Tech-Savvy Skiers and Snowboarders

The role of the smartphone in the vacation choice practice of Dutch winter sport tourists

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Master Thesis Leisure Studies
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MSc Leisure Studies

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Preface

Hereby I proudly present you my Master Thesis for my Master Leisure Studies at NHTV Breda. It concerns the role of the smartphone in the vacation decision-making process of Dutch winter sport tourists. This thesis may be seen as a reflection of both my Master Leisure Studies at NHTV Breda as well as my Bachelor of Science in Tourism at Wageningen University and NHTV Breda.

At the age of sixteen I was fortunate enough to get to know what a winter sport holiday meant. Snowboarding and the winter sport holiday as a whole have been a passion ever since and I cannot pass a winter without hitting the slopes. In addition, the tourism industry in general has always been a topic of interest. A combination of these subjects formed the starting point for my thesis. In addition I was very keen to learn more about new media and especially the role of the smartphone in today's tourism. Together with Mrs. Bargeman my first ideas were further developed into a more concrete topic for my thesis.

Although I was initially unsure about how to approach the themes of interest, the social practices approach as introduced by Mrs. Bargeman seemed interesting and appropriate. For the past few months I have worked on the thesis with enjoyment. Overall these months have been educative, but the main challenge was working 'alone' and getting and keeping a certain structure in my daily schedule. Although sometimes the process seemed slow, at other times I took major steps and filled my pages in no time. But most importantly the topic remained interesting to me throughout the process.

This thesis could not have succeeded the way it did without the help of some people whom I would like to thank. Firstly, I would like to thank my supervisor, Mrs. Bargeman, for her helpful feedback, for her extensive read-throughs, for showing a lot of interest in my thesis, for sharing her theoretical knowledge and her guidance during the whole process. Her knowledge about the practices approaches and the vacation decision-making process were very helpful for writing my thesis. I would also like to thank my second assessor Mr. Pieter de Rooij for his feedback in the final stages; this helped me to improve my thesis. Furthermore, I would like to thank the people that were willing to partake in this research and who were open to welcome me in their homes for the interviews we have done. I have enjoyed conducting these interviews and they made my research a fun and educational experience.

Dear reader the time has come to 'flip' or better 'scroll' to the next page and read my thesis. I hope you will enjoy reading my research as much as I enjoyed conducting and writing it!

Christianne Glazenburg

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Abstract

Undertaking a ski or snowboard holiday has always been a popular vacation practice for Dutch tourists, with nearly 1 million skiers/snowboarders hitting the slopes each year. Although the essence has ever remained the same, actively enjoying the mountainous environment, a lot has also changed over the recent years. Not only have the winter sport related facilities significantly increased and been modernized, society as a whole has welcomed new and innovating technologies. The Internet has most probably been the greatest innovation, and today's smartphone is increasingly connecting society to the web. The role of smartphones in our daily lives is undeniable, the four-inch interactive screen and our pockets have become inseparable over the recent years. The devices have permeated into every aspect of our current lives, and the Netherlands even has the highest percentage of Internet users of the European Union (CBS, 2013). The Dutch are also increasingly online during their holiday's abroad. Winter sport tourism and smartphones two worlds that initially sound contradictory have completely fused together over the recent years.

Ski travellers are said to be heavy mobile users, and the role of the smartphone is expected to increase (Schetzine, 2013). The smartphone is continuously at the tourists' fingertips and offers a great source of information, which can potentially influence the tourists' decisions and thus its behaviour. However, the smartphone is not just a way for destinations to communicate with the tourists the smartphone might provide a rich source of information for destination. Since the smartphone has two-way sharing capabilities it is not solely receiving data but also sending data. This data might be valuable for destinations to better understand the tourist. Furthermore, tourists might become marketers themselves by sharing their experiences with others through their smartphone. All in all the smartphone seems to be valuable for not just tourists but also destination.

However, from an academic perspective little is known about the role of the smartphone in the decisions tourists make. Therefore research is needed to explore this established yet relatively unknown phenomenon. A framework was needed to guide such explorative research. The 'vacation sequence' by Van Raaij & Francken (1984), adapted by Bargeman (2001), is the most used theory on the holiday decision-making process. The vacation sequence like discussed by Bargeman (2001) describes the process from the decision to go until the (dis)satisfaction after the vacation in six phases. However, studying the phenomenon only from the tourists' perspective would not build a holistic understanding and therefore the decision to adopt the Social Practices Approach (SPA) was made. Adopting the SPA involves both exploring personal characteristics – the Dutch winter sport tourist - and the conditions in which the tourists make decisions – the information provided (by the smartphone). Since the smartphone is a relatively new actor in the world of winter sports, SPA helps building a more holistic understanding by studying the coming together of the provided information and the use of this information by tourists and to see how and if these fit. Eventually, this led to the formulation of the following main research question:

What is the role of the smartphone in the vacation choice practice of Dutch winter sport tourists, and which opportunities derive from these findings?

By studying both the demand and supply side this study aimed to provide recommendations to the industry, and more specifically destinations. In addition, three specific research questions, based on the theoretical framework, were formulated in order to answer the main research question. Since qualitative methods suit the explorative character of this research, these methods were used to answer the research questions. Furthermore, qualitative research enables the researcher to understand the meaning the respondents try to convey, which was important for this study in order to determine the role the tourists ascribe to the smartphone.

First desk research was conducted to get an initial understanding of the apps available. Smartphone providers such as Apple, Samsung and Nokia offer access to a great amount of smartphone apps through a variety of online systems, including 'App Store' for iPhones and 'Play Store' for Android-system supported smartphone. Data was collected from these systems and included descriptions of available winter sport related apps, and reviews from users. The data gathered was subjected to directed qualitative content analysis. The results of the desk research indicated that three main categories of apps relevant for the winter sport tourist could be identified: general winter sport apps, destination specific apps, and general tourism apps. Under general winter sport apps three additional categories were identified. First 'snow reports' apps, which are apps mostly developed by independent service-driven organizations that provide information on the weather, snow conditions and lift status. These apps are mainly there to facilitate the tourist in preparing for the vacation, but can also be used in during the actual vacation and to share experiences by uploading photos. Second, 'on-slope tracking' apps were identified; such apps are mostly developed by app developers to be used during the actual vacation. Tourists can use these apps to keep track of what they are skiing (speed, distance, height). In addition there were also few apps categorized as 'other' such as an avalanche-warning app. The second main category, destination specific apps, can all be described as tour virtual tour guides. These apps give information on the village, the weather, the slopes, accommodations and activities. Local tourism boards invest in such apps and hire app developers to develop an app for their ski resort. Last general tourism apps were identified, which are basically tourism apps not specifically relevant for winter sport tourism. For example booking apps or the TripAdvisor app.

After the desk research in-depth interviews were held among a purposive sample of 12 Dutch winter sport tourists, who met the criteria of being a regular winter sport practitioner, using their smartphone on day-to-day basis and bringing and using it when being on ski vacation. Three age categories were covered (adolescence, 15 to 25 years old; young adults, 26 to 45 years old; middle adults 46 to 65 years old), making the sample relevant for the research questions being posed. The respondents were asked to describe their vacation decision-making process and the way the smartphone took a role. The results of this research showed that all respondents actively used their smartphone during the vacation choice practice. However, the smartphone use and the content used did differ for the different phases of the vacation choice practice.

The smartphone was mostly used during preparation, the actual vacation and when sharing experiences. During the first phases of the vacation choice practice other devices were preferred which better facilitated extensive searching. Although respondents sometimes used their smartphone for some browsing, the use of actual apps started during the preparation phase. When preparing for the vacation respondents turned mostly to snow report apps and in some instances destination specific apps. The destination specific apps were more popular during the actual vacation, when tourists also still accessed snow report apps. Tracking apps were also commonly used during the vacation, respondents enjoyed these apps and the competitive and thus social edge the apps carry. The smartphone was also widely used by respondents to share their experience both during and after the vacation. Whatsapp was the main medium to share photos, but the winter sport vacation also proved to be a good reason to post a photo on social media, mostly Facebook. The results showed that the smartphone was used to access different types of information during the vacation choice practice. However, it also became clear smartphone apps were mostly used in the later phases of the vacation choice practice. In addition, general tourism apps were not really used among the respondents, which relates to the fact that apps were mostly used in the later stages, and general tourism apps are most useful in the earlier stages.

Besides the varying degree of use between the different phases of the vacation choice practice, differences could also be found between the different respondents. A number of influential actor-related factors were found. First, some respondents were more knowledgeable than others about the existence of destination specific apps, tracking apps and booking apps. Being unaware of the existence of these apps caused them not to use these apps. Second, previous experiences with the destination and negative previous experiences with smartphone content were aspects that made the respondents less likely to use the smartphone during the vacation choice practice. Third, age seemed to be a variable of importance. The adolescents were more active in sharing their experiences through different social media channels. However, they were not really involved in the actual choices and left that to their older relatives. The adolescents were also dependent on WiFi availability as buying foreign data was too expensive for them. The young adults were the only ones to use the smartphone in the second phase of the vacation choice practice. Last, the middle adults made more use of foreign data bundles, as they most probably had more to spend. Last the middle adults seemed to be less active in tracking. The respondents' lifestyle also had its influence on the role of the smartphone in the vacation choice practice. The daily use of the smartphone was extended to the winter sport vacation context and the smartphone content used was adapted to the enjoyed experience.

The four-inch interactive screen and the skiers/snowboarders' pockets have become inseparable over the recent years. The results of this research proved that the Dutch winter sport tourist and the smartphone are fused together; the smartphone has become a matter of course. The smartphone basically delivers the tourist information replicated from other information sources. The apps mostly provide content, which can also be retrieved when browsing the Internet. However, the ubiquitous character of the smartphone provides immediacy to the information. Moreover, this immediacy also enables the tourist to easily share their experiences and to become providers of content. Based on this research it can be claimed that the tourist does not make different choices when using the

smartphone, but the smartphone confirmed certain choices sooner as the information was always at hand. It can be concluded that over the recent years the vacation choice practice has partly been reroutinized to include the smartphone.

Since the apps provide new ways for destination to communicate with the tourists and opportunities arose from the findings, recommendations were made on how the industry is best to tune in. First, app providers need to create awareness among the tourists, to ensure the tourists have the right knowledge about the available apps. Another, point of improvement for the ski industry would be to make their websites mobile compatible as this was negatively experienced among the respondents. Another relatively easy way for destination to accommodate the tourist in using their smartphone is to provide WiFi more widely and communicate the availability. Destinations should also start to provide more offline functions on the destination specific apps, and the destinations should look at the possibility of mining data from the visitors in the area. Some more creative recommendations were also developed. These recommendations related to the provision of gamified apps, apps that offer hedonic information through competitive and social activities. Destinations should try to involve themselves in providing gamified apps that also involve physical elements of the destination. Doing this might enhance place attachment among the tourists. Last, ski destinations should involve in the sharing of experiences one way or another. Sharing experiences is widely done, and the industry should seek a way to take advantage of the shareative tourist and make them destination marketeers.

Besides the social relevance, in terms of recommendations this research is also of scientific relevance. Hence, recommendations are also given for future research. The use of the elements of the SPA and the vacation sequence turned out to be appropriate in sketching consumption junctions, fits and misfits and information about the role of the smartphone. Thus, this research contributes scientifically to the knowledge of an integrated SPA combined with the vacation sequence in relation to the role of the smartphone. Furthermore, this research also builds on the sparse literature in the winter sport industry, and gives a contemporary view on the vacation decision-making process. The multi-methodology was successful as in a short amount of time, both the demand and supply side were explored. The qualitative interviews enabled the researcher to gather detailed answers. Future research is suggested which includes more variables, both demand- and supply-related. Furthermore it is suggested to interview providers of apps to get to know what the smartphone means for them and how they use the data mined. Other future research could include a quantitative study based on the current study, studying a bigger more varying sample, and studying the specific role of social media as a source and as way to communicate experiences.

This research proved the tech-savviness of the vacation choice practice of Dutch winter sport tourists. Although the ski industry has adapted to the smartphone, opportunities are also evident. Moreover, the developments will not stop here; today's dynamic world will introduce new technologies and new uses. Keeping abreast of the ever-evolving tourism marketplace will be an essential ingredient to tourism marketing success. So the question will always remain: What's next?

1.   Introduction

Skiing is a worldwide phenomenon practiced on every continent, with about 80 countries in the world where skiing is an activity (Vanat, 2014). According to Vanat "the industry currently offers about 6 million commercial beds in the mountains. These are primarily concentrated in the industrialized ski markets which have a high volume of skier visits" (2014, p. 8). About a million of these beds are annually taken by Dutch tourists (Vanat, 2014). Going on winter sport has always been a popular vacation practice for Dutch people, and winter and the Alps are two words that in many Dutch minds go together. Although it can be quite cold during wintertime, there is not a lot of snow in the Netherlands. Moreover, there are no mountains, yet this does not stop Dutchmen from participating in winter sports, both at home and abroad. In the Netherlands there are 7 indoor ski resorts with artificial snow, but there are also indoor halls with dry ski runs and a number of ski treadmills to practice skiing. Indoor practice is usually seen as a preparation for the foreign ski holiday that is undertaken by about a million Dutch tourists (Vanat, 2014). In the 2012 winter season, the majority of Dutch winter sport tourists travelled to Austria (58%), France followed with 16 percent. and Germany took third place with 12 percent in 2012. The Dutch headed to the mountains mainly for alpine skiing, with 71 percent of winter sport tourists having it as their main purpose of travel. The remainder of Dutch tourists came for snowboarding (11%), hiking (9%), cross-country skiing (4%), and skating and sledding (5%) (CBS, 2013).

Along with the interest for winter sport an increase in smartphone usage is evident. Mobile computing is a massive market and the role of smartphones in our daily lives is undeniable, the four-inch interactive screen and our pockets have become inseparable over recent years. The Netherlands has the highest percentage of mobile Internet users of the European Union (94 percent) (CBS, 2013). Not only do smartphones simplify communication, they also provide fast access to every type of information needed in daily life, anywhere anytime. In recent years the capabilities of the devices have significantly increased, now supporting thousands of mobile applications (apps). Research by GfK (2013) remarkably shows that 20 percent of the smartphone users indicated not to use the device for calling; instead the devices are mostly used for chatting by Whatsapp (67%), mailing (72%), and browsing (78%). "As society has become networked, and networks have become ubiquitous through the use of mobile telephones, societal practices are undergoing a radical transformation, none more so than in the domain of travel" (Dickinson *et al.*, 2014, p. 84). The tourist industry rapidly took up mobile technology and is now providing a wide range of applications supporting tourists in their activities (Dickinson *et al.*, 2014; Wang, Park, & Fesenmaier, 2012). Research by Tripadvisor (2013) shows that 9 out of 10 travellers use mobile devices during their trips and the uses include accessing social media, sharing social media, looking for restaurants, looking for things to do, looking for hotels and reading reviews. Furthermore, 1 out of 5 people travelling use social media to brag about their trip (Tripadvisor, 2013).

Travellers who hit the road in order to hit the slopes generally have the passion and means to travel in pursuit of their favourite pastime, and more disposable income also translates into higher levels of digital adoption (Juman, 2013). The Dutch winter sport tourist is also increasingly using its smartphone abroad. During the first period of winter 2013 the number of Dutch people making use of mobile internet abroad more than doubled in comparison to the same period the year before (111 percent). Furthermore, usage among youngster (18-25 years) sharply increased with 177% (T-Mobile, 2013). With the increase in smartphone usage along with the interest for winter sport, there exists a general interest into how these are and can be combined. The winter sport industry is of special interest, as the market for activities and sports has also seen a phenomenal rate of growth (Moss, 2011). The winter sport tourists are therefore expected to use their smartphone in their winter sport activities, enabling new avenues for communication. Of special interest is the potential of the smartphone to provide a rich source of information influencing the tourists' decisions and thus its behaviour. In addition the smartphone might provide a rich source of information for destinations, as the smartphone is not solely receiving data but also sending data. The two way sharing capabilities of the smartphone allow providers to track customers. As soon as the tourist downloads and installs an application it most often approves the provider access to data available on the smartphone. The data can be used by destinations to better understand the customer (among others location, age and gender), which can subsequently help deliver sound marketing strategies. To reach and influence the Dutch winter sport tourists, the ski and travel industries must be prepared to fully leverage the potential of the smartphone.

With this 'new' way of communicating the smartphone could help the industry to engage more people into skiing. The ski industry is considered to be matured, supply has outstripped demand, and retaining current customers and attracting new ones is of vital importance for the sustenance of the ski destination (Gibson, 2005; Vanat, 2014). However, "gaining new customers by attracting non-skiers and converting them into loyal participants is far from a done deal" (Vanat, 2014, p. 110). Gibson (2005) argues for a mismatch between the images put forth by the industry and reality. Studies have found that among non-skiers an image of pain, cold and injury were pervasive and were reinforced by the advertisements available (Gibson, 2005). However, winter sport tourists using their smartphones to share their positive experiences might overcome this gap and show it is a social experience and a great way to spend time outside during wintertime. The smartphone might thus be a good medium in advertising the winter sport holiday to other types of tourists, as the image is not solely put forth by the industry but also very much by the skiers themselves. In addition, the ski resorts could also capitalize on the smartphone to entice more summer visitors.

Understanding how the tourist is using its smartphone is an important first step, as this will provide insight in what kind of content is demanded. Tourists can use apps for a variety of needs; Wang, Park & Fesenmaier (2012) studied these needs for tourists in general. Although these findings are not specific for winter sport tourists some links can be made. First, functional information needs can for example be answered by apps that provide weather forecasts or ski resort maps and which reduce uncertainty, such as Bergfex. Tourists may also be in need for information to be innovative, to look for different things or to plan new things for trips, apps like booking.com or Tripadvisor can be used by

winter sport tourists to answer such needs by reading about personal stories of other tourist including tips. Furthermore, tourists may search for information to be excited. Hedonic information needs are for example answered by apps like ski tracks or Iski in which a tourist can track its runs. Fourth, to imagine the destination and to form expectations tourists can use aesthetic information sources; apps in which tourists can upload pictures of the day like Sneeuwhoogte.nl could provide such information. Last, tourists need information to give advice to others, share their experiences and be valuable for their friends. Social information needs are answered by apps like Facebook, which can also be used by winter sport tourists. Today the tourists' needs are increasingly provided for by the ski resorts, which offer free WiFi connection and a wide range of winter sport related applications.

1.2.   Problem definition

Winter sport tourism and smartphones are two worlds that have completely fused together over the recent years. Ski travellers tend to be heavy mobile users, and the role of the smartphone is expected to increase (Schetzina, 2013). Although some articles studied how the Internet and ubiquitous interaction can potentially change current practices related to winter sport tourism (Egger, 2013; Fensel et al., 2013; Tsekouropoulos *et al.*, 2012), and a number of studies have discussed how the smartphone changes the behaviour of tourists in general (Dickinson *et al.*, 2014; Rasinger, Fuchs, & Hopken, 2007; Wang, Park, & Fesenmaier, 2012), no articles seem available that discuss the use of smartphones in a winter sport related context. Yet, the smartphone is continuously at the tourists' fingertips and offers a great source of information and it has the potential to influence the tourists' decisions and thus its behaviour. The question is how Dutch winter sport tourists actually use their smartphones? And if the usage could and does influence the decisions they make.

However, working towards answering such explorative questions is far from an easy task and needs to be undertaken systematically. With respect to studying the role of the smartphone in undertaking a winter sport holiday, the Social Practices Approach (SPA), a contextual approach to consumption behaviour, seems to offer a useful framework (see Spaargaren, 1997; Verbeek, Bargeman, & Mommaas, 2011; Verbeek & Mommaas, 2008). Adopting the SPA involves both exploring personal characteristics – the Dutch winter sport tourist - and the conditions in which the tourists make decisions – the information provided (by the smartphone). SPA is relevant as the smartphone is a relatively new actor in the world of winter sports, especially in academic terms. SPA helps building academically grounded knowledge by studying the coming together of the provided information and the use of this information by tourists and to see how and if these fit. Using the practice approach will thereafter give a holistic insight in the role of the smartphone for Dutch winter sport tourists. According to Warde (2014) the concept of practice (and various derivatives) has circulated widely since the turn of the century. Adopting SPA to a winter sport related context is not new (see Verbeek, 2009). However, studying the specific role of the smartphone in this practice has not yet been researched.

In this research, the decision-making of Dutch winter sport tourists can be conceived as 'the vacation choice practice'. Analysing the role of the smartphone from a practice-perspective implies that behaviour and thus decisions are considered a result of the dynamics between tourists and providers of tourism services of which the smartphone is part. A wide range of decision-making models has been described (Decrop, 2006). The 'vacation sequence' by Van Raaij & Francken (1984) is one such model and is most cited (Bargeman, 2001). Van Raaij & Francken (1984) distinguish five stages in tourist behaviour from the decision whether or not to go on a vacation till the subsequent (dis)satisfaction after the holiday. The search for information has a significant influence on the decisions regarding the vacation, and the smartphone being a source of information is thus potentially of great value. According to MacKay & Vogt (2012) there is a need to further study the role of IT in the different phases of the decision-making process by tourists. Adopting Bargeman's (2001) revisited 'vacation sequence' model for studying the role of the smartphone seems adequate as it captures not just the on-site use (during-trip) but also the off-site use (pre-trip and post-trip). The vacation decision-making by Dutch winter sport tourists will thus be starting point in exploring the role of the smartphone, and will be referred to as the vacation choice practice. The central research questions reads as follows:

> *What is the role of the smartphone in the vacation choice practice of Dutch winter sport tourists, and which opportunities derive from these findings?*

The aim of this research is to gain an insight in what is provided in terms of smartphone content and how the tourist is actually using this content. This research determines the role of smartphones in the decisions made by Dutch winter sport tourists. An important element in this research will also be to study the way in which tourists become providers of content. In knowing how, when and for what Dutch winter sport tourists use the smartphone recommendations can be made concerning who can still leverage the potential of the smartphone by starting to provide information, alter their provision or entice tourists to provide information. Recommendations to for example destinations can be developed on how they can better anticipate and communicate with the tourists using its smartphone. Thereafter destinations can provide the right content at the right time and effectively help tourists in their choice practices. Furthermore, this research aims to get insight in who provides what; are these providers providing content for general tourism use or specifically aiming at winter sport tourists, are the providers operating on a global scale or specifically aiming at Dutch tourists and are the destinations involved or are the tour operators taking control? Identifying current actors will work towards further recommendations.

1.2. Relevance of study

The relevance of this study is twofold. First, it is relevant in scientific terms, as it draws on previous research concerning practices approaches. Although adopting the practices approach to vacation choices in a winter sport related context is not new (see Verbeek, 2009), the specific focus on the role of the smartphone in this practice is. Moreover, this research in general will contribute to the knowledge on the role of smartphones and its uses in a tourism related context, such as using the

smartphone for social media purposes. The role of smartphones in tourism is a relatively new aspect in literature and is argued to be in need of further understanding (Wang, Park, & Fesenmaier, 2012). Although a number of studies focused on how the smartphone is used (Dickinson *et al.*, 2014; Kennedy-Eden & Gretzel, 2012; Wang, Park, & Fesenmaier, 2010), research on the role of the smartphone in the tourism travel domain is in its infancy and requires further study. Furthermore, this research gains insight in the decision-making process related to winter sport holidays and the role of the smartphone in it. In general literature on the ski industry is sparse making this research relevant for the academic field of knowledge of the ski industry. In addition to focussing on the role of the smartphone in the vacation choice practice, the decisions Dutch winter sport tourists make will be discussed to study this role.

Second, this study is relevant in societal terms. The outcomes of this research are of practical relevance for the providers of smartphone content. First and foremost, learning about how tourists use the smartphone will enable the providers of content (for example tour operators or destinations/ski resorts) to deliver the right information at the right time. In addition by studying who currently provides what, recommendations can be made to actors not yet involved in offering content. However, the potential of the smartphone can possibly extend beyond delivering practical information. An important aspect for the industry to consider is that tourists do not just use the smartphone to access information but also to disseminate information. The two-way sharing capabilities of the devices enable tourists to become providers of information. Studying how winter sport tourists use the smartphone to disseminate information is valuable for the industry, as it not only offers information about the tourists' satisfaction but also serves as a source of information for future tourists. The winter sport industry is often considered to be a matured industry, which struggles to sustain (Hudson, 1996; Vanat, 2014). The industry has stopped growing and the majority of tourists, the baby-boomers, will progressively exit the market without being adequately replaced by future generations (Vanat, 2014). According to Gibson (2005) the industry is often portraying an unrealistic image of pain, injury and cold conditions not helping non-skiers to become skiers. The smartphone might work towards a solution by connecting tourists with one another to create a more 'real' image. Learning about how tourists disseminate information especially about the sharing of their experiences and the consequent (dis)satisfaction through the smartphone can help destinations towards building strategies that invite tourists to do so.

1.3.   Outline

The following chapter, the theoretical framework, will start by introducing the Social Practices Approach. Subsequently the central theoretical concepts belonging to the SPA will be discussed and applied to the vacation choice practice of Dutch winter sport tourists. Chapter three will discuss the methodological approaches used to answer the central research question and the proposed sub-questions. Then the results will be discussed which are a stepping-stone to the fifth chapter that will discuss the results and answer the research questions. At last recommendations will be made for the industry as well as suggestions for future research.

2. The vacation choice practice of the digital skier

This study uses the Social Practice Approach (SPA) to study the role of the smartphone in the decision-making processes of Dutch winter sport tourists. SPA will be used to see how Dutch winter sport tourists use the smartphone and the content as provided by the (tourism) industry. First, the central theoretical concepts concerning SPA will be discussed. Subsequently, SPA will be applied to the vacation choice practice of Dutch winter sport tourists. Thereafter the conceptual model will be discussed and sub-questions will be delivered.

2.1. Social Practices Approach

In the recent years the tourism industry has adapted to the smartphone and the device has become an essential tool for both the tourist and the industry. The ski industry in specific is of special interest, as the Dutch winter sport tourists are considered highly digital. However, from an academic perspective doing research in the ski industry is also interesting. Literature on the ski industry is limited (Clydesdale, 2007; Dickson, 2004) and the academic attention that is present seems to concentrate on the environmental impacts of the industry. Furthermore some have studied the marketing aspects , but literature concerning the decision making by tourists and or the role of the smartphone is harder to come by. Although a number of articles have studied how using the smartphone can potentially change current practices related to winter sport tourism (Egger, 2013; Fensel *et al.*, 2013; Tsekouropoulos *et al.*, 2012), these studies have focused on the potential of the smartphone and the applications and have not studied how this is actually brought to practice. Egger (2013) as an example studied how the smartphone with its near field communication applications can be a valuable tool for destinations; for skiing resorts the telephone could be turned in a virtual key with respective authorization to mountain lifts or ski resorts. However, Egger also states that it "remains to be seen if and to what extent consumers will embrace this technology" (2013, p. 129). Other studies have focused on how the tourist's behaviour changes as a result of using the smartphone (Dickinson *et al.*, 2014; Rasinger, Fuchs, & Hopken, 2007; Wang, Park, & Fesenmaier, 2012), but these are not winter sport specific. Therefore a theory is needed that studies both the use of the smartphone itself and the user, while also taking into account what is supplied for like the formerly authors referred to focused on.

Traditionally, theories were grouped according to a basic opposition between two extremes: the structuralist perspective where structures exist as a given reality and determine the individual's actions; and theories reducing society to self-contained individuals and their actions (Ropke, 2009). However, in holistically studying the role of the smartphone in the decision-making process of Dutch winter sport tourists one is to move away from the actor-structure dualism. It is neither just the tourists' perception nor attitude towards using the smartphone but actual use of the smartphone is also influenced by a certain structured context, in this research the provision of smartphone content by the supply side (see Verbeek & Mommaas, 2008). It is therefore suggested to use a social practice

theory. With its focus on practice, social practice theory considers the interrelations between the tourists' agency and the provision of smartphone content, and therefore effectively deals with the actor-structure dichotomy " (Cohen, Higham, & Cavaliere, 2011, p. 1075).

Using practice theories in consumption studies, like this research envisions, is not new, it is considered part of a general wave of renewed interest in practice theory (Ropke, 2009; Schatzki, Knorr-Cetina, & Savigny, 2001). Although practice theories share the idea of moving beyond dominant dualisms, the theories are very heterogonous and approaches differ (Rope, 2009). However, Ropke (2009) argues practice theory can be articulated as a loose but nevertheless definable movement of thought and the work of for instance Reckwitz (2002) has been important to formulating a more coherent approach. According to Reckwitz 'practice' in the sense of the theory of social practices can be defined as "a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge" (2002, p. 249). The increasing interest in practice theory has spread throughout a variety of fields (Ropke, 2009). Warde (2005) argued for a shortage of analyses in which practice approaches have been applied to consumption, and has had an important role to bringing the practices perspective into consumption studies. According to Warde (2005) people consume items to use in the course of engaging in particular practices, as an example one does not buy a smartphone to have a smartphone but to contact other people. Therefore, consumption occurs within and for the sake of practices (Warde, 2005).

This study will use Spaargaren's conceptualization of a social practice, which includes a demand side relating to actors and their modes of access, and a supply side discussing the modes of provision. Spaargaren's (1997) approach offers offers a useful framework for analyzing consumption in a contextual manner (Verbeek, 2009; Verbeek & Mommaas, 2008). Spaargaren (1997) based his model on Giddens structuration theory, which studied the behaviour of individuals in the context of social practices situated in time and space and shared with others. Spaargaren's (1997) model combines an actor-oriented perspective with a system-of-provision one, in which neither supply nor demand, but the social practice of consumption is the unit of analysis (Verbeek & Mommaas, 2008; Tussyadiah & Zach, 2012). In the context of this study the decisions Dutch winter sport tourists make are therefore not assumed to exist in a 'social vacuum', like the socio-psychological consumption behaviour literature assumes, but an individual's behaviour is studied in the context of social practices, a context shared with others. In this research the demand side refers to Dutch winter sport tourists with their modes of access consisting of skills, knowledge, experience and resources (see Verbeek, 2009). The supply side concerns the modes of provision existing among others of the providers of smartphone content. Paragraph 2.3 and 2.4 will further describe the theoretical concepts related to both the demand and supply side.

Taking a social practice approach to study the vacation decision-making process of Dutch winter sport tourists, this study will hereafter refer to 'the vacation choice practice'. By taking the vacation choice practice as the unit of analysis the (increasing) use of the smartphone is studied as it occurs within

and for the sake of the vacation choice practice. Studying the vacation choice practice implies that one takes an integrated actor- and structure- perspective of which the configuration of the two is central (see Verbeek, 2009). Where consumers and providers 'meet' is denoted as the consumption junctions. In this research the consumers, the Dutch winter sport tourists, meet up with the smartphone content as provided by the industry. By analysing the consumption junctions of the vacation choice practice –tourists using their smartphone – it is possible to identify the 'slots', barriers as well as windows of opportunities (see Verbeek, 2009). Identifying the fits and misfits of the coming together of supply and demand will work towards these slots. For example is the tourist using the smartphone to its full potential and is the available smartphone content actually used, or is the industry leveraging full potential or is new content needed. The consumption junctions will be further discussed in paragraph 2.5.

By taking the vacation choice practice of Dutch winter sport tourists as the unit of analysis the use of the smartphone is analysed in direct connection with tourism practices. SPA theory points to the delimitation to only include social practices with an everyday character (see Verbeek, 2009; Verbeek & Mommaas, 2008). Therefore, SPA has been often applied to studying 'everyday' practices, such as cooking, doing the groceries, eating in a canteen (Reckwitz, 2002; Spaargaren *et al.*, 2007). Undertaking a holiday is for most people not as 'everyday' as the just mentioned examples. Though 'everyday' should not be taken literally and refers to a certain routine of the practice (see Bargeman, 2001; Verbeek, 2009). For the Dutch undertaking a holiday is often a yearly activity and can thus be considered a routine-drive practice. Nearly three-quarters of all Dutch tourist undertaking a winter sport vacation in 2011 had undertaken a ski holiday 6 or more times before (Eurpeesche, n.d.). Here 'everyday' refers to a certain routine of the decision-making process (Bargeman, 2001; Beckers & Van der Poel, 1995). According to Beckers & Van der Poel (1995) practices in the tourism domain can be considered 'everyday' when they are recognizable for tourists and providers of tourism and travelling services.

Whereas undertaking a winter sport holiday can be regarded as 'everyday', the role of the smartphone in the vacation choice practice of Dutch winter sport tourists is still relatively new. Only fifteen years ago, being in the mountains meant being fairly disconnected from the rest of the world (Pfleging, Schmidt, & Michahelles, 2013). Nowadays, the smartphone is omnipresent and not using it has become unimaginable. Studying how the smartphone and the tourists have co-evolved highlights the importance of considering the smartphone in practice (see Verbeek, 2009). The use of the smartphone by Dutch winter sport tourists has the potential to redesign the vacation choice practice through enabling and constraining processes; for example the idea that tourists can book an accommodation after departure by using their smartphone on-the-go, this will be further elaborated on below. The use of the smartphone during the vacation choice practice can potentially become routinized over time. Subsequently this will not just change the user-technology relation, but also the user practice itself, making the smartphone an essential element in the vacation choice practice (see Gram-Hansen, 2007). This type of reasoning points to the notion that not just people but objects as well acquire meaning within practices (Schatzki, 1996). To conclude, this study will centralize the

vacation choice practice and elaborate on the meaning that is given to the smartphone in this practice.

2.2. The vacation choice practice

According to Warde "practice theories may need supplementing with other frameworks" (2014, p. 297). In this research emphasis is given to the role of the smartphone in the decision-making process of Dutch tourists undertaking a winter sport vacation. Therefore, SPA will be combined with literature concerning holiday decision-making. Below, the concerned literature will be introduced. Thereafter, the vacation choice practice will be conceptualized.

The vacationer's decision-making process has been investigated in a considerable number of papers over the last decades (Decrop, 2006). According to Decrop (2006) three general conceptualizations can be identified: microeconomic; cognitive; and interpretive models. Microeconomic models explain tourism behaviour by using traditional demand theory: the economic person that makes decisions governed by price. Cognitive models on the other hand do not pay attention to the price-demand relationship but focus on the mental socio-psychological processes, the consumer is considered to be an active agent, which processes information as provided by marketing. However, the cognitive view has been challenged and new interpretive frameworks have been proposed. "Based on the premise that decision-making is much more than a formalized multistage process, a naturalistic and experiential vision on tourist behaviour is enhanced" (Decrop, 2006, p. 39). Interpretive frameworks are not concerned with how tourists 'should', but on 'how' they actually make decisions.

The cognitive model seems to fit the idea of a practices approach best. Here the actor is seen as an active agent to which information processing is core. Therefore the information as provided by the industry plays a vital role in the decisions one takes. Like the social practice approach importance is not just ascribed to the tourist but also to the information as provided for by the industry. The 'vacation sequence' by Van Raaij & Francken (1984) is one of the most widely adopted cognitive decision models (Bargeman, 2001; Hyde & Decrop, 2011; MacKay & Vogt, 2012; Verbeek, 2009). Van Raaij & Francken (1984) based their model on Engel & Blackwell's (1968) model on consumption decision processes and argued that the model could be adopted to describe holiday decision-making processes (Bargeman, 2001). The 'vacation sequence' describes five subsequent phases: 1) the generic decision to take a vacation; 2) information acquisition to assist decision-making; 3) joint decision-making by members of the household; 4) experiencing of vacation activities; and 5) subsequent satisfaction and complaints about the vacation (Van Raaij & Francken, 1984).

Thirty years have elapsed since Van Raaij & Francken's (1984) paper on vacation decisions. However, Hyde & Decrop (2011) argue some of the issues raised by the authors are still relevant today. But, they also critically reflect on using the traditional model of vacation decision-making and argue that the invariant sequence of stages to decision-making that apply in all contexts as assumed by Van Raaij & Francken (1984) is not supported by empirical evidence. Hyde & Decrop state that, "differences in the vacation decision process occur for different types of vacation trip" (2011, p. 109). Meaning that for

example Dutch tourists undertaking a winter sport vacation go through the phases differently than these tourists undertaking a domestic vacation (i.e. Dutch domestic tourists can be expected to do no advanced bookings whatsoever, whereas the Dutch winter sport tourist will most likely book accommodation well in advance). In their conclusion Hyde & Decrop (2011) also point to the importance of the Internet in speeding up the decision-making process and recommend investigating the role of the Internet use by consumers, and mobile electronic devices. Bargeman & Van der Poel (2006) substantiated this argument and argued that further research studying the use of mass media sources such as the Internet was needed.

MacKay & Vogt (2012) studied how IT influences the decision-making of vacationers to better make sense of the rapidly changing technological society and to provide guidance to tourism providers on effectively supplying information. The longitudinal panel study findings found convergence of rapid technological changes and IT behavioural changes, such as the increasing use of wireless devices and a higher use of wireless devices while travelling than at home. In addition, over the study period more and more people moved from a low-tech group towards a high-tech group. MacKay & Vogt (2012) also found that Internet access was unrelated to the destination but related to trip purpose, pure leisure vacations with the sole purpose of enjoying leisure time saw less Internet use than trips for a combination of purposes (visiting friends and relatives, leisure, business etc.). MacKay & Vogt's (2012) study further signifies the need to study the role of IT in the different phases of the decision-making process by tourists, as a couple of years have elapsed and changes continuously occur. The smartphone would be of particular interest as it enables interactions between the tourist and both the physical and virtual world regardless of location (Wang, Xiang & Fesenmaier, 2014).
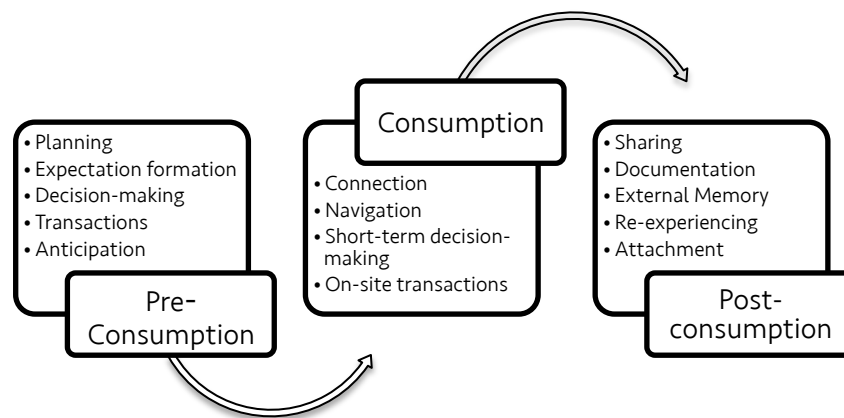
Fig. 2.1. Three stages of tourist experience and the transformation by ICT (adapted from Gretzel *et al.*, 2006 in Wang, Xiang, & Fesenmaier (2014)).

Gretzel *et al.* (2006) also studied the relation of ICT and tourism and focused on the role of ICT in the different stages of the tourist experience (see figure 2.1). Although, their work concerns the experience instead of decisions these are obviously related. Gretzel *et al.* (2006) argue that "Internet technologies

are used in the pre-consumption phase to obtain information necessary for planning trips, formulate correct expectations, evaluate, compare and select alternatives, as well as to communicate with the providers of tourism products and services to prepare or execute transactions" (2006, p. 3). However, during the actual consumption of tourism experiences, the vacation, the technologies used are for the most part related to being connected and obtaining detailed information relevant to a specific place and moment in time. Last, technologies are used in the post-consumption stage to share, document, relive tourism experiences through storytelling, and to establish close relationships with places, attractions, or product/service providers. These stages will be further explored in discussing the phases of the vacation sequence.

It has become clear that the 'vacation sequence' model has been criticized and is under the influence of new technologies. However, some scholars even argue for an even greater role of new technologies transforming the whole idea of delineated phases (Kah & Lee, 2014; Wang & Fesenmaier, 2013). Wang & Fesenmaier (2013) argue that the smartphone shortens the pre-consumption and post-consumption stages while extending the consumption stage. In other words, the mobile character of the smartphone enables the tourists to access information on the go and as a result decisions are often made during a trip. The same idea is substantiated by Kah & Lee (2014) who studied unplanned travel behaviour resulting from navigation technologies. However, Kah & Lee (2014) also argue that clear plans are made before the trip but these plans, especially with regard to travel activities and visits, are frequently changed when they are provided with new information. In short, Kah & Lee (2014) invigorate the idea that decisions are made on the go, but they also clearly contrast the conception of a shortened pre-consumption stage and argue time is still invested in the pre-consumption stage.

Despite recent ideas concerning the shortened pre- and post-consumption stage as a result of using the smartphone this study will adopt an adapted version of the vacation sequence model. This is because, like Kah & Lee (2014) argue, tourists are still expected to plan their trip and the model is still widely used and has not yet been superseded by another model. Moreover, although certain stages might be speeded due to using the smartphone that does not imply the tourist does not pass these stages. Bargeman's (2001) adapted model will be used; Bargeman added a phase to the 'vacation sequence' making the total process consist out of six phases (Bargeman, 2001; Bargeman & Van der Poel, 2006; Verbeek, 2009). The added new fourth phase is about preparing the vacation. The decision-making by tourists will be discussed by studying the interplay of supply (information provided) and demand (tourists with skills and knowledge, resources and experiences) while focusing on the practice itself. Therefore, this research will refer to the vacation choice practice. The role of the smartphone in this practice is of special interest. The smartphone is expected to play a role throughout several phases of the vacation decision-making process. These phases together constitute the vacation choice practice and in every stage the tourist 'meets' with specific providers of information to make its decisions. So in other words, the smartphone is expected to play a role in several sub-practices of the vacation choice practice. The role of the smartphone will be further discussed when discussing each of the phases or sub-practices below. Whereas Verbeek (2009) used 'the vacation choice practice' to denote the first four phases of the 'vacation sequence' this research will specifically focus on the second, third, fourth, fifth and sixth phase.

Phase 1: Making vacation plans

The vacation sequence starts with the generic decision whether or not to go on a holiday. The decision to go on a vacation is highly influenced by the availability of financial resources and the overall willingness to undertake a holiday (Van Raaij & Francken, 1984). In the context of a winter sport vacation financial resources are of special interest, as undertaking a ski holiday is considered to be expensive. This argument is illustrated by the higher socio-economic profile skiers tend to have (Godfrey, 1999; Joppe, Elliot, & Durand, 2013). However, the Dutch are still willing to undertake a holiday, as it is seen as a right and a good way to escape the daily routines of life (Bargeman, 2001). For winter sport tourists motivations include among others to improve one's skills and abilities; to enjoy nature; to achieve social recognition; to enjoy the excitement and risks; to socialize; and achievement (Alexandris *et al.,* 2009).

Undertaking a holiday has become such a habit of the Dutch making this phase no longer centred around whether or not to undertake a holiday, but more a decision on the type of holiday (Bargeman, 2001). However, falling numbers in the tourism industry due to the economic crisis have prevailed the last years, making the idea of a habit questionable. The number of Dutch undertaking a winter sports holiday in the year 2012 has decreased with 83.000 (Bluminck, 2014). Despite the discussion around the habit-like first phase this research will only study those people who have undertaken a winter sport holiday and who have thus successfully passed the first phase. When the decision to go on a holiday and the type of holiday is made the second stage starts.

Phase 2: Gathering of information

The second stage of the vacation decision-making process relates to the gathering of information. The gathering of information by tourists can be done to explore and evaluate possibilities concerning where to go, what to do, where to stay and many other things (Bargeman, 2001; Bargeman & Van der Poel, 2006). The tourists' core motive to search for information is "to enhance the quality of the trip by decreasing the level of associated uncertainty" (Fodness & Murray, 1997, p. 505). Therefore, the information available is of great influence on the decisions taken by tourists (Choi *et al.*, 2012; Fodness & Murray, 1997).

Although different typologies of information sources exist, the internal-external classification is most prevalent (Bargeman, 2001; Bargeman & Van der Poel, 2006; Gursoy & McCleary, 2004; Fodness & Murray, 1997). According to Gursoy & McCleary "internal search is based on the retrieval of knowledge from memory, while the other consists of collecting information from the marketplace" (2004, p. 355). The search often starts using internal sources – personal experiences – and when the internal search provides sufficient information for deciding on a trip, external search is unnecessary (Gursoy & McCleary, 2004; Fodness & Murray, 1997). However, in the case of deciding on a vacation it is argued one often travels to unknown destinations making the search often predominantly external, involving a great variety of information sources (Gursoy & McCleary, 2004; Fodness & Murray, 1997).

On the contrary Jacobsen *et al.* (2009) argue that internal information is of great value for winter sport tourists assuming that winter sport tourists are repeat visitors. Yet they also argue that destination catalogues and the Internet are still very important information sources for winter sport tourists. These information sources can be classified according to Engel *et al.*'s (1995) system, which characterizes sources of tourism information as either commercial or non-commercial and received from personal or impersonal communication. Bargeman (2001) argues commercial information sources are mainly used in the first phases of the vacation sequence, and non-commercial sources are mostly used in the later phases. For winter sport tourists catalogues can be considered commercial impersonal information sources. The Internet however, is harder to define, as many configurations exist.

Today, the Internet has become a widely used information source. Gursoy & McCleary (2004) argue that more and more people will use the Internet due to the low cost and ease of retrieving information from online sources. This trend is fuelled by the increasing amount of information disseminated by tourism enterprises, national tourism organizations and local destination marketing organizations through the Internet (Jacobsen & Munar, 2012). The Dutch tourists have also adapted to the Internet and in 2013 nearly all Dutch tourists (96%) used the Internet to gather information and 75% used it to actually book their vacation (CBS, 2013). An important and interesting aspect of the Internet in relation to the decision-making of tourists is the potential of social media. Van Raaij & Francken (1984) state that social information sources are of great importance throughout the whole vacation sequence. The Internet can possibly serve great value here as the Internet enables people to connect with one another and social information is thus easily accessed. According to Yoo & Gretzel "online travellers not only use social media, the information derived from them has a considerable impact on travel decisions, most notably where to stay, what to do and where to eat" (2012, p. 199). Furthermore, the authors argue using social media leads to more time spent planning, which is interesting as social media use thus expands information search and use instead of providing efficiencies. The information generated by tourists facilitates the evaluation of travel alternatives during decision-making on the web and provides realistic and reliable expectations of the destinations (Parra-Lopez *et al.,* 2012). Parra-Lopez *et al.* (2012) conclude that the decisions travellers make are clearly affected by the growth of the Web 2.0 and the spread of social communication media and user generated content.

Furthermore, the increased use of the Internet as an information source shifted the interaction between the providers of information and the users of information from face-to-face conversations to an increasingly virtual relationship. As a result people can always access the information searched for and modes of access also encompass other time-space contexts such as mobile phone apps (see Korica, Maurer, & Schinagl, 2006). Research by Google (2014) shows that travellers also use their smartphone to access websites and go to the same types of sites as they do on desktop/tablet. In addition the findings also showed that smartphones are often used for travel inspiration in 'snacking moments' before planning, for example during spare moments like waiting or commuting. Wang & Fesenmaier (2013) argue on the other hand that less information is needed prior to departure as the tourists can access the information on the go, which enables decisions to be made during the trip.

Despite the increasing importance of the Internet and the upcoming smartphone Jacobsen & Munar (2012) also note that conventional word-of-mouth combined with internal information are still decisive factors for winter sport tourists making their destination choice. Yet many other decisions are to be taken by the tourist besides where to go and using the smartphone for other purposes could serve value. Relating to this Wang & Fesenmaier (2013) argue that feedback from others received through the smartphone influences traveller's decisions. Multiple apps and websites have also been designed for winter sport tourists or winter sport destinations. But, the question remains if and how Dutch winter sport tourists use their smartphone for gathering information?

Phase 3: Actual holiday choices

Having gathered enough information in the second stage the third stage concerns the evaluation of alternatives and the actual decision-making. Decisions in this stage are made concerning the destination, costs, length of stay, facilities, accommodation, as well as the type transportation (Bargeman, 2001). The decision-making process is mostly a collective effort and is determined by the outcomes of a negotiation process (Bargeman, 2001; Bargeman & Van der Poel, 2006). According to Van Raaij & Francken (1984) an interaction process takes place, which is influenced by both individual factors (like needs and expectations) and factors relating to the family as a whole (such as power structure, lifestyles, roles). According to Bargeman (2001) and Gram (2007) the parents usually make the decisions in a family, children do have a say in the decision-making and they are not always but potentially, involved, particularly indirectly in family purchases. It is also quite common that the children are informed about the decision towards the end of this phase. The Internet in specific makes children better informed and more experienced consumers than ever before. It is thus interesting to see how the smartphone plays a role in the family decision-making both directly and indirectly.

Furthermore, it is interesting to see if and how the information as provided by the smartphone actually influences the decisions the tourists make either directly or indirectly. Websites like TripAdvisor.com are becoming increasingly important in the tourism industry and the online travel reviews written by consumers are increasingly used to make travel-related decisions (Gretzel & Yoo, 2008). Furthermore, social media in general are assumed to play an important role (Fotis, Buhalis, & Rossides, 2011). Fotis, Buhalis & Rossides (2011) asked respondents how much their choices were influenced by the information found in social media. Results showed that social media were rated as "somehow influential" on both destination and accommodation choice. In addition, more than six out of ten stated that changes were made to the original plans after being exposed to user-generated content in social media.

The smartphone enables one to access these information channels and can thus be expected to play an important role in making the actual decision. Furthermore, it is interesting to see when the decisions are actually taken. Like argued before, using the smartphone can possibly shorten the pre-consumption stage making certain decisions on the go during the actual vacation, phase 5 (see Wang & Fesenmaier, 2013).

Phase 4: Preparing the vacation

After having made the decisions and having booked the vacation the tourist enters the preparation phase, which lasts till departing (Bargeman, 2001; Bargeman & Van der Poel, 2006). Preparing for the holiday includes many different things such as shopping for the holidays, packing your luggage, planning activities, or checking the weather. During this phase commercial and neutral information sources are usually used (Bargeman & Van der Poel, 2006). However, the extensiveness of the preparation phase depends on the type of vacation booked. A packaged holiday including transportation as an example will require less preparation than a self-assembled trip. In the context of a winter sport vacation one can think of preparing the gear, checking the weather conditions and checking the snow conditions. Weather information is an important element for winter sport tourists, Rutty & Andrey's (2014) results show the importance of forecast use for planning travel to snow resorts, with poor road conditions likely to result in postponed or cancelled trips.

According to Wang *et al.* (2014) the smartphone is not only used to make certain decisions but also to plan one's trip, to form expectations and to anticipate impending trips. ICT and the Internet are employed for both practical pre-departure purposes such as travel planning –where and what a tourists is about to do- but also utilised for the pleasure of anticipating impending holidays (Jacobsen & Munar, 2012). Furthermore, the interactive and participatory software solutions – the Web 2.0 phenomenon – are often used in preparation of a vacation. These websites allow users to provide reviews and share experiences about their trips; other tourists can then use this information to prepare for their vacation. However, social media is not solely used to seek information to help with travel decisions; tourists also derive enjoyment from interacting with others (Parra-Lopez *et al.*, 2012). According to Parra-Lopez et al. (2012) travel reviews or stories are an important aspect of the hedonic pleasures derived, as they bring an element of fun in the travel planning process and provide enjoyment prior to the travel experience. The smartphone can be used to access these channels providing both information and enjoyment.

Beside apps such as Tripadvisor, which can be used as a source of information in preparation of a ski holiday, a great number of winter sport related apps are also available. These apps might be used prior to departing to for example gather information on the ski resort and the slopes and tracks available or simply for the pleasure of anticipation. However, the question remains if and how the smartphone is used in preparing for a winter sport vacation?

Phase 5: Vacation activities

The fifth phase concerns the holiday itself and the activities undertaken during the holiday (Bargeman, 2001). For Dutch tourists the main purpose of undertaking a winter sport vacation is alpine skiing (71%). The remainder of Dutch tourists came for snowboarding (11%), hiking (9%), cross-country skiing (4%), and skating and sledding (5%) (CBS, 2013). However, during the trip tourists do not just involve themselves in one activity. Beige (2005) studied the behaviour of tourists in Alpine Regions of

Switzerland and identified every activity the tourist participated in outside the accommodation. "As expected the highest proportion with approximately 41% is connected to winter sport activities. Then meals and breaks follow with about 27%. Furthermore hiking and walking show a share of 12% and shopping a share of 9%." (Beige, 2005, p. 12).

The smartphone can possibly help tourists in their activities. Wang *et al.* (2014) studied how smartphones are used in a tourism context and identified four categories according to the ultimate purpose of each use: communication, entertainment, facilitation, and information search. Smartphones were used as communication tools to connect with others through calls, emails, text messages, and social networks during trips. In the context of a winter sport vacation apps have been developed which enable skiers to find their fellow skiers on the slopes. Tourists also use social networks during travel to stay informed of friends' activities and to update their friends about the trip. Second, tourists reported using smartphones to entertain themselves during their trips. Wang & Fesenmaier (2010) also argue that the use of the smartphones introduces new activities for the tourist during its trip, such as listening music and playing games. Third, the smartphone was also used to facilitate in the tourists' activities in travel such as checking the weather (Wang *et al.*, 2014), which is in an important aspect for winter sport tourists. Last the smartphone appears to be an effective and handy tool to search for information regarding things to do during trips. Although some expectations can be made on how to translate Wang & Fesenmaier's (2010) findings to a winter sport related context empirical evidence is needed to make claims. The use of mobile devices by winter sport tourists as a facilitative tool in terms of checking weather conditions has been studied by Rutty & Andrey (2014). According to Rutty & Andrey (2014) virtually all winter sport tourists use weather forecasts when planning an outing (97%), which are primarily sourced through Internet and mobile devices (95%).

Furthermore, like stated before the smartphone enables the tourist to make more decisions on-site during its trip, which in turn can change the tourists activities (Wang & Fesenmaier, 2010). Dickinson *et al.* (2014) argue most tourist apps primarily function for delivering information, replicating other information sources (travel guides, Internet). However, the ubiquitous character of the smartphone provides immediacy to the information. Real-time and place specific updates are valuable for the mobile tourist to make on-site decisions (Dickinson *et al.,* 2014). Dickinson *et al.* (2014) argue that the smartphone can deliver tourist information at attractions and destination which will result in improved visitor confidence through local knowledge and ease of navigation; more independent, opportunistic and unplanned behaviour; and new skill develops in relation to travel modes.

In additions, the diversity of functions of the smartphone are increasingly combined into 'new' types of applications. Tussyadiah (2012) discusses a new type of applications relevant for the tourism industry in which social gaming and location-based technology have been integrated. "These applications encourage the consumption of places (e.g., dining at local restaurants, shopping at local stores, visiting local salons) by broadcasting relevant social and expert recommendations and offering special rewards for certain accomplishments and/or task fulfilment" (Tussyadiah, 2012, p. 205). Xu *et al.*'s (2013) article is also concerned with this 'new' trend and refer to concept of gamification.

According to the authors "gamification is defined as the use of game design elements and game thinking in a non-gaming context" (Xu *et al.*, 2013, p. 525). As tourism highly associated with spatiotemporal movement such games allow tourists to play games in their destination and to collect points and unlock badges, competing with others in the social networks (Tussyadiah, 2012). Marketers have used gamification as an avenue for advertising. According to Tussyadiah (2012) such smartphone applications become the new norm for tourists to experience what cities have to offer. In addition Tussyadiah & Zach (2012) identified that the use of geo-based technology enables people to form route knowledge, "in that opportunities presented by geo-based technology contribute to people's awareness of distance and direction and their ability to recognize and trace their movements across space" (p. 795). Geo-based technology enables the tourists to be more knowledgeable about places.

Although the smartphone can be used for a wide variety of purposes the role of the smartphone in the context of a winter sport vacation is very specific. One is most often expected to travel to a ski resort and enjoy oneself over there. But, the winter sport tourist is very mobile within this resort and applications possibly serve value in navigating oneself. For what kind of uses the smartphone is turned to during a winter sport vacation remains questioned.

Phase 6: *Evaluation of the vacation*

After the actual vacation feelings of satisfaction or dissatisfaction prevail, and these feelings to a large extent determine future holiday choices of tourists (Bargeman, 2001). Dissatisfaction results if the experiences fail to meet the expectations, or if a wrong decision is made (Bargeman, 2001). Satisfaction on the other hand results if the tourist gets value for its money (Van Raaij & Francken, 1984). Jacobsen *et al.* (2009) studied the attribute preferences of winter sport tourists for both advanced and basic skiers. Snow conditions, variety of different runs, piste grooming conditions, terrain, scenery, crowdedness, off-piste activities, after ski opportunities, sightseeing attractions, total holiday price, accommodation price, ski lift price, accommodation quality and ease of access to the destination were considered important elements for evaluating the holiday. These aspects could therefore be subject of talk when feelings of satisfaction or dissatisfaction are shared.

According to Wang *et al.* (2010) the smartphone is used in the post-consumption stage for the sharing of information, documentation, external memory and re-experiencing. However, Wang *et al.* (2010) also argue that these practices can already take place during the trip. This is also substantiated by Neuhofer *et al*, (2012) who state that smartphones allow tourists not only to take a photo for themselves, but enable them to immediately share their experiences with others while actually experiencing them. For winter sport tourists the sharing of pictures can for example be seen as a way of sharing the experience and showing (dis)satisfaction. Such experiences can then again be a source of information for other tourists. How tourists use the smartphone in communicating their (dis)satisfaction concerning for example the attributes identified by Jacobsen *et al.* (2009) is an interesting aspect to study, as it could be of great value for destinations. The smartphone enables travellers to become co-producers and distributors of information, they generate content, all of which should be taken up and managed by tourism organizations (Parra-Lopez et al., 2012). However, Yoo &

Gretzel (2012) also argue that only a small portion of social media users actively contribute content. To conclude, studying to what extent tourists generate content is an interesting aspect for destinations to study, as the tourist can basically become an important actor in attracting new tourists.

Having elaborated on the vacation choice practice and the belonging sub-practices, the elements inherent to the practice are in need of discussion: the demand and supply side. The vacation choice practice is very much a result of the coming together of demand and supply and those will be discussed below.

2.3. Demand

In this study the demand side of the vacation choice practice consists of Dutch winter sport tourists. These Dutch winter sport tourists have their own characteristics, which can influence their information search using their smartphone and thus their decision-making (see Verbeek & Mommaas, 2008). Two aspects relevant for understanding demand or modes of access in the specific context are the individual's portfolio and lifestyle. The portfolio consists out of resources, knowledge and skills, and previous experiences. Thereafter, the concept of lifestyle will be discussed (see Spaargaren, 1997).

2.3.1. Portfolio

In this study the personal portfolio is used to analyze the different factors that possibly influence the use of the smartphone in the vacation choice practice of Dutch winter sport tourists. "The capacity to perform specific forms of consumption behaviour is referred to as a citizen-consumers' consumption portfolio" (Verbeek, 2009, p. 80). The portfolio enables the tourists to act in a certain way and to perform certain practices and makes performing other practices less obvious. According to Spaargaren *et al.* (2007) and Verbeek (2009) a distinction can be made between general- and domain- specific portfolios. The former, the general portfolio, consists of an individual's resources, which are not bounded to a specific consumptions domain. General portfolios are employed to practices in different consumptions domains, for example level of education, financial situation, and age (Verbeek, 2009). The latter, the tourism specific portfolio, is concerned with the tourist's experiences, and skills and knowledge to perform tourism behaviour, in this case using the smartphone for tourism related purposes.

Resources

Resources concern an individual's resources, which are not bound to a specific consumption domain. Differences in background variables or resources can have an influence on the leisure behaviour of Dutch winter sport tourists including the use of the smartphone (Spaargaren *et al.*, 2007; Verbeek, 2009; Verbeek & Mommaas, 2008). The background variables or so-called resources of interest for this research include family composition and/or travel party, age, and educational level. Although income is often a distinguishing factor, it will not be considered in this study as IT equipment and services are increasingly less costly (MacKay & Vogt, 2012).

First, age is brought to consideration, as age is expected to be an important variable. Smartphone use seems variable to age. In 2012, well-above seven out of ten youngsters (12- to 25- years of age) use their smartphone to go online being outdoors, most of them virtually every day. The smartphone is also popular among the 25- to 45- years olds; nearly six out of ten use the smartphone to go online outdoors. The two older age categories make significantly less use of a smartphone to go online being outdoors: about three out of ten for the 45- to 65- years old category, and about one out of ten for the 65- to 75 years old category (CBS, 2013). MacKay & Vogt (2012) substantiate the idea of variable smartphone use by age. In MacKay & Vogt's (2012) study the higher tech vacationers group was associated with younger age. Based on these data it is expected that the smartphone will be used more intensively by younger Dutch winter sport tourists.

Hereafter, the family situation and travel agency is also brought into consideration, as one is often not alone in deciding on the vacation. According to Collins & Tisdell (2002) the family situation influences the vacation decision-making. Both family size and the age of the children are important aspects in the decision-making process. This idea is substantiated by Gram who states that, "children have entered the unit of decision-making in the family and they are, not always but, potentially, involved, particularly indirectly, and often also directly in family purchasing" (2007, p. 26). Furthermore, Gram (2007) argues that children have significant impact which is expected to increase as they become better informed and more experienced consumers than ever before. Children could thus potentially play a role in the second phase of the vacation choice practice, the gathering of information. If children do indeed play a signficant role in the vacation choice practice of Dutch winter sport tourists and if the younger generation makes more use of the smartphone it is interesting to see how the smartphone manifests itself in here.

However, the family is not the only possible travel company. One can also travel with other families or friends and "it has long been recognized that travel party has a strong influence on tourists' behavior" (Wu, Zhang, & Fujiwar, 2011, p. 1408). Especially the third phase of the vacation sequence model, the actual holiday choices, is influenced by travel party composition and size, particularly the preference for choosing a destination (Wu, Zhang, & Fujiwar, 2011). With whom one travels and how decisions are made as a group and how the smartpohne is related is an interesting aspectas. Some actors in the group might use the smartphone and some might not and how this use is transferred through the group is a valuable insight in this research.

Last, one's level of education is also considered, as according to MacKay & Vogt (2012) the higher tech vacationers group is associated with higher education. Therefore, it is expected that Dutch winter sport tourists with a higher level of education will search for more information using their smartphone.

Knowledge & Skills
When performing practices, people call upon their practical knowledge with regard to how to proceed within these practices (Giddens, 1984; Verbeek, 2009). In other words, with regard to Dutch winter sport tourists using their smartphone, next to the availability of smartphone apps, actors need to

possess specific practical knowledge and capabilities to search for information on the smartphone. One should have the knowledge of using new media and should be aware of the possibilities of the smartphone in a winter sport related context. Being knowledgeable will result in making different choices as opposed to being unknowledgeable. Next to being knowledgeable actors also need to possess the skills to use the available smartphone options. "Skills' refers to knowing how to use the available smartphone options (i.e. knowledgeability), to the ability of actually guiding yourself effectively through the winter sport related apps. For example one might be aware of the existence of the Booking.com app (knowledgeable), but should also posses the skills to actually place a successful reservation through the app (skills).

Previous experience

Besides knowledge and skills previous experiences with using these smartphone apps are also important to the extent of using the smartphone in the vacation choice practice. When tourists have had positive experiences with using the smartphone in the vacation choice practice before they will be more likely to use it again. Research by Google (2014) showed that the majority of tourists (83%) have encountered a travel site that was not mobile optimized or friendly, which questions future use of the smartphone for browsing. However, it does not only concern the experience with using the smartphone it also relates to previous experiences in decision-making in a more general sense. Previous winter sport experiences will direct the tourist to an internal information search when deciding on a new winter sport vacation (Fodness & Murray, 1997). According to Jacobsen *et al.* "data clearly indicate that reliance on intrinsic information grows with increased experience" (2009, p. 612). Experienced skiers rely more on personal experience, whereas basic skiers are relatively more reliant on external information. However, the data also showed that advanced skiers do not rely on fewer information sources in destination choices than do basic skiers.

Experience is thus an important aspect. On the one side previous experiences with using the smartphone in the vacation choice practice are of relevance. On the other hand previous winter sport vacation experiences are of relevance as they might possibly influence the decision-making of new vacation decisions. The question is whether Dutch winter sport tourists search for external information, and if so how they use the smartphone in their decision-making?

2.3.2. Lifestyle

Besides the individual's portfolio one should also consider the individual's lifestyle. Giddens defined a lifestyle "as a more or less integrated set of practices which an individual embraces, not only because such practice fulfil utilitarian needs but because they give material form to a particular narrative of the self" (1991, p. 81). According to Spaargaren *et al.* (2002), the SPA refers to lifestyle as the specific set of behaviours that are characteristic of the actor. Lifestyles are reflections of actors' preferences and offer insight into patters of times, spending and feeling, they basically give an idea of what actors actually do and how they really live (Spaargaren *et al.*, 2002; Verbeek, 2009). Van der Poel (2004) refers to lifestyle as a combination between activities, routines and spheres of interest.

MacKay & Vogt (2012) discuss how information technology relates to everyday and vacation contexts. The authors argue that vacation behaviours frequently differ from those in the home and work environments. MacKay & Vogt (2012) build towards an understanding of how the everyday behaviours related to information technology retain while on vacation; spill over theory. Meaning that the use of information technology in daily life can spill over to the travel context. Their findings provide evidence for the existence of unique Internet user groups and most portable devices owned were brought on trips. Furthermore, "spillover of technology equipment and use from everyday life to vacation contexts was fairly prominent" (MacKay & Vogt, 2012, p. 1394). Wang, Xiang & Fesenmaier (2014) substantiate these findings and argue tourists who adopted to the smartphone at home keep using these mobile applications in their trips. For example many informants had the 'habit' of checking Facebook while they were on the road and continued doing this during most of their travels (Wang, Xiang & Fesenmaier, 2014). Asking about one's level of smartphone use in daily life is therefore an interesting aspect to ask about.

Although tourism behaviour may not be a day-to-day experience it certainly is characterized by routine behavioural patterns (Verbeek, 2009). Bargeman (2001) and Bargeman & Van der Poel (2006) studied the roles of routines in people's holiday practices and concluded that people show routine behaviour in their decision-making processes and in the way they arrange their holidays. In other words, the vacation choice practice of Dutch winter sport tourists has most probably become routinized over the years. However, the use of the smartphone in this process is still relatively new and reroutinization might also take place (Verbeek, 2009), as routines are not fixed and are constantly undergoing changes (Giddens, 1994; Bargeman, 2001). It is therefore interesting to see how everyday lifestyle's are influencing and changing the vacation choice practice routines. Moreover it is also interesting to see if the level of smartphone use differs among the tourist population. It could well be that the smartphone will only affect and alter the behaviour of a certain (lifestyle)group of travellers. For example if a tourist argues to be an active smartphone user, using a smartphone in the vacation choice practice suits the tourist's overall lifestyle.

2.4. Supply

The supply side in this study refers to the providers of the smartphone content, such as ski destinations and tour operators. Verbeek & Mommaas (2008) refer to the supply side in the context of a SPA as the modes of provision. According to Spaargaren *et al.* (2007) a variety of modes of provision can be distinguished, such as the 'market mode of provision', and the 'state mode of provision'. The former category relates to private and commercial parties as supply actors, whereas the latter concerns public parties and the government. Commercial actors dominate the tourism sector and are mainly targeting tourists, examples include travel agencies, tour operators, and ski resorts. Therefore this study mainly refers to the marketing modes utilized by private or commercial parties. Smartphone content is a relatively new mode of provision and the industry is still exploring the capabilities (Dickinson *et al.*, 2014).

Within market modes of provisioning, there are several ways in which smartphone content becomes part of the vacation choice practice. Dickinson *et al.* (2014) studied the functions of the smartphone in the tourism and travel domain and discuss the uses of the smartphone for the industry. Apps with the core purpose of delivering information enable the providers to describe a destination in a certain way. Moreover, using the smartphone as a medium enables the industry to personalize the information to the tourist's needs. The smartphone is thus a good medium for the industry to help the tourists in the second, third and fifth phase of the vacation choice practice. Especially in the fifth phase the information can well be personalized by installing location awareness functions. Second, the two-way sharing capabilities of the smartphone enable the app providers to mine data, for example to research visitor catchment and to study the undertaken travel routes. Subsequently this information plus the recommendations tourists share through the Internet with other tourists during the last phase of the vacation choice practice can help better the marketing of a specific destination. Third, the context awareness functions of the smartphone help the industry to deliver the right information at the right time and also delivers a great source of information to the industry as visitors can be tracked. Here too the smartphone is particularly useful during the trip to track visitor movement. Fourth, the smartphone enables for example ski resorts to let tourists communicate with objects such as ski lifts; real time information will keep tourists up-to-date and thus satisfied. Last, the smartphone offers the industry a 'cheap' way of marketing as by means of tagging visitor generated enter the web and serve as valuable source of information for potential visitors. All in all, delivering information is key for the industry, using the smartphone as a medium has potential advantages for the industry.

By knowing the possibilities for the industry when providing smartphone content it is interesting to see who is currently already involved in providing smartphone content. In addition, studying what is provided and how this information is provided seems valuable to build towards recommendations concerning how the industry can fully leverage the potential of the smartphone. Specifying the smartphone content for each phase also seems interesting (who, what, and how), as tourists are most probably turning to different types of smartphone content in the different phases of the vacation choice practice.

2.5.   Consumption junctions

As stated before, the integrated perspective taken centralizes the practice - the vacation choice practice - whereby tourist and supply coalesce. The points in time and place where both sides interact, consumers and providers, are the so-called consumption junctions (Spaargaren *et al.*, 2007; Verbeek & Mommaas, 2008). In this research a consumption junction concerns the Dutch winter sport tourist (demand) using smartphone applications provided by the industry (supply) during the vacation choice practice. By analyzing the confrontation between supply and demand in the vacation choice practice, concrete production-consumption slots (i.e. barriers as well as windows of opportunities) can be studied in order to find new opportunities within the tourism sector (Verbeek, 2009).

First and foremost this research will focus on exploring how the consumption junctions look like in the different phases of the vacation choice practice of Dutch winter sport tourists using smartphones.

The tourists will elaborately be asked about their vacation choice practice and how they use the smartphone in it. The different sub-practices (phases 2,4, 3,5 and 6) will most probably entail different content. Whereas tourists might for example use Booking.com for gathering information about accommodation in the second phase, apps like sneeuwhoogte.nl (snow-depths) are more likely to be used in the third phase when one is preparing for the vacation. During the fifth phase the tourist is likely to use apps provided by the ski resort showing maps of the ski area, which can be used to navigate oneself. In the last phase social media sites can be used to share one's experiences online, such as Facebook. Furthermore, it is also interesting to ask how the tourists think current content could be improved. Asking tourists about what they would like to see available in the online stores would also be a good way to find new opportunities for the tourism sector.

2.6. Conceptual framework

Taking up a practice approach is expected to deliver useful insights in the use of the smartphone by Dutch winter sport tourists. The vacation choice practice of Dutch winter sport tourists as elaborated on before will be the unit of analysis. The research model combines and summarizes the theoretical concepts that are discussed within this theoretical framework (see figure 2.2). Although the last phase is normally referred to as the subsequent (dis)satisfaction (see Van Raaij & Francken, 1984; Bargeman, 2001), this research will refer to sharing experiences, because the focus is on how tourists share their (dis)satisfaction. It is assumed their (dis)satisfaction is mostly communicated using their smartphone by sharing experiences. The different phases of the vacation choice practice, as sub-practices and the coming together of these practices in the consumption junctions are the units of analysis. The arrows from the demand and supply side towards the social practice, illustrate that the vacation choice practice is the focus of this research. The vacation choice practice is the configuration between a group of actors, Dutch winter sport tourists, with their lifestyles and portfolio reflected in their modes of access on the one hand, and smartphone applications or content made available by providers as modes of provision on the other.

The bolded and italicized phases or sub-practices will have the main focus, here the Dutch tourist using their smartphone will be the unit of analysis.

Fig. 2.2. Conceptual research model based on Spaargaren (1997), Bargeman (2001), and Verbeek (2009)
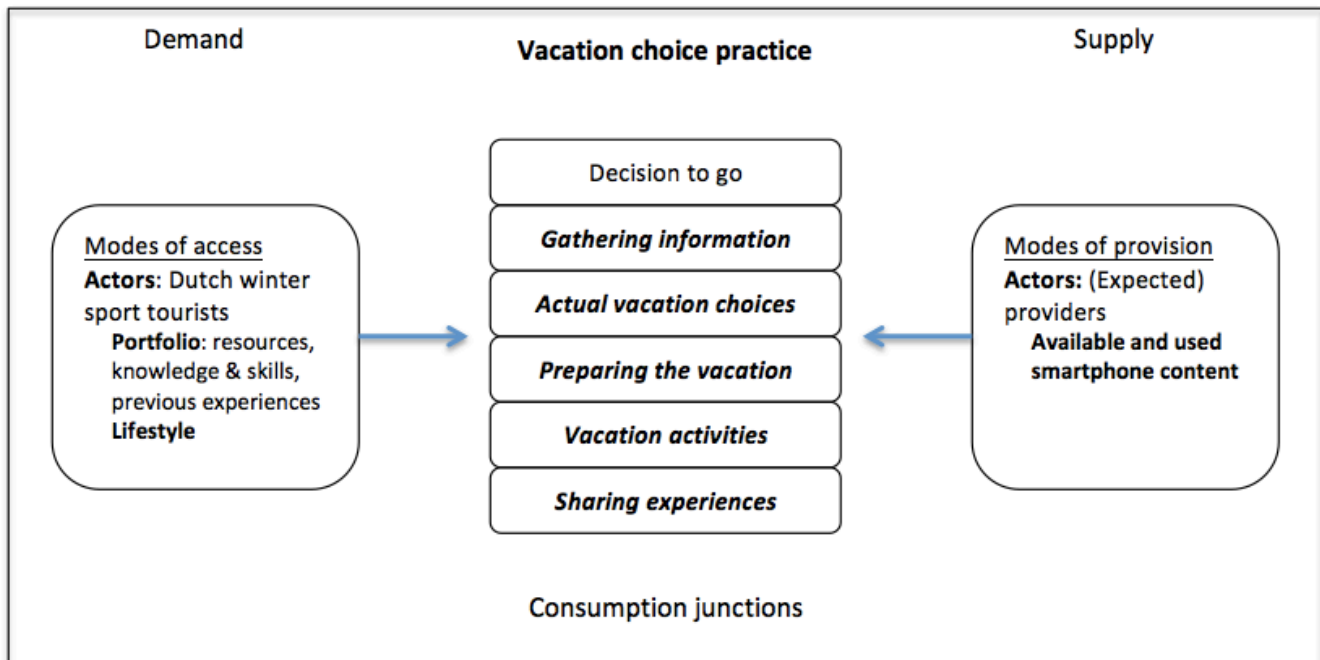
Based on the research model, a variety of sub questions can be formulated, which will work towards answering the central research question. As presented in the introduction the central research question reads as follows:

What is the role of the smartphone in the vacation choice practice of Dutch winter sport tourists, and which opportunities derive from these findings?

Subsequently the sub-questions that will be addressed are:

1. How does the decision-making process of Dutch winter sport tourists look like and what is the role of the smartphone in the different phases of this process?
2. How can different actor-related factors be linked to the use of the smartphone in the vacation choice practice of Dutch winter sport tourists?
3. How can the supply of smartphone content (as perceived by the Dutch winter sport tourists) be characterized for the different phases of the vacation choice practice?

3. Multimethod qualitative research

This chapter will elaborate on the methodological approaches that were used in order to build towards answering the central research question and the sub-questions introduced in paragraph 2.6. A description follows of the research design, the study population, the data collection, the operationalization of the research questions and the ways in which the findings were analysed subsequently.

3.1. Research design

The different phases of the vacation choice practice of Dutch winter sport tourists, referred to as sub practices, were the units of analysis within this research. Within these practices, the role of the smartphone was analysed by using a qualitative research method. Since limited research is done on the use of the smartphone in a winter sport related context, this research is rather explorative in nature and a qualitative research design seemed adequate. The theory discussed elaborated on the concepts that were used to study the role of the smartphone in the vacation choice practice of Dutch winter sport tourists. Theory plays an important role in this study but denoting this research as purely deductive or inductive seems misleading, as a combination of the two is evident (see Bryman, 2008). The concepts used originate from theory, but an inductive approach was also taken, as no a priori defined hypotheses were tested and knowledge arised from looking for patterns in the gathered data (see Ritchie & Lewis, 2003). Furthermore, using qualitative data collection places an emphasis on understanding the world from the perspective of the tourists (Phillimore & Goodson, 2004). Moreover, in contrast to quantitative research, doing qualitative research enables one to describe the experiences and thoughts of the tourists in more detail and in their own words (Ritchie & Lewis, 2003). These characteristics of a qualitative research design were important for this study to determine the role of the smartphone and the meaning attached related to the decisions made by Dutch winter sport tourists.

Doing desk research was the first step in this research to gain better insight in the applications that tourists can potentially use, or in other words the supply side with its modes of provision. Secondary data concerning the apps were gathered and analysed to get a better picture of what is currently provided. Subsequently, this knowledge did not just function as a preparation for the main data collection but also served as a first step to get acquainted with the role of the smartphone in the vacation choice practice, with special focus on the supply-side.

Thereafter the main data were collected by means of in-depth interviews, which gave insight in the demand side and the actors' modes of access. Although numerous research strategies can be thought of doing qualitative research, this research used the main method of data collection in qualitative research, in-depth interviews (Ritchie & Lewis, 2003). In-depth interviews are an optimal manner to let tourists express their thoughts about how and why they use the smartphone (see Ritchie & Lewis,

2003). Above all, interviewing is well suited to research complex phenomena; such as the decision-making process of tourists. Therefore qualitative research by means of in-depth interviews was performed in this study.

3.2.   Desk research

Like described above the first step in the research design was to conduct desk research and to explore the winter sport related apps. Secondary data were accessed to conduct this desk research. Smartphone providers such as Apple, Samsung and Nokia offer access to a great amount of smartphone apps through a variety of online systems, including 'App Store' for iPhones and 'Play Store' for Android-system supported smartphones. Data were collected from these online systems and included descriptions of the apps and the reviews available. The latter seemed interesting as these describe how the apps are used. However, not all apps available seemed relevant for the desk research. First, the online systems were explored by directing oneself to the topic lists included on the online systems, such as: leisure time, recreation and sports. Subsequently, having found the first apps, related apps were accessed through the redirections provided. Second, the search engine was used to find additional applications, think of words like winter sport vacation, ski, and vacation etcetera. The data collected were saved in a Word file enabling easy analysis afterwards. During the actual analysis some further information was searched on the Internet concerning some of the providers.

The data gathered for the desk research was subjected to directed qualitative content analysis. Directed content analysis uses theory to structure the analysis by providing an initial coding scheme (Hsieh & Shannon, 2005). The pre-set coding scheme developed included codes concerning the type of app, the use of the app relating to the phases of the vacation choice practice and the type of provider. The data were coloured according to the codes and recurring patters were sought for. Furthermore, besides the pre-set codes significant patterns unrelated to these codes emerged from reading and analysing the data and were assigned new (emergent) codes. The findings from the desk research were used to prepare for the main data collection, the interviews.

3.3.   Study population

For the winter period 2014-2015 about 930.000 Dutch were expected to undertake a winter sport holiday, which is about the same number of people as the year before (ANWB, 2014). Yet a selection was made as not all 930.000 Dutch winter sport tourists could be taken into account. A non-probability sampling technique was adopted to select respondents that meet several criteria. The method of selection is called 'purposive sampling', which is described by Bryman (2008) as a sampling technique in which respondents are selected in a strategic way, so that the chosen sample is relevant for answering the proposed research questions. The selection criteria for this research included: regularity of winter sport activity, age, regular smartphone use in daily live and the presence of the smartphone during the winter sport vacation.

The research consisted of a sample of 12 Dutch winter sport tourists, 4 people out of each of the three age categories determined by CBS (2013) like discussed in paragraph 2.3 dealing with *resources*: adolescence (15 to 25 years old), young adulthood (26 to 45 years old), and middle adulthood (46 to 65 years old). The numbers stated that 6 out of 10 Dutch winter sport tourists is male and the remainder is female (CBS, 2013), it thus seemed appropriate to select 2 of each gender in every age category. Furthermore respondents were selected based on the regularity of their winter sport activities, meaning they had undertaken a winter sport vacation at least twice in the last three years. Next to that it was important for this research that the respondents were active smartphone users in their daily life, as it was assumed that people using the smartphone more regularly in daily life are more prone to using the smartphone in the vacation decision-making process like discussed in paragraph 2.3. Above all, the smartphone should be taken on the ski holiday. The table below gives an overview of the respondents, including age, gender, family composition, destination and the travel company. For a more elaborate overview see appendix 3.

Table. 3.1. Overview respondents

Overview sample
No.	Pseudonym respondent	Age	Gender	Family composition	Destination	Travel company
1	R1	25	Male	Together	Bramberg am Wildkogel, AU	Together
2	R2	20	Male	Student	Val Thorens, FR	Family 4
3	R3	19	Female	Parents	Leogang, AU	Family 4
4	R4	20	Female	Parents	Serfaus, AU	Family 5
5	R5	39	Male	1 kid	Val Thorens, FR	Together + 1 friend
6	R6	40	Male	3 kids	Gerlos, AU	Family 5 + Family 6
7	R7	39	Female	3 kids	Koningsleiten, AU	Family 7
8	R8	28	Female	Together	Val Thorens, FR	Together
9	R9	46	Male	3 kids	Vars-Risoul, FR	Family 5
10	R10	48	Male	4 kids	Sankt Anton, AU	Together + Friends
11	R11	63	Female	Kids moved out	La Norma, FR	Together + Family 4
12	R12	49	Female	2 kids	Obertauern, AU	Family 4

Although purposive sampling was core to finding respondents, a mixed methods sampling technique was used. Both convenience and snowball sampling techniques were used to find potential respondents. First the researcher's diverse social network was activated by asking acquaintances either in person or through mail if they met the criteria described above and if they were willing to participate. Subsequently these people were also asked if they knew any other potential respondents the researcher could contact. After receiving positive responses appointments were made either through email or in person for an interview. The respondents were informed about their anonymity before and at the start of the interview and are therefore called numbers in this research.

3.4.   Data collection

As explicitly stated in the above paragraphs, the main method of data collection in this study was interviewing. The interviews were in-depth face-to-face interviews, offering the opportunity for a detailed understanding and if needed further explanation of the research topics. The interviews were semi-structured; meaning that the topics, which were derived from the studied theory and desk research were listed on forehand in a so-called 'item list' (see appendix 1). The item list was learned by hart by the interviewer in order to ensure the same order of questions across all the interviews, making the interviews comparable. Although the item list formed a guideline for the interviews the respondents had ample space to respond and the researcher was able to ask further questions if answers were unclear or if the mentioned topics were of great interest and required further understanding (Bryman, 2008). Furthermore, conducting semi-structured interviews gave the Dutch winter sport tourists the opportunity to convey their own meanings and interpretations through the answers they provided (see Ritchie & Lewis, 2003).

A pilot interview was conducted as soon as the final item list was formed in order to determine the duration of the interview and to ensure all questions were easy to understand. Afterwards the interviews took about 45 minutes. The interviews were mostly conducted at the respondents' homes; some took place during the day while others were conducted in the evening, as not all respondents were available during the day.

The questions asked were clear to the respondents and the interviews proceeded with ease. Some of the interviews were a bit shorter, because some of the decisions were easily made and did not require too much information search or because the use of the smartphone was limited. The item list proved to have a logical order and was mostly followed. Only few of the items were sometimes discussed before the actual question was asked, but this was not problematic and added to the flow of the interviews. During some of the interviews anecdotes were also shared which added to the preferred informal atmosphere.

Since the respondents were asked to describe their most recent winter sport vacation the research design had a retrospective character. Therefore respondents had to recall their memories, which was easier for some than for others. Although all respondents could clearly describe the order of events of their vacation decision-making process and were able to describe to what extent they had used their smartphone, recalling specific names was sometimes harder. For example the names of the online tour operator they had turned to, or the names of the apps they had used. However, this was not considered to be a big issue as in some instances respondents turned to their smartphones to search for the specific name of the tour operator. Recalling names of the apps they had used was somewhat harder as the respondents had quite often removed apps, because they were only used during the vacation period and/or they took quite some data storage. Fortunately the respondents were able to describe the content of the apps and what they had actually used it for, making the retrospective character of the research unproblematic.

Throughout the interviews the smartphone was mostly close at the respondents' hands and quite some respondents turned to their smartphones for illustrating the apps they had used. This added an interactive touch to the interviews and gave room to asking follow-up questions regarding the use of the apps. However, it also seemed that focussing on the smartphone slightly directed some of the answers to the use of the smartphone. Whereas the goal was to see how the respondents searched for information and how the smartphone took a role, it felt as if the respondents sometimes thought they were supposed to answer questions by solely referring to their smartphone use. This seemed to lead to an increased role of the smartphone and a downgraded role of other sources. In response to this recurring issue the researcher repeatedly asked if other sources besides the smartphone were also used.

In the course of conducting the interviews some additional questions were included/designed to get some more depth. Additional questions related to the value the respondents attached to bringing their smartphone when undertaking a winter sport vacation. The additional questions were asked in the ending up section and included: 'Would you have had the same vacation without your smartphone?', 'Could you undertake your winter sport vacation without your smartphone?', 'Would you like to undertake your winter sport vacation without your smartphone?'.

3.5. Operationalization

In order to answer the research questions as introduced in paragraph 2.6, the research questions were translated to items for the interviews. This paragraph describes briefly how the sub-questions were operationalized and will refer to the developed item list (see appendix 1).

1. *How does the decision-making process of Dutch winter sport tourists look like and what is the role of the smartphone in the different phases of this process?*

In order to answer this question the respondents were extensively asked to describe their vacation choice practice, particularly phases 2, 3, 4,5 and 6. Focus was on the way they use and give meaning to their smartphone in these phases.

Although the first phase was not the main focus, general questions were asked to set the stage. As going on a holiday has become a habit of the Dutch population and this phase is no longer about the decision to go or not, but a decision on the type of vacation (Bargeman, 2001), respondents were asked to describe what a winter sport holiday means for them (#3). Respondents were asked what kind of skier/snowboarder they ought themselves to be and how they best liked to experience their winter sport holiday. It is often seen that winter sport tourists got excited after their first ski holiday and are going year after year since (CBS, 2013). Therefore the respondents were asked to describe their last winter sport vacation (#3.3). In addition they were also asked if their last holiday represented their former winter sport trips (#3.8). To also say something about the role of the crisis on the habit of the Dutch to undertake a winter sport vacation respondents were asked about the necessity to save money for the trip (#3.6).

Related to the second phase, respondents were asked about the information gathered (#4). First the respondents were asked to describe what kind of information was searched for in general (#4.1), including a number of follow up questions to get more details on the actual information search. Subsequently if not yet brought to the attention the respondents were specifically asked to describe the use of the smartphone in this phase (#4.2), including a number of follow up questions. These follow up questions would get into the details of the actual use.

For phase 3 respondents were asked about how the vacation was actually decided on (#5). First respondents were asked how they booked their trip (#5.1). Then they were asked if the weighing of a set of various alternatives preceded this decision (#5.2). A logical next question concerned who took charge in deciding on the vacation (#5.3), followed up by asking how the rest of the travel party was involved. Then respondents were asked to describe how the information provided by the smartphone influenced the decisions made (#5.4). Last, respondents were also asked to explain the importance of WiFi for deciding on an accommodation.

For phase 4 respondents were asked about their preparation for the vacation (#6). First a general question concerning the search for any type of information was asked including a number of follow up questions for further details (#6.1). Then, the role of the smartphone was discussed (#6.2). In addition, respondents were also asked if any smartphone preparations were taken before take off (#6.5).

For phase 5 respondents were first asked if they searched for any information during their vacation, and some follow up questions for further details (#7.1). Then the respondents were asked to describe their smartphone use during the vacation, both in a general sense and in terms of looking for information (#7.2). To see how the use is specific for the winter sport context interviewees were asked to compare their smartphone use to other vacations and their daily life(#7.3-.4).

For the last phase respondents were asked if they shared their experiences with others and how the smartphone was used for this (#8.1). To end up the respondents were asked to describe how they experienced using the smartphone over the whole vacation sequence (#9.1). In addition they were also asked if they could imagine any apps they would like to see to enter the market (#9.2)

2. *How can different actor-related factors be linked to the use of the smartphone in the vacation choice practice of Dutch winter sport tourists?*

In order to create a picture of the respondents as actors, the respondents were asked to elaborate on their personal characteristics in terms of their portfolio and their lifestyles. The portfolio is divided in the individual's resources, skills and knowledge, and previous experiences. The respondents were first asked to elaborate on their personal characteristics in terms of age, family composition, travel party and educational background (#1).

Skills and knowledge refer to the ability of the tourists to use their smartphone during the different phases of the decision-making process. The respondents were asked about what they know about the possibilities of using the smartphone (some additional questions have been formulated after the desk research). In addition, respondents were asked if they encountered any difficulties in using the smartphone, so if they experienced their skills and knowledge were lacking. Respondents were also asked if they downloaded new smartphone content or not.

The lifestyle of the respondents was addressed through asking about their daily use of the smartphone (#2). Special focus was on what they use it for and when they do so.

3. *How can the supply of smartphone content be characterized for the different phases of the vacation choice practice?*

Related to the supply side, respondents were asked what kind of content they actually used on the smartphone and who provided it. This was asked for each and every phase, as different types of content could be used for different phases of the process. The respondents were also asked what the smartphone content is like, how is the information presented and what kind of uses are included. Furthermore, respondents were asked about how they became aware of the content they used and how they accessed it.

Last they were asked if they can think of any applications not yet available, who should develop them and why? (Questions will be formulated after desk research)

3.6. Data analysis

As stressed by Ritchie & Lewis (2003) the interviews were recorded in order to better understand the meaning the respondents tried to convey and to capture the emphasis on depth, nuance and the respondent's own language. The recordings of the interviews were transcribed verbatim and together with the notes taken functioned as the main data for analysis. Not only did transcribing the interviews diminish the loss of information (Bryman, 2008), it also increased the researcher's familiarity with the content. The transcribed interviews fostered a lot of information, which needed to be structured and reduced before effective analysis could happen (Ritchie & Lewis, 2003).

Since the same item list guided all the interviews the data were expected to relate to these concepts. Therefore the data was coded using a concept-driven approach (Gibbs, 2007), meaning that the transcribed interviews were marked with colour codes. First a colour codebook was made based on the item list, every category/phase received a different colour theme and the items were denoted using a colour from the theme. Then the transcribed interviews were printed and coloured: fragments relating to an item from the item list were coded in the matching colour. The table below captures an overview of the colour codebook, the general themes are given including their colour themes. Although the overview only represents the colour themes, during actual research each specific item was given a separate colour. For example 'smartphone use daily life' had 4 items, which were each

given a type of red: 'user experience', '(smartphone) use daily life', 'home/way ratio' and 'intensity of use'.

Table. 3.2. Overview colour codebook

Overview colour codebook	
Themes	**Colour themes**
Smartphone use daily life	
Background winter sport vacation	
Last winter sport vacation	
Search for information	
Deciding on the vacation	
Preparing for the vacation	
The vacation	
Sharing of experiences	Variety of colours from different themes
Ending up	Variety of colours from different themes

Besides colouring the text, open codes were also included by making small notes next to the fragments that did not match any of the items. The latter was in accordance with Gibbs (2007) stating that the researcher also needs to amend the list of codes during the analysis as new ideas and new ways of categorizing are detected in the text. The open codes were recorded in a Word file and clustered together with other open codes that seemed to have the same theme, afterwards themes were identified. The table below gives on overview of the developed items and the theme to which they somehow related.

Table. 3.3. Overview open coding

Overview open coding	
Themes	**New items**
Smartphone use daily life	General thoughts on smartphone use
	Thoughts on smartphone use winter sport
	Daily social media use
Background winter sport vacation	
Last winter sport vacation	Familiarity with ski resort + consequences
	Experience ski resort
Search for information	
Deciding on the vacation	Experience booking
	Narrowing down booking options
Preparing for the vacation	
The vacation	Weather
	Smartphone contact during winter sport
	Tracking (Why/why not)
	Online map/paper map preference
Sharing of experiences	Thoughts on (writing) reviews
Ending up	

After having fully coded all the transcripts the data was transferred into a monster-matrix (see Swarnborn, 2009). The monster-matrix captured the coloured items by summarizing the overall ideas of the respondents regarding the items. The matrix was developed in Microsoft Excel and the rows represented the different items and the columns included the respondents for each age group. After having processed the coloured fragments and the open codes in Word an additional sheet was included in the monster matrix in which the themes from the open codes were included in the rows and the different columns included the respondents overall ideas concerning the themes. Although the interviews and thus the transcripts were Dutch the monster matrix was written in English. The complete monster-matrix can be found in appendix 3. Like shown in the appendix quite some items were included in this research and the variety of items gave a holistic view on not only the vacation decision making process and the role of the smartphone but also on what kind of tourists the respondents are and how skiing was experienced. The combination of the diversity of items enabled further comparison among the respondents.

3.7.   Limitations

Although the research method seemed to suit and has reached it aims, there were some limitations.

First the recurring emphasis on the smartphone seemed to direct the respondents into answering the questions by only referring to the smartphone. Although the aim was to see how the smartphone was part of the overall information search, it felt as if the respondents sometimes thought they were supposed to answer questions by solely referring to their smartphone use. During the interviews the interviewer recurrently asked if other information sources were used but it seemed as if the respondents downplayed these sources. Exactly determining this effect is hard, but now there is a clear picture of how the smartphone is indeed used.

Second, there were no providers of apps involved or interviewed for this research and therefore it is not possible to better discuss the modes of provision. However, the use of the apps by the respondents and the content provided in combination with the desk research were used to get an idea of the modes of provision.

4. The digital makeover

As explained in the preceding chapter the research design was twofold. First the supply side was explored by carrying out desk research to develop an initial understanding of the modes of provision. The modes of provision concern the types of apps available, the content provided, and information concerning the suppliers of that content. Then this information was used during the interviews that focused on the demand side, Dutch winter sport tourists. The actors were extensively asked how the smartphone became part of the vacation choice practice, or in other words the actors were asked to describe the consumption junctions. The now following paragraphs will first describe the results of the desk research and thus focus on the supply side and the third sub-question. Thereafter, the answers of the different respondents of the interviews are discussed, focusing on the demand side and the first two sub-questions.

4.1. Digging the online stores

An initial analysis of the gathered data during desk research led to identifying three main categories of apps. Each of these categories will be discussed below. Important to note is that the list of apps is not complete, yet it is considered to capture the diversity of apps available. The findings are captured in a table, see appendix 2.

General winter sport apps

First a number of apps were identified which are specifically designed for winter sport tourists. Within this category an additional breakdown was identified related to the type of content provided.

1. *Snow reports.* For a number of apps the content mainly related to reporting the snow conditions. All these apps have the purpose to facilitate the tourist in preparing for the vacation (day) either before departure (*phase 4: preparing for the vacation*) or during the vacation in planning one's activities (*phase 5: vacation activities)*. Preparing in terms of both obtaining information or just for the pleasure of anticipating impending trips. One user commented on the Sneeuwhoogte+ app by stating: "*In 2 weeks I will undertake a vacation and I am glad this app enables me to stay informed on the snow conditions*". Whereas another user commented: "*Very nice app!, Just by clicking you can fully immerse yourself in your upcoming winter sport vacation*".

   These types of apps also enable the tourist to stay tuned during the vacation. In the description of the Skiinfo sneeuwhoogte & Ski app the following was stated: "*Extremely functional and handy for on the road and during your ski vacation. Ideal for figuring out where the snow is and to search for the best snow conditions on the spot*". One can select a (number of) 'favourite' ski resort(s) and check the weather forecasts, snow reports, slope and lift information, webcams and one can receive push notifications if it snowed (whenever new

content is available the server pushes the information to the user, the user receives a message from the app). In addition the information is not just coming from the providers of the apps, the two-way sharing capabilities of the apps enable tourists to become providers of information. Most of the apps have functions that enable tourists to upload photos with descriptions, which other tourists can use to see what the snow conditions actually are.

Thus, the two-way sharing capabilities of the apps also facilitate using the apps in communicating one's (dis)satisfaction with the snow conditions (*phase 6: sharing experiences*). However, evaluating the vacation in terms of snow conditions is not just done when returning back home. Daily experiences can be shared during the vacation as illustrated by the following quote from a Sneeuwhoogte.nl user: "*This past holiday I uploaded some photos every day*". In a certain sense phase 5 and phase 6 coalesce, or in other words the smartphone enables one to continuously communicate one's experiences.

Furthermore, some apps take a role beyond providing information relevant for preparing one's vacation (day). The Dutch Ski Association describe their Wintersport App as a tool that can help decide where to go. Furthermore, users of Sneeuwhoogte+ commented on the app by saying: "*Nice handy app! Thanks to the app we are undertaking a weekend trip to Winterberg!*". The app by tour operator Bizztravel is described by one of its users as followed: "*You can check the snow conditions for all destinations. Based on this you can instantly choose from the top 10 last minutes*". In these three cases the information provided by the app plays a decisive role in the actual vacation choices (*phase 2: gathering of information, phase 3: actual holiday choices*).

All of the apps except one, Sneeuwhoogte Bizztravel, are webportals provided by independent organizations. Sneeuwhoogte Bizztravel on the other hand is provided by a tour operator, which is also evident in the set up of the app, trying to sell vacations. The other apps are provided by organizations, which are not about generating sales but offering services. Sneeuwhoogte+ as an example is provided by wintersporters.nl, which is a Dutch website launched by a group of winter sport enthusiasts eager to share their experiences with other winter sport fans. Over the years the website grew out to become a big and complete winter sport platform including dozens of bloggers. Although these apps providers consider themselves to be independent they do most definitely cooperate with other companies to generate income. Advertorials are important to these apps, as this is for most apps the way to generate income. The apps are often connected to tour operators by means of adds. However, some other business models exist as well, for example the Bergfex app, which has a limited free app and a more extensive paid app, or iSki Austria that is cooperating with other companies for sponsoring.

2. *On slope tracking.* A second type of content was identified which was related to tracking one's day. Tracking apps rely on the smartphone's location awareness features to track the tourist's day on the mountain by measuring speed, distance skied, vertical, and which slopes you have taken when (*phase 5: vacation activities*). Subsequently the stats can either be shared through

the app or through social media channels such as Facebook or Twitter (*phase 6: sharing experiences*). However, how and if this type of content relates to the vacation choice practice remains questioned. There is no reason to assume that using such an app will influence the decisions a tourist makes. However, it can be considered that deciding to use a tracking app can enhance the overall experience. A user of Ski Tracks as an example responded by stating: "*I have used this app during my vacation with my friends: lots of fun to compare routes/speeds at night*". Furthermore, a user of Snowciety argued, "*I am already looking forward to the extra dimension this app adds when skiing with my friends*", and an other user added "*great app, adds social component and entertainment to skiing and boarding*". Deciding to use such an app can thus potentially add an extra dimension to the overall experience mainly in terms of entertainment and a social component. The social component is of specific relevance as tracking your day is fun but sharing the stats either online or in real life is often considered to be core. The developers of Trace Snow as an example state the following: "*Trace was built to be social. Personal stats are great, but pushing yourself through competition and seeing how you compare with friends makes it even better*".

All of the apps are developed and provided by app developers; companies developing and providing money-making apps. These apps are not an addition to a website like the Wintersports.nl app or offered as a service facilitating sales like Bizztravel Sneeuwhoogte. Instead the apps are the core product delivered, and a variety of business models are prevalent. Trace Snow, Snowciety and Ski Mate work with in-app purchases, meaning that purchasing the app is free yet certain in-app functions can be purchased. Ski Tracks takes a different road and provides a Lite free version and the normal paid app. Furthermore, Afdaling is also a paid app. iSki Tracker on the other hand has a partnership with Audi and Audi adds are showed throughout the app. Last an interesting article was found concerning Snowciety (Sprout, 2012). Next to in-app purchases Snowciety also cooperates with the business world, the data mined is sold to one of biggest the Dutch travel companies. Such deals could potentially also be closed among some of the other apps yet no evidence is present.

3. *Other,* besides the above discussed categories two apps remained. NosePost is a free app provided by KPN, a Dutch mobile telecommunications company, which can be used to post photos when being on the slopes using your nose to avoid cold hands. Sharing experiences can thus be done while still actively being in the experience (phase 5 and 6 coalesce). The second app belonging to this category is the Snowsafe app. Snowsafe is an app provided by the official avalanche warning services in Austria. The app can be used to see the actual avalanche risks and facilitates the tourists in the off-piste activities during the vacation (*phase 5: vacation activities*).

Furthermore, a significant pattern was recognized throughout each of the categories, as most of the apps share an important social aspect. One can either connect the content of the app to social media or connect with other enthusiasts through the app. The presence of the social aspects may indicate an

increasing need to share one's real life experience in the virtual world by connecting them to their social networks.

Destination specific winter sport apps

The second category of apps identified were destination specific winter sport apps, or in other words apps specifically relating to one destination. These apps function as a guide with a variety of content provided in each app, among others: weather forecasts, tips and highlights, gastronomy, ski maps and positioning, and accommodation. Although a great number of such apps are available, only a limited number (7 apps) were analysed here, but these were very much comparable and suited to get the overall picture.

Having made the decision where to go, a destination specific app can be searched for and downloaded to use in preparing one's vacation (*phase 4: preparing the vacation*) and to use during the actual vacation (*phase 5: vacation activities*). A user of iSki Ischgl commented on the app by stating: "*Very useful. Without this app I would have most definitely lost track in this immense ski resort*". Furthermore, a user of Ski Amade Guide commented, "*anticipatory pleasure for the coming winter sport vacation has already begun. Lots of info available, and looks very useful.*"

App developers commissioned by local tourism agencies developed all of the destination specific winter sport apps. iZillertal Arena, iSki Ischgl and iSolden as examples were all developed by Intermaps, and some further research shows that these ski resorts are actually few of many clients on the client list from Intermaps. Local tourism boards thus invest in providing app content to their visitors to facilitate their visit.

General tourism apps

The third category of apps identified were general tourism apps; apps used by all types of tourists, not just winter sport tourists. Although a wide variety of apps are available which could be identified as general tourism apps, a small selection was made including those apps relevant for winter sport tourists. Thereafter, apps designed for tourists to plan and book their vacation where selected, as other apps such as city trip related apps seemed irrelevant. Although only four apps were analysed, these can be considered the most popular apps and cover the diversity of apps available.

Booking.com and Agoda are very much comparable online accommodation booking apps. Both apps enable to search for and book accommodation by entering the travel date and destination and a great amount of options arise (*phase 2: gathering of information*), and a decision can be made (*phase 3: actual vacation choices*). Yet the use of the app extends beyond solely booking one's accommodation, both also facilitate in preparing the vacation by providing information (*phase 4: preparing the vacation)* and the apps can also be used during the vacation to validate the booking (*phase 5: vacation activities)*. A user of the Booking.com app commented: "*very useful for being back home as well as being on the road, all details perfectly at hand*". Furthermore, the advantage of having an app instead of a website is highlighted by two Booking.com users, one stated: "*An app which works even more comfortable than*

the website". The app by Expedia is not just an online accommodation booking app but also enables one to book flights.

However, the app by Tripadvisor is different. Tripadvisor is primarily a place to search for reviews of destinations, accommodations, restaurants and many other places to visit. Although the possibility exists to subsequently be redirected to booking sites like Booking.com, Tripadvisor has its origins in reviews by users. The Tripadvisor app can be used for a variety of purposes. First, Tripadvisor can be used to gather information and to help decide where to go by reading the available reviews (*phase 2: gathering of information & phase 3: actual vacation choices)*. Then, the app can be used to prepare your vacation or to search for information on the spot, as a user of the app commented: "*Anticipation being back home, and useful for on the road … always with me!*" (*phase 4: preparing the vacation, phase 5: vacation activities).* The popularity of the app signifies the large number of reviews written, and sharing one's experiences is thus an important part of the app. One user commented: "*I always write a review after one of my trip*s" (*phase 6: sharing experiences*).

Booking.com, Agoda, and Expedia are all online travel agency's making an income by providing tourism services (accommodation) to the public on behalf of suppliers (hotels). A certain share of the hotel price paid thus ends up with the travel agency. Tripadvisor works differently as it generates income by advertorials from for example Booking.com.

Synthesis
The findings of the desk research are captured in the infographic below. The vacation choice sub-practices are demarcated by the dotted lines. The grey dotted line between phase 5 and 6 illustrates the coalescence of the phases, as evaluating one's vacation activities is often done during the vacation itself and the tourist can share it experiences on the go. This is also made evident by the green and blue line on top of the figure; green relates to being back home and blue signifies during one's vacation. The app categories are included by means of the coloured bars, which cover the sub-practices they are assumably used for. The more transparent ends of the bars illustrate that not all apps within the category leaded to that finding.

The desk research has provided a better insight in the supply side in terms of the modes of provision. The types of apps are identified and some light has been shed on the actors providing the content. Although some clues were given on how these apps can potentially play a role in the tourist's choice practice and at what stages, more research is needed to make hard claims. In addition it is interesting to see if tourists are restricted to using one type of app or if they actually use a set of 'comparable' apps. The interviews will further explore these issues and will show if the desk research has covered the diversity of apps available and if popular apps were missed out on.

Fig. 4.1. Overview findings desk research
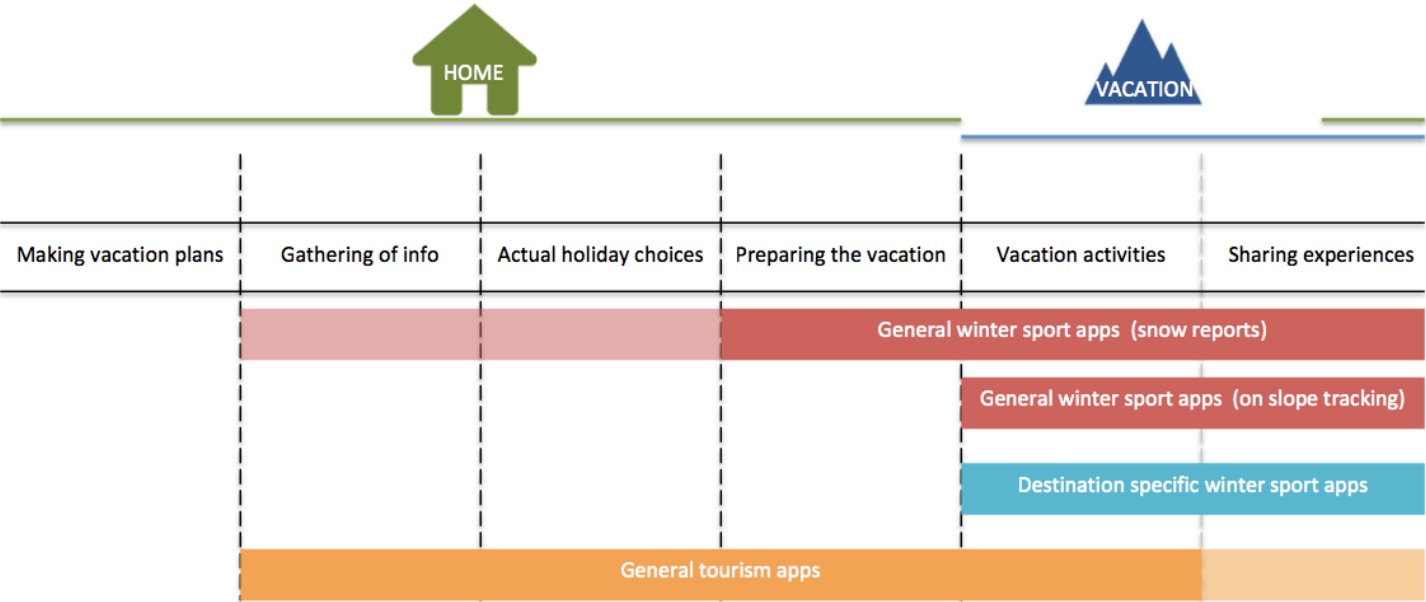
Based on the desk research additional items were included on the item list, see appendix 1 for the blue-marked items.

4.2. Asking respondents

The now following paragraphs will take a more actor related perspective by describing the results of the respondents' answers. The results will be discussed in the same order as the interviews. Emphasis will be on the use of the smartphone in the choices and behaviour of Dutch winter sport tourists, or in other words the consumption junctions. However, to get a clear picture of how the smartphone use compares to the use other information sources the vacation decision making process will extensively be discussed, and not solely restrict to focussing on the smartphone. Like stated before, these results will mostly build towards answering sub-questions one and two: the role of the smartphone in the different phases of the vacation choice practice and the influence of the actor-related factors.

4.2.1. Smartphone use daily life

The interviews started off by asking the respondents about their use of the smartphone in daily life to get some insight in what the smartphone means to them. It became clear that most respondents carried quite some years of user experience, all but one had over 4 years of experience, and all considered themselves to be (relatively) experienced users. Previous experience as an actor related characteristic in terms of user experience does not really seem to be an issue. Due to the equivalent experience of the users no hard claims can be made on the influence of smartphone user experience.

Whereas the findings by CBS (2013) indicated that using the smartphone was more common among the younger generations this was not represented among the interviewees. This might be due to selecting a sample with exclusively active smartphone users. Furthermore, the majority of respondents mentioned to use their smartphone mostly for Whatsapp, mailing and social media. Where some respondents were still actively using their smartphone to make calls, quite some respondents also stated that calling had become less with the introduction of Whatsapp. This is in accordance with GfK (2013) who stated that 20 procent of the smartphone users does not make phone calls anymore but uses chatting apps like Whatsapp to communicate. Besides the prime uses the smartphone also facilitated the respondents in their daily activities (public transport apps, online banking app), kept them up-to-date about the news and weather, and was used for entertainment (sport related apps, games). Some respondents also stated that (paid) texting had become less with the introduction of Whatsapp.

During the interviews it also became clear some respondents were clearly more attached to their smartphone than others. Attachment to one's smartphone seemed to relate to what the device was actually used for.

"*I use it a lot for doing business, for mailing. So mail traffic, and a lot of chatting on Whatsapp; we have a lot of group chats, also business related chat groups in which we share pictures of jobs. I also read the news on it and that kind of stuff. Actually I sometimes catch myself holding my phone constantly. That is really annoying, but you use it a lot. I cannot do without!*" [Middle adult, R9]

Where some were actively using the smartphone for work related purposes or saw it as a way to sustain their social life and could not do without, others where less attached and basically saw it as a helpful device useful when in need of information.

"I do not consider myself a real intensive user. I mostly use it when I think I need something, I do not fully load the Internet with photos and foolish stuff." [Adolescent, R1]

All in all it can be concluded that age, as an actor related characteristic was not really an issue of intensity of use in this sample, all respondents actively used their devices. However, there seemed to be a relation between the use of the smartphone and the life phase one was in. The purpose of use slightly differed among the age groups. The older age groups were using it more for work related purposes and the adolescents slightly more for social purposes such as social media. One can also relate this to the concept of lifestyle; the smartphone use had become part of the respondents' lifestyle.

Respondents were also asked to describe and compare their use of the smartphone being home or outdoors. The answers to these questions again related to the use of the smartphone. For the majority the use did not really differ when being home or outdoors and the use was often continuous and intensive. Three respondents (adolescent R3, young adult R7 and young adult R8) indicated to use their smartphone more at home, as during the day being outdoors they were busy working or studying, which did not require or enable them to use their smartphone. Another three respondents (R2, R5, R11) said they used their smartphone less at home, as being home enabled them to use other devices (laptop, tablet).

4.2.2.   Vacation choice practice of Dutch winter sport tourists

Before elaborating on the vacation choice practice of Dutch winter sport tourists a general picture of the vacation practice itself was created. Among the respondents the most popular winter sport countries were Austria and France. This corresponds with Vanat's (2014) findings stating that Austria was by far the most popular ski destination (58%) followed by France (16%). The majority of the respondents went skiing, and some practiced snowboarding. Moreover, two respondents did both and altered their activity during the week. Furthermore, one respondent (Young adult, R7) combined skiing with walking, as her physical condition did not enable her to ski for a week. The activities undertaken by the respondents represent the findings by CBS (2013) stating that skiing is the main activity among Dutch winter sport tourists, followed by snowboarding, hiking and cross-country skiing.

To get some more insight in what winter sport vacation means for the respondents they were asked to describe the type of enthusiast they consider themselves to be; how they actually performed their activity of preference, or in other words what kind of winter sporting lifestyle they enjoyed. Almost all respondents described themselves as active enthusiasts: starting early and ending late. Making tours throughout the ski resort was also often mentioned as an enjoyable activity. Although the

respondents' skiing or boarding abilities seemed to vary they enjoyed fully leveraging the day. Only one respondent (young adult R7) did not meet this description.

"I consider myself to be a beginner... an eternal beginner is how I call myself. I have a bad back. I have always been active in sports, but now I have a bad back disabling me to go skiing full days. I cannot take part in a ski class whole days as my back hurts too much. Therefore I ski at easy and consider myself to be the eternal beginner!" [Young adult R7]

The preferred activities after skiing or boarding differed more. Only one respondent stated to partake in serious après-skiing (Adolescent, R4). However, the majority of respondents mentioned to go for a drink or grab a bite and to enjoy some sociability at night.

Most of the respondents took a one-week lasting winter sport vacation, which is also the most regular time frame for accommodations in the high season. Only one respondent took a 5-days lasting vacation during the high season (Young adult R6). Two other respondents took a non-one-week lasting vacation outside peak season (Young adult R8 & Middle adult R10), they were not bounded to the 'official' holiday days as their travel company did not include kids.

Three middle adults undertook two or even more winter sport vacations during the year; these vacations were undertaken with different travel companies. The fourth middle adult did not undertake multiple winter sport vacations herself but her husband did take two winter sport vacations, and they were planning to undertake two the upcoming year. This might be due to the bigger budget the middle adults have build up throughout the years.

The adolescents went on a winter sport vacation together with their parents and siblings, with their 'partner', or both. The young adults went with their families or together as a couple, and some took other families or friends. The middle adults went with their families (kids or kids and grandkids), or they left their children back home and travelled with friends. It can be concluded that most of the respondents travelled with a relatively large travel company as the whole family joined or friends went along. Although most respondents mentioned the travel company was equal in experience, some also adjusted to the travel company. Especially the families with younger kids had to adjust their pace and route for the children. Yet as the winter sport vacation was very much seen as a social activity this want not seen as a problem and was considered part of the game.

Most of the respondents visited a different destination than the year before. One respondent even liked the aspect of altering the destination each year. Although the respondent visited Val Thorens (France) for the third time during his last winter sport vacation, he deliberately switches his destination each year.

"Last year I have been to Italy, Val Gardena, and that was way different than Austria or France. Val Gardena is situated in the tree line so there is a lot of vegetation around the pistes, yet the pistes are not as wide as in France. That is really nice and different from France, where the pistes are very wide and little

vegetation is present, yet big tours can be made. I deliberately alternate the destination every year, because I like to enjoy all of it" [Young adult R5]

Four respondents showed a clear repetition pattern and had become yearly visitors of their destination (see Bargeman, 2001;Bargeman & Van der Poel, 2006). Two of these yearly visitors even stayed in the same hotel each year and ensured next year's stay during their last stay. The majority of respondents booked an apartment, which was probably the cheaper option when travelling with a group of people. Two of the respondents also took an overnight stay to break up the car trip. Most of the respondents travelled by car, and two respondents who booked a complete winter sport vacation at a travel agency travelled by bus.

Most of the adolescents enjoyed a free vacation that their parents paid for. Furthermore, quite some respondents considered the winter sport vacation to be an expensive vacation (equipment needed, accommodation, lift passes). Yet some also mentioned that the benefits of going out-numbered the monetary costs.

"Let's say skiing is not cheap, all the ski passes and stuff it shocked me to my foundation. And we always bring our own equipment and every year there is someone who needs something replaced. But I do not exactly count the money spend, so I don't exactly know what I've spend, I don't think I want to know. It is just the way it is, it is simply more expensive than a summer vacation, but it also very fun!" [Middle adult R12]

Only one respondent was in need to save for the vacation, which was due to a loss of income following from the recession. All in all, the first phase about deciding to go or not to go is easily passed by all respondents. This is also substantiated by the fact that all respondents have quite some years of winter sport vacation experience (over 6 years), and the decision to go therefore shows a repetitive pattern.

4.2.3.   Gathering information

The second phase of the vacation choice practice refers to the gathering of information prior to booking one's trip. Like stated before the respondents proved to be active winter sport vacationers who had undertaken a winter sport vacation at least six times before. Therefore one may assume they are experienced winter sport tourists. According to some authors this could cause repetition patterns (see Bargeman, 2001; Bargeman & Van der Poel, 2006). As a result decision-making processes would be limited, making previous experience (internal information) one of the most important information sources (see Gursoy & McCleary, 2004; Jacobsen *et al.*, 2009). It is thus questioned if the respondents were in need of external information sources. During the interviews it became clear that nearly all respondents had still searched for information prior to booking. Only the two respondents who were visiting the same accommodation as the year before and had already booked during their last stay had a very limited information search (Adolescent R4 & Young adult R7).

"We always book or take a formal option the moment we leave, then we secure our stay for the upcoming year … That is how we generally do it and meanwhile we sometimes search a bit for possible cheaper alternatives" [Young adult R7]

The other respondents did undertake a more extensive information search. Nearly all of these respondents already decided on where they wanted to go prior to searching for information. This decision was often based on internal information or on social information; stories and experiences from acquaintances.

"I heard from friends and family who had been to France, so I wanted to go there once too. The resorts are big, often bigger than the ski resorts in Austria… We immediately felt like, at least I especially did, going to France and my partner though that was fine and also like something else than Austria. So we decided to go to France. We also knew straight away that we wanted to visit Val Thorens. So we went online and searched for various accommodations" [Young adult R8]

Therefore the gathering of information in phase two mainly concerned searching for accommodations. Only two respondents did not decide on a specific destination before searching for information, only on a country. However, these respondents were also mainly searching for accommodation offerings and would then see what the resort was like.

"It was particularly important to find a house, we wanted to find a house which would fit us all, we were with nine. So it had to be a house which we would preferably fit us all and was situated somewhere in Austria. So the request was pretty simple and we went online and searched several sites" [Young adult R6].

Among the group of adolescents the one's who travelled with their parents did not actively search for information themselves and left it to the parents. The other respondents did actively search sometimes alone and sometimes together with their partner.

> *Information sources*

For nearly all the respondents the Internet was the prime and sole information source. This is in accordance with the findings from CBS (2013) stating that nearly all Dutch tourists (96%) used the Internet to gather information. Only one respondent mentioned going to a travel agency to gather information concerning the accommodation. However, he too eventually used the Internet to acquire some additional information on the available options.

"Every year we go to the travel agency to search for an accommodation in Val Thorens, because we think it is important that everything is well taken care of. We would not like to arrive there and come to the conclusion that something is overbooked, that is what happens in France." [Adolescent R2]

It also became clear during the interviews that using the Internet was self-evident for the respondents. Respondents used phrases like 'just Googling' or 'I simply used the Internet', one respondent did not even mention the word Internet until the researcher asked it.

"*The destination was decided on so we did not have to search info for that, but we did first just search using the customary channels; the well-known travel agencies, such as Sunweb, and some others which I do not recall. Yet as expected nothing appropriate was available, so we could choose to pay way more or to continue our search. So we decided to do the latter and we ended up with Gites.*" [Middle adult R11]

The sites the respondents used varied from well-known booking/searching sites like Booking.com and Sunweb to local tourism sites from the ski resort, using sites directly provided by the hotels was also commonly done. Besides commercial information sources respondents also frequently turned to social information sources available on the Internet. Reviews were quite often seen as an important source of information before making the actual booking.

"*I like to read before I book if it is really ok*" [Middle adult R9]

Reviews were often used to hear some other voice than the commercial voice and to get some kind of reassurance that they were making the right choice. However, nearly all those using the reviews also questioned the opinions of others and the value of reading them.

"*But I always question the objectivity of the reviews… it really depends on who writes the review*" [Young adult R5]

"*For every negative review there is a positive review, so they do not always serve value*" [Middle adult R10]

Although few of the respondents were not satisfied with the options the (booking) sites provided, or the regulations created, none of the respondents struggled with finding the available information.

Use of the smartphone

After the respondents described their information search they were specifically asked if the smartphone got involved. Since only one adolescent respondent actively searched for information him/herself (Adolescent R1), the other three were asked to try and describe the smartphone use of those within the travel company who searched. For one of these respondents information was not even searched online and the smartphone was therefore not used (Adolescent R2). The other two assumed their parents had most probably not used their smartphone to access information and used other devices instead (laptop, iPad, computer). Moreover;

"*I think my mother uses her laptop to search for information, knowing her. Yes otherwise she can not read it*" [Adolescent R4]

The adolescent respondent who actively searched for information himself mentioned to use the smartphone for browsing the Internet now and then and to access booking sites. Furthermore, he also mentioned that the smartphone was used to share possible alternatives with his partner through Whatsapp. Furthermore, he also downloaded a destination specific app to see if this would provide him novel information. However;

"I may have used an app from the ski resort, I did, but I did not do much with it. The app was not very extensive and provided the same information as the website did, which I had already seen" [Adolescent R1]

All of the young adults mentioned to have used the smartphone to some extent. They used their smartphone for browsing: to access the aforementioned websites. For all the respondents the smartphone was seen as one of the possible devices to access the Internet (laptop, tablet, computer). The smartphone was then preferred above other devices in some instances.

"Sometimes when I lie in bed at night and I want to search some info, then the smartphone suits for quickly searching some info. I could have also taken the tablet, but I think that is clumsy, it is troublesome to hold in bed" [Young adult R5]

"I did indeed use my smartphone. It is very convenient; it is quick and it is always turned on" [Young adult R8]

However, two of the respondents also clearly mentioned that searching on the smartphone had its shortcomings: the screen was considered to be too small, and/or the websites were not user friendly on a smartphone (Young adult R5 & Young adult R6). The former can be regarded as a barrier to the consumption junction. The latter on the other hand is a window of opportunity as suppliers of information can adjust their websites and make them mobile compatible. One of the respondents also used its smartphone to communicate the options with her partner who was working at that moment.

Among the middle adults only one respondent made little use of the smartphone for browsing.

"I usually use my smartphone for a bit, but in the end searching using a tablet or an ordinary computer works better. The websites are usually not suited for smartphone use." [Middle adult R10]

The other three respondents also preferred a bigger screen for extensive and effective searching and did therefore not use the smartphone. Especially between the two older age categories clear differences are evident. Although the young adults still make some use of the smartphone the middle adults immediately turned to other devices.

All in all, the smartphone did not take a significant role in the second phase of the vacation choice practice. Or in other words, the smartphone was not consciously or consciously not used to gather

information, as other modes of provision were preferred (Internet sources accessed through other devices) based on previous experiences with using the smartphone. Furthermore, it can also be argued that the content provided is not suited for effective searching. It can be stated that the middle adults made even less use of the smartphone than the young adults did, this might be due to the fact that they stick to their well-established routines. Overall, it can also be argued that this entails both barriers as well as windows of opportunities. On the one hand the size of the screen is inherent to the smartphone and can be seen as a barrier to using the smartphone. On the other hand the providers can update their websites into mobile compatible sites and make using the smartphone more user friendly. However, it is also to be questioned if this has added value for the industry, as they are already reaching out to their potential clients through other devices.

4.2.4.   Actual vacation choices

Based on the information gathered in phase 2 of the vacation choice practice the actual vacation choices were made in phase 3 (Bargeman, 2001). The decisions made mostly concerned the accommodation, yet the destination choices will also be briefly discussed.

Destination

Like discussed above there were four respondents throughout the three categories who had become yearly visitors of their destination (Adolescent R2, Adolescent R4, Young adult 7, Middle adult 10). These destinations were preferred as the ski resort suited the travel company's wishes and they did not see the need to switch destination. Reasons included: the size of the ski resort and the possibilities available (Val Thorens, France; Serfaus, Austria; Sankt Anton, Austria), the children were familiar with the ski resort and could move freely (Koningsleiten, Austria), and the atmosphere in the ski resort was enjoyable for them (Sankt Anton, Austria; Serfaus, Austria).

In addition there were five respondents (Young Adult R1, Adolescent R3, Young adult R5, Young adult R8, Middle adult R12) who had been to the destination before or who knew friends or family who had been there. The remaining three respondents choose a 'new' destination. How the respondents came to choose their destination differed. One respondent was invited by their grandkids to join their vacation and was thus immediately choosing for a destination (Middle adult R11). The other two respondents had multiple options. One respondent was merely searching for a suitable accommodation and placed the destination to the background (Young adult, R6). The other respondent specifically searched for a destination that was not too big and budget wise accountable (Middle adult R9).

"We were specifically looking at a destination in France, because this would be one of the two winter sport vacations with the kids that year and for the first one we wanted to keep an eye on the budget. And one can better do that in France than in Austria, that differs quite a bit" [Middle adult R9]

Furthermore the level of the pistes was not really an important criterion for this respondent as their children could basically ski anything.

Accommodation

As soon as the decision on the destination was made deciding on an accommodation followed. Most of the respondents chose for an apartment, which was probably the cheaper option when travelling with the whole family. In addition an apartment offers the freedom to do whatever you want. The other respondents all chose for either a hotel or pension of which some included meals. However one respondent specifically chose for the option not to have dinners at night.

"In the past when the children were smaller we usually chose for a hotel which included a swimming pool so the kids could relax in the evening, which is very good for the legs. Nowadays we usually take a different kind of hotel. Where we used to take hotels including meals at night, we nowadays like to choose for accommodations that do not. Now we like to go out at night and grab a bite somewhere, when the kids were small we stayed at the hotel so the kids could join dinner on socks after swimming. Nowadays we enjoy going out and visit some restaurant in town" [Middle adult R12]

In deciding on an accommodation the respondents also set some criteria to narrow down their options. Budget was for some respondents an important criterion or at least the price should match up with the quality provided (Adolescent R2, Young adult R5, Young adult R8, Middle adult R10, Middle adult R11). Quality was understood differently among the respondents.

"We usually go to the travel agency and ask for the cheaper accommodations that are still available in our chosen time frame. Thereafter we usually book the cheapest accommodation, which meets our wishes, some of the apartments are known for accommodating students making lots of noise and that is a no-go for us. We just want a reasonable apartment for a low price, that is all we want" [Adolescent R2].

"We do watch the prices when looking for an accommodation, but we also want a decent apartment. We do not want a dog shed, because that is where France is known for. Wherever you go you pay the grand prize for 25 squared meters, and then you only have a bunk and a sofa bad". [Young adult R5].

In addition to setting some criteria respondents were often bound to the availabilities left. Some of the respondents were bounded to the official holidays (peak season) and/or late with their booking, which meant that quite some accommodations were already taken (Adolescent R1, Adolescent R3, Young adult R6, Middle adult R11, Middle adult R12). One respondent also saw the ability to book online as a criterion.

"When searching for available options quite a lot pops up on the local sites. But as soon as you want to book you cannot complete the booking online, this is something I really dislike. Then one has to mail the owner in German, and my German is real bad... this always becomes something of a tragedy. So I highly prefer a system in which you can narrow down your decisions online (how many people and when) and instantly book the accommodation." [Middle adult R10]

All in all it seems that family composition including age of the children is of influence on the choice of accommodation, it sets the time frame and the preferred facilities for the children. In addition the budget and the amount of luxury searched for seemed to influence deciding on either a hotel or apartment.

The respondents were also specifically asked if WiFi was a decisive factor when choosing an accommodation. Quite some respondents did not see it as a must but also acknowledged it was very convenient when available (Adolescent R1, Adolescent R3, Adolescent R4, Young adult R7, Middle adult R10, Middle adult R11). Furthermore, three respondents stated that it was important and saw it as something essential (Adolescent R2, Middle adult R9, Middle adult R11). Only three respondents thought it wasn't important at all, and they did not really consider it when booking (Young adult R5, Young adult R6, Young adult R8).

Booking the vacation
Besides the two respondents who booked their trip directly at the hotel the year before (Adolescent R4 & Young adult R7) and the respondent who booked the vacation at the travel agency (Adolescent R2) all other respondents booked their vacation online using the Internet. This is in line with the findings from CBS (2013) stating that 75% of the Dutch winter sport tourists use the Internet to book their vacations.

Respondents were also asked to describe how the travel company was involved in the final decisions made. In most of the cases the adults or parents gathered the information and choose a set of alternatives or a final option. Afterwards the children were asked to give their opinion on these final alternatives. This is in line what Bargeman (2001) and Gram (2007) say about the involvement of the family in deciding on the vacation: the children are indeed involved in family purchases but merely in the later phases of the decision-making. When kids were not part of the travel company the adults mostly decided together or one trusted the other to make the right decision.

All of the respondents enjoyed positive experiences with booking the way they did, which assumes that the respondents were capable of booking online using sites of tour operators, local tourism boards, accommodations or more general tourism sites like Booking.com. Respondents were also asked if they in any way used their smartphone for placing the booking as some sites have accommodating apps. Only one respondent mentioned to use her phone for bringing an online version of the booking confirmation. Most of the other respondents did not even consider the use of the smartphone. This is most probably also a result of not using the smartphone for searching for possible alternatives, as one usually continues the booking after the information search through the same website.

4.2.4. Preparing the vacation
After having booked the vacation the respondents all had a certain amount of time left before actual take-off, this time slot was regarded as the vacation preparation phase of the vacation choice practice

(Bargeman & Van der Poel, 2006). Nearly all respondents prepared for their vacation by searching for information. The information search mainly concerned weather/snow forecasts, actual snow conditions and information about the pistes. Some respondents also checked the travel route and traffic. Two respondents also booked an overnight stay for the way up (Young adult R5, Middle adult R11).

Only two respondents mentioned they did not really search themselves but were informed by their actively searching travel company (Adolescent R3, Middle adult R12).

"My dad has a snow-depth app en keeps himself constantly informed, subsequently I get to hear every week what the conditions are like and how much fresh snow has fallen." [Adolescent R3]

The information sources the respondents used mostly included the Internet and smartphone applications. The Internet sits used included among others local websites, sneeuwhoogte.nl, and a basic Google search. Internet was accessed through various devices: smartphone, tablet and computer/laptop. The two respondents that booked an overnight stay for the way up both did through the Internet using their computer/laptop. One respondent used Booking.com to book a hotel and the other did it differently.

"We booked a Bed & Breakfast in Switzerland this year. To split up the long trip our way up. Before we usually left Friday to Saturday night, but then you arrive 11 o clock the next day and you are real tired from driving. We weren't into that this year. I searched using Google maps by pinpointing somewhere at the border between Germany and Switzerland near Basel. Somewhere within a radius of 20 kilometres close to the highway, and I found a nice Bed & Breakfast which I clicked and booked." [Young adult R5]

Use of smartphone

Like stated quite some respondents used their smartphone for browsing. However, even more interestingly most of the respondents mentioned to have used apps in this phase of the vacation choice practice. The two respondents who had not actively searched for info themselves, do report the use of apps by their travel company. Quite some respondents downloaded one or two weather related apps or added their destination in their standard weather app. Sneeuwhoogte.nl was a popular app among the respondents. Two respondents mentioned that they had two apps that provided conflicting information concerning the weather (Young adult R8, Middle adult R10). In addition quite some respondents also used destination specific apps to check the weather and snow forecasts. One respondent also commented on the quality of the weather forecasts of these apps.

"The weather forecasts from the destination specific apps are usually better than the national weather forecasts" [Middle adult R9]

Checking the weather forecasts seemed to function as a way to anticipate the impending vacation.

"I check the weather now and then, how much snow there is, as a winter sport enthusiast it is always nice to anticipate the impending winter sport vacation, and to know how much fresh snow will fall at my destination this year. Yes that is fun!" (Adolescent R1)

Building expectations concerning the snow conditions was probably an important aspect as the conditions can make or break a winter sport vacation. For quite some respondents the conditions were not too positive the weeks before their vacation and therefore the respondents kept themselves up-to-date to see how it developed before take-off. For some respondents the weather conditions influenced the way they had packed their car (proximity of snow chains) and their suitcase (bringing extra warm clothes), and influenced the time of take-off as the weather could had its impact on the traffic jams. All in all the findings correspond to Wang *et al.*'s (2014) article stating that the smartphone is not only used to make certain decisions but also to plan one's trip, to form expectations and to anticipate impending trips. Here the information is especially utilised for the pleasure of impending holidays (see Jacobsen & Munar, 2012). The general winter sport apps in terms of snow reports seemed to be the right content for the providers to retrieve this pleasure. Although the theory also suggested that social information could be used to anticipate the winter sport vacation (see Parra-Lopez *et al.*, 2012) this was not reflected among the respondents. This could be due to the fact that one knows what he or she will be doing during the vacation, skiing/boarding, and does not need to read about it.

The destination specific apps were also sometimes used to gather information on the pistes (open/closed, where is what) and to look at webcams. The respondents were also asked if the apps worked fine and besides the above discussed conflicting weather information provided no shortcomings were experienced. All in all the smartphone use during the fourth phase of the vacation choice practice was significant and no recurring misfits in the consumption junctions were found.

The respondents that did not mention the use of a destination specific app were asked if they searched or downloaded one to use on vacation. Three of these respondents did not consider search for such an app (Adolescent R3, Young adult R8, Middle adult R11). This can be considered as lack of knowledge concerning what is actually available (actor-related: knowledge & skills). Two of them had never used such an app, but one actually used it for other winter sport vacations.

"I usually check if the destination has an app, but I didn't download such an app. Actually I didn't even search for one, because I assumed the ski resort was not too big so I would be alright without." [Middle adult R11]

One respondent mentioned to have downloaded the Val Thorens app in preparation to the vacation (Young adult R5). Another respondent, like discussed above, had downloaded the Wildkogel app but removed it as soon as he came to the conclusion the info was not novel to him (Adolescent R1).

Furthermore, the respondents were also asked if they downloaded any other apps in preparation for the vacation. Six respondents across the age categories stated that they had downloaded a tracking

app before travelling towards the destination. One respondent did not herself but mentioned her kids could have downloaded a tracking app (Middle adult R12). The latter points to the idea that younger generations might be more into tracking. However, this is not supported by the other respondents in the sample.

4.2.5.   The vacation

After actively anticipating the winter sport vacation for weeks, months or days the tourists enters the fifth phase, the actual vacation. All of the respondents searched and accessed information one way or the other. However, the extent to which the respondents searched for information varied as some were in need of more information than others. The respondents who were new to the destination were obviously in need of more information than the yearly visitors. 'New' visitors were especially in need of information concerning the pistes and where one can find what. However, some of the respondents visiting the destination for the first time were not in need of too much information as they had other sources. One respondent was in a ski resort were a family member was working for a season providing them the basic information (Adolescent R1). Another respondent also had an 'internal' source as her husband had been to the destination quite some times before (Middle adult, R12). There was also a respondent who was a yearly visitor but still actively looking for information, as the hotel they stayed in was situated on piste and therefore they needed to be sure the conditions were skiable. It can be said that previous experiences or access to other's previous experiences with the destination has influence on the amount of information needed and searched.

All respondents used some of the printed information provided by the ski resort: ski maps, signing on piste, television channels, and brochures available at the accommodations. Besides the printed information, information was also accessed online, mostly by using the smartphone but some respondents also brought other devices (laptops and tablets). One respondent for example made use of his laptop to search for a restaurant; the laptop was preferred over the smartphone as the big screen enabled more convenient searching (Young adult R5).

Use of smartphone for information

Besides the printed information sources quite some information was accessed using the smartphone. The information accessed mainly concerned weather and snow forecasts, and information on pistes and lifts (open/closed), but also included, routes to ski/board, activities and restaurants. Respondents used both applications and the browsing capabilities of the smartphone in accessing information. This is in accordance with Rutty & Andrey (2014) who state that virtually all winter sport tourists use weather forecasts accessed through Internet and mobile devices. When browsing the Internet respondents mostly turned to Google. But, apps were more frequently used.

Most of the respondents used their destination specific app when being on vacation. These apps were mostly used to access the snow and weather forecasts and to check if the pistes were opened. One respondent also mentioned to use the app for planning tours (Adolescent R2). Another respondent also reported to use his destination specific app to check what kind of restaurants were available on

piste (Middle adult R9). Two of the respondents also noted that because they were experienced with the ski resort they did not really need the information provided by the app, and only used the weather updates (Young adult R7, Middle adult R10). Another respondent also used the information provided by the Val Thorens (destination specific) app in an unexpected situation.

"During our overnight stay in Switzerland we were informed by the travel agency about a boulder on the road towards our destination, the access road to the ski resort was therefore closed. They asked us if we wanted to come two days later, but we were already nearly there so we decided to continue our trip. We decided to go as far as we could and then we would see. Here we used the Val Thorens app because they constantly updated the progress on removing the boulder, repairing the road and that kind of stuff. Suddenly I read the road was opened again en shortly after the travel agency called again to stress we had to postpone our arrival. Then I told them I just read the boulder was removed and we could enter the ski resort by car." [Young adult R5]

Furthermore the respondents also used their weather related apps (winter sport specific apps, snow reports) to keep informed about the conditions. One respondent also made use of the Booking.com app to book an overnight stay for the trip back home (Middle adult R11). This overnight stay was booked somewhere during the actual vacation using their smartphone.

Further use of smartphone

Besides using the smartphone for searching for information the respondents also used their smartphone for other purposes, such as tracking and social media.

Five respondents had actively used tracking apps during their vacation (Adolescent R1, Adolescent R4, Young adult R5, Middle adult R9, Middle adult R10). Besides these five respondents two respondents mentioned the use of these apps by their travel company (Adolescent R3, Middle adult R12). The users of the tracking apps thought it was 'fun' to do and to see where they had been and how fast they went. Most of them also mentioned they liked to compare their stats with their travel company for the joy of competing.

"We mostly used the app the compete with one another, and then one could say: 'Haha I have done more pistes'. Yes that kind of stuff!" [Adolescent R4]

One respondent also mentioned that real prices could be won and collected when one ended first on the ranking that day (Middle adult R9). This respondent made use of MAPtoSNOW. The respondents that did not make use of tracking apps either did not think it was necessary (Adolescent R3, Young adult R6, Young adult R7, Middle adult R12), or/and thought Internet was required to track (Adolescent R2, Young adult R8, Middle adult R11). The latter is either due to being wrongly informed, because apps exist that do not require the use of Internet, or because they installed an app that did require Internet access. Both can be seen as a lack of knowledge, which is an actor related factor. Furthermore three respondents also highlighted the possibility to get tracking information with the

use of their ski pass, which they had all done some time (Young adult R6, Young adult R7, Young adult R8).

Besides the winter sport related apps the respondents' 'daily use' also continued. Respondents played their games, checked the news and sustained their social life through Whatsapp, social media and reading their mails. This is also what some of the respondents clearly mentioned.

"Using my smartphone during the winter sport vacation was fine, it was not much different than normal I think.." [Adolescent R4]

"Using my smartphone during the winter sport vacation was not different than normal, it is part of your daily life." [Middle adult R10]

A few respondents also stated that work is still present, as they stayed connected through the smartphone. The above is in line with the spillover theory that argues that tourists who adapted to the smartphone at home keep using the same applications during their trips (see MacKay & Vogt, 2012; Wang, Xiang & Fesenmaier, 2014). The respondents' (smartphone) lifestyle can therefore be seen as an important actor-related factor. Respondents were also asked how their smartphone use during their vacation compared to their daily life. Most of the respondents said they used their smartphone more intensive during their daily life, as during skiing/boarding they were not actively using their smartphone. Although some turned their tracking apps on these did not require further attention. In addition respondents also stated that they had turned to different applications, which they normally did not use in het their daily life (winter sport related apps).

However some respondents also mentioned they did not use their smartphone too much as this would 'spoil' their vacation (Adolescent R1, Adolescent R2, Middle adult R12). One of these respondents took this very seriously and disconnected from his daily contacts.

"I actually tried to disconnect form back home. Because I think when I am on a vacation than I really am on a vacation and I want to forget home; the daily liabilities that you normally do using your smartphone were kept to the minimum, I did not check my Facebook and stuff. I really enjoy a week without social media." [Adolescent R2]

All of the other respondents did actually stay in contact with back home. Furthermore, contact was not only made with home but also with the travel company during the stay. Especially the respondents that were undertaking the winter sport vacation with a large group used their devices to stay connected throughout the day. The travel company as an actor related characteristic is thus of influence to extend in which the smartphone is used during the vacation.

"How I used my smartphone. First to chat with one another about who is where, the ski resort offered WiFi nearly everywhere so we could easily keep each other updated. Telling one another he/she is at the mountain station, or she/he is skiing that piste. That was quite convenient." [Young adult R6]

Most of the respondents also stated that they brought their smartphone in case something would happen, such as getting lost or injured. Bringing their smartphone would enable them to reach out to somebody.

"I think it is very helpful to bring the smartphone along, and I also think it is a comforting thought especially with children that they are always reachable. In case something happens or whatever…" [Middle adult R12]

Smartphone support

All respondents were actively using their smartphone during the vacation and WiFi providers also supported them in their use. Respondents were asked where they had access to WiFi and if they actually used it. All of the respondents had access to WiFi in their accommodations and nearly all made use of this facility. Some of the respondents also used WiFi at some of the restaurants. Furthermore, few of the respondents also mentioned the availability of WiFi in the ski resorts: at the lifts and in the village. However, WiFi on the piste was not really used, as the respondents were not in need of Internet on piste. Besides WiFi, five of the respondents also made use of a foreign data bundle and could access the Internet without WiFI (Young adult R5, Young adult R6, Young adult R7, Middle adult R9, Middle adult R10). Especially the 'older' respondents made use of such bundles, which might be due to the fact that these bundles are expensive and they had more money at their disposal. The respondents who had access to a foreign data bundle were also less active in searching free WiFi spots. On the other hand some of the respondents were dependent on the availability of WiFi and saw this as a shortcoming. Especially the fact that some of the winter sport related apps required them to use Internet.

Furthermore, three respondents also mentioned battery drain as a shortcoming. Two reported that tracking apps drained their battery too fast (Adolescent R1, Adolescent R5), and one respondent stated that her phone could not handle the cold and would shut down (Middle adult R12). In addition two respondents also disliked using their smartphone on piste as handling the phone with gloves was clumsy and handling it without gloves would freeze their fingers off. All of these issues can be seen as barriers to the consumption junctions, as the shortcomings are inherent to the smartphone.

Overall smartphone use

All in all the use of the smartphone by the respondents can be reflected using Wang *et al.*'s (2014) categories: communication, entertainment, facilitation, and information search. The respondents used their smartphones to communicate with home or with their travel company. In addition most of the respondents continued to use their smartphone to access social media. Second the respondents also used their smartphone to entertain themselves during their trip; they played their games and tracked their day at the slopes. Third, the smartphone was used to facilitate the respondents in their activities, checking: the weather, the pistes, and the traffic. Last the smartphone also appeared to be a handy tool to search for information: piste information, activities (rodeling, swimming), and restaurants.

The respondents were also asked how their smartphone use during their winter sport vacation compared to their other vacations, for example the summer vacation. The answers to this varied a bit. All respondents who had used a tracking app stated that this was very specific for the winter sport vacation and did not really do this during other vacations. Most of the respondents mentioned to use their smartphone more intensive during the winter sport vacation. The gathering of information concerning weather and routes, and staying in touch with the travel company during the day were both winter sport specific. Only two respondents stated that they would use their smartphone more intensively during other vacations to search for activities (Middle adult R10, Middle adult R12). For both respondents this probably was because they knew a lot about the destination and did not need the information. They also stated that during the summer vacation they had more moments in which they were 'bored' making them use their smartphone.

4.2.6.   Sharing experiences

After the actual vacation feelings of satisfaction or dissatisfaction prevail, and these feelings to a large extent determine future holiday choices of tourists (Bargeman, 2001). Respondents were asked how and if they had shared experienced and how the smartphone took a role in that. All of the respondents had shared their experiences one way or another. Real life sharing was done by all respondents; talking with friends or family after the vacation. However, during the vacation most of the respondents already shared their experiences using Whatsapp and social media. Especially Whatsapp was nearly used by every one. Photos seemed to be an important tool for the respondents to communicate their experiences through Whatsapp, because all of the respondents had made and shared photos.

Social media channels were also used for sharing experiences. Facebook was the most popular among the respondents. Some of the respondents posted Facebook updates during their vacation (Adolescent R3, Adolescent R4, Young adult R5, Young adult R8, Middle adult R10, Middle adult R12), where others did this afterwards (Adolescent R2, Young adult R7). The use of social media to share experiences seemed to relate to the use of social media in daily life. The 'older' categories, the young adults and middle adults, were not using social media to the same extent as the adolescents. The adolescents were using more types of social media and were more shareative. This also reflected in the use of social media to share experiences during the winter sport vacation. In addition, for all of those who used social media the winter sport vacation seemed to be a good reason to post a photo or an update.

"*I posted a photo on Instagram about every day or once every two days, and normally I use Facebook more to see how everyone was doing, but when I undertake a vacation I post more photos than I usually do when going to school*" [Adolescent R3]

"Yes, I used Facebook. During the winter sport vacation I had made a collage once at night, when I had access to WiFi I made a collage and posted it, but not too much. I am not someone who shares his whole life online." [Middle adult R12]

Although not specifically asked for it seemed, stemming from the fact that the respondents were more shareative than usual as if they were also turning to social media for a higher level need. Two possible needs can drive people to share their vacation photos. First, the need to belong, people want to belong to certain groups and identifying yourself as a winter sport tourists places you in one such group (Eler, 2012). Furthermore, people have to need for self-presentation and want to represent themselves in socially desirable way (Eler, 2012). A winter sport vacation can be recognized as socially desirable, especially the expensive character of such vacations adds to this desirables and thus the cognition. However, hard claims on such higher level needs are hard to make, as this was not the focus of this research.

Besides consciously sharing photos using social media, the users of Trace Snow also instantly shared their stats of the day after having tracked. The other tracking apps did not instantly share one's stats and the respondents did not choose to do so either.

Respondents were also asked if they had written any reviews after the vacation. Only two respondents reported to have done so (Adolescent R1, Middle adult R11). Although quite some respondents saw the value of using reviews writing them was mostly seen unnecessary. Some respondents also mentioned they were too lazy to write reviews.

"I did receive a request to write a review but I did not do it, I actually never do. That is simply laxity, I usually think I have had a nice vacation so why would I. It could add value for others to write one, but I do not have the time.... well I do but I simply don't want to." [Young adult, R8].

The findings are in line with Wang *et al.* (2010) who state that the sharing of experiences can already take place during the trip. Whereas Yoo & Gretzel (2012) argue only a small portion of social media users actively contribute content, quite some respondents in this research saw the winter sport vacation as a good opportunity to contribute content.

4.2.7.   Applications

At the very end of the interview the respondents were asked if they could think of a possible new application relevant to the winter sport vacation. A number of creative ideas came to mind and were discussed. Only three of the respondents coming from the middle adult category had no idea and thought a lot was already available. This is probably because the middle adults are not as into the new technologies and the possibilities available required when thinking of possible new apps. The respondents that did think of a possible app had varying ideas. Two respondents thought of an app that would enable one to see the crowds.

"I am not too creative, so I have to think a bit…. Alright I though of something, but I think it does require internet access. Maybe an app with crowd indicators, which lets you know the crowdedness at the lifts or pistes and enables you to choose for the more quiet areas in the ski resort" [Adolescent R2].

"Well it is also so crowded in the restaurants on piste. They, the people behind Serfaus-Fiss-Ladis app, should include webcams that show you the restaurants, so you can see which restaurant is not too crowded and where you can grab a bite. Or an app which you can use to make a reservation, so they know you are coming and that you can continue your skiing as soon as possible." [Adolescent R4]

Both respondents agreed that the ski resort should provide such applications. Furthermore, three respondents, all young adults, thought an app that combined current apps would be nice (Young adult R6, Young adult R7, Young adult R8). Such an app would provide tracking, information on the ski resort and weather, and webcams. All the respondents thought the ski resort would be the right actor to design such an app.

"I do not know if it already exists but a combination of a map of the ski resort and a GPS tracker, because I think that was not in there yet (IZillertal Arena app). So you can really see where you are located in the ski resort, and where you have been when." [Young adult R6]

"Something real novel may be hard, but a more complete app which includes the weather of the resort, the activities and stuff like that would be nice. Now you either use a weather app or a tracking app, a combination would be nice. Currently one is using about three apps." [Young adult R8]

Two other respondents would like an app in which one could organize his/her photos better. One respondent mentioned she would like some sort of diary to include her pictures and where she could see where the picture was actually taken (Adolescent R3). The other respondent also mentioned geotagging as an interesting feature for a winter sport related app (Young adult R5). Last there was one respondent who liked to have an entertainment related app.

"Piste Bingo. During your day on piste, at least where we go, we see a lot of oddly dressed people wearing: bear onesies, naked Englishmen, swimwear, all kinds of animals. You name it and it is there on piste in groups. So we thought one should develop a Piste Bingo app, as soon as you see a oddly dressed person on piste you check the box and when your 'card' is full you can collect a drink at a bar somewhere." [Middle adult R10]

Consumption junctions

To get a more holistic overview on the actual consumption junctions for this sample a set of figures is made to illustrate which apps the respondents have used. The information in the figures illustrates which content was used in what phase. It only concerns the content relevant for the tourist's vacation choice practice, so as an example not playing games during the vacation but making photos that can later be shared with others to share one's experience. Important to note is that the figures only

concern the use of the smartphone by the respondents and not the use the smartphone by the travel company. Below an example can be found of one such overview, the rest of the figures are included in appendix 4. The colours in the figure correspond with figure 4.1 (overview findings desk research): red represents general winter sport apps, blue represents destination specific winter sport apps, and orange refers to general tourism apps. The black coloured content refers to content that respondents also use in in their daily activities but which is now used it in relation to the winter sport vacation choice practice.

Fig 4.2. Overview content used respondents

R1	Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
	Wildkogel App Browsing Whatsapp (communicating alternatives)		Skiinfo sneeuwhoogte & Skii app Browsing	Skiinfo sneeuwhoogte & Skii app Making photos Browsing	Trace Snow Whatsapp Untappd

5.   Discussion and conclusions

Winter sport tourism and smartphones are two worlds that have completely fused together over the recent years. Although smartphones are still a relatively new subject in tourism literature especially in a winter sport related context, this could not be said for the tourists in this research. Most of the respondents experienced the smartphone as 'part of the game', which is in accordance with what Tussyadiah & Zach (2012) say about ICT: "ICT is becoming a part of everyday lives whereby its use can be seen as an element of people's experiences" (p. 794). However, research was needed to reflect on the use of the smartphone in a winter sport related context. The Social Practices Approach (Spaargaren, 1997) was used in this research, with as a starting point neither the individual tourists with its modes of access on the demand side, nor the modes of provision offered by the smartphone on the supply side, but the coming together of these in the vacation choice practice. Adopting this approach represented the use of the smartphone in the different phases of the vacation choice practice, and described the offer of smartphone content, to formulate eventual opportunities, via the formulated research question:

> *What is the role of the smartphone in the vacation choice practice of Dutch winter sport tourists, and which opportunities derive from these findings?*

Based on both the desk research and the interviews, held among 12 Dutch winter sport tourists, the role of the smartphone in the vacation choice practice was explored by analysing both from the supply side (with regard to their modes of provision) and from the demand side (with regard to their modes of access). Although the consumption junctions have already received a significant amount of attention in discussing the findings, opportunities have not specifically been discussed yet. Before discussing the opportunities the sub-research questions posed in paragraph 2.6 will be discussed and answered to get a better overview of the findings discussed in the results chapter.

5.1.   On-call information

Although the smartphone was probably at the respondents' hands during all the phases of the vacation choice practice, the extent to which the device was actually used during the phases differed. In addition the purpose of use also differed as different information was searched for in different phases. Wang *et al.*'s (2012) article discusses different types of information needs: functional information needs to learn about the destination, innovation information needs to look for different/new things, hedonic information needs to be excited, aesthetic information needs to form expectations, and social information needs to share experiences. Wang *et al*. (2012) also state that these needs can be addressed within any stage of the travel process. These needs will be referred to when discussing the first sub-question.

How does the decision-making process of Dutch winter sport tourists look like and what is the role of the smartphone in the different phases of this process?

All respondents of this research proved to be experienced winter sport tourists, having at least six years of experience with undertaking winter sport vacations. The first phase of the vacation choice practice was therefore easily passed through, as the respondents demonstrated a repetition pattern of going on winter sport vacations. This is in accordance with Verbeek's (2009) and Bargeman & Van der Poel's (2006) findings. According to Bargeman & Van der Poel (2006) it is likely that experienced vacationers have shifted towards a more limited or routine decision-making process. However, the authors also stated that choosing the destination has therefore become a matter of routine. The findings in this research also substantiate this; most of the respondents altered their destination each year. Furthermore, although the respondents were experienced they still needed and searched for information and passed all phases of the vacation choice practice.

The key findings concerning the first sub-question are captured in the infographic below; the five phases of relevance are illustrated. The upper part of each phase illustrates what kind of information was searched for and the lower part illustrates how this information was mainly accessed. The greyed icons signify less of an importance. The infographic captures the general answers by the respondents and functions as an answer to the first sub-question and will be further discussed below.

Fig 5.1. Vacation choice practice overview
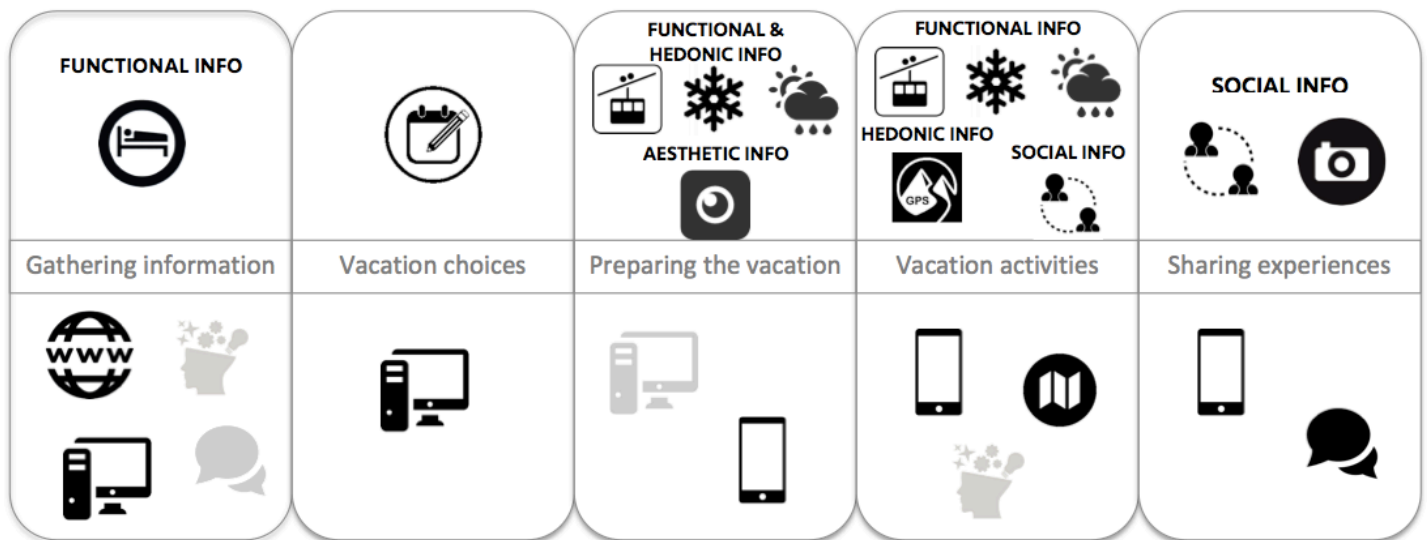
Gathering of information
Although to varying degrees most respondents searched for information in the second phase of the vacation choice practice. The adolescents that travelled with their family were not always involved in searching for information. Besides the Internet, which was the main source of information (Korica *et al.*, 2006), conventional word-of-mouth combined with internal information were still seen as key

sources (Jacobsen & Munar, 2012). Reviews accessed online were also used when gathering information. The smartphone was not really used during this phase, as respondents preferred to use other devices that better facilitated the extensive search. The few respondents that did turn to the smartphone did not turn to applications but simply browsed the web. This is in accordance with the findings from Google (2014) stating that smartphones are often used for travel inspiration in the "snacking moments" before planning and that travellers go to the same types of sites on smartphones as they do on desktop/tablet. It can thus concluded that the smartphone was not fit for extensively gathering information. On the one hand the content was not mobile compatible, and on the other hand the screens were basically too small. In the second phase the smartphone was used to access functional information needs (Wang *et al.*, 2012).

Although the theory also discussed how the smartphone could shorten the pre-consumption stage by accessing information on the go and postponing decisions till the actual vacation (Wang & Fesenmaier, 2013), this was not the case for the respondents in this research. However, this might be due to the fact that this type of 'booking' does not really fit with a winter sport vacation. A winter sport tourist means travelling towards a destination to enjoy skiing/boarding, and does include travelling around at a venture. Instead the vacation is usually booked well in advance to ensure one's accommodation before all is taken. It is interesting to note that one respondent did actually book an overnight stay using her smartphone for the return trip during her winter sport vacation (Middle adult R11), which is in line with Wang & Fesenmaier's (2013) theory.

Actual vacation choices

Regarding the third phase about the actual vacation choices, it seemed that the Internet was the preferred booking source, which did not cause any problems for the respondents. Like gathering information booking the vacation was also done using other devices. Booking an apartment was most popular among the respondents, as this was probably the cheaper option when travelling with a larger group, which most of the respondents did. Most of the respondents did not see WiFi availability as a decisive factor when booking an accommodation but also acknowledged it was very convenient when available. Although quite some respondents said they did not really consider WiFi availability this might also indicate that the respondents find it obvious it is available and assume it to be included. Respondents did not make use of any booking related apps and did not even consider this. This is in line with the findings from Google (2014) stating that nearly half of those who use their smartphone for travel inspiration ultimately book through some other method.

Although Gram (2007) suggested that children have a say in the decision-making and that these children are better informed and more experienced consumers than ever before, the children related to the respondents were not actively participating in the booking process. The children were asked how they liked the proposed alternatives but did not search for information. This is also reflected in the adolescent respondents who did not search for information.

Preparing the vacation

In the fourth phase the smartphone took a greater role. Although respondents still also accessed the Internet through other devices to search for information the information search took a slightly different form. Where searching for information in the second phase was usually an activity one really sat down for, the information search during the preparation phase was done now and then whenever one felt like it. The smartphone suited this type of information search, as it is usually at hand. Since the respondents were experienced winter sport enthusiasts not too much information was needed. However, like Goolge (2014) stated smartphones were often used for travel inspiration in 'snacking moments' before planning, for example during spare moments like waiting or commuting The information search mainly concerned weather/snow forecasts, actual snow conditions and information about the pistes, which can be regarded as functional information as well as hedonic information (Wang *et al.*, 2012). Building expectations concerning the snow and weather conditions was an important aspect for the respondents for both practical reasons as well as for the pleasure of anticipating (see Rutty & Andrey, 2014; Jacobsen & Munar, 2012). Some respondents for example used webcams to have a look at the pistes they would be riding in short notice, which can be regarded aesthetic information (Wang *et al.*, 2012). The respondents did not experience any shortcomings and the use of these apps did not really differ among the age categories.

Vacation activities

During the actual vacation information was searched both online by using the smartphone (some also used other devices) and offline by using printed information. The extent to which information was needed and searched was influenced by the previous experience and internal information the respondent's carried. The smartphone was used by all of the respondents to search for functional information mainly concerning weather and snow forecasts, and information on pistes and lifts (open/closed). Furthermore, the smartphone was also used for other purposes, such as tracking (hedonic information needs, Wang *et al.*, 2012). Social information was also important for the tourists during their winter sport vacation, not only to share experiences but also to stay in touch with their travel company during the day, or at least to be able to reach someone when something would happen.

Besides accessing winter sport related information needs the respondents' 'daily use' also continued. Respondents played their games, checked the news and sustained their social life through Whatsapp, social media and by reading their mails. Most respondents continued their daily used, which is in accordance with the spillover theory (see MacKay & Vogt, 2012). However, one respondent did the exact opposite and stopped his daily use to fully enjoy the winter sport vacation (Adolescent R2).

Although some respondents mentioned some shortcomings, these were not so much related to the content provided. Few respondents did mention they would like to have some of the content to be offline available as they were dependent on WiFi. In addition the respondents mentioned shortcomings inherent to using the smartphone like: battery drain, cold hands when used on mountain or the clumsiness of using the smartphone with gloves.

Sharing experiences

All of the respondents had shared their experiences in real life by talking with friends or family after the vacation. The smartphone also proved to play an important role in sharing experiences. The respondents used their smartphone to share experiences through social media and Whatsapp by sending photos both during and after the actual vacation (social information needs, Wang *et al.*, 2012). This is in accordance with Wang *et al.* (2010) who state that sharing practices can already take place during the trip. It seemed as if the winter sport vacation was a good reason for the respondents to share a photo. Where Yoo & Gretzel (2012) stated that only a small portion of social media users actively contributes content, here it is assumed the winter sport vacation is seen as a good occasion to contribute content. Furthermore, the respondents that used the Trace app instantly shared their stats on the app with other users after having tracked. Writing reviews was mostly seen as unnecessary or respondents were simply too lazy to write reviews. So it can be concluded only a small portion of review users actively contribute content.

5.2. Tech-savviness

With the immense presence that the smartphone has in our society today, it is not surprising that the smartphone has entered the vacation choice practice. Although most people are well-versed with the smartphone, some people are more tech-savvy than others. Here we will discuss the second sub-question posed.

How can different actor-related factors be linked to the use of the smartphone in the vacation choice practice of Dutch winter sport tourists?

Some people are plainly more tech-savvy than others, however in this study specific focus was given to how actor-related factors could be linked to differences in smartphone use among the respondents. The figure below captures the main issues that arise for this question and functions as an answer to the second sub-question. The answer will be further discussed below.

Fig 5.2. Overview role of actor-related characteristics
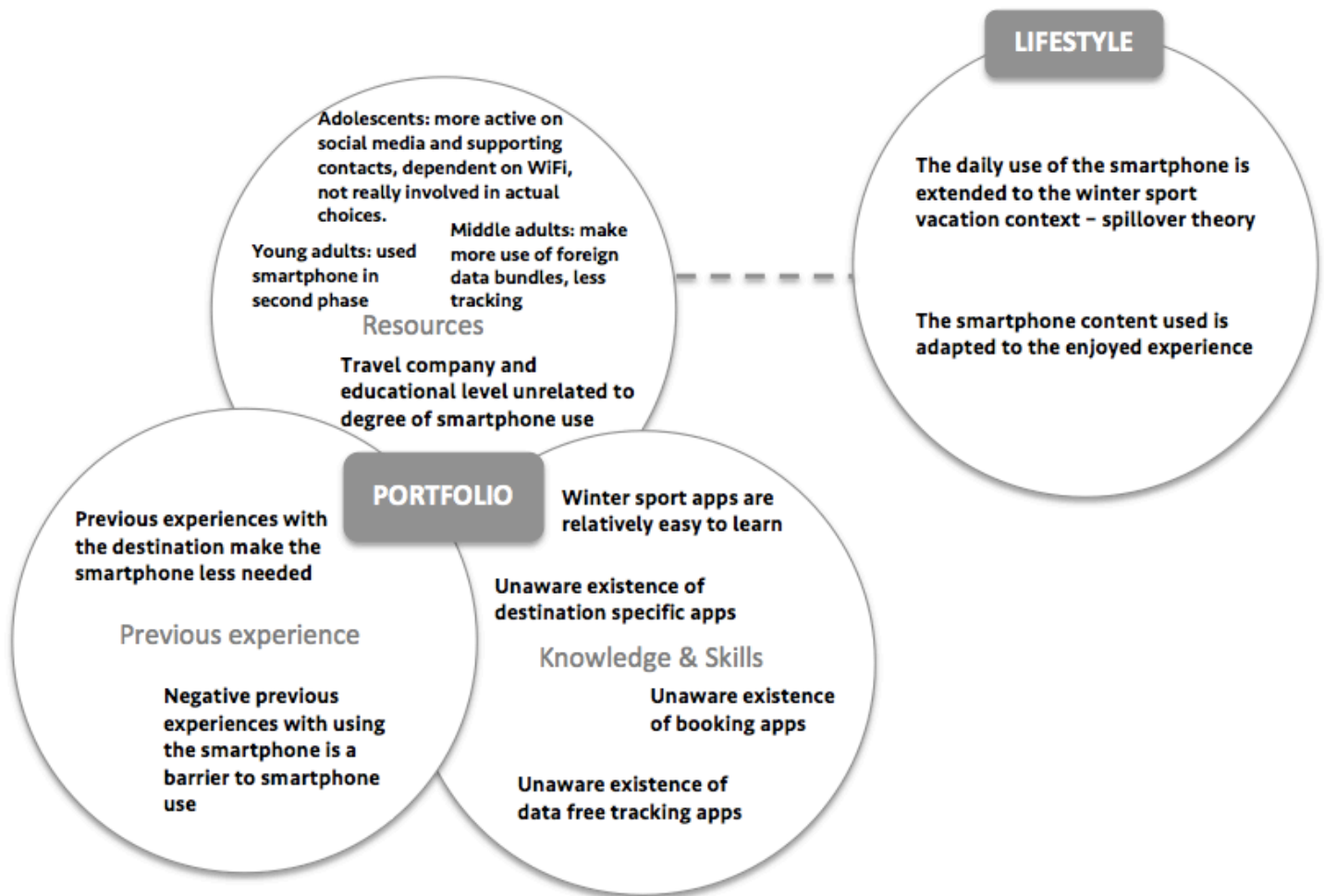
Skills & Knowledge

The majority of apps designed for winter sport seemed to be relatively easy to learn how to use. The respondents who made use of the apps did not encounter any difficulties and their skills proved to be satisfactory. Knowledge on the other hand was sometimes an issue for using the smartphone in the vacation choice practice. First, most respondents were unaware of the existence of booking apps. The respondents did not search for such apps, yet when explained by the researcher some saw the added value of having such apps. However, booking your vacation using another device is a logical next step after having searched information on that same device. Second, few respondents were unaware of the existence of destination specific apps and have never downloaded any. The knowledge on tracking apps also differed among the respondents. Some of the respondents that did not use tracking apps were unaware of the existence apps that enabled offline tracking. Although they mentioned they might enjoy using such an app they did not because they thought Internet access was required.

Previous experiences

Previous experience was an important actor-related characteristic influencing the degree to which the smartphone was used during the vacation choice practice. First, previous experience in destinations seemed to influence the degree to which the smartphone was used for accessing winter sport related content. The respondents who had visited a destination before relied more on intrinsic information and were not so much in need of searching for info in the third, fourth and fifth phases. This is in accordance with Jacobsen *et al.* who state "data clearly indicate that reliance on intrinsic information grows with increased experience" (2009, p. 612). The more experienced the respondent was with the ski resort the less information concerning the destination was accessed through the smartphone (piste info, restaurants). Besides previous experiences with the destination previous experiences with using the smartphone for accessing information was also an important aspect. The smartphone was not actively used in the second and third phases of the vacation choice practice, and all of the respondents preferred to use other devices as the smartphone did not prove to be the user-friendliest device for extensively searching for information.

Resources
It was assumed that the respondents' age, family composition and/or travel company, and educational level were of influence on how the smartphone was used. One's level of education was expected to have an influence as according to MacKay & Vogt (2012) the higher tech vacationers group is associated with higher education. However, for this research all respondents were relatively high educated, therefore no effective comparisons could be made. Though this could point to the fact that winter sport tourists are relatively high educated, which might be related to the expensive character of winter sport tourism.

Especially age was expected to be an important variable. According to MacKay & Vogt (2012) the higher tech vacationers group was associated with younger age. Although some differences were present among the age categories the influence of age was much less than expected. Apart from one respondent (adolescent R2) the adolescents were more actively using a varying set of social media channels. It also seemed that sustaining their social contacts back home was more important to them than to the other to age categories. However, in relation to making decisions the adolescents were less involved as they mostly travelled with their families and were not really bothered about gathering information in the second and third phases. Furthermore, the adolescents were the only age category that did not make use of foreign data bundles making them reliant on WiFi availability.

The young adult and middle adults on the other hand were actively searching for information throughout the whole vacation. The young adults used their smartphone more to search for information in the second phase than the middle adults did. Being on vacation all respondents used their smartphone but where the adolescents used it to sustain their social life, some of the respondents in the young and middle adult categories sustained their work contacts. To conclude age did not prove to be as important as expected; most of the respondents had adapted to using a smartphone in their daily life and extended this use to the vacation choice practice. Although uses different somewhat by age the extent to which the device was used did not really.

Travel company was also expected to have its influence. It seemed that family composition including age of the children is of influence on the choice of accommodation (actor-related, resources), it sets the time frame and the preferred facilities for the children. However, how the travel company had its influence on the role of the smartphone in the vacation choice practice has not yet been referred to. Like stated before, the adults or parents mostly gathered the information and chose a set of alternatives. Afterwards the children were asked to give their opinion on these final alternatives. Although it was expected the younger generation or children were more experienced consumers than ever before and could potentially help in gathering information in the second phase and thus be of importance in the third phase (Gram, 2007), this was not evident among the respondents.

Lifestyle

Besides the individual's portfolio the individual's lifestyle was also considered. It seemed the concept of lifestyle was two sided in this research. On the one hand the respondents daily use of the smartphone in relation to the use in a travel context. The respondents' daily use of the smartphone seemed to retain while on vacation. This relates to spill over theory, meaning that the use of information technology in daily life can spill over to the travel context (MacKay & Vogt, 2012). Like discussed above, the adolescents were actively using their smartphone to sustain their social life (Facebook, Whatsapp, Instagram, Snapchat, etc), and these activities were also retained while on vacation. However, where they shared daily life related experiences during their daily life they shared winter sport related experiences during their winter sport vacation (phase 6: sharing experiences). For some of the 'older' respondents their daily use in terms of work was extended to the vacation context. Furthermore, 'spill overs' from daily life included checking the news, playing games, and keeping in touch with the 'daily' contacts through Whatsapp. It can thus also be concluded lifestyle and age are related and the interrelation influences the degree to which the smartphone is used.

On the other hand the type of winter sport related smartphone content the respondents access seemed to relate to the type of winter sport enthusiast they are, or in other words what kind of winter sport lifestyle they enjoy. For example some respondents really enjoyed rocking the pistes and liked to track their speeds (Adolescent, R1, Middle adult R9, Middle adult R10). Another respondent really enjoyed planning and making big tours through the ski resort and used the destination specific app to help plan his tour (Adolescent, R2). Furthermore, there were also quite some respondents who enjoyed an active long day, but did not really plan in advance and liked to use the old school maps.

5.3. Push across

With the growing significance of the Internet and the smartphone in specific, tourism businesses are increasingly focussing on creating and sharing dynamic content. Content can be shared, either through mobile sites or through applications. In this section the third research question will be discussed.

How can the supply of smartphone content (as perceived by the Dutch winter sport tourists) be characterized for the different phases of the actual vacation choice practice?

Content can either be shared through mobile sites or through applications. Sites are very diverse, ski resorts provide websites but so do travel agencies and pretty much any organization active in the industry. Websites can therefore be used in any of the phases of the vacation choice practice. However, it is important to note that not all website providers have adapted their website for mobile use. Some of the respondents mentioned some of the websites they had accessed were not adapted for mobile use.

Although sometimes apps (hybrid apps) are simply an extra layer in which the mobile site is loaded in the app, meaning that the providers do not need to build an app but simply build an 'app' based on the mobile website. However, most applications are usually specifically designed for the smartphone and are therefore interesting for this research. Three types of apps have been identified: general tourism apps, general winter sport apps, and destination specific winter sport apps. Here too an infographic will be used to illustrate the answer. Figure 4.1 is now adapted to suite the answers of the respondents.

Fig 5.3. Overview content used (respondents)
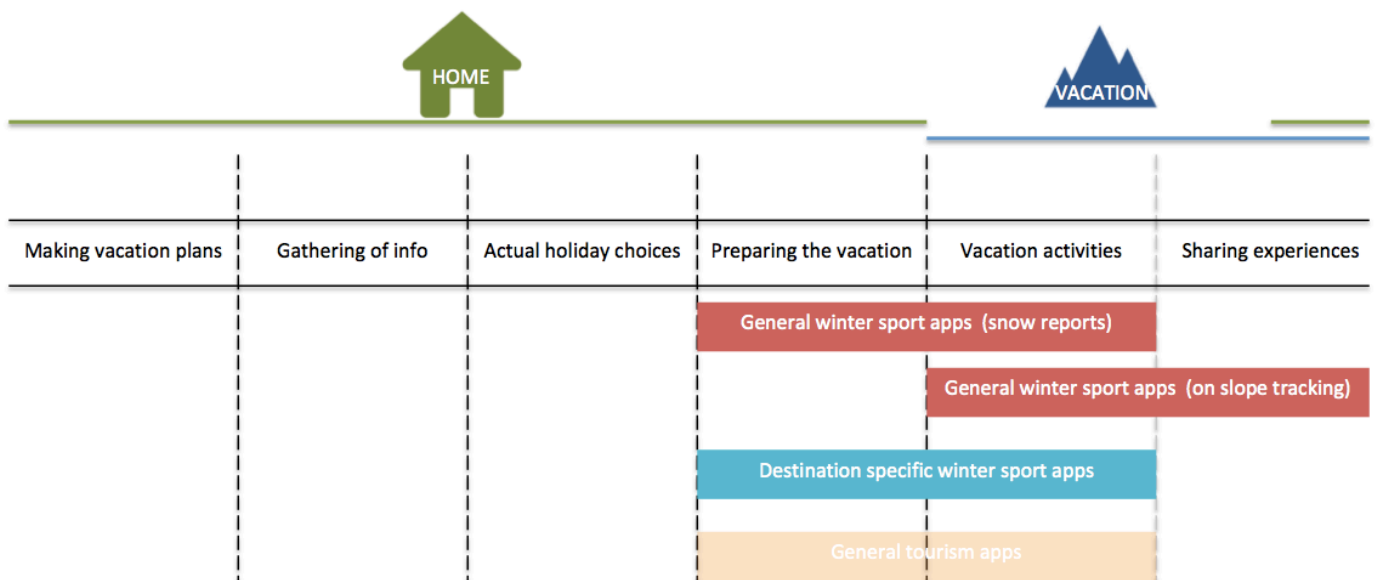
General tourism apps
General tourism apps are designed for all types of tourists but can be used throughout the winter sport vacation practice and include among others: TripAdvisor, Booking.com, Agoda, and Expedia. The provider's of these apps are mostly tour operators and generate income by providing services. The apps by tour operators are mostly there to facilitate the tourist in booking its trip and to gather information (phase 2 and 3). However, the respondents did not use these apps to search for information or book a trip. Some respondents did actually book a trip at these providers but used the Internet and their laptop to do so. Only two respondents general tourism apps, TripAdvisor was used

by one of the respondents to look for a restaurant and Booking.com was used by another respondent to book an overnight stay for the return trip. Although TripAdvisor can provide the tourist with functional information throughout the whole vacation choice practice, tourists merely turned to winter sport related apps.

General winter sport apps

A wide variety of general winter sport apps were identified and provided by various actors with diverse objectives. There are quite a number of independent organizations that provide snow reports apps. Sneeuwhoogt.nl is such an example and proved to be the most popular app among the respondents. These apps provide snow reports and weather forecasts and you can choose your favourite destination, enabling you to be just a click away from checking the weather and snow forecasts and webcams. The objective of such organizations is twofold. On the one hand they want to provide the tourists information to anticipate the impending trip, and on the other hand they generate income by advertising for tour operators. These apps were relatively popular among the respondents to use in the preparation and vacation activities phases of the vacation choice practice.

About half of the respondents had used and enjoyed tracking apps. These tracking apps can be described using the theory on gamification (see Tussyadiah, 2012; Xu *et al.*, 2013). The apps the respondents used involved both system rewards and social rewards (Tussyadiah, 2012). System rewards consist of application rewards (points to collect, badges to unlock) and merchant awards (real-life reward). According to Tussyadiah (2012) social rewards can be competition based or connection based. Although all these types of rewards were available to the tourist only system rewards in terms of application rewards and competition based social rewards seemed to be important for the respondents' joy. Although some apps work with in-app purchases as a business model, the respondents retained to the free applications and services. An interesting example is the MAPtoSNOW app, which was used by one of the respondents. MAPtoSNOW works together with ski resorts and sells its services to ski resorts. On the webpage of MAPtoSNOW the following was stated:

"*Get a direct connection to the users with less effort and maximum result. Boost the reach of your campaign and the interaction with your company by using interaction marketing, gamification, location-based marketing and couponing in our effective marketing tool. Start your campaign in our apps now!*"

The app developers do not only provide these apps, but the ski resort is sometimes also involved in providing destination specific tracking services.

Destination specific winter sport apps

The third category identified concerned destination specific winter sport apps. These apps function as a guide with a variety of content provided in each app, among others: weather forecasts, tips and highlights, gastronomy, ski maps and positioning, and accommodation. These apps were quite popular among the respondents who used these apps in the preparation and actual vacation phases, only three respondents did not consider searching for one. The content relating to the conditions and weather were mostly used among the respondents. App developers commissioned by the ski resorts

or local tourism agencies developed these type of apps. The iDestination series identified in the desk research were also used by some of the respondents: iZillertal arena app, iSt. Anton, and iObertauern. The destinations the respondents travelled to all provided destination specific apps. It thus seems the industry has embraced providing destination specific apps. This research also proved the popularity of these apps.

Supporting services

Besides providing destination specific apps, ski resorts also supported their guests by providing WiFi in some locations. Quite some respondents noted that WiFi was provided at the mountain and base station. Although respondents did not really make use of these services the ski resorts did offer the possibility. During their breaks the respondents did make more use of the WiFi availabilities in the restaurants. Furthermore, all the accommodations the respondents stayed at provided WiFi.

5.4. A tech-savvy practice?!

Based on the interpreted results and the above-discussed sub-questions the central research question can be reviewed.

What is the role of the smartphone in the vacation choice practice of Dutch winter sport tourists, and which opportunities derive from these findings?

The four-inch interactive screen and the skiers/snowboarders' pockets have become inseparable over the recent years. The results of this research proved that the Dutch winter sport tourist and the smartphone are fused together; the smartphone has become a matter of course. However, this research also proved that the role of the smartphone differs throughout the vacation choice practice. The smartphone basically delivers the tourist information replicated from other information sources. The apps mostly provide content, which can also be retrieved when browsing the Internet. However, the ubiquitous character of the smartphone provides immediacy to the information. Moreover, this immediacy also enables the tourist to easily share their experiences and to become providers of content. Based on this research it can be claimed that the tourist does not make different choices when using the smartphone, but the smartphone confirmed certain choices sooner as the information was always at hand. The tourists in this research preferred to use their smartphone prior to departure mainly during 'snackable moments', meaning that the tourists turned to a desktop/tablet when intensively and extensively searching for information. As a result, the gathering of information in the second phase of the vacation choice practice was mainly done through other devices. If the tourists turned to their smartphone they retained to using websites. However, during the preparation phase the information search took a 'snackable' character; information was searched now and then during spare moments, while doing other activities, or when quickly searched for something (weather, piste information, snow conditions). Hence the smartphone was more intensively used during the preparation phase, and respondents turned to downloading apps. During the actual vacation the smartphone was also used for searching for information, here the mobile character facilitated on-site

information searching. Furthermore, being connected enabled the tourists to instantly share their experiences (through photos).

The Dutch winter sport tourists used their smartphone for a variety of needs (see Wang *et al.*, 2012). Functional information needs were answered by weather related apps and destination specific apps, which most of the tourists used during their preparation and/or actual vacation. In addition tourists also used aesthetic information sources to form expectations, and the same apps were used to check webcam images of their destination before departure. During the actual vacation tourists also needed hedonic information sources to be excited, tracking apps were used for the fun of competing. Few tourists also turned to their smartphone to access innovative information sources, for example to visit a new restaurant or to do something different than skiing such as rodeling or swimming. Last, the tourists also needed social information both during and after the vacation to share their experiences and be valuable to friends. Therefore the tourists in this research did not just consume information but also became providers of content. All of the respondents had shared their experiences through the smartphone. Where some respondents were not too shareative in daily life most of them posted a photo during/after the vacation. Although theory suggested the tourists would also use social media as a source of information (see Fotis *et al.*, 2011), this was not reflected in this research. Most probably this is a coming together of different factors. First, the younger more intensive social media users were not really involved in the decision-making process. Second the other respondents were not too active on social media in daily life and therefore they did not access this type of information.

By taking the winter sport vacation choice practice as the unit of analysis the role of the smartphone is studied specifically for the winter sport industry. The winter sport industry was of special interest, as the market for activities and sports related to the ski industry has seen a phenomenal rate of growth. A great amount of winter sport specific apps is available which makes this topic so interesting. The results of this research show that tourists do indeed use their smartphone for their winter sport practices. Moreover, the findings also illustrated that general tourism related apps were not really used and the tourists sticked to the winter sport related apps. The findings of this research also indicate that the smartphone does not just facilitate the tourist in its practices but also introduces new practices. About half of the respondents actively used their smartphone to track their day and saw this as an enjoyable activity. This also points to the significance of the smartphone in a winter sport related context, many of the apps used are very specific to the winter sport vacation and are not used during other vacations. Most of the respondents also mentioned that their smartphone use was more intensive during their winter sport vacation compared to other vacations. Although these apps provide new avenues for communication for the winter sport industry the moment of contact is relatively short. The easy access to the availability of apps and the flexibility of the tourists points to the weakness of the providers. The tourist is the initiator of mobile communication and can decide in a split second to cut off contact. The findings in this research also showed that respondents removed their apps after the vacation period and accessed them again when preparing for the vacation. The moment of communication is therefore relatively short.

It can be concluded that over the recent years the vacation choice practice has partly been reroutinized to include the smartphone. The extent to- and purpose for which the respondents used the smartphone differed. Identifying clear groups of respondents, or making clear distinctions between the age categories seemed to be difficult. Instead it seemed to be a configuration of a certain set of variables that affect the level and purpose of smartphone use. The actor related factors that seemed to be of influence included: one's knowledge on the smartphone content provided, one's experience with the destination, one's experience with using the smartphone in the vacation choice practice, the type of winter sport enthusiast, one's involvement with the decision-making process, one's interest in searching for information, smartphone use daily life (age related), and access to internet. However, some additional notes are in place. Where the adolescent tech-savvy group is currently not really involved in the decision-making process they will in future be the decisive actors. Further reroutinization can therefore be expected to occur in the years to come. The younger slightly more intensive smartphone users (especially social media users) will become older and will start to decide for themselves. The role of the smartphone can therefore be expected to extent to the second phase of the vacation choice practice. Here the findings already suggested that the young adults made more use of the smartphone in the second phase than the middle adults did.

5.4.1. Tuning in

Up to now the focus has mainly been on how the practice of the tourist has reroutinized into a practice including the smartphone. However, reroutinization will not only be considered in relation to the tourists, but in relation to the conjunction of providers and tourists as well. How can the industry alter their practices best to fully leverage the potential of the smartphone. An important part of the central research question will be discussed now, the opportunities. The so-called consumption junctions, where actors meet smartphone related providers of the supply side, identified certain (mis)fits. Accordingly recommendations were made with regard to these fits and misfits, and the envisioned to be developed apps by the respondents.

Although tourists mainly used a desktop/tablet to search for information in the second phase of the vacation choice practice tour operators and local tourism boards should ensure their websites are mobile-friendly. The findings proved this was a problem for the tourists as mobile-unfriendly sites turned them away and left a bad image. However, this is also a big opportunity for companies, with some investments you can turn your site mobile compatible. Even though a customer might only visit your mobile website sporadically you want to leave a good impression and ensure future visits. Ensuring positive previous experiences might then work towards a higher use of the smartphone in the first phases.

Furthermore, the bigger organizations/tour operators that provide facilitating (booking) apps should make their customers aware of this service. Although all respondents ultimately booked their vacation using a desktop, an app can facilitate in having the booking confirmation at hand. However, the respondents did not have the appropriate knowledge, where some would have actually liked such an app. The use of such booking apps could also entice more active review writing, the app can send

the tourists a push notification as a reminder. In addition reviewing accommodations through the app might be more appealing as it can be done using the smartphone during 'snackable moments'. Therefore, writing a review might become less of an activity one really needs to sit down for.

The destinations or ski resorts are already actively adapting to the smartphone. Most of the destinations are providing apps and are catering WiFi facilities. Especially the latter brings down a major barrier for the use of data services, especially for adolescents. However, some destinations are only providing limited WiFi services and could still invest in bringing the Internet to the tourist. For example in the ski lifts/cabins and at both the mountain and the valley-station. Especially the introduction of WiFi in cabin lifts would be valuable, as the cabins protect the tourists from the cold allowing them to take off their gloves and enjoy their apps. However, it should also be clearly communicated where one has access to WiFi, as not all respondents knew where exactly they could use WiFi. The ski resort could choose to include signs on the ski map or advertise in the cabin by placing stickers.

Besides WiFi the resorts are also widely providing apps. Although ski resorts do not develop these apps themselves they are the ones to commission possible changes. Current destination specific apps are already widely used. However, it is recommended that these apps provide more of the functions off-line, as not all tourists will have access to Internet throughout the whole ski resort. The ski map could as an example be offline available and one could use the location awareness functions of the smartphone to navigate on piste. In addition some respondents also mentioned they would like to see tracking functions to be included in the destination specific apps. This would be a great opportunity for the ski resorts for diverse reasons. First, the tourists would be using the destination specific app more intensively enabling the ski resorts to better reach out to the tourists throughout the day. Second, the ski resort could mine the data and see the mobility of their customers, which can help dealing with crowds. Third, tourists will enjoy such an app, which might arouse attachment to the ski resort as a brand. Last, as the ski resort would develop tracking functions it would be easier to into introduce merchant awards, which would add an extra dimension of fun to the app.

However, ski resorts could also cooperate with apps like MAPtoSNOW, which connects your visitor with the destination through the tracking app by offering local merchant awards. A recommendation that applies to all tracking apps is that the app should work without Internet connection, as this was seen as a barrier by some of the respondents. In addition, the tracking apps should also clearly communicate their app does not require internet access, because two respondents did not use a tracking app as they were unaware of the existence of tracking apps that did not require Internet access. Another advantage of MAPtoSNOW relates to the fact that the destination is physically involved in the 'game' aspect, as one can win real prizes. This can enhance the tourists place-attachment and create positive memories relating to the destination.

Ski resorts could also try and introduce new gamification related apps and introduce new fun activities for the tourists. The tracking apps have proved to be relatively popular and there might be more ways to introduce the smartphone to skiing/boarding or even après skiing. The piste bingo app thought of

by one of the respondents could be an example. An app that in which one could gather photos and organize them by relating them to geo-tags could be another example. By developing such apps the ski resort can increase the moments of interaction and can monitor or communicate with the tourist for the sake of marketing.

Although the respondents were sharing experiences through social media, destinations can still capitalize on this aspect of the vacation choice practice. Where the tourist was now mainly sharing its experiences through Facebook by sharing photos, the tourist was not involved in sharing experiences through the winter sport related apps. However, destination could entice the tourists to share their experience online and relate it to the destination, this will help build towards greater destination awareness. Gamifying the sharing of experiences could be an opportunity to build destination awareness. For example the ski resort could organize an online contest for which tourists have to share their experiences by means of fun photos that are geo-tagged in Facebook, or hash decked in Instagram (#destination). As a result the destination will not only receive a lot of attention, but the destination will also be related to 'joy' as a result of the fun photos. Subsequently the tourists can win prizes and the destination is promoted and can potentially attract new visitors. Such online events can also extend the relationship with the tourist. Tourists will still keep in touch with the destination when sharing experiences, which is beneficial for the destination.

5.5.   Future research

The recommendations described above relate to the social relevance of this research, but this research is also scientifically relevant. The role of the smartphone in the vacation decision-making, were approached with the help of an integrated perspective. It has build on both SPA-based theories and theories concerning the vacation sequence. The vacation sequence, or the vacation decision-making process was approached using SPA. The added value of using this integrative approach is that the SPA provides a way to look at and study the vacation-decision making process. Current literature concerning the role of the smartphone in tourism hardly views it in the proper context. A gap can be recognized between studies that focus on how the potential of the smartphone can benefit the industry (see Egger, 2013), and a tourist-oriented focus which only study how tourist's behaviour changes as a result of using the smartphone (see Dickinson *et al.*, 2014; Rasinger *et al.*, 2007; Wang *et al.*, 2012). The added value of the approach in this study is that the supply- as well as the demand-side are both involved in the vacation choice practice (see Bargeman, 2001; Verbeek, 2009). Although the demand side has received greater attention in this research, as the interviews were only taken with tourists, the desk research has worked towards an understanding of the supply side. Using the elements of the SPA in relation to the vacation decision-making were evidently helpful in sketching fits and misfits as well as sketching information about the consumption junctions, or in other words how the smartphone was used in the vacation choice practice.

Although the vacation choice practice was not new (see Verbeek, 2009), the specific focus on the smartphone was. The variables used, both on the demand and supply side, seemed relevant for understanding this role. Although not all variables proved influential most of the variables build

towards understanding the role of the smartphone. However, the actor-related variables were mostly superficial; age, previous experiences and for example skills are easy to understand variable. Yet, some deeper more complex variables could have been included. An interesting variable to consider would for example relate to the higher level needs earlier identified. Why do people actually share their experiences? Is there a need to belong or the need for self-representation or are other issues at stake? Building an understanding of such issues would develop a better understanding of the tourist and can thus help the industry in building sound marketing strategies. The supply-related variables were not as extensive as the demand related ones' and could offer room for improvement too. For example the current motivation for the ski industry to develop apps is an interesting variable. This variable would offer insight in how the ski industry understands the use of the smartphone. However, with some additions future studies using a SPA/Vacation sequence approach would be appropriate.

This research has also added to the literature concerning the vacation decision-making process, or the vacation sequence. Most of the literature concerning vacation decision-making is already somewhat out-dated, especially in this ever-evolving society. This was also stressed by Hyde & Decrop (2011) who point to the importance of the Internet in speeding up the decision-making process and recommend investigating the role of the Internet use by consumers, and mobile electronic devices. The findings in this research illustrate that for a winter sport vacation tourists still pass all the phases, and people still book their trips well in advance. The latter is in line with Kah & Lee (2014) who state that plans are still made being back home and the pre-consumption stage is not shortened. However, the findings also showed after actual booking tourists search for information in the 'snackable' moments. How this preparation was done in times before the smartphone is however not studied, yet interesting. Furthermore, the coalescence of the last two phases is also an interesting finding relating to the vacation sequence.

Although the vacation choice practice was not new (see Verbeek, 2009), the specific focus on the smartphone was. In addition, this research added to the literature available on the role of the smartphone in tourism like discussed, but also added to the winter sport related literature available. Literature on the ski industry is limited (Clydesdale, 2007; Dickson, 2004) and the academic attention that is present seems to concentrate on the environmental impacts of the industry. This study added to the knowledge on the winter sport industry, by studying the decision tourists make and the role of the smartphone in the industry. Where some have retained to hypothesizing the effect of new technologies in the winter sport industry (see Egger, 2013), this study has tried to illustrate the real effects.

In this study, a mixed methods qualitative research design was used to gather data. This research design was successful as in a relatively short time frame; it was possible to gather information from both the respondents by conducting interviews and the supply side by doing desk research. However, in-depth information from the supply side on for example data mining is missing. Further research is needed to make hard claims on the value of winter sport related apps for destinations. It is recommended that future research will conduct in-depth interviews with ski resorts and/or app developers and providers. During these interviews questions could be asked that cover concepts like:

data mining, cooperation between app developers and commissioners (ski resorts), objectives of ski resorts to develop destination specific apps, the financing of these apps, and how suppliers keep abreast of future trends.

Since this research was very much explorative a conscious decision was made to conduct a qualitative research. Herewith one also chooses not to generalize the findings for a whole study population, in this case the Dutch winter sport tourists. However, this research can now be used as a stepping-stone for a more quantitative research that could generalize outcomes. A survey study could for example be designed, as there is some idea of how the smartphone can play a role in the different phases of the vacation choice practice and what kind of apps are available. It would also be interesting to see if different nationalities have different smartphone habits. Conducting a quantitative study like that would identify the use of the smartphone for a larger group and might be more valuable for destinations to build marketing strategies, and develop different target groups based on nationality, type of enthusiast or another possible variable.

Another suggestion would be to conduct an equivalent research like this one, but then with a greater number of respondents. Here the sample did probably not cover the wide diversity of Dutch winter sports tourists present, tourists undertaking student trips or tourists undertaking vacations with friends were for example not present among this sample and these type of tourists could potentially use their smartphone differently. In addition it would also be interesting to include tourists that went to a relatively small ski resort. The current respondents all went to relatively large ski resorts with numerous facilities including destination specific apps and WiFi availability. It would be interesting if smaller destinations offer the same online facilities.

Where most of the findings were somewhat in line with the reviewed literature the role of social media in influencing decisions was expected to be greater based on the literature. This could be due to the fact that one reads quite a lot on social media and is not aware of how this influences their decision. Or in other words, the respondents regarded this as internal information. It is suggested further research is done to study the role of social media for Dutch winter sport tourists. The role of social media prior to making decisions is of special interest. An effective way to explore this might be to 'follow' respondents throughout their decision making process by conducting several interviews over time. By doing this, the respondents' vacation choice practice is fresh in mind and will most probably foster most in-depth information.

5.5.   What's next…

This research proved the tech-savviness of the vacation choice practice of Dutch winter sport tourists. Over the recent decades people have turned into technological creatures, and the smartphone has quickly gained grounds over the recent years. Today people do not just use smartphones, but the smartphone is to some extent merged with our daily practices and not so daily practices. Although the ski industry has adapted to the smartphone, opportunities are also evident. Moreover, the developments will not stop here; today's dynamic world will introduce new technologies and new

uses. Keeping abreast of the ever-evolving tourism marketplace will be an essential ingredient to tourism marketing success. So the question will always remain: What's next?

On a relatively short notice 3D Reality Maps are expected to replace the traditional ski maps (skiinformatie.nl, 2015). Using 3D Reality Maps one can instantly see the piste maps of interconnected ski resorts in 3D. Such images make you feel like being in the mountains, and give a realistic image of what the ski resort is like. The maps are based on aerial photos, which are up-dated each year to ensure actual information. Two ski resorts are already providing these maps in their apps and probably more will follow. However, one can also think further ahead, such as the 'Internet of Things'. The Internet of Things refers to a network of daily objects with embedded systems. Everyday objects will have access to the Internet and can communicate with other people and other objects. Today already super advanced goggles exist, which allow the user to see their speed jump distance and height outside temperature and much more. These are very futuristic due to their innovativeness, but maybe in a decade or even within a few years this is a matter of course on piste. In addition many more objects could become connected to the web, for example skis or snowboards that instantly track your day.

For now the smartphone is the contemporary reality to which the industry is to adapt and take advantage. Yet keeping abreast and responding or even better anticipating in this ever evolving society is important to stay connected with your customer.

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Appendices

1.   Item list

1. **INTRODUCTION**
   1.1. Could you introduce yourself?
      1.1.1. What is your age?
      1.1.2. What do you do for a living?
      1.1.3. What does your family look like?
      1.1.4. What did you study?

2. **SMARTPHONE USE DAILY LIFE**
   2.1. What kind of phone do you have?
   2.2. For how long have you already been using a smartphone?
      2.2.1. Do you consider yourself an experienced user?
   2.3. How do you describe your smartphone usage in daily life?
      2.3.1. What do you use it for (social media, entertainment, work, Internet), if answered with Internet or texting ask to be more specific.
      2.3.2. Do you use the smartphone mostly at home or when being on the road?
   2.4. Do you consider yourself an intensive smartphone user?

3. **BACKGROUND WINTER SPORT VACATION**
   3.1. What kind of winter sporter are you? (performance driven, party goer)
   3.2. How long have you been practicing skiing/snowboarding?
   3.3. Could you describe your last winter sport vacation for me? (activities, travel party, destination, accommodation, transport, length of stay)
   3.4. Did you visit this destination before?
   3.5. Did any of your friends, relatives or family members visit this destination before?
   3.6. Was the vacation an expensive undertaking?
      3.6.1. Did you have to save for the winter sport vacation or not?
   3.7. Was this winter sport vacation comparable to your former ones?
      3.7.1. Why (not)?
         3.7.1.1. What are the differences and similarities?

4. **SEARCH FOR INFORMATION**
   4.1. Did you search for any information to decide on your vacation?
      4.1.1. Why (not)?
      4.1.2. Who has searched for information?
      4.1.3. What kind of information was searched for? (transport, accommodation, destination, activities etc.)
      4.1.4. Where was the information searched? (travel agency, TV, Internet, brochures apps)?
      4.1.5. Who provided this information?
      4.1.6. Where you able to find the right information?
      4.1.7. Did you miss anything?
   4.2. To what extent did you or anyone else of the travel company use the smartphone to search for information?
      4.2.1. Who has/have used the smartphone to do so?
         4.2.1.1. Why him/her?
      4.2.2. What content was searched for?

4.2.2.1. Winter sport specific or general tourism?

4.2.3. What kind of content did you use?

4.2.4. Who provided the content?

    4.2.4.1. How did you become aware of the existence of the app?

4.2.5. Did you or one of the other users download any specific apps?

    4.2.5.1. What kind of app was downloaded? (destination specific, general tourism, general winter sport apps, other)

4.2.6. Did you find what you were looking for?

4.2.7. Did you miss anything?

5. DECIDING ON THE VACATION

5.1. How did you book your vacation? (Internet, travel agency, on the spot)

    5.1.1. Did you have any previous experiences with doing so?

    5.1.2. Was it easy?

5.2. Did you consider various alternatives during deciding on your vacation? (transport, accommodation, activities, destination)

5.3. Who has made the major decisions?

    5.3.1. How was the rest of the travel party involved in the final decision-making?

5.4. To what extent has the information gathered through the smartphone influenced the final decisions made? (reviews of others)

5.5. Were specific apps used to book the vacation? (Booking.com, Agoda)

5.6. To what extent was the availability of (free) WiFi an important variable in deciding on where to go?

6. PREPARING FOR THE VACATION

6.1. Did you search for any information in preparation to your vacation?

    6.1.1. Why (not)?

    6.1.2. Who has?

6.2. What kind of information was searched for? (transport, accommodation, facilities, activities, weather, etc.).

6.3. Where did you search for this information (travel agency, Internet, TV, brochures, apps, etc)

6.4. To what extent did you use the smartphone to prepare for the vacation?

    6.4.1. Did anyone else?

        6.4.1.1. What kind of content was used? (destination specific, general tourism, general winter sport apps, other)

    6.4.2. Who provided this content?

    6.4.3. How did you become aware of the existence of the app?

    6.4.4. Did you miss anything?

6.5. Did you prepare you smartphone for the vacation?

        6.5.1.1. Did you download any specific apps? ? (destination specific, general tourism, general winter sport apps, other)

            6.5.1.1.1. Do you know if there exists an destination specific app for your destination? And did you download it?

    6.5.2. Did you subscribe to a foreign data bundle?

7. THE VACATION

7.1. Was information searched for during the vacation?

    7.1.1. Why (not)?

7.1.2. Who has searched for information?

7.1.3. What kind of information was searched for?

7.2. To what extent did you use your smartphone during your vacation?

    7.2.1. What kind of purposes?

        7.2.1.1. What kind of content was used? ? (destination specific, general tourism, general winter sport apps, other)

    7.2.2. Who provided this content?

    7.2.3. How did you become aware of the existence of the app?

    7.2.4. Did you miss anything?

    7.2.5. Did you have WiFi or mobile Internet?

        7.2.5.1. Who provided for WiFi?

        7.2.5.2. Would you've liked to?

    7.2.6. Did you use the smartphone to look for information?

        7.2.6.1. What kind of information did you search for?

        7.2.6.2. Who provided the information?

        7.2.6.3. Did you miss anything?

        7.2.6.4. Did you download specific apps during the vacation? ? (destination specific, general tourism, general winter sport apps, other)

            7.2.6.4.1. Do you know if there exists destination specific apps for your destination? And did you download it?

            7.2.6.4.2. Did you use tracking apps during the vacation? Why?

7.3. How is your smartphone use during the winter sport vacation different as compared to any other vacation?

7.4. How is your smartphone use during the winter sport vacation different as compared to your daily life?

8. Sharing of experiences

8.1. Did you share any of your experiences with others?

    8.1.1. With whom?

        8.1.1.1. When did you share your experiences? (during the trip or after)

        8.1.1.2. Why did you share your experiences?

    8.1.2. How did you share your experiences in person or through the Internet?

    8.1.3. To what extent do you use your smartphone to share your experiences?

        8.1.3.1. Did you use any social media?

        8.1.3.2. Did you write any travel reviews?

        8.1.3.3. What content did you use? ? (destination specific, general tourism, general winter sport apps, other)

        8.1.3.4. Who provided the content?

9. ENDING UP

9.1. How did you experience using the smartphone during your just described vacation? (efficient, enjoying, distracting, etc).

    9.1.1. Did you encounter difficulties in using the smartphone?

9.2. If you were to develop an app relevant for the winter sport vacation what would it be?

    9.2.1. What content should be developed?

    9.2.2. Why?

    9.2.3. By whom?

2. Findings desk research

TYPE		APPLICATION	PROVIDER	CODES
General winter sport apps				
	Snow reports	Wintersport App	Nederlandse Ski Vereniging (NSkiV) Webportal Dutch	Gathering of information Preparing the vacation Actual holiday choices Vacation activities Social
		Sneeuwhoogte.nl	Sneeuwhoogte B.V. Appmanschap B.V. Webportal Dutch	Gathering of information Preparing the vacation Sharing experiences Social
		Sneeuwhoogte +	Wintersporters.nl Webportal Dutch	Preparing the vacation Actual holiday choices Sharing experiences Social
		Sneeuwhoogte Bizztravel	Bizztravel (tour operator) Dutch	Vacation activities Actual holiday choices Sharing experiences Social
		Skiinfo sneeuwhoogte & Ski app	Skireport.com Webportal International	Vacation activities Preparing the vacation
		Bergfex Ski	Bergfex tourism portal Wintersport portal International (Austria)	Vacation activities Preparing the vacation
		iSki Austria	Intermpas AG App developer International	Preparing the vacation Vacation activities
	On slope tracking	Trace Snow – Ski + snowboard	Alpine Replay, Inc.	Vacation activities

TYPE	APPLICATION	PROVIDER	CODES
		Funded by investors	Social
		Provides in-app purchases	
	Ski Tracks	Core Coders Ltd.	Vacation activities
		App developer	Sharing experiences
		Paid app & Free Lite version	Social
	iSki Tracker	Intermaps	Vacation activities
		International app developer	Sharing experiences
		Sponsor (Audi)	Social
	Snowciety	Snowciety	Vacation activities
		Dutch (international) app developer	Sharing experiences
			Social
		In-app purchases, partnerships	
	Afdaling	Appmanschap B.V.	Vacation activities
		Dutch app developer	Sharing experiences
		Paid app	Social
	Ski Mate	Afflerbach.informatik	Vacation activities
		In-app purchases	
		German app developer	
	Edge Ski	Edge mobile limited	Vacation activities
		International app developer	Sharing experiences
			Social
Other	NosePost	KPN	Vacation activities
		Dutch landline and mobile telecommunications company	Sharing experiences
			Social
		Free app	
	Snowsafe	First Line Solutions GmbH	Vacation activities
		App developer	
Destination specific winter sport apps	iZillertal Arena	Intermaps	Preparing the vacation
		Initiated by tourism agency	Vacation activities
	iSki Ischgl	Intermaps	Preparing the vacation
		Initiated by tourism agency	Vacation activities
	iSolden	Intermaps	Preparing the vacation

TYPE	APPLICATION	PROVIDER	CODES
		Initiated by tourism agency	Vacation activities
	Kitzbuheler Alpen	Tourismus verband Kitzbuheler Alpen	Preparing the vacation Vacation activities
	Ski Amade Guide	Ski Amade	Preparing the vacation Vacation activities
	Winterberg.de	Initiated by local tourism board	Preparing the vacation Vacation activities
	Val Gardena – Groden	Initiated by local tourism board	Preparing the vacation Vacation activities
General tourism apps	Booking.com	Booking.com Online accommodation booking International	Gathering of information Actual vacation choices Preparing the vacation Vacation activities
	TripAdvisor	Tripadvisor Review portal International	Gathering of information Actual vacation choices Preparing the vacation Vacation activities Sharing experiences
	Expedia hotels & vluchten	Expedia Online booking International	Gathering of information Actual vacation choices Preparing the vacation Vacation activities
	Agoda	Agoda Online accommodation booking International	Gathering of information Actual vacation choices Preparing the vacation Vacation activities

3. Data matrix

	Adolescence				Young Adulthood				Middle Adulthood			
Respondent #	1	2	3	4	5	6	7	8	9	10	11	12
Residence	Rijen	Groningen/Rosm	Engelen (Den Bo:	Arkel	Rijen	Rijen	Rijen	Dongen	Gilze	Rijen	Oosterhout	Oosterhout
Age + Gender	M25	M20	F19	F20	M39	M40	F39	F28	M46	M48	F63	F49
Family compositio	Together	Student	Parents	Parents	Together + 1 kid	Together + 3 kids	Together + 3 kids	Together	Together + 3 kids	Together + 4 kids	Together kids mo	Together + 2 kids
Education	HBO	WO	HBO	HBO	HBO	WO	HBO	WO	HTS	WO (unfinished)	HBO	Mavo
Profession	Engineer	Student	Student	Student	Teamleader Deliv	Mechanical Engin	Social policy advi	Research analyst	Entrepreneur	Entrepreneur	Volunteer/Pensic	Entrepreneur/Ag
Destination	Bramberg am Wi	Val Thorens, FR	Leogang, AU	Serfaus, AU	Val Thorens, FR	Gerlos, AU	Koningsleiten, Al	Val Thorens, FR	Vars-Risoul FR	Sankt Anton AU	La Norma, FR	Obertauern, AU
Travel company	Together	Family 4	Family 4	Family 5	Together + 1 Frie	Family 5 + Family	Family 7	Together	Family 5	Wife + Friends	Together + (Fami	Family 4
Duration	1 week	1 week	1 week	2 weeks	1 week	5 days	1 week	10 days	1 week	5 days	1 week	1 week
Transport	own car	bus	car	train + car	own car	own car	own car	bus	own car	own car	own car	own car
Accommodation	hotel	appartment	appartment	hotel	appartment	holiday home	hotel	appartment	appartment	pension	gite	hotel/pension
Smartphone												
Type	Samsung Galaxy	iPhone 4	iPhone 5	iPhone 4	Samsung Galaxy	iPhone 5	Samsung Galaxy	iPhone 5	iPhone 6	Sony Xperia	Samsung Galaxy	iPhone 5s
User experience	Not too experien	Experienced user	Experienced user	Experienced user	Moderately expe	Experienced user	Not too experien	Experienced user	Experienced user	Reasonably expe	Experienced user	Reasonably expe
Use daily life	Browsing, online	Whatsapp, public	Whatsapp, Faceb	Calling, Whatsap	Calling, whatsap	Mail, Whatsapp,	Calling, browsing	Texting, whatsap	Much work relat	Mail (mostly wor	Calling, Whatsap	Whatsapp (privat
Home/Away	Comparable	Less at home, mc	More at home ar	Comparable (alw	Less at home	Home and away,	More at home th	More at home, n	Both and always	About the same	Less at home, lap	Comparable
Intensive user	Not really	Moderate	Reasonable (dep	Yes	Not really	Reasonable	Moderate	Moderate	Yes	Reasonable	Yes	Yes
Wintersport background												
Type of enthusiast	Enjoyer (surroun	First lift/last lift,	Early starters, wa	First lift/last lift.	Making big tours	Taking many pist	Eternal beginner	Active enthusiast	Multiple times a	Serious skiing bu	Road hog ('early	Active skiers (not
Experience	6 years	Since childhood	Since childhood (	Since childhood (	11 years	6 years	6 years	Since childhood (	Since childhood (	18 years experie	Since adolescenc	20 to 25 years
Skiing/Boarding	Boarding + Skiing	Boarding + Skiing	Skiing	Skiing	Boarding + (Skiin	Skiing + Boarding	Skiing	Skiing	Skiing	Skiing	Skiing	Skiing
Last winter sport vacation												
Activities	Skiing (lessons) +	Boarding	Skiing	Skiing	Boarding	Skiing + Boarding	Skiing + Walking	Skiing	Skiing	Skiing	Skiing	Skiing
First visit	Yes	No (sixth time)	Yes (but visited n	No (fifth time)	No (third time)	Yes	No (yearly visitor	Yes	Yes	No (yearly visitor	Yes	Yes (but husband
Experience travel	Partner is skiing s	Equal, but startin	Equal		Experience equal	Adjusting pace fc	Kids just learned	Kids in class to be	Equal	With kids slower	Last holiday sam	Decided to take t	About same, but
Expensive + saving	Is relative + No	Yes + No (mother	No clue, parents	No + No (parents	No + No	Yes + No	Yes + Yes	Yes + No	No + No	Yes + No	Yes + No	Yes + No
Comparable	No: first time skii	Yes: but no lesso	Yes (only differer	Yes	No: different des	Yes: first time wi	Yes	No: together no t	No: different des	Yes: but differen	No: different we	Yes: but different
Gathering of information (phase 2)												
Info search	Yes	Yes	Yes (but not self)	Very little (No)	Yes	Yes	Very little (booki	Yes	Yes	Yes	Yes	Yes
Who	Both	Others (had no ti	Parents	Parents	Self	All adults	Both adults	Both	Self	Self	Mostly self	Self
About what	Accommodation	Accommodation	Accommodation,	New hotel build	Accommodation	Accommodation	Accommodation	Accommodation	Destination, accc	Accommodation	Accommodation	Accommodation
Source + Provider	Internet (Booking	Travel Agency (V	Internet (local sit	Internet	Internet (Sunwet	Internet (google,	Internet (local sit	Internet (Sunwet	Internet (Winter	Internet (Sankt A	Internet (Sunwet	Internet (Google,
Shortcomings	No	No	Not active search	No	No	No	No	Information on b	No	Often not able to book for less tha	Little offers in th
Use of smartphone	Yes regularly	No	Probably not, lat	No	Yes little	Yes	Yes little	Yes	No	Yes little	No	No
Smartphone conte	Whatsapp sharin				Browsing	Browsing	Browsing	Browsing, mailin		Browsing		
Shortcomings sma	No	No		Mother would pr	Not all mobile we	Screen too small	No	No	Screen too small	Sites not suited f	Screen too small	Screen too small
Actual vacation choices (phase 3)												
Booking	Internet: Booking	Travel Agency: V	Internet (directly	Directly at hotel	Internet: Sunwet	Internet: Home A	Directly at hotel	Arke		Internet: Winter	Internet: cannot	Internet: Gites dc	Internet: directly
Previous experience	Yes	Yes	No	Yes	Yes	Yes/No (different	Yes (yearly visito	No	No	No	No	Yes (not this hote
Biggest voice	Self	Mother	Parent	Mother	Self	Both men	Both adults	Self	Self	Self	Both (different w	Self (offers altern
Involvement trave	Yes, searching an	Together visiting	She is presented	She and sisters h	Little, evaluation	Searching togeth	Adults decide	Together both se	No	No, booked own	Booking done toç	Asked for approv
Importance review	Important	Important but qu	Important, moth	This time not imp	Depends not alw	Important for tru	Not relevant (boc	Yes read, but que	Important but so	Indifferent: if visi	Yes always searct	Not really used fc
Use of smartphone	No not considere	No	Probably not	No	No not considere	Little (calling wit	Not relevant (boc	No	No not considere	No	Only for bringing	No
Importance WiFi	Not really, if offe	Yes important	Not a must, but u	Not a decisive fac	Not really consid	Not important	Not important, b	Not important	Yes (first online c	Not important: if	Not crucial but co	Not sure if this w

Tech-Savvy Skiers and Snowboarders

	Adolescence				Young Adulthood				Middle Adulthood			
Respondent #	1	2	3	4	5	6	7	8	9	10	11	12
Preparing the vacation (phase 4)												
Info search	Yes	Yes	Yes (but not so m	Yes	Yes	Little	Yes	Yes	Little	Yes	Yes	Yes (but not self)
About what	Ski resort, travel	Weather, snowfc	Weather, snow f	Weather, pistes,	Snow forecasts,	Weather, piste c	Weather, snow f	Weather, snow f	Weather, snowfc	Weather, snowfc	Ski passes, weath	Weather, snow d
Source + Provider	Family member I	Internet (website	Internet (browsir	Internet (browsir	Google maps (lap	Zillertal app, Tom	App (Sneeuwhoc	Internet (google)	App (sneeuwhoo	Apps (sneeuwho	Internet (browsir	App (iObertauerr
Use of smartphon	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes little	Yes
Smartphone conte	Browsing, Skiinfc	Trois Vallee app,	A snowdepth app	Serfaus Fiss Ladis	Browsing, apps (!	Zillertal app	Zillertal app, sne	Sneewhoogte.nl,	Sneeuwhoogte.n	Sneeuwhoogte.n	2 weather relate	iObertauern
Preparing smartph	Trace Snow	No	Yes (her boyfrien	Ski Tracks	Piste map downl	Zillertal app	No	No	Vars-Risoul app	Ski Pursuit Rossig	Ski tracking app	Not self (kids ma
Destination specifi	Used and deleted	Already downloa	Not considered	Already downloa	Yes	Yes	Already downloa	Not considered	Yes, yes	Yes	Not considered t	Rest of travel cor
Shortcomings sma	No	No	No	No	Less information	No	No	No	No	Conflicting info a	No	No
The vacation (phase 5)												
Info search	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes (but not so m
About what	Restaurants, Skis	Weather, routes,	Piste, Rodeling, F	Piste, Weather, L	Closed road (bou	Weather, restaur	Swimming pool,	Piste, weather	Weather, snowfc	Weather, pistes	Weather, overnig	Weather, pistes
Source + Provider	Family member I	VVV, ski maps, Tr	Signing Ski Area,	Piste map, Televi	Browsing (smartp	Zillertal app, sign	Apps, Internet (g	Brochures, Apps	Apps: Vars-Risou	Apps: sneeuwho	Apps: Booking.cc	Ski maps, signing
Smartphone use	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Smartphone conte	Trace Snow, Skiir	Trois Vallee app	Sneeuwhoogte a	Serfaus Fiss Ladis	Trace Snow, Sned	Zillertal App	Apps not used ar	Bergfex, site ski r	Map to Snow (tra	Apps: sneeuwho	Booking.com; 2 v	iObertauern (rest
Other smartphone	Making photos, V	Making photos, (	Making photos/r	Social media, Wh	Skype, mobile ho	Whatsapp, makir	Browsing, Facebc	Whatsapp, makir	Mail (work, priva	Making photos, r	Whatsapp, Facek	Facebook, Whats
Acces to WiFi + WI	Accommodation,	Accommodation,	Accommodation,	Accommodation,	Accommodation,	Nearly everywhe	Accommodation,	Accommodation,	Accommodation	Not considered	Accommodation,	Accommodation,
Shortcomings sma	Battery easily do	Dependent on W	Using smartphon	No	Tracking drains b	WiFi connection	needed constant	Cold hands wher	No	Usability of piste	Many apps requi	Battery down wh
Smartphone use tl	Comparable, but	More: keeping cc	She and boyfrien	Sisters comparak	Comparable (par	Comparable, but	Comparable	Comparable	Less, no apps jus	Comparable	Less, husband us	Kids use more int
Foreign data acces	No	No	No (mom has it b	No not needed b	Yes (foreign units	Yes (work pays)	Yes (Travel and S	No not activated	Yes	Yes	No (husband did,	No
Smartphone use c	Yes, used during	No, during other	Yes, also to susta	No, during summ	Yes, but no track	Yes: but then not	No, more used d	No, more during	No, otherwise nc	Comparable: yet	Comparable, but	During summer v
Smartphone use c	Yes, same degree	No, during daily	Yes, same purpos	Yes, comparable	Yes	Yes	No, less than dai	No, less during w	No, more intensi	No, less than dai	No, less than dail	No, more intensi
Sharing experiences (phase 6)												
Sharing experience	Yes	Yes (only afterwa	Yes	Yes (mostly after	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
How	Real life, apps	Real life, whatsar	Real life, whatsar	Real Life, whatsa	Real life, apps, W	Real life, whatsar	Real life, Facebc	Real life, whatsar	Real life, whatsar	Real life, Facebc	Real life, Facebc	Real life, Facebc
Social media	No	Yes (Facebook)	Yes (Facebook, Ir	Facebook, Instag	Yes (Facebook)	No (due to safety	Yes (Facebook)	Yes (Facebook)	No	Little (Facebook	Facebook	Facebook
Smartphone use	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Specific apps used	Trace Snow, Unta	No	Whatsapp, Facek	Whatsapp, Facek	Trace Snow, Wha	Whatsapp, callin	Whatsapp, Facek	Whatsapp, Facek	Whatsapp	Whatsapp, Facek	Facebook, Whats	Whatsapp, Facek
Written reviews	Yes (Booking.con	No	No	No	No	Not yet	No	No	No	No	Yes (not sure wh	No
Ending up												
Experience smartp	Very usefull, allo	Only used as a to	Usefull to bring a	No different than	Very usefull, esp	Part of the game	Usefull to access	Usefull for acces	Part of the game	Part of the game	Nothing special,	Always convenie
Difficulties smartp	No access to WiF	Not access to Int	No	No	Tracking drains b	No	No	No	No	No	No	Battery down wh
Development new	App that allows y	App allowing to s	Some sort of trac	An app that enak	Difficult a lot is a	Combining ski re	Husband comme	A complete app i	No, no idea curre	Piste Bingo: playi	No idea currently	No idea maybe a
Who should devel	Ski Resort	Ski Resort	Can be anyone	Serfaus Fiss Ladis	app (ski resort)	Ski Resort	Ski Resort	Can be anyone		No idea		

	Adolescence				Young Adulthood				Middle Adulthood			
Respondent #	1	2	3	4	5	6	7	8	9	10	11	12
4-8: Familiarity with ski resort + consequer	First visit but	Frequent visi	She does not	Visited same	Third visit	First visit, ne	Frequent visi	First visit, inf	First visit, inf	Yearly visitor	First visit, bu	Husband free
6: Experience ski resort		Val Thorens,	Small and pe		Good for ma	Not too big,	The children	Bigger dan A	French are n	Nice resort f	Family ski res	Big and snow
1-2-3:General thoughts on smartphone us	Convenient a	Not very atta	More conver	Lives with he	Less calling s		Calling is con	Smartphone	Wants to hav	Less calling	Texting not a	Unremarkab
5-15: Thoughts on smartphone use winter	Using your sr	Intensive usa	Always broug	Daily use con	Can not do w	Simply part c	Daily use con	Hard to imag	Impossible to	Daily use con	Nothing spec	Likes to be o
9: Experience booking	+	+			+	+	+	+	+	+	+	+
11: Narrowing down booking option	Only hotel fo	Val Thorens a	Bound to the		Not same ski	Big house on		Val Thorens a	Budget was c	Online booka	Destination v	Snow secure
13-14: Weather	Checking we	Weather fore	Weather infl	Weather fore	Good conditi	Good conditi	Very good cc	Bad weather	First critical c	Perfect cond	Varying cond	Good conditi
16-29-28: Smartphone contact winterspor	Keeping cont	As little cont	Informs peop	Contact like i	To keep in to	To keep in to	To keep in to	To keep in to	Being reacha	Work mails (	To keep in to	To stay conn
18: Daily social media use	Not fanatic s	Moderate so	Intensive soc	Intensive soc	Not fanatic s	Is not really i	Moderate so	Not a very ad	Not a fanatic	Moderate Fa	Twitter not r	Not extreme
20-21: Thoughts on (writing) reviews	Writing revie		Not seen as a	Reviews mos	Not a big fan	Reviews imp	Everything is	Too lazy to w	Only when re	Too much wc	Using review	Cautious witl
27-25: Tracking	Yes	No	No (only dad	Yes (and sist	Yes	Not really (o	No	No	Yes	Yes	No	No (kids do)
Why (not)?	Nice to chec	Thought inte	Not seen as r	Nice to know	Nice to see w	Not seen as r	Not intereste	Thought inte	Nice to do, a	Fun to do, cc	App required	
24: Online map or paper map		Mobile map	Paper map m	Paper map, f	Both		Online map r	Paper walkin	Paper map, c	Both	Paper map	Paper map.	Paper map (t

4. Overview content used respondents

R1

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
Wildkogel App Browsing Whatsapp (communicating alternatives)		Skiinfo sneeuwhoogte & Skii app Browsing	Trace Snow Whatsapp Untappd Skiinfo sneeuwhoogte & Skii app Making photos Browsing	

R2

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
		Les 3 Vallées app Browsing	Les 3 Vallées app Making photos	Facebook Whatsapp

Adolescents

R3

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
		iPhone iOS Weather	Whatsapp Snapchat Instagram Facebook Making photos	

R4

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
		Serfaus-Fiss-Ladis app iPhone iOS Weather	Serfaus-Fiss-Ladis app Ski Tracks Google Translate Making photos	Whatsapp Facebook Instagram

R5

	Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
					Whatsapp
					Facebook
				Trace Snow	
				Val Thorens app	
			Sneeuwhoogte.nl	Sneeuwhoogte.nl	
	Browsing		Browsing	Making photos	

R6

	Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
					Calling
					Whatsapp
				Zillertal app	
				Sports Tracker	
	Browsing	Calling for booking agreements	Zillertal app	Making photos	

Young Adults

R7

	Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
				Whatsapp	
			Sneeuwhoogte.nl	(Zillertal app)	
			Zillertal app	Browsing	
	Browsing		Browsing	Making photos	Facebook

R8

	Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
					Facebook
					Whatsapp
				Texting with travel agency	
			Bergfex/Ski	Bergfex/Ski	
	Communicating alternatives partner		Sneeuwhoogte.nl	Website Val Thorens – Ski pass tracking	
	Browsing		Browsing	Making photos	

R9

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
				Whatsapp
			TripAdvisor	
			MAPtoSNOW	
			Sneeuwhoogte.nl	
		Vars-Risoul Ski app	Vars-Risoul Ski app	
		Sneeuwhoogte.nl	Making photos	

R10

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
				Whatsapp
				Facebook
			iSt. Anton	
			Rossignol Ski Pursuit	
		iSt. Anton	Sneeuwhoogte.nl	
		Other snow depth app	Other snow depth app	
Browsing		Sneeuwhoogte.nl	Making photos	

Middle Adults

R11

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
				Whatsapp
				Facebook
			Booking.com	
			Weather related app	
			Weather related app	
		Weather related app	Calling	
	Bringing along booking confirmation	Weather related app	Making photos	

R12

Gathering of info	Actual holiday choices	Preparing the vacation	Vacation activities	Sharing experiences
				Whatsapp
				Facebook
				Making photos