences, which will have a positive influence on the way these friends and family think about NKS and Tysfjord. This will increase the chance these friends and family will want to visit the TT themselves. (Cooper, C., Fletcher, J. Fyall, A., Gilbert, D. & Whanhill, S., 2005) According to a study by the Nielsen Company in 2013, 84% of consumers think recommendations by people they know are trustworthy. More importantly, 84% of consumers indicated they take action on recommendations by people they know. These percentages are higher than in any other form of advertising. (The Nielsen Company, 2013) Because social media can be used to bring personal recommendations to relatively big groups of friends at the same time, this indicates the possible usage of social media should be taken into account in this research project. Guests can reach a larger number of people they know with messages about the TT on social media than in direct contact.

Secondly, ecotourism is the fastest growing form of tourism, with a growing rate of 25% between 1996 and 2006. The total turnover of the global tourist industry is expected to be over \$2 trillion. (Black, R. & Crabtree, A., 2007). Because wildlife tourism is so similar to ecotourism, this growth was probably also relevant to wildlife tourism. No recent publications were found on the growth of ecotourism in the last few years. It is possible that the development of the ecotourism sector has changed compared to ten years ago. A growing number of wildlife tourism could indicate the TT will get more competition. In Norway, in the same area that TT conducts the NKS other companies are offering whale watching tours (Whalesafari Andenes, 2015) (Sea safari Andenes, 2015). The Turistsenter also considers other whale watching tours in the same surroundings competition. According to the TT their competition consists of "whale safari Andenes" and "sea safari Andenes". (E. Cikas, personal communication, 16 October 2014) TT should indeed be aware of this competition in order to protect or increase their market share. This competition makes it important for the TT to keep their guests satisfied, otherwise the guests or potential visitors might go to one of the other companies. (Thomassen, J-P.R., 't Veld, E. & Winthorst, H.H. 1996)

### 3. Goals of the research

#### 3.1 Setting the goals

As formulated in paragraph 2.2, the TT is interested in attracting more people for the NKS and also in knowing how the people experience the current NKS. Therefore this research project focussed on the entire marketing strategy of the NKS. This way the effects of the attempts to improve the NKS could be maximized.

The goal of the research project was to collect information necessary to provide the TT with recommendations on how they could improve the marketing strategy of the NKS.

The necessary data could be found by evaluating the current marketing strategy of the NKS and by collecting data on the visitor profile. The evaluation of the marketing strategy would provide information on how the guests had experienced the NKS and the promotional efforts of the TT. The data about the visitor profile would help the TT become aware of a possible target group for their promotional activities. With all this information TT will be able to make informed decisions about how to attract more guest and how to improve the satisfaction of their guest.

### 3.2 Research questions

As explained before, this research project was executed to find out how the NKS and its marketing can be improved. Therefore the following research question was formulated:

“How can the marketing strategy of the nature- and killer whale safari be improved?”

The following sub questions were formulated to answer the research question:

- 1 How is the product "NKS" appreciated by the guests?
  - 1.1 To what extent are the guests satisfied with the product "NKS"?
  - 1.2 How can the product "NKS" be improved?
- 2 What is the profile of the guests?
- 3 How can the promotion of the NKS be made more effective?
  - 3.1 What is the TT doing about promotional activities at the moment?
  - 3.2 What happened during the decision making process the guests went through before booking the NKS?
  - 3.3 Through what medium do the guests usually get ideas about their holiday destination?
- 4 To what extent are the guests satisfied with the quality-price ratio of the NKS?
  - 4.1 What was the influence of the price of the NKS on the decision making process of the guests?
- 5 What is the influence of the place (location) of the NKS on the decision making process of the guests?
  - 5.1 Where is the TT located?
  - 5.2 To what extent was the location of the NKS of importance in the decision making process?
  - 5.3 What is the ratio of guests that come to Norway just to participate in the NKS?
  - 5.4 What is the ratio of guest that come to the TT to participate in the NKS?
- 6 What preconditions does the improvement of the "NKS" have to meet?

## 4. Methodology

### 4.1 Research type

This research project can be defined as an applied research project in which one certain case is studied. This provides information specifically meant for the TT. All data were collected during the NKS. So the conclusions based on these data can only be used for improvements of the NKS at the TT. Other organisations will have a different tour and therefore the improvements recommended in this research project do not apply to their tour. (Saunders, M., Lewis, P., Thornhill, A., 2004)

This research project was a combination of exploratory research and descriptive research. The quantitative part of the research project (the questionnaires) covered the descriptive aspect of the research project. This aspect describes the current situation and the possible points of improvement. The exploring aspect of the research project is covered by the qualitative part of the research project (Interviews and observations). (Saunders, M., Lewis, P., Thornhill, A., 2004) In this part of the research project the focus will be on the question how possible improvements can be made.

The advantage of using both qualitative and quantitative research is that the quantitative part of the research can offer reliable statistical information about how the NKS is appreciated. The qualitative part of the research provides the possibility to get a deeper insight in and detailed answers about what improvements can be made on the NKS. (Saunders, M., Lewis, P., Thornhill, A., 2004)

### 4.2 Research design

The strategy used in this research project is a combination between a case study and a non-experimental survey.

A case study is a suitable strategy because this research project covers a broad field. The case study strategy helps to narrow this field down in order to define which aspects of the NKS influence the guests' satisfaction.

Also the case study allowed for the research project to focus on one study object, in this case the research project has a focus on the possible points for improvement of the NKS. In case studies it is possible to use multiple methods for data collection. (Anastas, J.W., 1999) In this research project questionnaires, guest observations and interviews are deployed.

The non-experimental survey helps to statistically analyse data on certain aspects of the NKS and its guests. The survey strategy focuses on quantitative and standardised data, the benefits of which are that a statistically reliable generalised conclusion can be drawn. The questionnaire is often, if not always, the method used in the non-experimental research strategy. (Densecombe, M., 2007)

### 4.3 Research population

The research population in this research project consisted of all the guests that participate in the NKS in the season of 2014-2015. The TT welcomed 191 guests that participated to the NKS in the season of 2014/2015. These guests departed in 30 tours and were divided between 80 groups/families. A part of this research was to get a better insight in the profile of these guests. This profile can be found in the chapter Results.

## 4.4 Research methods

In this research project several methods of data collection were used in order to get answers to the research questions. The main method that was used was the questionnaire. Also, some data were collected with observations. The data were collected in the form of quantitative research and produced reliable data that are valid for the whole population of visitors in the season 2014/2015. Apart from the questionnaire and the observations, in-depth interviews were held with a number of guests, this was done in the form of qualitative research. This was done as an addition to the quantitative research in order to get an extra insight in the opinion of the guests (Denscombe, M., 2007). Also a literature study gave extra information on the interpretation of the data collected during the research.

Using different types of research methods, in order to approach a certain problem from different angles, is called triangulation. In this research three different methods were used in order to provide both statistically reliable answers and a deeper insight in the behaviour and opinions of the guests. Also the data of the different methods could be compared so they could confirm each other. (Saunders, M., Lewis, P., Thornhill, A., 2004)

### 4.4.1 Questionnaires

In questionnaires, all people participating in the NKS were asked to answer the same list of questions. Due to the amount of research subjects (175) that answer the same questions, questionnaires tend to yield a large quantity of standardised data. These data could thus be statistically analysed. Because of this characteristic, questionnaires are often seen as the most reliable and objective form of research. (Saunders, M., Lewis, P., Thornhill, A., 2004) This research method was used because all the guests within one tour could fill out a questionnaire at the same time, therefore a large part of the research population could be covered at the same time.

Data on factors like wildlife sightings, weather, the number of people present, the vibe of the tour and which guide was leading the tour were collected during the observations. These data and the data from the questionnaires, were used for the statistical analysis.

One of the goals in this research project was to have enough guests that participated in the NKS fill out the questionnaires to get the minimum sample size for getting a reliability factor of 95% and an error margin of, ideally, 4%. (Baarda & de Goede, 2006)

A reliability factor of 95% means that the researcher can be sure that 95% of the time the results will be true. So there is a 5% chance the results drawn from the sample are not correct. It is 95% certain that a second data collection with other respondents in the same target group will result in the same answers as in the first research. (Sekaran, U. & Bougie, R., 2013) The error margin of 4% indicates the percentage in which the answers of the complete population may differ from the final results drawn from the sample. These are common reliability factors in research. (Baarda & de Goede, 2006)

The formula for calculating the minimum sample size for a limited population is:  $n \geq \frac{N \cdot z^2 \cdot p(1-p)}{z^2 \cdot p(1-p) + (N-1) \cdot F^2}$ . In this formula  $n$  stands for the minimum respondent number,  $z$  for the standard deviation,  $N$  for the population size,  $p$  for the chance a person gives a certain answer and  $F$  for the error margin. In this case, there were 191 people that participated in the season. With this population size a minimum sample size of 128 was needed. With a sample size of 175 this criterion was met. Not all the questions got the same  $N$ , therefore the  $N$  and the  $F$  vary over the different questions. (Alles over marktonderzoek, 2014) Since the guests that come in groups have a large influence on each other, one could argue it is better to determine the minimum sample size based on the amount of groups in the population. However, it is easier to allow every guest to fill out an

individual questionnaire, make a code to recognise what guests form a group together and use data analysis to correct for the influence they have on each other after the data collection phase. For this research project the latter option was chosen.

The guests received two questionnaires. Because the daily reality of the NKS (guests arrive late at night, guests do not travel back to the Turistsenter etc.) is very lively and changes all the time, different moments for the questionnaires were used to ensure a maximum number of respondents. This was important because a lower number of non-respondents results in a higher reliability of the results. The different moments on which the questionnaires were used were:

Option 1: the first questionnaire on the ferry to the safari and the second one on the ferry on the way back

Option 2: the first questionnaire before the orca lecture, the second one on the ferry back.

Option 3: the first questionnaire before the orca lecture, the second one before the orca ceremony.

Option 4: the emergency questionnaire, only before the orca ceremony.

The emergency questionnaire was only used if by accident if a group did not receive the questionnaire that measured their expectations before the tour. This emergency questionnaire was the "normal" post questionnaire with a couple of questions added from the pre questionnaire. Filling out the questionnaires took approximately 5-15 minutes per questionnaire per person. Which option was used was noted in SPSS in a separate variable so the influence of the difference in moments could be taken into account.

The questionnaires were handed out in paper versions with mostly multiple choice questions. All the instructions were on the paper so the guests were able to work on the forms independently. However, the people that came to Tysfjord together got two common codes, so during data analysis a correction could be made for "group bias". The first code referred to their group number in the complete research population, the second code referred to their group number within one tour.

The previously described codes were put on the questionnaires after each tour. Apart from the two group numbers the tour number and an individual number were noted. This created three levels: tour, group and individual. This resulted in the following code formula: T[nr. tour] G<sup>1</sup>[nr group within tour] G<sup>2</sup> [nr. group within population] O [nr. form]. For example, during the second tour there are ten participants divided over three groups: one family of four, and two groups of three friends. In the previous tour there were three groups. The father of the family fills out a form. This form will be coded: T2 (since it is the second tour) G<sup>1</sup>1 (since he is part of the first group in this tour) G<sup>2</sup>4 (since he is part of the fourth group in the total population) O11 (since it is the eleventh participant of the total research population). Resulting in the code: T2-G<sup>1</sup>1-G<sup>2</sup>4-O11. These codes were used in the data analysis and enabled the researchers to trace back certain questionnaires.

The questions in the questionnaire were mostly closed questions. These questions gave the respondent a limited number of possible answers so the answers could be used in a statistical analysis. However, a few exceptions were made. In questions that ask about numbers, working with categories would limit the options for the statistical analysis. When working with categories, the mean cannot be calculated and categories cannot be changed or adapted if the chosen categories turn out not to be optimal. When the exact number has been given, as a result of an open question in the questionnaire, this can be done. After the data collection is completed more "fitting" categories can be made in the analysis. In order to do so the guests were asked about their age in an open question. A couple of questions, for example questions about the guests' country of residence and questions in which the guests are asked to point out what they would change about the tour,

were open. The data collected in these questions were coded after the data collection phase in order to prepare them for data analysis. (Sekaran & Bougie, 2013)

The question about the wildlife factor was an exception because some guests might feel their interest can be combined with several factors. The guest could pick 3 wildlife factors and range them in a top 3. The researcher divided points, for the first factor 3 points, the second 2 and the third 1 point. This was used in the data analysis to show in what ratio the wildlife interest factors are divided. If people had misread this question they filled in the numbers in their own way. If for example they filled in a mark at one factor, this factor is seen as number one. If they ordered all the factors, only the top 3 was used in the analysis. If they filled in three marks without a sense of order, the answer was not complete and therefore left out of the data analysis.

During data analysis, a factor analysis was performed in order to determine which questions were influenced by the same factor(s). These groups of questions are called clusters. The factor analysis will be explained further in the data analysis. The clusters are taken into account while formulating the questions for the questionnaire. A cluster of questions could give an insight in the guest satisfaction about a part of the tour, for example: organisation and tour content. In the first cluster questions about the bus drive and the tour guide might be included. In the second one, questions about the wildlife sightings. Trying to predict which questions could become a cluster helps to enhance the validity of the research a little because it helps to check if the questions together the answers needed to answer the research questions. (de Vocht, 2006).

More questions in a cluster give a better insight in the influence of the factor. (de Vocht, 2006). In this research project the aim was to have approximately five questions per cluster. This was in order to limit the amount of time the guests needed to fill out the questionnaire while still having a fair amount of questions to confirm the influence of the factor.

At the end of the first questionnaire the guests were asked a couple of closed questions that were aimed at collecting profile information about the guest filling out the form, for example age or gender. These data will help to establish what target group the TT is reaching with its current marketing strategy. Also these data were used to find out whether there was any correlation between certain profile aspects and the satisfaction of the guest.

Part of the visitors profile is the average income of the guests of the NKS. For the statistical analysis it was best to ask about their estimated income in an estimated number. However, income might be a sensitive subject and it was not clear if people from different cultures would become suspicious of the research project when they were asked about their income. Therefore, in this research project, the guests were asked about their profession so the researchers could make an estimation of the category of income the guests fall in. The following categories were used:

- 1 High, for example: Surgeons, lawyers etc.
- 2 Middle, for example: Shop managers, primary school teachers etc.
- 3 Low, for example: Students, janitors etc.

Other factors that was researched was the guests' satisfaction about the bus drive and about the tour guide. Firstly, they answered a question in which they were asked to indicate how satisfied they were about, for example, the bus drive on a scale from 1 to 5. Secondly, a multiple choice follow up question provided the opportunity for the guests to declare what aspect of the bus ride was, in their opinion, lacking or exceeding.

For the closed questions it was important to mix positively and negatively worded questions and answers. This would prevent people from answering question possibilities in the same way on a scale the same way. By changing the wording of the question the respondents were more likely to stay involved.

Furthermore, the questions were short and not double barrelled or ambiguous. This way, the guests were able to understand the questions easily. Also, there were questions with a five point answer scale. This scale had a centre middle point and equal distances between the steps. Factors like "no opinion" or "other....." were not part of this scale. In some of the questions these options were possible to choose, but they were separate of the rest of the possible answers and not the middle point of the scale. (Kumar, 2014)

#### 4.4.2 Guest observations

During the observations, factors like the weather conditions, wildlife sightings, the number of people present, the vibe during the tour and the guide for that tour were noted. These factors were, together with the data collected by the questionnaires, used in the statistical analysis to determine if they influence the visitor satisfaction.

Because the logistics of the tour sometimes prohibited the researchers of coming along on the tour or to come to Andenes at all, the researchers sometimes asked the tour guide to fill out the observation form. He was made aware of all the criteria that are described in the following text.

The weather was measured by a grade between 1 and 5 that the researcher rated the weather during that tour. For these numbers the following criteria were:

- 1: Rough sea, worst conditions to go at sea, windy and/or rain.
- 2: Sea a little rough and/or a bit of rain/wind.
- 3: Dry but windy and clouded. Reasonable conditions at sea.
- 4: Dry and a couple of clouds.
- 5: Calm sea, clear sky, no wind.

Within the variable "weather conditions" temperature was not taken into account because there could be a difference between the way people experience temperature and the actual temperature. With that in mind the temperature was not measured as a part of the observation. However, the guests were asked how they experienced the temperature in the questionnaire.

During the observations the observers noted whether or not the guests got to see killer whales. Sightings of this species were recorded separately since the tour is titled "nature and killer whale safari". Because other whale species are closely related to killer whales they might also be relevant for the guests' satisfaction. Therefore it was noted when other cetaceans were spotted during the tour. Also during the bus ride animals like moose and reindeer could be seen. Since these animals might have added a positive experience to the tour it was also noted if these animals were spotted. All the species described thus far are quite large, which would make it more impressive if they were seen from a close distance. Therefore it was also noted if there had been a close encounter with one of these mammals. A close encounter with mammals in this research project is defined as an encounter at 20 meters or closer. Every tour, the researchers placed every one of the previously described mammals in one of the following categories.

- 1: Not seen.
- 2: Seen but from 20 meters or further.
3. Seen in a close encounter.

Other animals are probably not what the guests were looking for. However, they might have added an extra experience to the tour. There were, for example, a number of (sea)birds that could be seen during the tour. Because the number of bird species that could be seen during the tour was quite large, the bird sightings of the tour was categorized in one of the following 6 categories:

- 1: 2 or less bird species mentioned, 0 close encounters.
- 2: 2 or less bird species mentioned, 1 or closer encounters.
- 3: 3/5 bird species mentioned, no close encounters.
- 4: 3/5 bird species mentioned, 1 or more closer encounter.
- 5: more than 5 bird species mentioned, no close encounters.
- 6: More than 5 bird species mentioned, 1 or closer encounters.

In these categories “bird species mentioned” stands for the number of species pointed out by the guide. The researchers could be certain the guests saw certain species if they had been pointed out by the guide during the tour. Therefore it was measurable. Close encounters might have given an extra dimension to the wildlife sightings, therefore they were taken into account as well. A close encounter in this research was when a mentioned bird species is 10 meters or closer from the boat. This was deliberately closer than the mammals, because birds in general were smaller than the mammals seen during the tour.

The way the guests seemed to experience the tour collectively is called "the vibe of the tour" in this research project. This was an interpretation because the way the guests behaved does not have to be the same as the way they felt. To make sure this interpretation did not differ from tour to tour the following categories were used:

- 1: Heads shaking, no laughter people do not seem interested in the nature or the guide.
- 2: People listening to the guide, but look away as soon as possible, no laughing or happy chatter.
- 3: People listening to the guide, and having short conversations occasionally taking a picture.
- 4: People laughing once in a while, listening to the guide, chatting, and taking several pictures.
- 5: A lot of laughter, happy faces and people chatting smiling and taking pictures and engaging the guide in a conversation.

In order to make a connection between the data collected with the questionnaires and the data collected with guest observations, every tour got a separate number. This was the same number that was filled out in the code on the questionnaires. The tour numbers were counting up. So tour number got code T1, tour number two T2 etc.

#### 4.4.3 Interviews

The data that were collected in the research methods mentioned above, provided quantitative data. These data tell how certain factors of the NKS were appreciated, but not why this is the case. A possibility to get more in depth information was to collect qualitative data by interviews. The amount of interviews taken had no influence on the statistical reliability. (Saunders, M., Lewis, P., Thornhill, A., 2004)

The design and performance of the interviews were subjected to the iterative process. This means their design and performance were adapted to progressive insights during the data collection phase. (Creton, T. 2009) This made it possible to, for example, change questions asked during the interview if it became clear the current questions did not provide satisfying answers to the questions the researchers were seeking to answer.

When applying iteration, the following questions need to be answered at multiple moments during the data collection phase:

1. What are the data telling the researchers?
2. What is it the researchers want to know?
3. What is the relationship between what the data are telling and what the researchers want to know?

If the data are telling what the researchers want to know, there is no need to change the interview. However, if the data are not telling what the researchers want to know, they should try to find out why that is and how it can be changed. (Srivastava, P. 2009) The iterative process can only be applied to qualitative research methods since there is no statistical data analysis involved. Therefore it was only applied to the interview method in this research project.

The interview method used was the "in-depth interview". The in-depth interviews were done until satisfaction occurred, meaning until the interviewee had nothing more to say on the subject. In order to do that it was of great importance that the researchers allowed the guests to finish their sentences and to encourage them to speak more about relevant subjects that came up during the conversation. The data collected during the interviews are not representative for the entire population, however, this does not mean they have no value. The objective of the interview method was to get a better understanding of why certain people had given certain answers on the questionnaire and in what ways certain aspects of the tour could be improved. Even though these data are not representative for the entire population, they could give a more specific idea of the way certain tour aspects can be improved. (Boyce, C. & Neale, P., 2006) During the interviews, the guests were asked about one subject. These subjects depended on what the researchers wanted to know at that time in the research. Examples of questions asked during the interviews are:

1. How did you experience the NKS and why did you experience it this way?
2. What improvements for the NKS can you think of? And why would these improve your experience?
3. Did you enjoy the orca lecture?
4. What did you think about the lunch today?

Directly after the return from the NKS the researchers typed out the interview, using the exact words the respondents used as much as possible.

In order to be able to analyse qualitative data, the first thing that should be taken into account was the organisation and preparation of the data. Firstly, qualitative data are often irreplaceable, so it was important to duplicate the data. In the case of the observations this meant that typed out interviews were saved on multiple places (e-mail, USB and hard drive). Secondly, the data were organised in the same format. To make sure the data were organised, the interview notes were coded as: T[nr. tour] G<sup>1</sup>[nr. group within tour] G<sup>2</sup> [nr. group in population] O [nr. form].

These short interviews were held in the last part of the bus journey back to the TT. To prevent a bias from choosing only a certain type of person too often, the interviewee was selected based on their seat on the bus. The researchers were seated on a specific seat on the bus every tour. This was a single seat. The bus's backseat was directly behind it, there was an aisle on the left side of it with two seats on the other side of the aisle directly on the left and one seat directly in front of it. The researchers interviewed the person directly to their left, if that seat was empty they would interview the person behind them on the backseat and if that was empty too the person in the seat in front of them.

During this research project 18 people were interviewed about different topics. The interviews were not done until satisfaction occurred. This has to do with the fact that the researchers were not able to travel along with every tour and in the cases that they were the guide was on the bus as well. Doing an interview next to the tour guide would probably have resulted in censored answers from the guests, so the researchers chose to interview only when they were out of hearing range from the tour guide.

#### 4.4.4 Literature research

All the collected data during this research project were compared with existing literature. This was done to give a deeper meaning to outcomes of the research. It gave direction in how the results could be interpreted, and gave extra information besides the collected information that can be important for the TT. Also it was used to show if similar research showed the same conclusions. The literature was found in books, scientific articles, websites of relevant organisations and other reliable sources. The outcome of this comparison can be found in the discussion of this report.

Apart from that, the researchers looked into the current marketing efforts by the TT on the internet. These findings were used in the SWOT analysis that is described in paragraph 5.6.

#### 4.4.5 Timetable NKS

During the winter season of 2014-2015 30 tours were carried out by the TT in Andenes. On all these tours observations were made.

Table 1 shows a detailed schedule of the research activities that were performed during most tours. During the tours there were many observation moments. These observations are specified by numbers, these numbers refer to the different observation factors present on the observation form shown in Appendix II.

Table 1: Timetable

Time	Part of the tour	Research method
21.00	Orca lecture	First questionnaire before start of the lecture. Observation 6, 9.
6.15	Meet at the reception	Observation 6, 9.
6.30	Leaving hotel by bus	Observation 4, 5, 6.
9.30	Putting on survival/ snorkelling suits	Observation 6
10.30	Orca safari	Observation 1, 2, 3, 6, 7, 8.
13.30	Taking off survival/ snorkelling suits	Observation 6
14.00	Warm lunch	Observation 6
15.00	Trip back to the hotel	Observation 6 Interview Guests receive second Questionnaire on the ferry.
19.00	Orca ceremony	.

In some cases it was not possible to follow this timetable. For example when guests arrived during night-time or when they would not come back to the TT after the tour in Andenes. Therefore in some cases the first questionnaire was handed out during the ferry ride to Andenes and the second questionnaire was sometimes handed out during the lunch in Andenes instead of on the ferry back to

the TT. A new variable was made in the statistical analysis programme to correct for the possible influence of these different moments.

#### 4.4.6 Data analysis

To find an answer to the research questions the resulting data, which will be displayed in chapter 5, needed to be analysed to give a statically accurate answer. In the following text the statistical tests that were used are explained. A more detailed description of the analysis process can be found in Appendix IV.

##### 4.4.6.1 Factor analysis

The first step that was made was performing a factor analysis. This analysis reduces the amount of variables to components in which several variables that have cohesive data are clustered together. For example if people have the opinion that they really liked the tour, it is also more likely that they thought the tour was worth their money. If this is indeed the case, these variables can be put together in a so called "component". Components can then be tested for the influence of other factors and variables.

The first step of the factor analysis is the selection that decides which variables will be a part of the analysis. Because all the variables in the analysis need to have the same data scale, the variables concerning the opinion of the guests that were measured in a Likert scale were selected. A list of these variables can be found in Appendix IV. The 5 point Likert answer scale was recoded so the numbers in SPSS all meant the same thing: 1 being the option that was most negative and 5 the most positive option.

The components that came out of the factor analysis were then used in the next test, General Linear Mixed Models.

##### 4.4.6.2 General Linear Mixed Models

When the components that came out of the factor analysis were known it was time to tests if other variables had any influence over the results in these components and if so, how much. For example, does the satisfaction of the tour (component 1) depend on the sightings of the killer whales?

To do this right, the possible travelling companions of the guest needed to be taken into account. For example, if a family comes to participate in the NKS it is likely their opinions are somewhat similar. If one member of the family gets for example seasick, the satisfaction of the entire family might be influenced. The same goes for some tour characteristics. People that participated on the same tour had similar experiences that influence their opinions. If they had a tour with really rough weather, the opinion of all the people on that specific tour might be different from the opinions of people that went on another tour with maybe better weather.

In order to answer these questions, a special test in SPSS was used. This test is called linear mixed models (LMM) and it can test which variables have influence on the components and if some variables combined have a different influence than apart from each other, while taking into account which people arrived together in a group and which people went on a tour together.

##### 4.4.6.2.1 Data preparation

To start the analysis it is first important to find out if all the answering possibilities have enough answers to use them in the analysis. For example, in just two of the thirty tours killer whales were spotted from far away. This is not enough to base conclusions on. Therefore on this variable and some other variables the answering possibilities were reduced so there would be a better distribution in the answers.

Another part of the data preparation is making sure that there are as little missing values in the data set as possible. If a respondent skipped a question, resulting in a missing value for one variable, in LMM the rest of the respondents' data could not be used in the analysis either. This was a problem because this way the sample size became much smaller. Therefore, a selection was made of the people that only had one missing value. The missing value was then added to the largest group within the variable it belonged to so the other data could be used for the analysis. This was done with a maximum of 1 variable per person and 2 per variable. If a person had not answered more than 1 variable the data of this person was left out of the analysis. If more than 2 answers needed to be filled within 1 variable a separate answer possibility of "no answer" was made in SPSS.

To be aware of the influence of this change in the data set, the further LMM analysis was completed with both the data set with all the missing values and with the dataset with less missing values. During this analysis the dataset with all the missing data had 44 missing, the dataset which was adapted had 24 missing values.

#### 4.4.6.2.2 Output General Linear Mixed Models

After the data preparation was finished, the actual analysis was conducted. For each component the variables that could be have influence were run separately to make a selection of variables that could also have a significant influence when combined with each other. The variables that had a significance lower than 0,25 were selected.

To find out if multiple variables together influence the variance of the component, a model can be built in LMM. As explained earlier in this chapter, LMM can take into account which respondents formed a group together and which respondents participated in the same tour to correct for the influence the respondents might have had on each other.

To start the LMM the remaining variables had to be grouped in the level they could influence, so either tour, group or individual.

It was important that the variables from the selection did not correlate amongst each other. If for example cetaceans are almost never spotted without the killer whales it is possible these variables correlate too much. In order to find out if the correlation between these variables is too much, cross tabs were made between the variables with a Cramer's V value. If this value was 0,4 or higher the other variables were excluded from the analysis.

After the data preparation the first step was to run LMM without any variables for both the components that were tested. This was done to find the Akaike value. The Akaike is a measurement for the amount of data that is lost in a new model. The Akaike in the model without any variables works as a standard in the analysis. The researchers knew variables were of influence when the Akaike value of the model with those variables was lower than the Akaike value of the model without any variables and if the variables were significant in that model.

All the possible combinations of the tour, group and person variables were made. The variables for each level were seen as a package, so all variables for example the level "tour" were always tested together, the influence of the individual variable was calculated in a later stadium. These tests were executed twice for each component, once with the adapted and once with the unadjusted dataset.

#### 4.4.6.3 Calculating Akaike weight

When the Akaike value was known for all of the combinations, the difference between the Akaike value of these combinations and the Akaike from the LMM without any variables was calculated. The result from that equation could then be used to calculate the Akaike weight. The Akaike weight

shows the chance that the given model is the best one. For example, if the Akaike weight is 0,24 then this means when this research project will be conducted a 100 times in 24 of those projects this model would come out best.

The Akaike weight can be calculated with the following formula:

$$\text{Unconditional SE} = \sqrt{\sum_{i=1}^R w_i \left[ \text{var}(\hat{\theta}_i | \mathbf{g}_i) + (\hat{\theta}_i - \hat{\theta}_i)^2 \right]}$$

The results of the Akaike weights ( $w_i$ ) can be found in Appendix IV.

#### 4.4.6.4 Calculating lower bound and upper bound

Lastly, the individual influence of the remaining variables was calculated. This was done by calculating the lower bound and the upper bound of the confidence interval. When the value “0” lays within the confidence interval there is no influence of this specific variable on the component. If it does not, there is an influence that lies between the upper and lower bound of the confidence interval. If the upper and lower bound are negative values, it means the variables had a negative impact on the satisfaction about the component. If the values are positive the variable has a positive influence on the satisfaction about the component.

The lower and upper bound of the confidence interval were be calculated with the following formulas:

$$\text{Upper 95\% confidence limit} = \text{estimate} + (1,96) \text{ SE}$$

And

$$\text{Lower 95\% confidence limit} = \text{estimate} - (1,96) \text{ SE}$$

The SE can for each variable be read in the output of the LMM, the estimate is the coefficient multiplied by the Akaike weight of the model.

The lower and upper bound showed for each variable whether it had a relevant influence on the satisfaction. A variable is relevant when 0 does not lie between the lower and upper bound. Because 0 is the average satisfaction. So when 0 would be present between the lower and upper bound there would be a chance that people that fell within this variable had the average opinion, which means that particular variable had not influenced their opinion.

#### 4.4.7 SWOT analysis

The data that were found by the means of the methods described in the previous paragraphs were analysed using the SWOT analysis. This analysis was used to pinpoint the strengths and weaknesses of the marketing efforts of the TT when it comes to the NKS. But also to determine the threats and opportunities that are present in the TT's environment. The strengths and weaknesses are aspects that the TT can influence directly. The threats and opportunities cannot be influenced directly, but they are aspects the TT should be aware of.



*Figure 3: SWOT analysis template (source: rpihub.org)*

Lastly, the SWOT analysis was used to create a confrontation matrix, in which the combinations of the found strengths, weaknesses, opportunities and threats are analysed. By making this confrontation matrix the researchers found out what the aspects of the marketing strategy of the NKS are that the TT should work on.

The SWOT analysis and the confrontation matrix are displayed and further explained in paragraph 5.6 and 5.7.

## 5. Results

The following text illustrates and explains the results that were collected with the previously described methods.

### 5.1 Questionnaires

Of the 191 people participating 175 guests filled out the questionnaires. These 175 people together made up 80 groups. Using the formula  $n \geq \frac{N \cdot z^2 \cdot p(1-p)}{z^2 \cdot p(1-p) + (N-1) \cdot F^2}$ , the margin of error and the significance factor were determined. This means when all the questions are filled in the results will be viable for all the guests of this season, with a margin of error of 2,15% and a significance factor of 95%. So, when the questionnaires are performed a 100 times more with people that did the same tour, in 95 of those questionnaires the data will not differ from the data collected in this research project with more than 1,075% higher or 1,075% lower, because they fall within the error margin of 2,15% ( $1,075 \cdot 2$ ). However, not all the guests answered all the questions, therefore the number of respondents (N) differs between the questions. In this chapter, the number of respondents (N) will be noted with every question. The margin of error will be stated as well. The significance factor will stay 95% for all the questions.

Many of the questions in the questionnaire were formulated as a statement to which respondents were asked to answer to what extent they agreed. The possible answers were on a Likert scale. In the graphs that display the results of these Likert scale questions, the colours of the bars show what answers display more positive feelings and what answers display more negative feelings towards the tour and the TT. Some of these questions are displayed in a table instead of a graph.

The results of the questionnaires are divided into sub paragraphs for all of the 5 marketing P's: Place, Price, Product, Promotion and Personnel. Together these factors embody the "marketing mix", which is a tool to develop a well thought out marketing policy. (Verhage, 2007) Additionally, the sub paragraph "profile" shows the results concerning the visitor profile.

### 5.1.1 Profile

This sub paragraph contains all the results that help to build up a visitor profile.

#### Question 3

N=172

F=2,35%

Question: "I booked the tour with..."

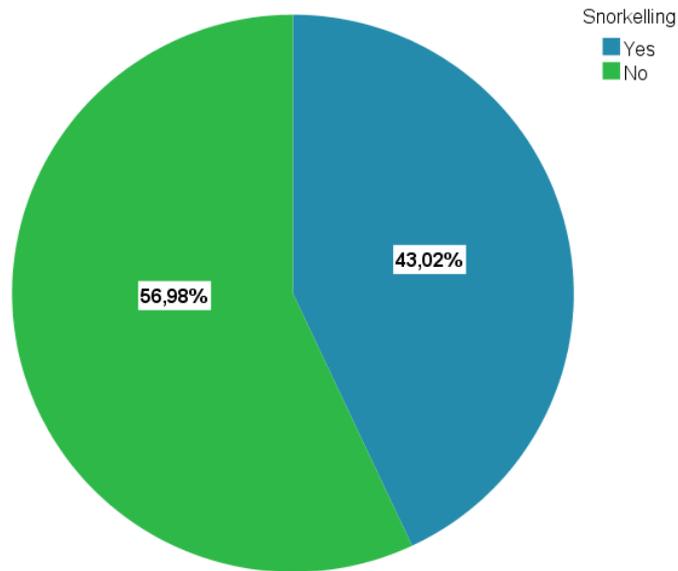


Figure 4: Did the respondent book the tour with snorkelling?

Of all the guests 43,02% booked the tour with snorkelling and 56,98% without.

### Question 12

N=156

F=3,35

Question: "The statements that cover my motivation to on the nature and killer whale safari best are..."

In this question guests were asked to rank three wildlife interest factors in an order from one to three. Afterwards their first choice received three points, their second choice two and their third choice one. The scores for all the wildlife factors were added up and are presented in the graph below.

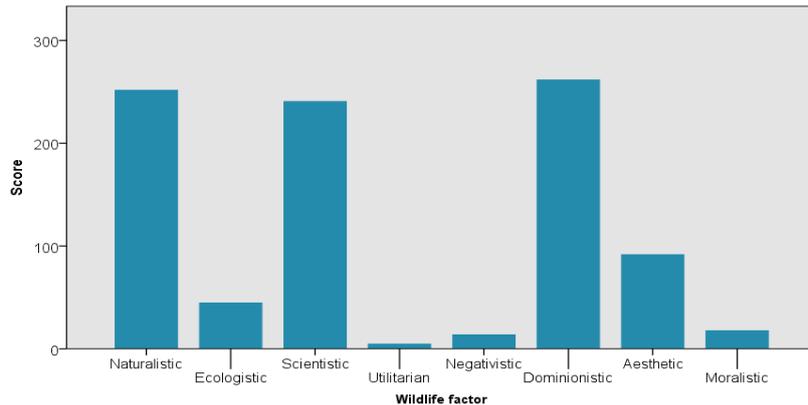


Figure 5: Wildlife interest factors

The three wildlife interest factors that are most common in the guest are, Dominionistic, Naturalistic and Scientistic. The meaning of these wildlife interest factors can be found in paragraph 2.2.1 characteristics of the guest.

### Question 14

N=134

F=4,65%

Question: "The wildlife species that I hope to see are..."

Multiple answers possible

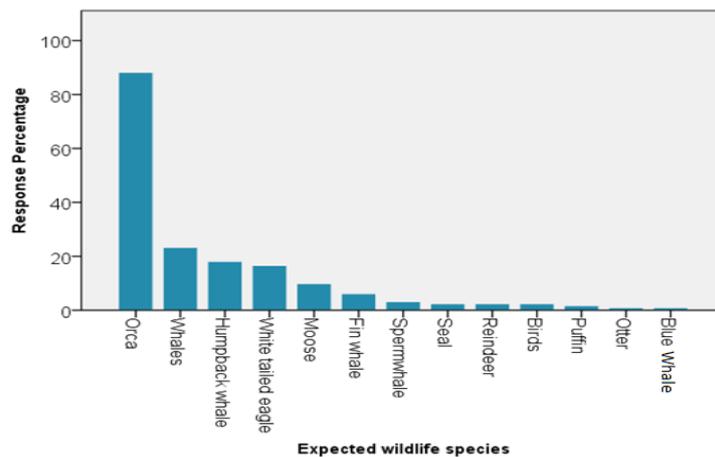


Figure 6: Expected animal species

Figure 6 shows that the largest group of people wants to see orca. Smaller groups of people would like to see other animal species.

**Question 15**

N=167

F=2,7%

Question: "I know these wildlife species live in the area because..."

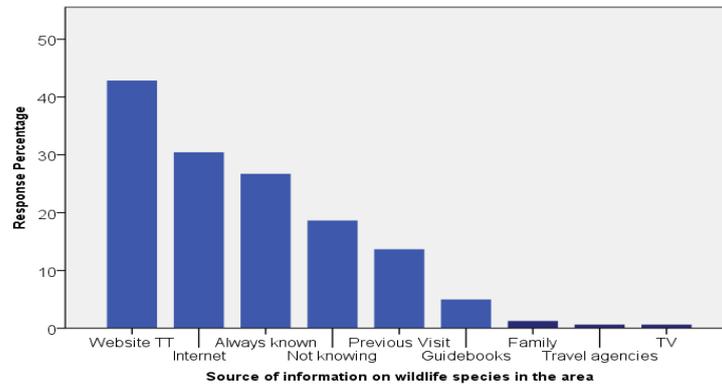


Figure 7: How people got to know about the wildlife species living in the area.

Figure 7 contains lighter and darker shaded bars. The light shaded bars represent multiple choice answers that were on the questionnaire, the dark shaded ones were written down by people that marked the option "other:".

Most of the guests were aware of the wildlife species that live in the area because they read about it on the website of the TT or on other internet sources.

Sources people wrote down when marking "other:" were family, travel agencies and television.

Table 2

	I Strongly agree	I agree	Undecided	I disagree	I strongly disagree	
<b>Q16. Seeing killer whales is the only thing that matters to me, I don't care about other parts of the tour.</b>	12,35%	19,75%	16,67%	38,27%	12,96%	N=162 F=3%
<b>Q17. Normally, during my holiday I never take part in any wildlife related activities.</b>	7,1%	14,3%	4,8%	41,1%	32,7%	N=168 F=2,6%

Table 2 shows that most of the people 51,23% state that seeing killer whales is not the only thing they care about during the tour and that other parts of the tours do matter. However, there are still people undecided or agreeing with the statement, the latter therefore agree other parts of the tour do not matter to them.

On question 17 most of the guests disagree with the statement 73,8% as can be seen in table 2, which means that they do often take part in nature related activities during their holiday. However, there were also many people that were undecided or agree with the statement which implicates that

the nature and killer whale safari does not only attract people that often participate in nature related activities.

**Question 20**

N=171

F=2,45%

Question: "What is your age?"

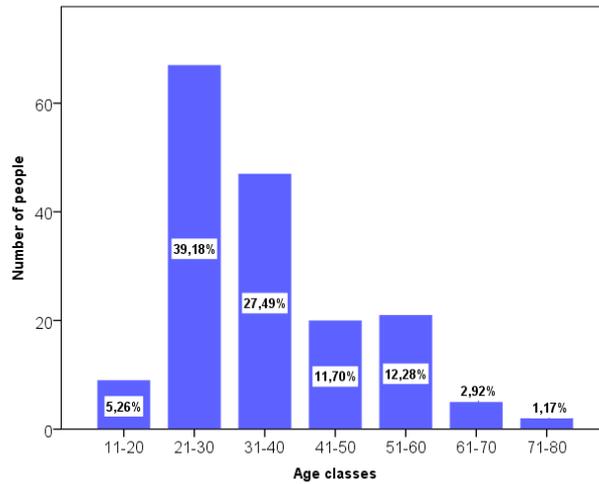


Figure 8 Distribution of age classes over the population

The average age of the guests was 36 years. Most guests were in the categories between the ages of 21 and 40. Figure 8 shows how the age groups are divided over the guests.

**Question 21**

N=174

F=2,2

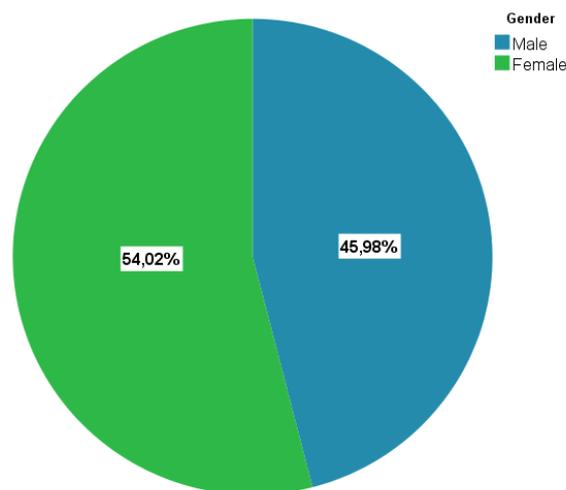


Figure 6 Gender ratio

Of the guests visiting the NKS in the season 2014/2015 45,98% was male and 54,02% was female.

## Question 22

N=173

F=2,3%

Question: "In which country do you live?"

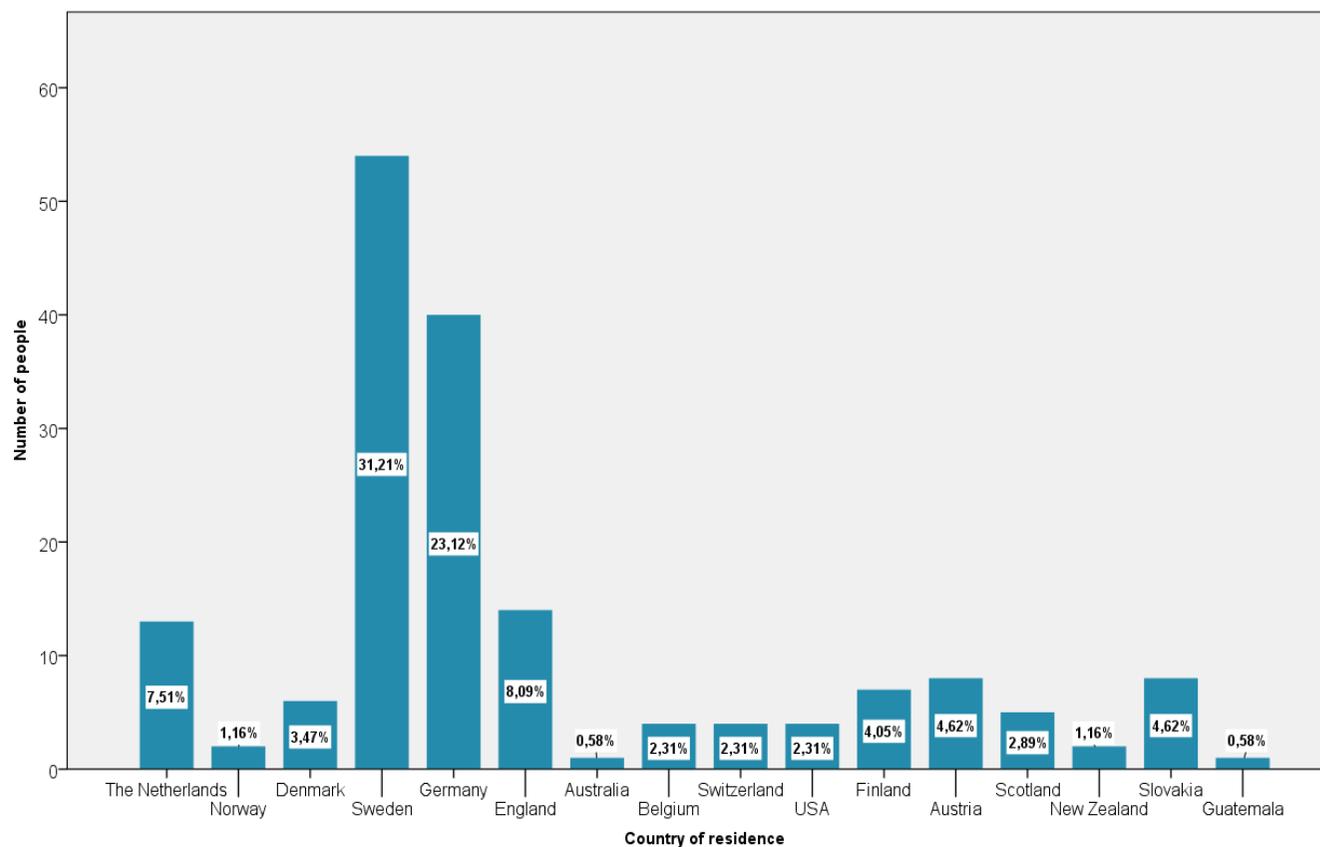


Figure 9 Quantities of the guests' countries of residence

Guests came from 16 different countries to the TT. Most of the guests came from Sweden (31,21%) and Germany (23,12%). The other countries are all mentioned in figure 9.

**Question 23**

N=148

F=3,85%

Question: "What is your profession?"

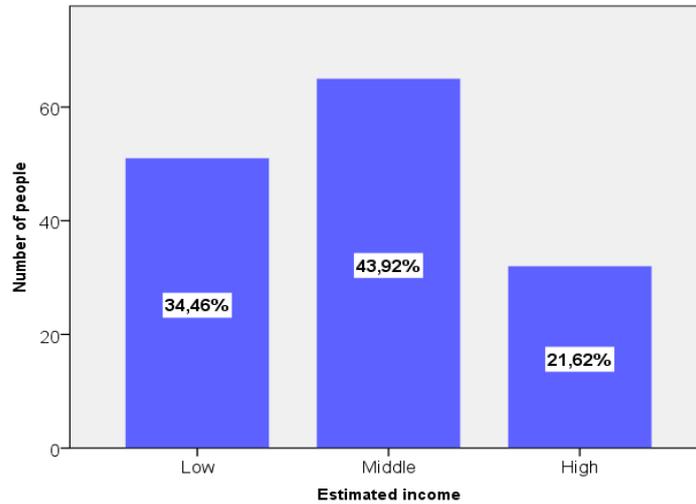


Figure 10 Estimated income

The income of the guests was estimated based on their profession and divided into three categories: high, middle and low. Figure 10 displays the results. All categories were present but most respondents had an estimated middle income.

**Question 24**

N=172

F=2,35%

Question: "I came to the nature- and killer whale safari with my..."

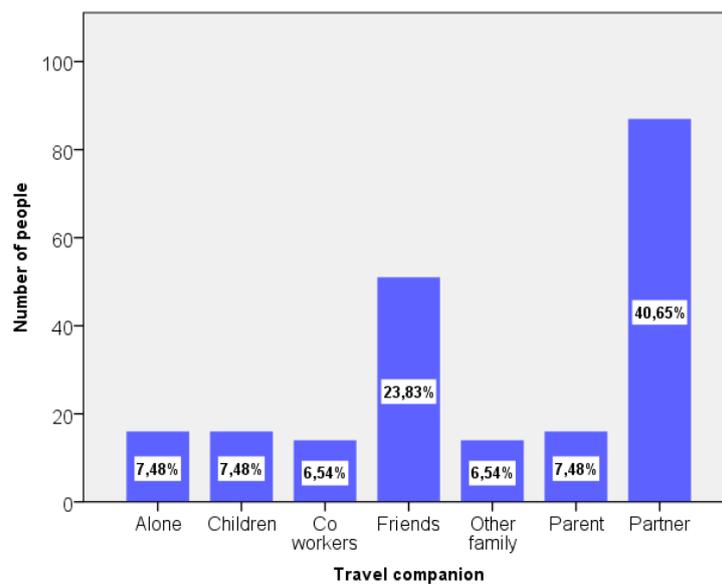


Figure 11 Travel companions

The guests came with different travel companions as is visible in figure 11. 7,48% of the guests came alone to participate in the NKS. Most of the guests came with their partner or friends. Of all the guests 62,15% came with relatives (partner, children, parents and/or other family).

### 5.1.2 Price

This sub paragraph shows the result of the question about the price of the NKS.

#### Question 33

N=169

F=2,59%

Statement: "The nature- and killer whale safari was really NOT worth my money."

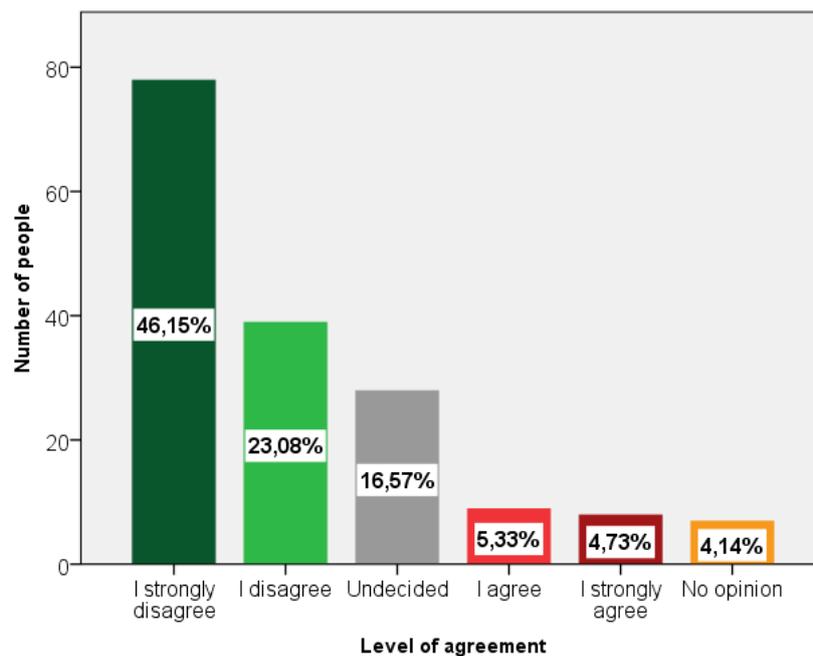


Figure 12: Money's worth tour

Figure 12 shows the majority of the respondents disagreed with the statement. 46,15% of people strongly disagree, meaning they thought the killer whale safari was worth their money. 4,73% of people strongly agree, and therefore think the nature and killer whale safari was not worth their money. 4,14% of the respondents had no opinion.

### 5.1.3 Product

In the questionnaires the guests were asked to answer questions or give their opinion about different aspects of the nature and killer whale safari. The following text gives an overview of the resulting answers to the questions about the appreciation of the product.

Table 3

	I Strongly agree	I agree	Undecided	I disagree	I strongly disagree	
<b>Q11. The orca lecture sounds like a very interesting addition to the tour to me.</b>	32,9%	55,48%	5,81%	4,52%	1,29%	N=155 F=3,4%
<b>Q25. I DID like the bus ride.</b>	14,37%	50,90%	12,57%	15,57%	6,59%	N=167 F=2,7%
<b>Q26. I felt very cold during the tour.</b>	7,60%	12,87%	8,19%	47,37%	23,98%	N=171 F=2,45%
<b>Q27. The boat safari was very comfortable.</b>	17,65%	50,59%	14,12%	11,76%	5,88%	N=170 F=2,5%
<b>Q28. I was bored during the boat safari.</b>	1,18%	2,94%	2,94%	29,41%	63,53%	N=170 F=2,5%
<b>Q29. I would have liked to receive more information about nature during the boat safari.</b>	1,76%	19,41%	18,82%	45,29%	14,71%	N=170 F=2,5%
<b>Q31. I am very happy about the wildlife sightings during the tour.</b>	44,38%	23,67%	5,33%	11,83%	14,79%	N=169 F=2,59%
<b>Q32. I did not see the animals as close as I had hoped.</b>	22,94%	15,88%	8,24%	20,00%	32,94%	N=170 F=2,5%
<b>Q35. I think the nature and killer whale safari is a great tour.</b>	50,00%	34,71%	12,94%	1,18%	1,18%	N=170 F=2,5%

Table 3 displays the percentages of the extent to which respondents agreed with every statement concerning the nature and killer whale safari as a product.

Most of the respondents agreed with the statement in question 11, stating they thought the orca lecture sounded like an interesting addition to the tour. 5,81% of the respondents disagreed with the statement.

A slight majority of people (50,1%) agreed they liked the bus ride, according to the answers given to question 25. 6,59% strongly disagrees with the statement, meaning they did not like the bus ride. The people that answered "I strongly agree", "I agree" or "I am undecided" were asked to answer question 25.2, the results of which can be found in figure 14, and the people that answered "I am undecided", "I disagree" or "I strongly disagree" were asked to answer question 25.3, the results for that question are displayed in figure 15.

Even though there were respondents that agreed with the statement in question 26, therefore stating they felt cold during the tour, the vast majority disagreed, meaning they did not feel cold during the tour. Some people were undecided about this statement.

As displayed in table 3, a majority of around 68% to some extent agreed that the boat safari was comfortable to them, most of them agreeing and a smaller part strongly agreeing. 14% was undecided. However, approximately 17% to some extent disagreed with the statement showing they thought the boat safari was not very comfortable.

The results of question 28 show there were not many guests that felt bored during the boat safari. The answers undecided, I agree and I strongly agree together add up to approximately 7% of the respondents. More than 90% of the respondents to some extent disagreed with this statement and approximately two third of them did so strongly. Meaning they did not feel bored at all.

The results of question 31 show most people were happy about the wildlife sightings during the tour. The cell representing the answer “I strongly agree” shows that answer was given by 44,38% indicating they were highly satisfied with the wildlife sightings. About 26% of the people were not happy with the wildlife sightings and 5,33% was undecided.

To question 32 most of the respondents answered they thought they had seen the wildlife close enough. However, there were also many that did not think so. Notable is that on both sides most people felt strongly about this factor.

The results of question 35 show that most respondents thought the nature and killer whale safari was a great tour, some people were undecided and a couple did not like it.

### Question 13

N=117

F=5,65

Open question: “My expectations of the tour are...”

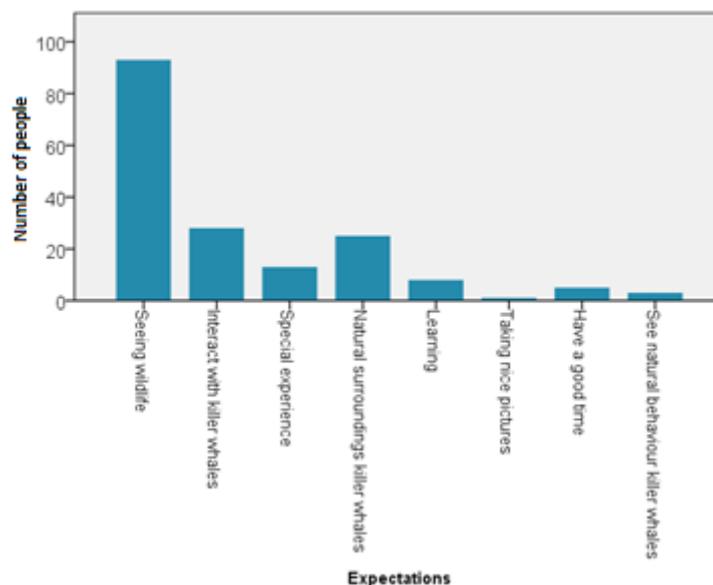


Figure 13: Expectations of the tour

The coded expectations of the tour that were most common were seeing wildlife, interacting with killer whales and seeing the natural surroundings of the killer whales. The other expectations and how they are distributed are in figure 13.

### Question 25.2

N=124

Statement: "The parts I liked about the bus ride were:"

Respondents could reply with multiple answers.

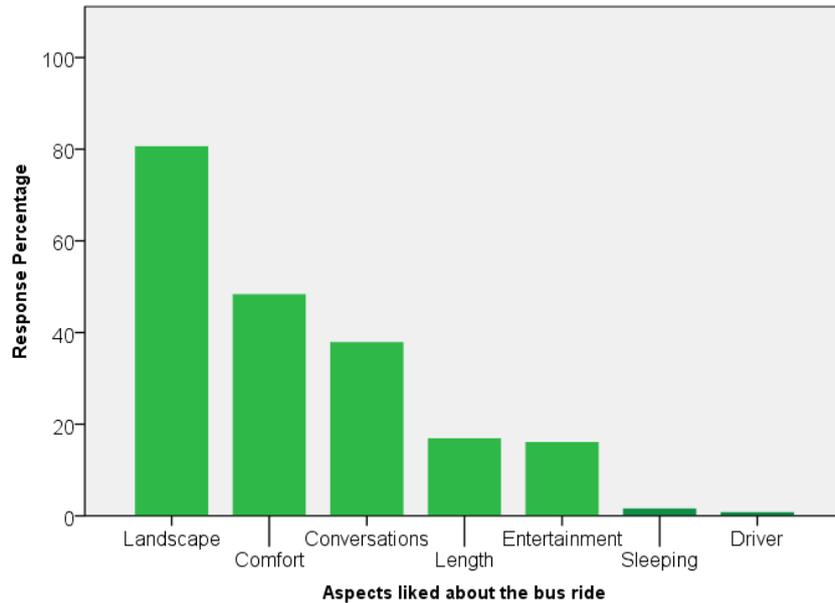


Figure 14: Aspects guests liked about the bus drive

Figure 14 shows both bars in light green and a darker shade of green. The light bars are options that were given on the questionnaire, the dark bars are aspects people wrote down when they marked the sixth option: "other:"

In the questionnaire five options were given. The graph shows that the factor of the bus drive that was appreciated by most of the guests that liked or were undecided about the bus drive, was the Norwegian landscape that was visible while on the road. Other factors that were appreciated by some guests were the comfort of the bus and the conversations they had with other guests. The length of the bus drive and the entertainment during the bus drive were chosen by a small amount of people.

Not many people marked the option "other". Those who did appreciate the possibility to sleep on the bus (2) and the capability of the driver (1).

### Question 25.3

N=49

Statement: "The parts I did NOT like about the bus ride were:"

Respondents could reply with multiple answers.

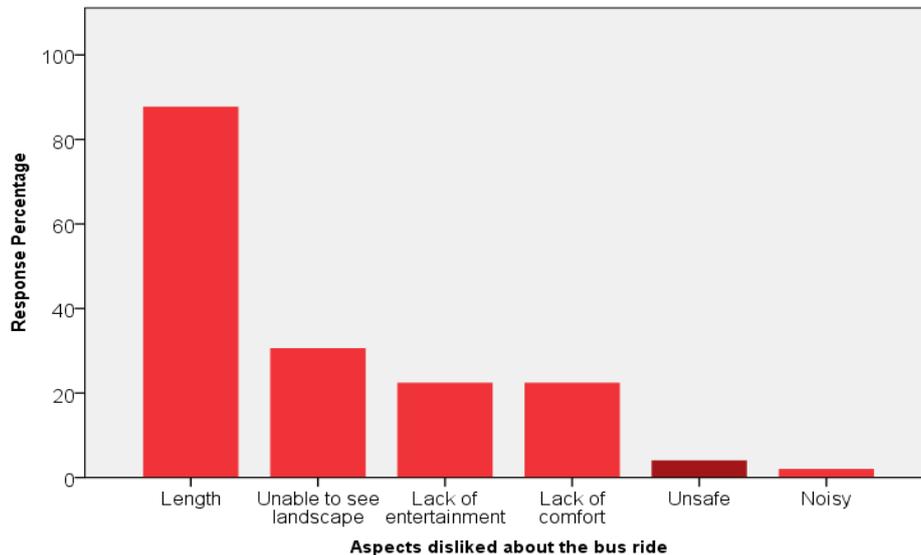


Figure 15: Aspects guests disliked about the bus drive

Figure 15 shows bars in a lighter and a darker shade of red. Again, the lighter shaded bars show the given options on the questionnaire, the dark bar aspects guests wrote down when marking the option "other".

The aspect that was disliked by most of the people that disliked or were undecided about the bus drive was the length. Being unable to see the Norwegian landscape, a lack of comfort and boredom were factors that were disliked by a reasonable amount of people. Not many people were bothered by noise made by other guests.

The only aspect that was written down at the option "other" was an unsafe feeling because of the driver. A couple of people (2) wrote down this aspect.

### Question 36

N=71

Open question: “Is there anything that you would like to see changed in the nature- and killer whale safari or is there a comment you would like to make? And if so, what is it?”

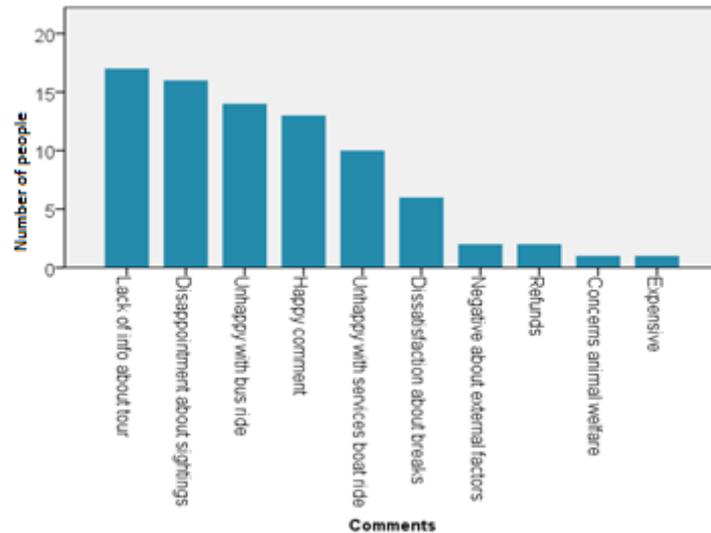


Figure 16: Comments

Question 36 was an open question and the last question of the second questionnaire. Guests were asked: “Is there anything that you would like to see changed in the nature- and killer whale safari or is there a comment you would like to make? And if so, what is it?” 71 respondents answered this question. As explained in chapter 4 these comments were coded. In figure 16 each code is displayed with a quantification of how often it was mentioned and an exemplar quotation.

#### 5.1.4 Promotion

Another subject the guests were asked to answer questions about was promotion. The results can be found in the following text. The table at the start shows the results of the responses given to the statements concerning promotion. In the rest of the paragraph the results for the rest of the questions are displayed in order of the question number on the questionnaire.

Table 4

	I Strongly agree	I agree	Undecided	I disagree	I strongly disagree	
<b>Q9. It was very hard to find all the information I wanted about the nature and killer whale safari.</b>	3,01%	10,24%	16,87%	51,20%	18,67%	N=166 F=2,75%
<b>Q34. I am going to recommend this tour to my friends and family.</b>	33,73%	47,34%	11,24%	5,33%	2,37%	N=169 F=2,59%

Most of the guest stated that it was easy to find all the information they wanted before the tour. However, some of the guests agreed with the statement and thought it was difficult to find the information they were looking for. More detailed results can be found in question 9 in table 4.

Question 34 in table 4 shows that a large majority of people will recommend the tour to friends and family. Only 7,7% said they to some extent disagreed with the statement.

**Question 2**

N=165

F=2,85

Question: “The first time I ever heard of the Tysfjord Turistsenter was via:...”

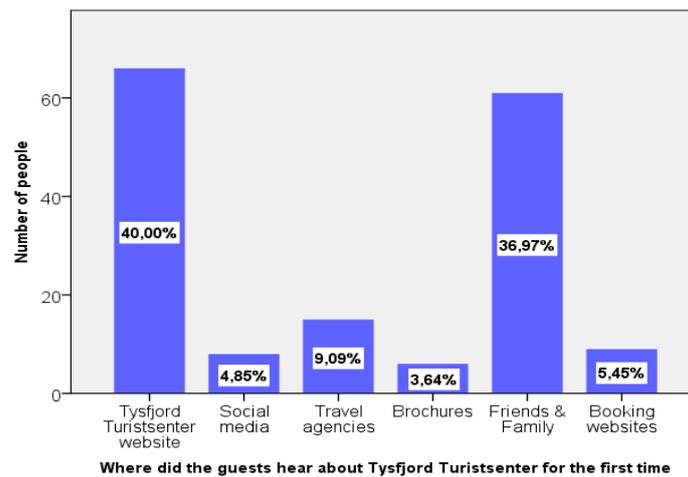


Figure 17: Source of first awareness of the existence of the TT

Figure 17 displays that when asked about how the guests heard of the TT for the first time the two answers that were given most were: “through the website of the Tysfjord Turistsenter” and “through friends and family”.

**Question 8**

N=167

F=2,7%

Question: “I usually get my ideas for holiday activities and accommodations via...”  
There were several answers possible.

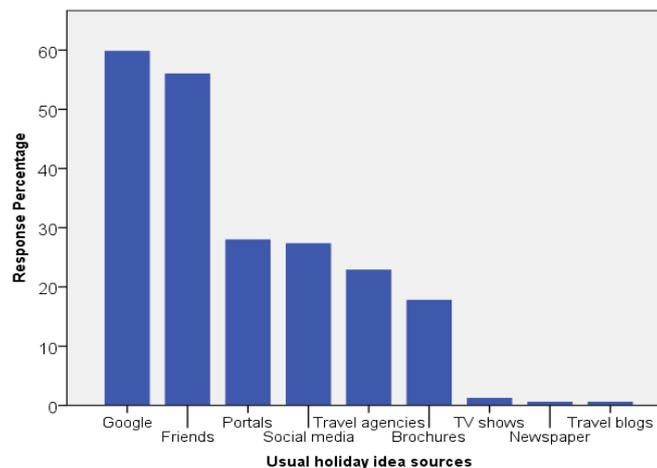


Figure 18: Common sources for holiday ideas.

Figure 18 shows that 54,01% of the guests usually uses the internet in some way to get ideas for their holiday activities and accommodation. From these internet categories google is chosen most. The second biggest category is not on the internet, 26,11%.of the respondents get their holiday ideas through friends & family.

### Question 18

N=159

F=3,2%

Question: “Did you consider other activities instead of this nature- and killer whale safari?”

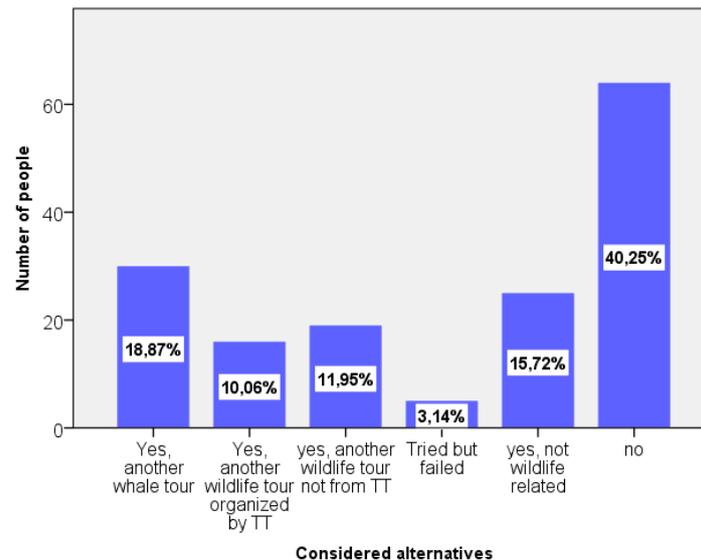


Figure 19: Percentages of guests that have or have not looked for alternatives to the NKS

As can be seen in figure 19, a little over 40% of the guests did not look for an alternative for the NKS. A little below 60% did of which a little over 3% said they tried to find an alternative but were not able to find one.

### 5.1.5 Personnel

Another important factor of the marketing strategy is the staff of a company. This sub paragraph shows all the results that were obtained in the questionnaires about the staff of the TT. Also the general satisfaction of the stay at TT is included in this chapter.

Table 5

	I Strongly agree	I agree	Undecided	I disagree	I strongly disagree	
<b>Q10. The contact I had with the Tysfjord Turistsenter before arrival was very pleasant.</b>	46,01%	40,49%	11,04%	2,45%	0,00%	N=163 F=2,95%
<b>Q19. I am very satisfied with my stay at the Tysfjord Turistsenter so far.</b>	20,51%	65,38%	10,90%	3,21%	0,00%	N=156 F=3,2%
<b>Q30. I had a great guide during the tour.</b>	31,58%	55,56%	8,77%	1,75%	2,34%	N=171 F=2,45%

The table above shows that on question 10 a majority of the guests (86,50%) agreed with the statement, most of them strongly so, meaning they thought the contact with the TT before arrival was pleasant. 2,45% disagreed and no one strongly disagreed.

On question 19 most of the respondents responded to the statement with the answer "I agree", as is displayed in table 5, stating they were satisfied with their stay at the TT. Just 3,21% was not satisfied.

People that responded A, B or C (I strongly agree, I agree or undecided) were asked to answer question 19.2. Respondents that answered C, D or E (undecided, I disagree or I strongly disagree) were asked to answer question 19.3.

## Question 19.2

N=138

Statement: "The parts I did like about my stay at the Tysfjord Turistsenter are:..."

Respondents could choose several answers.

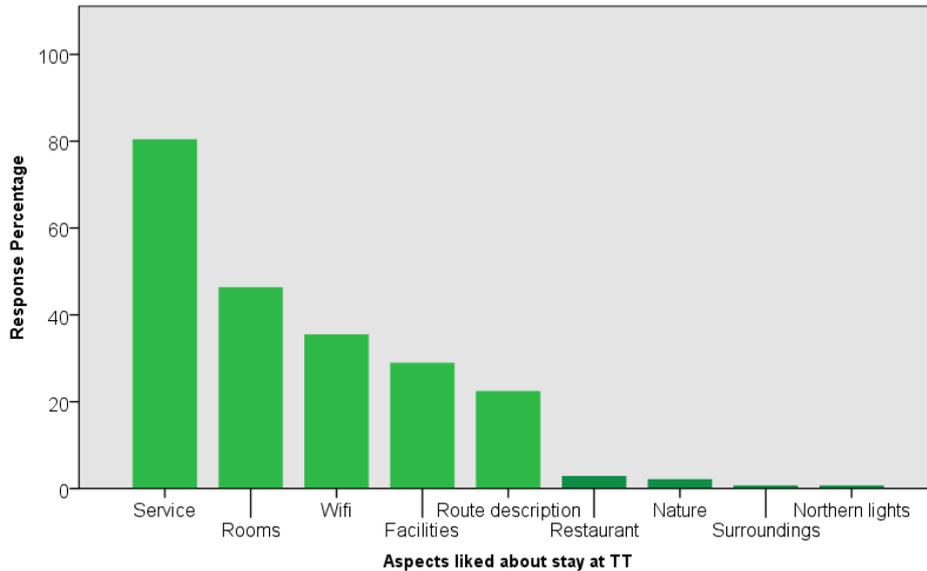


Figure 20: Appreciated aspects of the TT by people that enjoyed their stay.

Figure 20 displays the reasons why people appreciated their stay at the TT. The light bars represent answers that were on the questionnaire, the dark ones answers people wrote down at the option "other:".

The factor that was appreciated by most guests with 36,51% was the service. The route description was not a satisfying factor for most of the guests.

Answers that were given as alternative satisfying factors were the quality of the restaurant (4), the surrounding nature (3) and the Northern lights (1).

### Question 19.3

N=9

Statement: "The parts I did not like about my stay at the Tysfjord Turistsenter are:..."

Respondents could choose several answers.

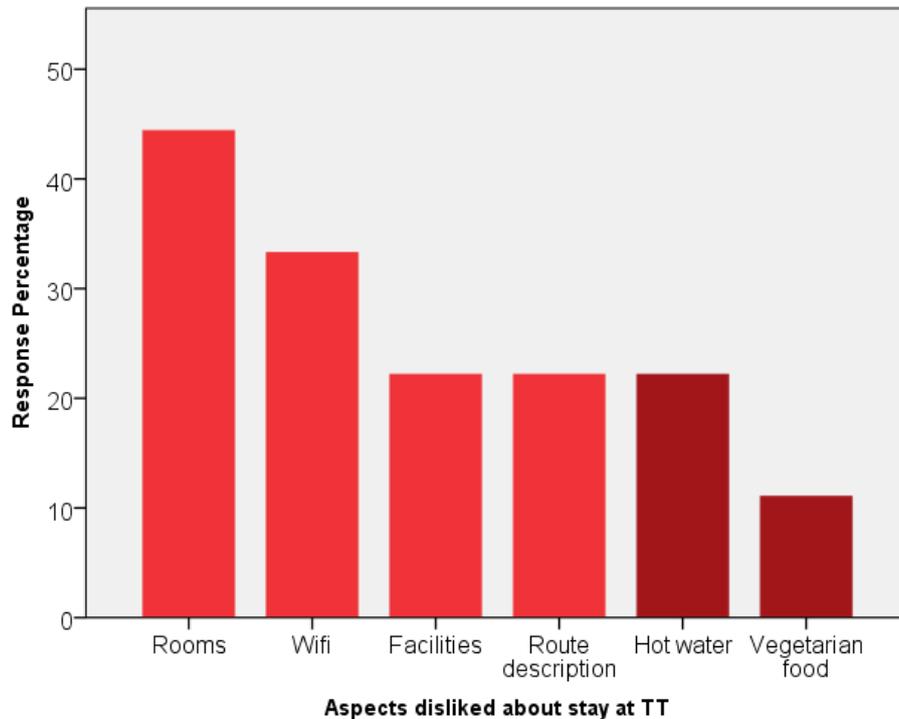


Figure 21 Aspects disliked about the TT by people that were not satisfied.

In figure 21 the factors of dissatisfaction for the people that were not satisfied about their stay at the TT are displayed. The light shaded red bars are the multiple choice answers that were on the questionnaire, the dark shaded ones were written down by people that marked the option "other:".

Table 5 shows that in question 30 12,91% from the people did not like the tour guide or were in doubt. The majority of the respondents 87,09% liked or really liked the tour guide.

Guests that answered A, B or C (I strongly agree, I agree or undecided) were asked to answer question 30.2. Guests that answered C, D or E (Undecided, I disagree or I strongly disagree) were asked to answer question 30.3.

### Question 30.2

N=156

Statement: "The parts I DID like about the tour guide were:..."

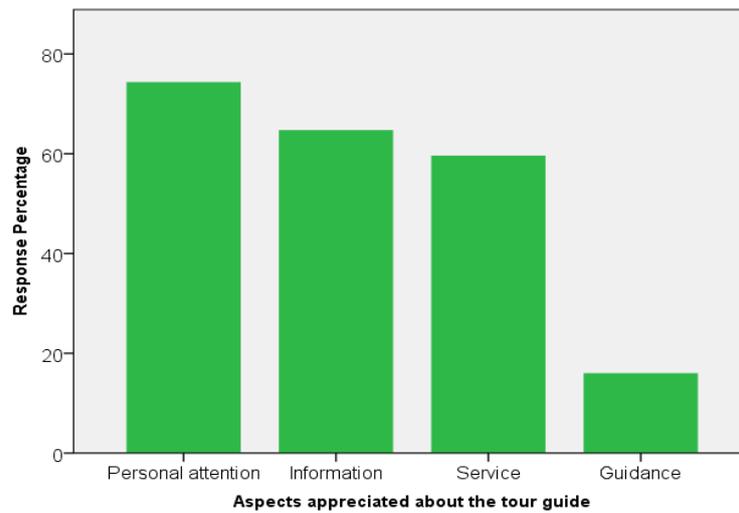


Figure 22: Reasons for liking tour guide

Figure 22 shows the personal attention, service and information given by the tour guide were important reasons for guests to like the tour guide. The guidance during snorkelling was also appreciated by some people. There were no people that marked the option "other".

### Question 30.3

N=7

Statement: "The parts I did NOT like about the tour guide were:..."

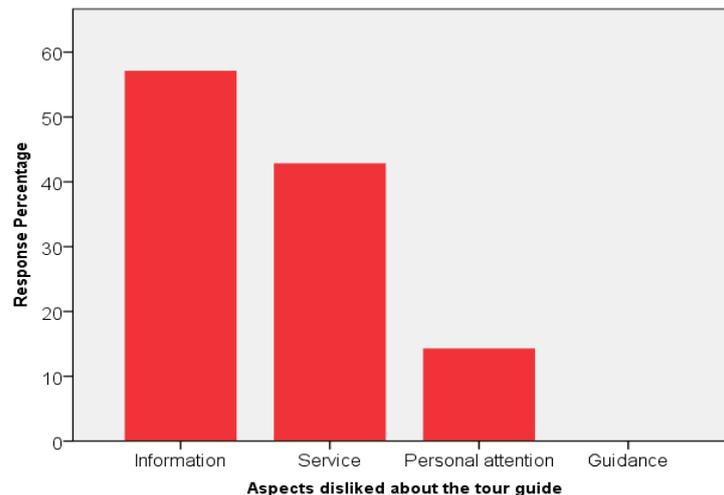


Figure 23: Reasons for disliking tour guide

Of the people that either disliked the tour guide or were undecided none thought the lack of guidance during snorkelling was attributing to that dissatisfaction. Also no-one ticked the box for the option "other". The factor that was thought to attribute to the dissatisfaction of most people was the information. The rest of the values can be found in figure 23.

### 5.1.6 Place

In this sub paragraph the results of the questions about the location of the TT are shown.

#### Question 1

N=169

F=2,59%

Statement: "I have been to the Tysfjord Turistsenter before."

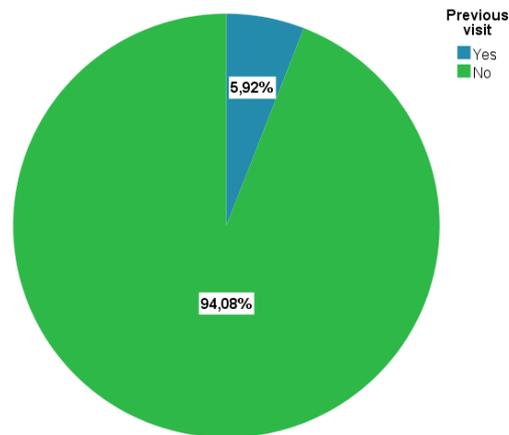


Figure 24: Has the respondent visited the TT before?

Of all the guests visiting the TT this season 94,08% had never been at the hotel before. Only 10 guests had been there before. Reasons for coming back were not seeing killer whales the last time (2), wanting to see the killer whales again (2) or wanting to share the experience with their family.(1)

#### Question 5

N=168

F=2,6%

Statement: "I came to the Tysfjord Turistsenter especially for the nature and killer whale safari."

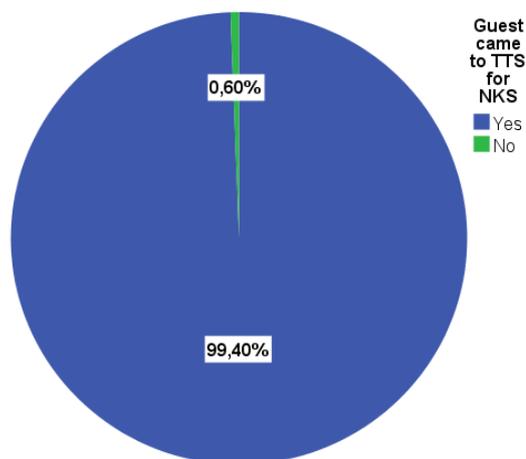


Figure 25: Percentage of guests coming to TT especially for the NKS

Almost all of the guests (99,4%) came to the TT especially for the NKS, one guest stated that he/she was going to the TT anyway.

Table 6

	I Strongly agree	I agree	Undecided	I disagree	I strongly disagree	
<b>Q4. The nature and killer whale safari was my main reason to come to Norway.</b>	54,91%	26,59%	2,89%	5,2%	10,4%	N=173 F=2,3%
<b>Q6. It was very hard to reach to reach the Tysfjord Turistsenter.</b>	6,67%	16,36	10,91	46,67	19,39	N=165 F=2,85%
<b>Q7. It was very easy to combine my stay at the Tysfjord Turistsenter with other activities and accommodation in the area.</b>	11,52%	32,73%	43,03%	12,73%	0%	N=165 F=2,85%

The table above shows the level of agreement of the guests with the statements about the place. In question 4 the biggest part of the respondents (81,50%) stated that the NKS was their main reason to come to Norway (agree or strongly agree)

On question number 6 if it was hard to reach the TT 66,06% of the guests disagreed with the statement and 33,94% agreed or was hesitant.

An interesting feature in question 7 is the large amount of respondents that are undecided whether or not they agreed with this statement. Of the people that did have an opinion, most agreed with the statement.

## 5.2 Observations

During the winter season of 2014-2015 a total of 30 tours were carried out by the TT in Andenes. During these tours the researchers made observations about several aspects, the results of these observations are displayed below.

### Killer whales

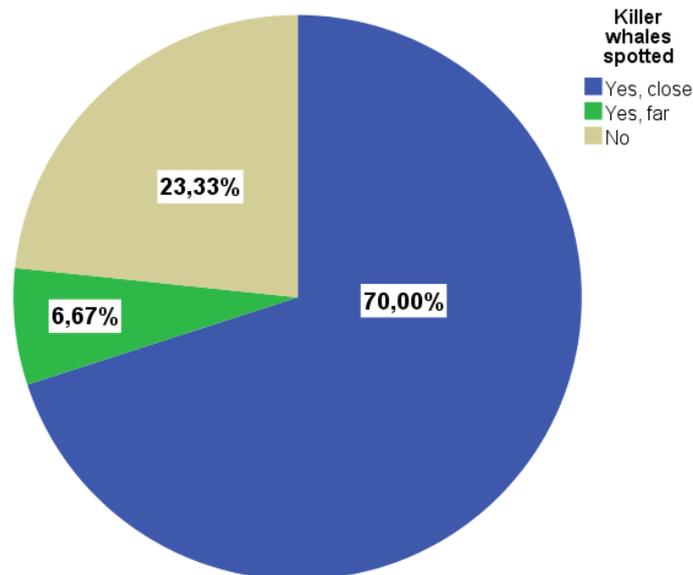


Figure 26: Amount of tours in which killer whales were spotted

During the tour the observant rated if and how close the killer whales were seen during the tour. The graph above shows that on 76.67% of these tours killer whales were seen. In 70% of them the killer whales were spotted within 20 meters from the boat. Further details can be found in figure 26.

### Other animal sightings

Table 7

Species	Yes close	Yes far	no
Other cetaceans	56,67%	3,33%	40%
Moose	16,67%	3,33%	80%
Reindeer	10%	6,67%	83,33%

Table 7 shows that on 60% of the tours cetaceans other than killer whales were seen (humpback whales and / or fin whales).

In the winter season of 2014-2015 there were two days in which no killer whales were spotted, but in which the guests did see fin whales and/ or humpback whales close by. Since there were 30 tours in total this means the success rate of seeing whales was 83,33% during the season. (76,67 % killer whale spotting success,  $(30 / 100) * 2 = 6,66$ .  $(76,67 + 6,66 = 83,33)$ )

Also table 7 displays on how many of the trips to Andenes the guests saw moose during the bus ride. On 20% of the tours the guests actually encountered at least one moose during the trip.

Another species that is sometimes spotted during the bus ride is the reindeer, on 16,67% of the tours reindeer were seen during the trip.

The numbers of bird species that were pointed out during the tour turned out to be constant. Therefore this variable cannot be taken into account in the data analysis.

**Vibe of the tour**

N=28

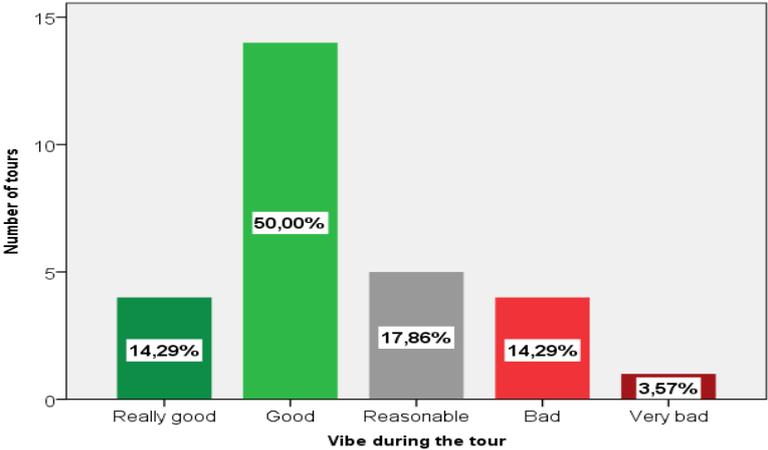


Figure 27: Percentages of estimated tour vibes

Figure 27 is shows the results from the observations on the vibe during the tour. On most of the tours the vibe seemed to be positive, this was the case in 64,29% of all the tours. On the other 35,71% of the tours the vibe was reasonable to very bad. Due to chaotic circumstances the vibe was not observed during the tour twice, therefore it is the only observation with a different N value.

**Weather**

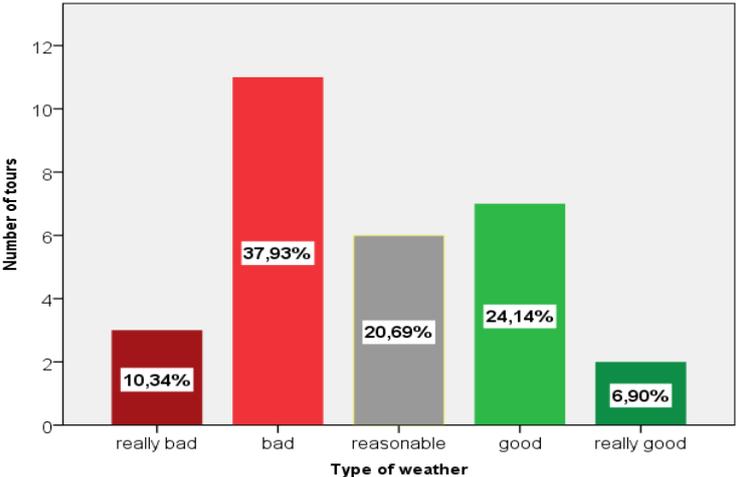


Figure 28 Weather

On 48,27% of the tours, the guests got to experience the rough side of the arctic with the typical cold harsh weather as can be seen in figure 28. Whilst 51,73% of the tours experienced calm (but still cold) weather. Even though during some tours the weather was extreme, the less extreme weather circumstances were way more common.

## Snorkelling possible

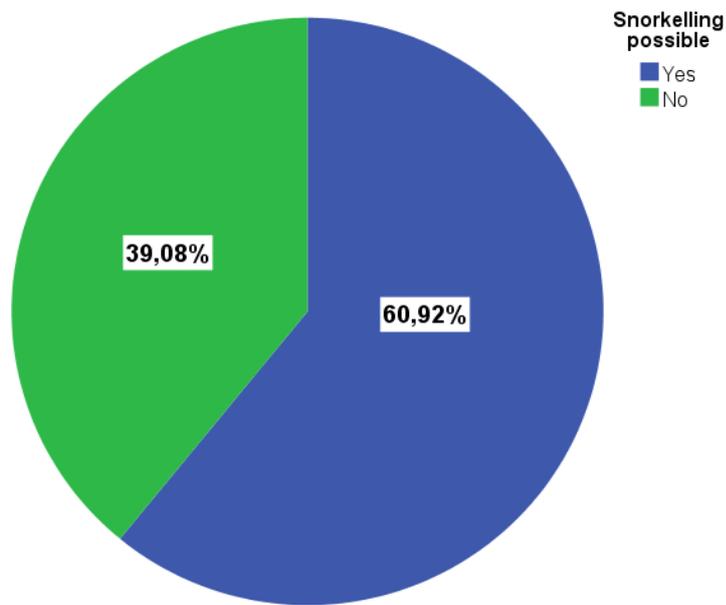


Figure 29: Percentages on the possibility for snorkelling during the tours

On almost 61% of the tours it was possible for the guests to snorkel. In the other 39% either bad weather or a lack of interested whales prevented people from going into the water.

### 5.3 Interviews

During the research 18 interviews were held with guests when they were on the bus back from Andenes to Tysfjord. These interviews were analysed and the results are presented below.

#### **General opinion**

In the interviews the guests were asked questions about several subjects. The first subject they were interviewed about was their general opinion. As can be seen in figure 30 the subject that came back was if the guests spotted whales during their tour. When no whales were found on the sea or in the fjord people mostly spoke about how disappointed they were about the tour (3). But when they did see whales they spoke mostly about what they saw and how great it was to see the whales. No matter if whales were seen, people were speaking about why they “deserved” to see killer whales during their trip (9).

Another point that was mentioned regularly was the length of the bus ride. In the interviews some people mentioned they thought it was too long, and even said next time they would like to stay in Andenes instead of at the TT.

After speaking about the general opinion of the tour the interviewed guests were asked if they could name possible improvements for the tour. As mentioned before, some people spoke about shortening the length of the bus ride (5). Some people (2) also mentioned that they were completely surprised by the distance they had to travel and that they were not aware that there are no killer whales in the Tysfjord. They would have liked to be notified in advance. Other people (2) spoke about getting a refund or a discount on a next tour when no whales were found. This remark was not just made by people who did not see whales, there was also a person who did see whales and mentioned he thought it would be fair if there would be some compensation if they had not seen any whales. Furthermore 2 people mentioned they would have liked the opportunity to buy photographs that were made during the tour or have the ability to share them on social media.

About the safari itself people mentioned they would have liked to get more information from the staff during the boat safari. Also people said they did not like the lunch that was served before heading back to Tysfjord.

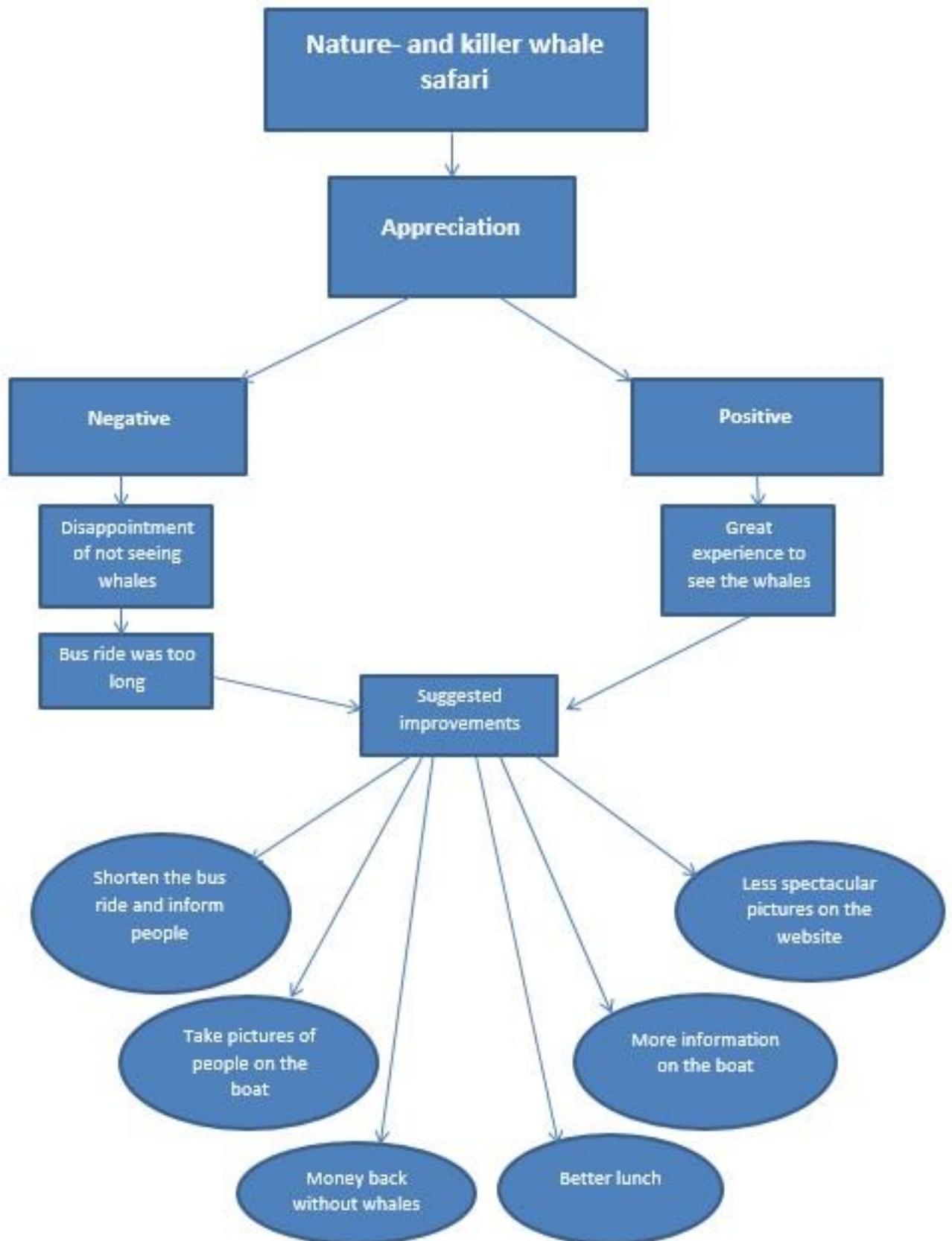


Figure 30: General opinion in interviews

## Staff

All the guests that were interviewed about the staff (4) were positive. They were all really happy with the service that was offered to them. Both before and during the tour. They appreciated the personal contact before they came to Norway, and were happy with the assistance and information that they had received. Also during their stay they appreciated the personal contact and the friendliness of the staff especially the extra information for example about the history of the dishes at breakfast was appreciated.

Of the tour itself the lecture was appreciated, they liked the selection of the information and were happy with the (short) length of the lecture. Also the friendliness of the guide and the informal contact was greatly appreciated.

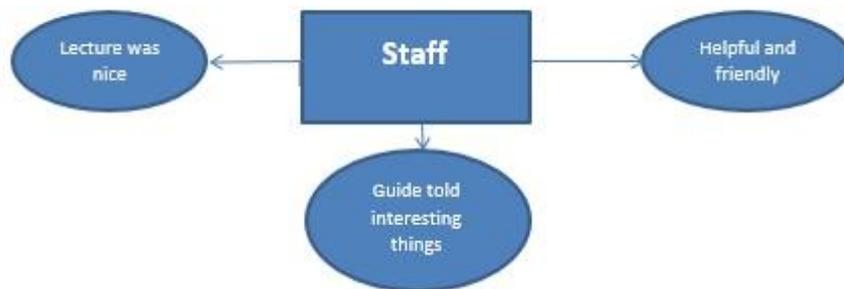


Figure 31: opinion about staff in interviews

## Motivation

Ten guests were also interviewed about how big their motivation was to see killer whales. It became clear that all of the people that were interviewed came to Norway especially to do this safari. Some people(3) said that seeing killer whales was their live-long dream and other people said they thought seeing killer whales was something anyone, nature lover or not, would be happy to experience.

Also a lot of guests started to tell what they had to do to see killer whales. Next to long and complicated flight schedules they also told how much money they had spent getting to Tysfjord and what they had to do to arrange their time off (leaving baby for the first time(1)), take a lot of days off from work(3) etc. Also some people told about previous trips they had made to see killer whales and explained why this time they really “had to see” killer whales.

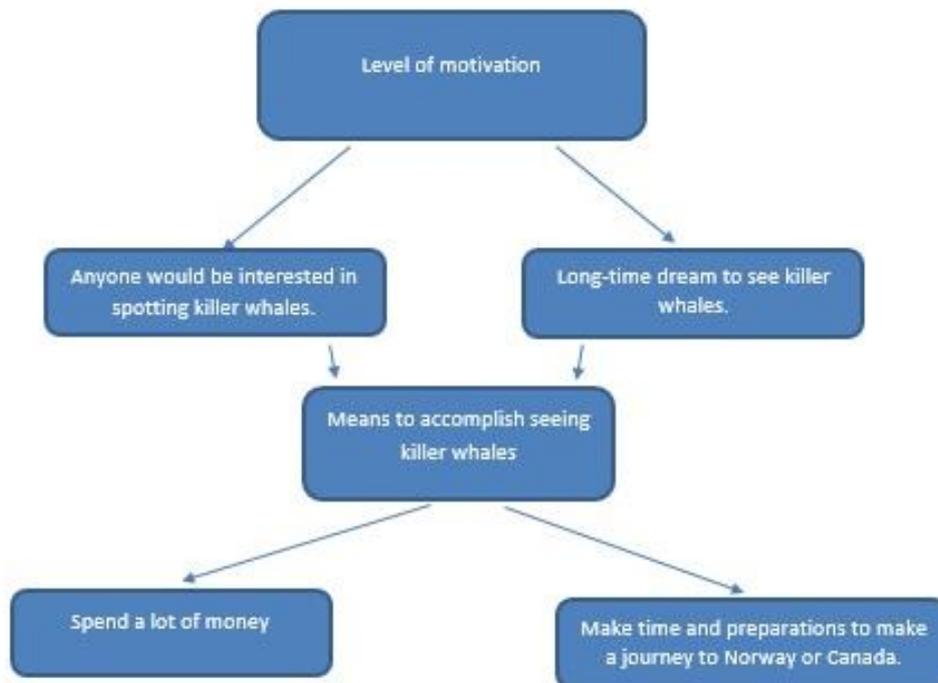


Figure 32: Motivation for the NKS in interviews

## 5.4 Interview with manager

In order to answer the research question “What preconditions does the improvement of the "NKS" have to meet?” the manager of the TT, Mr Cikas, was interviewed. The following text gives a summary of the results from this interview. The questions and answers can be found in appendix V.

Mr. Cikas explained the amount of guests this season was what he expected, but he does hope the amount will increase with approximately 40% next year. At this moment the TT focusses on promotion through social media and through an article in a catalogue about tourism in Norway. However, the TT has no specific promotional budget and it does not promote through advertisement. The manager explained what the TT knows about their target group. It consists mostly of people under 65 years old and of people that are more into being outdoors and doing extreme sports as opposed to people that like an easy type of holiday. Later this year, before the next winter season, the TT will attend different events in order to promote the NKS, to extend its network and to gain information.

At this moment there is a limit to the amount of guests that can participate during the season, since there is a limited amount of seats on the bus and on the safari boat. However, if the amount of guests will increase Mr Cikas has the ambition to buy a boathouse and boat for the TT. This would also make the TT less dependent on Lofoten Opplevelser, the company TT works with that owns the boats, the dry suits, inflatable suits and that executed the boat safari this season. There are some aspects of the tour, both substantive and logistic, that Mr Cikas would be willing to change. However, Lofoten Opplevelser is not, or probably not, willing to change some of these aspects. Which makes it, at least for the moment, not possible for the TT to change them. For example the manager of TT thinks it would be reasonable to offer (partial) refunds when no killer whales were spotted during the tour, or when someone booked a tour with snorkelling, but not able to snorkel. However, Lofoten Opplevelser does not want to give refunds, which makes it financially impossible for the TT to give these refunds at the moment. As for the starting location of the boat safari, the manager of TT thinks it would be better to start from a location closer to the hotel, near the same fjord. However, he gave the responsibility for finding a docking place and dressing room to Lofoten Opplevelser, they found the basement in Andenes. The dressing room is also used as the lunch room. Mr. Cikas states he would be willing to change the lunchroom and the lunch, but he feels he is dependent on the choices of Lofoten Opplevelser.

The website of the TT does not mention that January is the high point of the season. This is not on purpose, but has to do with the unpredictability of nature. But the TT does feel they cannot put information like that on the website because they are not sure if it will be the case the next season as well, also it is better if the amount of tourists spreads over the season. However, when people ask about it through email they are willing to provide them with advice. Information TT does not clearly mention on the website on purpose is the fact the tour does not start in Tysfjord but in Andenes. They do this to prevent people from confusing the TT with other operators in Andenes and to choose said operators over the TT. The German part of the website is not yet up to date. Mr. Cikas has changed the English and Norwegian pages. But he still needs to find someone to translate the German page of the website.

## 5.5 Data analysis

After collecting the quantitative data the dataset was analysed using different statistical tests. The steps that had to be taken in the statistical analysis were described in paragraph 4.4.6 and are explained in more detail in Appendix IV. The results from those tests can be found in the following paragraphs.

### 5.5.1 Factor analysis

The execution of the factor analysis, described in paragraph 4.4.6, resulted in two major components that together explained 42% of the variance in the dataset. This means that by creating Component 1 and component 2 the variation in all the variables is for 42% explained. The variables in these components are correlated.

Component 1 consists of the variables:

- ❖ Opinion about the price.
- ❖ General opinion of the tour.
- ❖ Satisfaction distance between the boat and the animals.
- ❖ Satisfaction with the spotted wildlife.
- ❖ Would the guests recommend the tour.

This component consists of variables that have to do with the opinion guests had about the main part of the product: the tour. Component 1 explains 28,218% of the data's variance.

Component 2 consists of the variables:

- ❖ Satisfaction with the information found on the TT website
- ❖ Possibility to combine stay TT with other activities/accommodations
- ❖ How easy was finding the TT
- ❖ Satisfaction with the bus ride

These variables all have to do with the preparations the guests made for coming to the TT and how satisfied they were about their travelling experiences both prior to and during the tour. This component explains 12,13% of the variance.

These two components were then used in the next test, General Linear Mixed Models.

### 5.5.2 General Linear Mixed Models

After preparing the data, running variables through LMM, calculating their Akaike weights and finally calculating the variables' lower and upper bounds, like explained in paragraph 4.4.6 and as is depicted in Appendix IV, the variables that had a significant impact on the variance in component 1 and component 2 were found. In the following paragraphs the variables that had a significant impact are displayed and the nature of that impact is explained.

As was explained in paragraph 4.4.6, the test was performed with two datasets. In one of them (unadjusted) the sample size is smaller because of some missing values, in the second (adjusted) the missing values were added to the answer that was given most in the variable they belonged to making the sample size bigger. The results from the statistical tests and analysis of both datasets are displayed separately.

<b>Component 1 unadjusted</b>	<b>LB</b>	<b>UB</b>
Killer whale sightings	1,013038	1,783142
<b>Component 1 adapted</b>		
Killer whale sightings	1,112652	1,821482
Friends	0,009787	0,031838
Co-workers	-0,09551	-0,02936
<b>Component 2 unadjusted</b>		
Main reason 1	-1,348	-0,223
Participating nature 1	-2,218	-0,522
Participating nature 2	-1,854	-0,304
Participating nature 3	-2,808	-0,223
Participating nature 4	-2,045	-0,394
Friends	0,128	0,996
Moose	0,065	1,162
Considering alternatives 0	0,247	2,356
Considering alternatives 2	0,076	1,235
<b>Component 2 adapted</b>		
Main reason 1	-1,31731	-0,3159
Main reason 4	-0,81235	-0,06632
Participating nature 1	-2,17111	-0,92653
Participating nature 2	-1,78195	-0,56354
Participating nature 3	-2,08669	-0,51847
Participating nature 4	-1,94786	-0,62385
Friends	0,030271	0,816263
Considering alternatives 0	0,335782	2,377488
Considering alternatives 2	0,174486	1,26434

The numbers from the table above are a measurement in a standard deviation. In a standard deviation the average is zero, the higher the number the more positive the influence of the variable and the lower the number the more negative the influence of the variables on the component. As was explained in 4.4.6.4, when 0 lies between the lower and upper bound the variable is not relevant. Since 0 is the mean, and when people that fell within a certain variable had the average satisfaction that variable did not have a relevant influence over the satisfaction. So in the list above only the variables that had a relevant influence are displayed.

#### **Component 1: unadjusted dataset**

Respondents that saw killer whales during the tour were more positive about component 1 than respondents that did not see killer whales during the tour.

#### **Component 1: adapted dataset**

Respondents were more positive about component 1 when:

- ❖ they saw killer whales during the tour.
- ❖ they participated in the NKS with their friends.

Respondents were more negative about component 1 when:

- ❖ they participated in the NKS with their co-workers.

### **Component 2: unadjusted dataset**

Respondents were more positive about component 2 when:

- ❖ they participated in the NKS with friends.
- ❖ moose were spotted during the bus ride.
- ❖ they had not considered any alternatives to the NKS.
- ❖ the only alternative tours they had considered were other activities organised by the TT.

Respondents were more negative about component 2 when:

- ❖ the NKS was definitely not their main reason to come to Norway.
- ❖ they did participate in nature related activities more often.

### **Component 2: adapted dataset**

Respondents were more positive about component 2 when:

- ❖ they participated in the NKS with friends.
- ❖ they had not considered any alternatives to the NKS.
- ❖ the only alternative tours they had considered were other activities organised by the TT.

Respondents were more negative about component 2 when:

- ❖ the NKS was definitely not their main reason to come to Norway.
- ❖ they agreed on the questionnaire that the NKS was their main reason to come to Norway.
- ❖ they did participate in nature related activities more often.

## 5.6 SWOT analysis

In the following paragraphs of this chapter the resulting data that were described in the previous paragraphs will be analysed by the means of a SWOT-analysis that concludes in a confrontation matrix. In the SWOT analysis the strengths (S), weaknesses (W), opportunities (O) and threats (T) of an organisation are determined. In this case the analysis focussed on the marketing of the nature and killer whale safari, so not on the company as a whole. The SWOT analysis can be divided into two parts: the internal analysis and the external analysis. The internal analysis focusses on the strengths and weaknesses, these are positive and negative traits that the organisation has a direct influence on. The external analysis concentrates on the opportunities and threats which are environmental factors the organisation cannot influence, but which can either help or harm the organisation. (Verhage, 2007)

Based on the data that resulted from the research project, the researchers pinpointed the strengths and weaknesses as perceived by the respondents as well as possible opportunities and threats. They are displayed in table 8. In the following paragraphs these will be explained.

Table 8: SWOT analysis

<b>Strengths</b>	<b>Weaknesses</b>
-Personnel -Website -Activity on portals	-Distance between TT and Andenes -Price -German part of website not up to date -Usage of social media
<b>Opportunities</b>	<b>Threats</b>
-Social media -Other harbours, closer than Andenes, available	-Changing herring migration -Guests' satisfaction depends on spotting killer whales -Competition in the direct area

### Strengths

**Personnel:** The big majority of the guests indicated that they were happy with the tour guide and with the service provided by the staff of the TT during and before their stay.

**Website:** Most of the respondents first heard of the TT through their website. Google was the medium through which most of the respondents get their holiday ideas. The website is easily found and most people thought it gave enough information.

**Activity on portals (e.g. Zoover):** Since a considerable amount of respondents stated that they usually use portal websites as a source of holiday ideas it is a good thing that the TT is already active on those websites. Also in answering reviews.

**Good product:** In general, if killer whales were spotted, the guests were satisfied with the tour.

### Weaknesses

**Distance between TT and Andenes:** A part of the people complained that the hotel was too far away from Andenes, where the tour boat left. This was a remark most often made during the interviews, when people were asked what they thought about the tour. Some people also stated that now they know where the whales are they would stay in Andenes during a possible next visit and not in the TT again. The distance from the hotel to Andenes seems like a bigger problem than the distance between the guests' house and the TT.

**Price:** In the questionnaire 69% of the respondents stated they thought the tour was worth their money. Even though this is the majority, there is still one out of four guests (5% had no opinion) that are doubtful or dissatisfied about the price-quality ratio. Since it has been proven that seeing killer whales was of influence on the component in which the satisfaction about the price-quality ratio was a share, it is safe to say that people are less satisfied with the price-quality ratio when no killer whales have been spotted. In the interviews respondents made clear that in the case of not seeing killer whales they thought it would be reasonable to get a (partial) refund. At this moment however, the TT does not give refunds.

**German part of the website is not up to date:** While putting the data of the questionnaires in SPSS the researchers noticed that there was a pattern of German visitors that had remarks about the website not being clear enough on what to wear on the tour or other informative aspects. These remarks were made outside of the interviews, so they unfortunately cannot be found in the data. But the pattern made the researchers curious so they looked at the German part of the TT website. They noticed the German website was not as up to date as the English and Norwegian part. Mr Cikas confirmed this was true in the interview. Most people were satisfied about the distribution of information on the website and many people found the TT by landing on its internet page. Germany is the country of residence of 23,12% of the guests that visited TT last winter season.

**Usage of social media:** One of the main sources for holiday ideas among the respondents was friends and family. Through social media guests can make a lot of friends aware of their holiday at the TT. Even though the TT has a Facebook page on which it places posts with pictures of wildlife regularly, the page could be used more effectively. At this moment the TT does not actively make guests aware of their Facebook page.

### **Opportunities**

**Social media:** Since many respondents get holiday ideas from friends and family, social media can be a great promotion tool in which many people can be reached through digital word of mouth. Of the guests of the current season more than 80% state that they would recommend the tour to their friends and family.

**Other harbours, nearer than Andenes, available:** In the interview with Mr Cikas he put forward that there are other harbours that are closer to TT that lay on the same fjord as Andenes.

### **Threats**

**Changing herring migration:** Like explained in chapter 2, the herring migration influences the location of most of the killer whales in the winter season. The TT adapted fairly quickly when the herring suddenly were not so numerous anymore in the Tysfjord. The herring migration is changing when environmental or biological factors change and chances are the herring, and therefore the killer whales, will be in a different spot in about ten years.

**Guests' satisfaction mainly depends on whether killer whales were spotted or not:** The spotting of killer whales was, not really a big surprise, the main influence on the guests satisfaction about the tour in general. This is difficult for the TT since they cannot control whether whales show up or not. When this is combined with the high expectations people have of the tour and the effort they have put in to realize this dream of seeing killer whales, it is almost inevitable that some guests will be disappointed. But in cases where the experience cannot be influenced, the expectations often can be managed.

**Competition in the direct area:** As explained in chapter 2, it is important to keep an eye on the competition because their presence probably influences the market share of the product. This does

not have to be a problem. But it is something to keep in mind. Especially since approximately 30% of the respondents has considered participating in a whale or wildlife related activity of another operator than TT, instead of participating in the NKS.

## 5.7 Confrontation matrix

In the confrontation matrix all the aspects of the SWOT analysis are put in a matrix. The matrix can be found in figure 33. In the confrontation matrix very threatening situations are denoted with two minus signs (--), a threatening situation with one minus sign (-), a neutral situation with a zero (0), a promising situation with a plus sign (+) and a very promising situation with two plus signs (++).

Concrete ways in which these threats can be (partially) eliminated and in which the opportunities can be seized will be described in chapter 8.

		Opportunities		Threats		
		1	2	1	2	3
		1. Social media and website 2. Other harbours, nearer than Andenes, available		1. Changing herring migration 2. Guest satisfaction depends on spotting killer whales or not. 3. Competition in direct area.		
Strengths	1. Personnel	0	0	0	0	0
	2. Website	++	0	0	0	+
	3. Activity on portals	0	0	0	+	+
	4. Good product	++	++	-	--	+
Weaknesses	1. Distance between TT and Andenes.	-	++	0	--	--
	2. Price	0	0	0	--	--
	3. German part website not up to date.	-	0	0	0	0
	4. Usage of social media.	++	0	0	0	+

Figure 33: Confrontation matrix

### Opportunities vs. Strengths

The usage of google and social media by many of the respondents confirm that the website of the TT is a valuable and promising medium in its marketing strategy for the NKS.

### Opportunities vs. Weaknesses

During the research project it became very clear that the distance from the TT to Andenes is a point of dissatisfaction for many of the guests. Promising is the information that there are harbours closer to the TT that could function as a starting point for the tour.

Since there are already two other operators in Andenes, TT's carefulness about putting on the website that the tour starts in Andenes is very smart. However, TT should also realise that word of

mouth is powerful and people that have participated in the tour might advise their friends and family to go straight to Andenes if they want to participate in a whale tour.

The large amount of respondents that indicated their main source of ideas for holidays are google, friends and family and social media show the value of the TT website and their Facebook page as a marketing tool.

### **Threats vs. Strengths**

Like stated before, even though the TT has quite a good product at the moment, the herring migration could be a threat to that product since the product will not be good anymore if no killer whales are spotted.

Disappointed visitors might post negative reviews on portals, for example Zoover, after not seeing whales.

Competition in the direct surrounding of the harbour in Andenes can be a threat, TT's website and its activity on portal sites can be promising ways to make itself stand out.

### **Threats vs. Weaknesses**

The distance between the TT and Andenes forms a threat to the marketing of the product. Especially since there is competition that offers virtually the same tour without the travelling time and of which one also gives a guarantee that people can participate in another trip for free when they do not see whales, something the TT does not do.

In paragraph 2.2.1 it was established that "visitor satisfaction occurs when there is a positive difference between expectations and experience". (Thomassen, J-P.R., 't Veld, E. & Winthorst, H.H., 1996) This explains why guests are so disappointed when no killer whales are spotted during the tour. And how satisfied the guests are about the tour has a direct cohesion with their willingness to recommend the tour to friends and family and with whether they thought the tour was worth their money. It makes the NKS a difficult product, because apart from making sure the tour starts in a location where many killer whale families reside, the TT cannot influence whether killer whales are spotted during a tour or not.

## 6. Discussion

In the following text the research methods that were used in the research project and the data that resulted from these methods will be discussed and evaluated in two separate paragraphs.

### 6.1 Method discussion

In the process of designing the research project many choices had to be made concerning research methods and the way in which these methods should be executed in order to meet the goal of the research project, answering the research question. The researchers chose three methods: the questionnaire, observations and interviews. There were several instances in which the researchers were forced to adapt their original plan of execution as a result of unforeseen circumstances or changes in the tour schedule. In the following text the choices made by the researchers concerning these methods and their execution and their possible effect on the final results will be evaluated.

First of all, due to the time frame in which the researchers were available to do the research, the data collection was limited to one winter season. Therefore, the collected data and the conclusions that were drawn from those data are limited to the TT's winter season of 2014 to 2015. Another thing that should be taken into account is that the data collection through the second questionnaire and the interviews were performed on the same day as the tour. This means that the level of satisfaction that was measured is only based on the short term satisfaction and should be interpreted accordingly. Over time the experience will sink in, which might alter the guests memories of the experience. This could be a positive or a negative effect.

#### 6.1.1 Questionnaires

The questionnaires that were handed out to the respondents before and after the tour provided the majority of the quantitative data collected during the research project. The questionnaire handed out before the tour was designed to measure the expectations guests had of the tour and their opinion about some marketing aspects and to collect information about the guests profile characteristics. The second questionnaire focussed on the guests' opinion about several aspects of the tour.

In some of the questions in the questionnaires the respondents were asked to, on a Likert scale, express to what extent they agreed with a given statement. These statements were, in some cases, formulated in an exaggerated way. For example, in question 26 of the questionnaire (Appendix I) the guests were given the statement: "I felt very cold during the tour". The researchers made a conscious choice to formulate the statements this way because they thought respondents would have an easier time figuring out whether they agreed or disagreed with this statement. The idea was that respondents that were very cold during the tour would agree with "I strongly agree", people that were cold, but not very cold, would agree with "I agree", people that did not feel cold would answer with "I disagree" and people that felt warm during the tour with "I strongly disagree". The researchers did not take into account the possibility that the answering possibilities could have been interpreted otherwise. For example, if a respondent did feel cold on the tour, but not very cold, that person could have answered "I disagree" instead of the "I agree" the researchers anticipated in that situation. This means that feeling cold still might influence the satisfaction.

One of the profile characteristics the researchers were interested in, was the guests' scale of income. The researchers decided to ask the respondents what their occupation was instead of their actual income. This decision was made prevent guests from being insulted, because in the many different nationalities and cultures participating in the NKS asking about the income might be offensive.

Further because of the many different currencies a scale of income is hard to make. The current method is unreliable because it is an estimation of income, but it can give a rough indication.

Sometimes it occurred that respondents wrote a note next to a more negative answer to a question on the questionnaire stating: “but that didn’t matter”. For example, a woman filled out she agreed with the statement “I felt very cold during the boat safari”, next to the question she made a note: “but it didn’t matter”. These notes were not incorporated in the dataset. Also when people were satisfied with the bus ride, they were not allowed to fill in the question about the parts that they did not like. Some people filled in that they thought the bus ride was too long anyway, this was not taken in the results so the actual number of people that thought the bus ride was too long is actually higher.

Because the research was limited to only 30 tours not all the variables could be analysed because there was too much overlap. For example, the two tours when it was really good weather no killer whales were seen. This led to a Cramer’s V higher than 0,4 and that is why weather was excluded. This could mean when more tours are observed another research could find an influence of weather or another variable on the satisfaction.

While performing the data analysis, described in chapter 4, the researchers were confronted with a high missing value percentage. There were several reasons for these missing values. Firstly, during the data collection period there were moments in which guests were unable to fill out one of the two questionnaires. Secondly, sometimes respondents had, for reasons unknown to the researchers, skipped one or more questions in the questionnaires. This is a problem because a missing value in a variable that is used in the statistic test results in the entire respondent being left out of the analysis, making the sample much smaller. In an attempt to resolve this, the researchers selected the respondents and variables that only missed a couple of answers and added this missing value to the answer that was given most in that particular variable. This way the sample size was made bigger and it prevented the loss of all the other data from the respondents that missed a couple of questions. A major problem with this solution is that the researchers had to temper with the data, basically claiming some respondents gave answers that they did not actually give. In chapter 5 the data analysis and results for both the untouched dataset with the smaller sample size and the manipulated dataset with the bigger sample size are displayed. There are differences between the results from the two. The truth will probably lay somewhere in between. This should be taken into consideration when interpreting the conclusions based on the results from the data analysis.

### 6.1.2 Observations

With the observations the researchers collected data on characteristics of the individual tour. One variable characteristic that should have been documented, but was not because the researchers were not aware of the necessity, was the rotation of personnel on the boat. The skipper was the same in most of the cases, but there were times there were too many people for one boat. In that case another skipper was deployed to operate a second boat. Apart from the skippers there were one or two additional crew members on board. Those were four people that rotated every tour. These crew members were also involved in helping the guests to dress up. These people might have influenced the experience, but this is uncertain because the lack of data on this variable prohibits the researchers from testing this possibility.

### 6.1.3 Interviews

Where the questionnaires and observations were used to collect quantitative data, which could substantiate the answers to the research questions with statistical proof, the interview method was chosen to additionally collect some qualitative, in depth data on the respondents' opinions and thoughts about the tour.

The interviews were performed during the bus ride back to the TT by the researchers. The researchers strived to do at least one interview each tour until satisfaction occurred. Unfortunately, it was not possible for the researchers to travel along on the bus with every tour. Also, on some of the bus rides the tour guide was sitting within hearing distance of the researcher and the potential interviewee. In those cases the researcher would not perform the interview because of the high probability the interviewee would practice self-censorship in order to give more desirable answers in the presence of the tour guide. As a result, the researchers were not able to interview until satisfaction occurred.

From several conversations the researchers had with guests, in some cases outside the interviews and therefore pitifully outside of the research project, it emerged that people were reluctant to vocally express aspects of the tour they were not satisfied about because either they had had a good time on the tour and they did not want to nit-pick or because they felt those aspects were all part of a nature experience. This reluctance to be critical of the tour could be an indicator that some respondents of the questionnaires were also hesitant to be critical while filling out the second questionnaire. This might have resulted in less honest feedback of the guests and that all the criticism the guests had ended up in the results of the interview.

### 6.2 Results discussion

This paragraph will explore some distinctive results that emerged from the dataset.

In some of the statements to which guests were asked to respond with the Likert scale there was a relatively high percentage of people that answered "I am undecided" (e.g. question 7, 29 and 33). This could indicate that people did not understand the question, they did not know because they were not the person that arranged the trip or the question might not have been relevant to them.

In question 33 approximately 16% was undecided about the statement: "The nature- and killer whale safari was really NOT worth my money." The data analysis did not show a significant effect of this characteristic on the satisfaction about the tour. However, when put in a crosstab with the variable "killer whales spotted" it became clear that of the 41 people that responded with "undecided" 30 had not seen killer whales during the tour. When taking into consideration that people were careful to be too critical this might mean that the people who chose "undecided" were actually more negative than they stated.

In question 30.3 were asked what the aspects were they did not like about the tour guide if they were unsatisfied with their guide. Table 5 in chapter 5 shows the answer that was marked most was "information". Yet this does not provide much information since the researchers had not formulated how they would interpret the answer information. It does not become clear if it was the amount of information, the lack of quality of the provided information or the moment on which the information was provided the respondent was dissatisfied about.

The wildlife factors that scored the highest in the results were dominionistic, scientific and naturalistic. Normally participants of wildlife tourism are either humanistic or moralistic. The possible cause of this difference could be found in the adventurous type of people that are currently attracted to the NKS. This could indicate that the guest are not the typical wildlife tourism target group.

However, over 70% of the guest state that they more often take part in wildlife related activities during their holidays. This means that the target group in general is attracted to wildlife tourism but possibly to a specific kind. For example, one which creates an adventurous image or one that specifically aims on killer whales/cetaceans.

When asked about if the guests had looked for alternatives of the NKS over 40% stated that they did not look for any alternatives. This could be caused by that one person per group did the booking and the others did not look for any alternatives themselves, however it could also be that a part of the people do not thoroughly look for their holiday activities which would mean the decision making process is different than it would normally be for a specialty good. Since there are operators offering (killer) whale safaris directly in Andenes this could be the reason why the current guests choose to go to TT, because they do not know there are operators directly where the killer whales are. The website of TT does not say the actual safari starts in Andenes but it does state that the journey to the safari boat takes over 3 hours. In some of the interviews guests told that they were surprised that they had to travel so long before the actual safari started. This would explain why there are very few return visits even though most people that saw killer whales are very enthusiastic. If some of the guests indeed do not put too much effort in searching for an operator to go on a killer whale safari it would be even more important to have a clear website that is easy to find.

## 7. Conclusion

Before the start of this research project, the main research question: “How can the marketing strategy of the nature- and killer whale safari be improved?”

In order to answer the research question several sub questions were made that could mostly be divided over the marketing mix (price, place, product, personnel and promotion). The other sub questions concerned the profile of the guests and the pre-conditions for the changes that would possibly be recommended as a result of this research project. In the following text these questions will be answered.

### **Profile**

The guests' average age is 36 years and most of them are between 20 and 40 years old. They are extremely motivated to see killer whales. They mostly come together with their partner or together with friends. Most of them participate in nature activities regularly. The guest like to learn about the killer whales (scientific) but mainly have a focus on being active in nature and interacting with the wildlife (naturalistic and dominionistic). Typically the guests come from Sweden and Germany and come to Norway especially for the tour.

### **Pre-conditions**

The most important pre-conditions that have to be taken into account are the cooperation TT has with Lofoten Opplevelser at this moment and the lack of a promotional budget.

### **Price**

On the questionnaire most of the guests stated that they thought the NKS had been worth their money (69%). These were mostly people that had seen killer whales during their tour. Guests that did not see killer whales were usually less satisfied with the price quality ratio they had experienced. In the interviews, some people mentioned they thought a refund would be fair if no killer whales were spotted or when snorkelling had not been possible during a tour.

### **Product**

The majority of the guests was very satisfied with the product NKS. However, when no killer whales were seen during the tour guests tended to be less satisfied with the product as a whole.

One of the aspects most of the guests did not like was the length of the bus ride to Andenes. Since there are harbours that are closer to the TT this is an aspect of the tour that can be improved.

### **Promotion.**

At this moment the TT uses Facebook and an article in a catalogue about tourism in Norway as its main sources of promotion.

Before booking the NKS the guests had to find the TT. Most of them found the TT through their website (40,00%) and friends and family (36,97%). This makes sense since google (60%) and friends (56%) are the biggest source of holiday ideas. Social media also scores high (27%) as a holiday inspiration but just 4,65% of the guests heard about the TT through this medium (4,65%).

When they found the TT half of the guests considered only the NKS or another tour organised by the TT and did not look for alternatives. The people that did look for alternatives usually looked for other whale or wildlife tours (44%).

Using social media in a more effective way would be an improvement for the promotion of the NKS. In the interviews some of the guests came up with ideas on how to do this. The next chapter will explain how the TT can reach more potential guests through this medium.

### **Personnel**

The staff of the TT can be identified as one of the strengths of the organisation. Most of the guests thought the contact they had had with the TT before arrival was pleasant, they were happy about the service provided during their stay and about the tour guide of the NKS.

### **Place**

The TT is located in Storjord, Norway. 99% of the guests came to the TT especially for the NKS and for 81% participating in the NKS was the main reason they come to Norway. So traveling all the way to Norway to see killer whales does not seem to be an obstacle for the guests that participated this season. Also, the interviews revealed that not all of the guests thought it was a difficult journey to make.

### **Concluding**

In the previous paragraphs the answers to the sub questions were formulated. These combined answers constitute the answer to the main research question. Because by addressing the weaknesses and exploiting the strengths of the product and its promotion that were described, the marketing strategy of the nature and killer whale safari can be improved.

Chapter 8 will provide more substantial recommendations on how these aspects can be addressed and exploited.

## 8. Recommendations

The following text will display the recommendations based on the results from this research project.

### 8.1 Marketing strategy of the product

Based on the confrontation matrix that was displayed in the previous chapter, the researchers have formulated the following recommendations for the TT. The recommendations are displayed in order of importance.

#### **Rethink the policy on not giving compensation when no killer whales are spotted.**

It is understandable that this is difficult when working with another organisation. However, there are very clear signs in the research that point out people get very mixed feelings about the tour when no whales were spotted and they do not get the refund. They become very aware that they have paid a lot of money because they expected to see something, but they did not experience what they expected. This misbalance causes a dissatisfaction. By either giving a partial refund or offering another NKS for free, guests will either get the opportunity to experience what they expected, making them more satisfied or eliminate the misbalance between the amount of money they spent and the experience they did not have. Also reading it is possible to get a refund may lower the bar for potential guests to book a tour.

#### **Find a location closer to TT as a starting point for the safari.**

Even though it is not a factor that significantly impacted guests' satisfaction about the tour as a whole, dissatisfaction about the length of the bus ride was a complaint that came back frequently. It was also an aspect of the tour that made not seeing killer whales that much harder for guests, because they had to get up very early and be on the road for a large part of the day. The possibility to shorten that traveling time by starting the tour at a harbour closer to Storjord would therefore be worthwhile. Apart from the shorter traveling time, it also helps that the guests will probably not literally see the two other operators that are active in Andenes. Right now it is probable that people that enjoyed the tour but disliked the long traveling time will tell their friends and family they should book a tour with one of the operators in Andenes if they want to go on a whale tour as well. This problem would be solved if the tour starts from a harbour closer to the TT.

#### **Manage expectations.**

Like stated before, when it is not possible to influence the aspect of the experience that causes the guests to be satisfied or dissatisfied one can influence the expectations. At this moment everything the TT does in relation to the marketing of the NKS has a very strong focus on aesthetic visual material of killer whales, on the website as well as on social media. This is logical in the sense that this is an effective way to sell the product, however, it causes expectations that are mountain high when it comes to the killer whale sightings. In order to temper these expectations a bit, the TT could shift the focus off of the killer whales and more toward the adventurous experience in a beautiful Norwegian landscape with an accent on killer whales. For example by mixing pictures of people that are having a good time, or that are getting on a RIB boat with a couple of pictures of the actual killer whales.

#### **Improve the usage of social media while using it for free advertisement**

For example, take pictures of people during the tour, share them on social media and encourage people to tag themselves so all their friends & relatives can see what they did. Put a link to the website in the description of the photo. Encourage guests to put their own pictures of their stay at TT on their Facebook page and make sure they tag the TT in the picture. Maybe even organise a small

photography contest during the season. Also put on the website there is a Facebook page and make people aware of the Facebook page during their stay at the centre. Also the usage of a hashtag should be encouraged so interested people can see all the stories and pictures of the safari at once. For example #orcatysfjord could be used.

#### **Direct your marketing at the target group**

Use the profile that was described in chapter 7 as a target group to direct the marketing efforts to. Put more pictures of people on the website and show how adventurous people that take part in a killer whale safari are. Try to use pictures of people that are more or less the average visitor of the tours. People identify themselves with the people in the pictures and will want to have an adventurous trip, just like the people in the picture.

#### **Bring the German part of the website up to date.**

A guests is more likely to be satisfied about the tour when he or she starts it well informed. At this moment the German part of the website is not up-to-date even though Germany is the country of almost one third of the visitors. The German website does not say what kind of clothing people should bring, and neither does it contain the information that the tour is no longer in Tysfjord and that there is a lot of traveling time. This lack of information causes an unpleasant surprise during the orca lecture which makes for a less but ideal start of the tour. So it is very important this part of the website is updated. This could be done by either an intern, employee or volunteer that is a native German speaker or that masters the language.

## 8.2 Additional research

Chapter 6 already described some of the limitations of this research project. If the TT wishes to get a more thorough view of the way guests perceive their product and the marketing of that product, the researchers recommend the following subjects for additional research.

#### **Best ways to reach people in the described profile.**

In this research project some profile characteristics of the guests were determined. For a more effective marketing strategy it could be interesting to investigate what ways are most effective in reaching this target group.

#### **Research what people think the information provided by the tour guide lacked.**

In question 30.2 and 30.3 people were asked which parts of the tour guide they appreciated and which parts they disliked. The answer "information" was given frequently. However, it is not clear if respondents meant the amount of information, the quality of information or the moments on which this information was given.

#### **Long term satisfaction.**

This research project is limited to the short term satisfaction that occurs directly after the participation in the NKS. However, from this research project it does not become clear how the guests feel about their participation in the NKS after some time has passed. It could be interesting to approach the guests from the last winter season again to see whether their opinion of the tour has changed over time.

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## Appendix I: Questionnaires

For the final thesis of our study "animal management" we are researching your expectations of and satisfaction after participating in the nature and killer whale safari of Tysfjord Turistsenter. The goal of the research is to improve the safari. We would like to ask for your help by filling out two short questionnaires: one right now and the second one after your return. Filling out these forms will take approximately 10 minutes of your time and is greatly appreciated. Any information you will provide by filling out these questionnaires will be processed anonymously.

The questionnaire consists of both open questions and multiple choice questions. In some cases you will be asked to agree or disagree with a statement or to finish a sentence by choosing one or multiple answers.

**Note: One answer possible unless stated otherwise.**

(Your name is only used to combine your questionnaires from before and after the tour, if you are not comfortable with this an alias will work to)

.....  
1. I have been to the Tysfjord Turistsenter before

A True, I came back because .....

B False

2. The first time I ever heard of the Tysfjord Turistsenter was via:

A The Tysfjord Turistsenter website

B Social media

C Travel agencies

D Brochures

E Friends & family

F Websites like Zoover and Tripadvisor

F Other.....

3. I booked the tour....

A With snorkelling

B Without snorkelling

4. The Nature- and killer whale safari was my main reason to come to Norway

A I Strongly disagree    B I disagree    C I am undecided    D I agree    E I strongly agree

5. I came to the Tysfjord Turistsenter especially for the nature and killer whale safari

A True, I came here especially for the nature- and killer whale safari

B False, I wanted to go to the Tysfjord Turistsenter anyway

6. It was very hard to reach the Tysfjord Turistsenter.

A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

7. It was very easy to combine my stay at the Tysfjord Turistsenter with other activities and accommodations in the area.

A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

8. I usually get my ideas for holiday activities and accommodations via... **Several answers possible**

- A Social media
- B Websites like Zoover and Tripadvisor
- C Travel agencies
- D Brochures
- E Friends & family
- F Google
- G Other.....

9. It was very hard to find all the information I wanted about the nature- and killer whale safari before arrival.

- A I strongly disagree    B I disagree    C I am undecided    D I agree    E I strongly agree

10. The contact I had with the Tysfjord Turistsenter before arrival was very pleasant.

- A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

11. The orca lecture sounds like a very interesting addition to the tour to me.

- A I strongly disagree    B I disagree    C I am undecided    D I agree    E I strongly agree

**(Please pick 3 statements and number them in order of importance ranging from 1 to 3, in which 1 is the most important motivation)**

12. The three statements that cover my motivation to go on the tour best are:

- ... I want to see the wildlife of Norway and I like to be outdoors.
- ... I hope to learn more about the local environment and about the ecosystem here.
- ... I hope to learn more about the killer whales and other wildlife themselves.
- ... I am interested in what kind of products people used to make of the wildlife.
- ... I only came here because of my friends/family, I usually try to stay away from wildlife.
- ... I hope to interact with the killer whales and/or other wildlife.
- ... These animals have a symbolic and deeper meaning to me.
- ... I want to find out if no one is hurting the animals.

13. My expectations of the tour are:

.....  
.....  
.....

14. The wildlife species that I hope to see are:

.....  
.....  
.....

15. I know the wildlife species that live in the area because... **Several answers possible**

- A I don't, I just hope to be surprised
- B I looked at the website of the Tysfjord Turistsenter
- C I already knew that these species lived in Norway

- D I looked for it on the internet
- E I looked in wildlife guidebooks
- F I learned that during my previous visit to Norway
- G Other.....

16. Seeing killer whales is the only thing that matters to me, I don't care about the other parts of the tour.

- A I strongly disagree
- B I disagree
- C I am undecided
- D I agree
- E I strongly agree

17. Normally, during my holiday I never take part in any wildlife related activities.

- A I strongly disagree
- B I disagree
- C I am undecided
- D I agree
- E I strongly agree

18. Did you consider other activities instead of this nature- and killer whale safari?

- A Yes, another killer whale / whale tour
- B Yes, another wildlife related activity organised the Tysfjord Turistsenter
- C Yes, another wildlife related activity organised by a company other than the Tysfjord Turistsenter.
- D I have looked for other operators but I could not find any.
- E Yes, but it was not wildlife related
- F No

19.1. I am very satisfied with my stay at the Tysfjord Turistsenter so far.

- A I strongly agree
- B I agree
- C I am undecided
- D I disagree
- E I strongly disagree

**Please only fill out of you answered A, B or C to question 19.1**

19.2 The parts I did like about my stay at the Tysfjord Turistsenter are:

- A The service
- B the rooms
- C The route description to the Tysfjord Turistsenter
- D The facilities
- E The WIFI
- F Nothing
- G Other.....

**Please fill out only if you answered C, D or E to question 19.1**

19.3 The parts I did not like about my stay at the Tysfjord Turistsenter are:

- A The service
- B The rooms
- C The route description to the Tysfjord Turistsenter
- D The facilities
- E The WIFI
- F Nothing
- G Other.....

In the next couple of questions we are asking for some details about yourself so we can get a better understanding of the guests participating in the nature- and killer whale safari.

20. What is your age?

.....

21. What is your gender?

A Male

B Female

22. In what country do you live:

.....

23. What is your profession?

.....

24. I came to the Nature- and Killer whale safari with my... **Several answers possible**

Partner Yes/no

Child or children Yes/no

Parent/parents Yes/no

Other family Yes/no

Friends Yes/no

Co-workers Yes/no

Alone Yes/no

**Thank you very much for taking the time to fill out this questionnaire!**

Questionnaire

This is the second questionnaire. Filling out this questionnaire will take approximately 10 minutes of your time and is greatly appreciated. Any information you will provide by filling out these questionnaires will be processed anonymously.

The questionnaire consists of both open questions and multiple choice questions. In some cases you will be asked to agree or disagree with a statement or to finish a sentence by choosing one or multiple answers.

**Note: One answer possible unless stated otherwise.**

Please fill out the same name or alias you used in the previous questionnaire:

.....

25.1 I DID like the bus ride

A I strongly agree      B I agree      C I am undecided      D I disagree      E I strongly disagree

**Please only answer if you answered A, B or C to question 25.1**

25.2. The parts I liked about the bus ride were:

A The length of the bus ride

B The bus was very comfortable

C The entertainment during the bus ride

D The landscape and/or the wildlife I saw during the bus ride

E The conversations I had with the other passengers

F Other:.....

**Please only answer if you answered C, D or E to question 25.1**

25.3. The parts I did NOT like about the bus ride were:...

A The bus ride was too long

B The bus was not very comfortable

C I was bored during the bus ride

D I could not really see anything

E other passengers were too noisy

F Other:.....

26. I felt very cold during the tour.

A I strongly agree      B I agree      C I am undecided      D I disagree      E I strongly disagree

27. The boat safari was very comfortable.

A I strongly disagree      B I disagree      C I am undecided      D I agree      E I strongly agree

28. I was bored during the boat safari.

A I strongly disagree      B I disagree      C I am undecided      D I agree      E I strongly agree

29. I would have liked to receive more information about nature during the boat safari.

A I strongly disagree      B I disagree      C I am undecided      D I agree      E I strongly agree      F No opinion

30.1 I had a great tour guide during the tour.

A I strongly agree      B I agree      C I am undecided      D I disagree      E I strongly disagree

**Please only answer if you answered A,B or C to question nr 30.1**

30.2 The parts I liked about the tour guide are:.

- A The service
- B The personal attention
- C The information
- D The guidance during the snorkelling
- E Other.....

**Please answer only if you answered C, D or E to question 30.1**

30.3 The parts I did NOT like about the tour guide were:

- A Lack of service
- B Lack of personal attention
- C Lack of information
- D inadequate guidance during snorkelling
- E Other.....

31. I am very happy about the wildlife sightings during the tour.

- A I strongly disagree    B I disagree    C I am undecided    D I agree    E I strongly agree

32. I did not see the animals as close as I had hoped.

- A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

33. The nature- and killer whale safari was really NOT worth my money.

- A I strongly disagree    B I disagree    C I am undecided    D I agree    E I strongly agree    F No opinion

34. I am going to recommend this tour to my friends and family.

- A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

35. I think the nature and killer whale safari is a great tour.

- A I strongly agree    B I agree    C I am undecided    D I disagree    E I strongly disagree

36. Is there anything that you would like to see changed in the nature- and killer whale safari or is there a comment you would like to make? And if so what is it?

.....  
.....  
.....

**Thank you very much for filling out this questionnaire!**

## Appendix II: Observation scheme

Date:

1. Killer whales(1t/m3):
2. Other cetaceans(1t/m3):
3. Birds(1t/m6):
4. Moose(1t/m3):
5. Reindeer(1t/m3):
6. Vibe of the tour(1t/m5):
7. Weather (1t/m5):
8. Guide:
9. Number of passengers:

## Appendix III: Data analysis, Scale nominal and ratio

Variable:	Label:	Multiple Choice	Variable tour	Variable group	variable individual
Age	Scale				X
Gender	Nominal				x
Profession	Ordinal				x
Country	Nominal			x	
Snorkeling	Nominal				x
Travel companion	Nominal	x			x
Previous visit	Nominal				x
Reason previous visit	Nominal				x
First hearing	Nominal				x
NKS Main reason for Norway	Ordinal				x
Tysfjord only for NKS	Nominal				x
Ideas holiday	Nominal	x			x
Finding info	Ordinal				x
Satisfied contact	Ordinal				x
Wildlife factors	Scale	x			x
Expectations NKS	Nominal				x
Wildlife species	Nominal				x
Info Wildlife	Nominal				x
Seeing killer whales matters	Ordinal				x
Participating wildlife	Ordinal				x
Other tours	Nominal			x	
Satisfaction stay	Ordinal			x	
Reasons satisfaction stay negative	Nominal	x			x
Reasons satisfaction stay positive	Nominal	x			x
Opinion Bus ride	Ordinal				x
Bus ride positive	Nominal	x			x
Bus ride negative	Nominal	x			x
Cold	Ordinal				x
Opinion guide	Ordinal				x
Guide negative	Nominal	x			x
Guide positive	Nominal	x			x
Satisfaction wildlife sightings	Ordinal				x
NKS money's worth	Ordinal				x
Recommend tour	Ordinal				x
Opinion whole	Ordinal				x
Recommendation/remarks	Nominal	x			x

Guide	Nominal		x		
Killer whales	Ordinal		x		
Cetaceans	Ordinal		x		
Birds	Ordinal		x		
Moose	Ordinal		x		
Reindeer	Ordinal		x		
Weather	Ordinal		x		
Vibe of the tour	Ordinal		x		
Tour number	Ordinal		x		
Group number WT	Ordinal			x	
Group number Counting	Ordinal			x	
Number of passengers	Ordinal		x		
Orca lecture Interesting	Ordinal				x
Combination other activities	Ordinal				x
Reaching TT	Ordinal			x	
Boat comfortable	Ordinal				x
Boat bored	Ordinal				x
Animals close	Ordinal				x
Wishing more info	Ordinal				x

## Appendix IV: Detailed description of the data analysis process

To find an answer to the research questions, the resulting data, which were described in chapter 4, needed to be analysed to give a statically accurate answer. In the following text the statistical tests that were used and the results from these tests are described.

### Factor analysis

The first step that is made is performing a factor analysis. This analysis reduces the amount of variables to components in which several variables that have cohesive data are clustered together. For example if people have the opinion that they really liked the tour, it is also more likely that they thought the tour was worth their money. These can be put together in a so called "component". If components can be made, these can be tested for the influence of other factors and variables.

The first step of the factor analysis is the selection of which variables will be a part of the analysis. Because all the variables in the analysis need to have the same data scale, the variables concerning the opinion of the guests that were measured in a Likert scale were selected. These variables were:

- General opinion of the tour
- Would the guest recommend the tour
- Opinion about the price
- Satisfaction with the spotted wildlife
- Satisfaction distance between the boat and the animals
- Satisfaction with the tour guide
- Satisfaction with the bus ride
- How interesting was the boat ride
- Possibility to combine TT with other activities/accommodation
- How easy was it to find TT
- How comfortable was the boat
- Satisfaction with pre tour services
- Satisfaction with contact staff TT
- Satisfaction amount of information on the boat
- Satisfaction with temperature on the boat
- Satisfaction stay TT

The 5 point Likert answer scale was recoded so the numbers in SPSS all meant the same thing: 1 being the option that was most negative and 5 the most positive option.

Executing the factor analysis resulted in two major components that, together, explain 40,35% of the variance. Component 1 and component 2.

Component 1 consists of the variables:

- Opinion about the price
- General opinion of the tour
- Satisfaction distance between the boat and the animals
- Satisfaction with the spotted wildlife
- Would the guests recommend the tour

This component consists of variables that have to do with the opinion guests had about the main part of the product, the tour. Component 1 explains 28,218% of the data's variance.

Component 2 consists of the variables:

Satisfaction with the information received before arrival.

Possibility to combine stay Tysfjord Turistsenter with other activities/accommodations

How easy was finding the Tysfjord Turistsenter

Satisfaction with the bus ride

These variables all have to do with the preparations the guests made for coming the TT and how satisfied they were about their travelling experiences. This component explains 12,13% of the variance.

These two components were then used in the next test, General Linear Mixed Models.

## **General Linear Mixed Models**

When the components of the factor analysis are known it is time to tests if other variables might influence the results in these components and if so, how much. For example, does the satisfaction of the tour (component 1) depend on the sightings of the killer whales? To do this right, the possible travelling companions of the guest need to be taken into account. For example, if a family comes to participate in the NKS it is likely their opinion is somewhat similar. If one member of the family gets for example seasick, the satisfaction of the entire family might be influenced. The same goes for the people that participated on the same tour. If they had a tour with really rough weather, the opinion of all the people on that specific tour might be different from the opinions of people that went on another tour with maybe better weather.

In order to answer these questions a special test in SPSS was used. This test is called linear mixed models (LMM) and it can test which variables have influence on the components and if some variables combined have a different influence than apart from each other, while taking into account which people arrived together in a group and which people went together on a tour.

### **Data preparation**

To start the analysis it is first important to find out if all the answering possibilities have enough answers to use them in the analysis. For example, in just two of the thirty tours killer whales were spotted from far away. This is not enough to base conclusions on. Therefore on this variable and some other variables the answering possibilities were reduced so there would be a better distribution in the answers. This happened with the variables "killer whales", "moose", "cetaceans" and "reindeer". These variables were computed so for the analysis they showed whether the animals were seen or not. The option "yes, from far" was included in the option "yes". So instead of the three possibilities "yes, close up", "yes, from far" and "no", now there were only the two possibilities "yes" and "no".

Some other variables with multiple option possibilities also had the problem that some of these answers had not been given enough. This happened with the variable "considering alternatives". In this variable the few people that chose "tried, but failed" were transferred to the option "no". The possibilities for the variable "country of residence" were divided into three groups: "Germany", "Sweden", and "other countries". Also the options for the observations of weather and vibe of the tour were reduced, option 1 and 2 (the positive options) were combined and options 4 and 5 (the negative options) were also combined so that together with the neutral option, which remained the same, a total of three options per variable remained.

Another part of the data preparation is making sure that there are as little missing values in the data set as possible. If a respondent skipped a question, resulting in a missing value for one variable, in LMM the rest of the respondents' data could not be used in the analysis either. This was a problem because this way the sample size became much smaller. Therefore, a selection was made of the people that only had one missing value. The missing value was then added to the largest group within the variable it belonged to so the other data could be used for the analysis. To be aware of the influence of this change in the data set, the further LMM analysis was completed with both the data set with all the missing values and with the dataset with less missing values. During this analysis the dataset with all the missing data had 44 missing, the dataset which was adapted had 24 missing values.

## Output LMM

After the data preparation was finished, the actual analysis was conducted. For each component the variables that could be of influence were run separately to make a selection of variables that could have a significant influence when combined with each other. The variables that had a significance lower than 0,25 were selected.

For component 1 the following variables were selected:

Table 9

Variable	Sig (p)
Booked tour with snorkelling	0,200
Seeing killer whales only thing that matters	0,017
Considered alternatives to the tour	0,109
Killerwhales spotted	0,000
Cetaceans spotted	0,000
Vibe	0,000
Snorkelling possible	0,000
Friends	0,124
Coworkers	0,071

For component 2 the following variables were selected:

Table 10

Variable	Sig (p)
Came to Norway specially for the tour	0,249
Seeing killer whales only thing that matters	0,235
Participating_Nature	0,001
Considered alternatives to the tour	0,168
Age	0,230
Moose spotted	0,019
Weather	0,045
Children	0,120
Friends	0,079

To find out if the variables together influence the significance of the component a model can be built in LMM. As explained earlier in this chapter, LMM can take into account which respondents formed a group together and which respondents participated in the same tour to correct for the influence the respondents might have had on each other.

To start the LMM the remaining variables had to be grouped in the level they could influence, so either tour, group or individual. The variables were divided as followed:

Component 1:

Tour: Killer whales spotted, cetaceans spotted, snorkelling possible and vibe.

Group: Friends and co-workers

Individual: Booked with snorkelling, Seeing killer whales only thing that matters and considered alternatives to the tour.

Component 2:

Tour: Moose spotted and weather

Group: Children and friends

Individual: Came to Norway specially for the tour, Seeing killer whales only thing that matters, Participating nature and considered alternatives to the tour.

It is important that the variables from the selection do not correlate amongst each other. If for example cetaceans are almost never spotted without the killer whales it is possible these variables correlate too much. In order to find out if the correlation between these variables is too much, cross tabs were made between the variables with a Cramer's V value. If this value was 0,4 or higher the other variables were excluded from the analysis. The result was that for the tour factors of component 1 all but the killer whale sightings had to be excluded. All the other variables were taken into the analysis.

After the data preparation the first step was to run a LMM without any variables for both component 1 and component 2. This was done to find the value for the Akaike. The Akaike is a measurement for the amount of data that is lost in a new model. The Akaike in the model without any variables works as a standard in the analysis. When LMM was run with new variables the Akaike needs to be lower than the model without any variables. Also the model needs to be significant.

The Akaike in the model without any variables for component 1 was 284,432 and for component 2 363,445. Hereafter all the possible combinations of the tour, group and person variables were made. The variables for each level were seen as a package, so all variables for example the level "tour" will be run together, the influence of the individual variable would be calculated in a later stadium. In component 1 the tour factor killer whale sightings is taken into all the test runs because seeing the killer whales had a great impact on the satisfaction as could be seen in the Akaike of the individual variable significance test. These tests were executed twice for each component, once with the adapted and once with the unadapt dataset.

## Calculating Akaike weight

When the Aikake for every combination is known, the difference between the Akaike value of these combinations and the Akaike from the LMM without any variables can be calculated. With this number the Akaike weight can be calculated. The Akaike weight shows the chance that the given model is the best one. For example, if the Akaike weight is 0,24 then this means when this research project will be conducted for 100 times in 24 of those projects this model would come out best. The Akaike weight can be calculated with the following formula:

$$\text{Unconditional SE} = \sum_{i=1}^R w_i \sqrt{\widehat{\text{var}}(\hat{\theta}_i | g_i) + (\hat{\theta}_i - \hat{\theta}_i)^2}$$

The results of the Akaike weights ( $w_i$ ) for component 1 can be found in table 10 and table 11 and for component 2 in table 12 and table 13.

Component 1:

Table 11

<b>Unadjusted</b>		
		$w_i$
1	Killer whales	0,239075
2	Killer whales x Groups	0,531805
3	Killer whales x Person	0,054559
4	Killer whales x Groups x individual	0,174561
<b>Total <math>w_i</math>:</b>		1

Table 12

<b>Adapted</b>		
		$w_i$
1	KW	0,675814
2	KW x Groups	0,270269
3	KW	0,038165
4	KW x Groups x individual	0,015751
<b>Total <math>w_i</math>:</b>		1

Component 2:

Table 13

<b>Unadjusted</b>		
		wi
1	Tour	1,10643E-08
2	Group	5,91934E-09
3	Individual	0,001104854
4	Tour x Group	2,4438E-07
5	Tour x Individual	0,045160086
6	Group x Individual	0,033421976
7	Group x Tour x Individual	0,920312823
<b>Total wi:</b>		<b>1</b>

Table 14

<b>Adapted</b>		
		wi
1	Tour	5,15017E-08
2	Group	2,15551E-08
3	Individual	0,025523599
4	Tour x Group	2,29663E-07
5	Tour x Individual	2,29663E-07
6	Group x Individual	0,154640562
7	Group x Tour x Individual	0,819835303
<b>Total wi</b>		<b>1</b>

As can be seen for every model the Akaike weights count up to one. This means that all the models count up to 100%. But this list does not provide information about the individual variables and if and how much they influence the components. To calculate this individual influence a model needed to be created in which the wi added up were 0,95. An exception was made for the unadjusted data of component 2. This because model number 7 already has an Akaike weight of 0,92 on its own. For model number 7 the influence of the individual variables can be read in the output from the LMM, the results and the interpretation of these numbers will be explained further in this chapter. The other groups that were included in the analysis are marked in the tables above.

## Calculating lower bound and upper bound

Of all the remaining variables the individual influence has to be calculated. This is done by calculating the lower bound and the upper bound of the confidence interval. When the confidence interval contains the value "0" there is no influence of this specific variable. If it does not, there is an influence which value lies between the upper and lower bound of the confidence interval.

The lower and upper bound of the confidence interval can be calculated according to the following formulas.

$$\text{Upper 95\% confidence limit} = \text{estimate} + (1,96) \text{ SE}$$

And

$$\text{Lower 95\% confidence limit} = \text{estimate} - (1,96) \text{ SE}$$

The SE can for each variable be read in the output of the LMM **and the estimate**, the estimate is the coefficient multiplied by the  $w_i$  value of the model. For the unadjusted data of component 2 the lower and upper bound of the confidence interval can be read from the LMM output since there is only one model. For the variables that have several answer options the lower and upper bound need to be calculated for every answer possibility, all the relevant answer possibilities are shown below

This lead to the influence of the following variables

<b>Component 1 unadjusted</b>	<b>LB</b>	<b>UB</b>
Killer whale sightings	1,013038	1,783142
<b>Component 1 adapted</b>		
Killer whale sightings	1,112652	1,821482
Friends	0,009787	0,031838
Co-workers	-0,09551	-0,02936
<b>Component 2 unadjusted</b>		
Main reason 1	-1,348	-0,223
Participating nature 1	-2,218	-0,522
Participating nature 2	-1,854	-0,304
Participating nature 3	-2,808	-0,223
Participating nature 4	-2,045	-0,394
Friends	0,128	0,996
Moose	0,065	1,162
Considering alternatives 0	0,247	2,356
Considering alternatives 2	0,076	1,235
<b>Component 2 adapted</b>		
Main reason 1	-1,31731	-0,3159
Main reason 4	-0,81235	-0,06632
Participating nature 1	-2,17111	-0,92653
Participating nature 2	-1,78195	-0,56354
Participating nature 3	-2,08669	-0,51847
Participating nature 4	-1,94786	-0,62385
Friends	0,030271	0,816263
Considering alternatives 0	0,335782	2,377488
Considering alternatives 2	0,174486	1,26434

The numbers from the table above are a measurement in a standard deviation. In a standard deviation the average is zero, the higher the number the more positive the influence of the variable and the lower the number the more negative the influence of the variables on the component.