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Digital Toolbox: Innovation for Nordic Tourism SMEs

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EXECUTIVE SUMMARY

This report focuses on meeting the practical needs of tourism businesses in the Nordic countries when adopting and employing ICT in their operations. Taking into account the structure and challenges of the tourism industry in the Nordic region, the different case studies in this report represent different approaches to efficient use of ICT, offering a toolbox consisting of suggestions on how to take advantage of ICT for market communication, customer knowledge, service design and innovation.

The report is a result of a collaborative project between 6 Nordic partners (research institutions and business clusters based in Denmark, Finland, Iceland, Sweden, Southern Norway, and Northern Norway) which focused on identifying and developing ICT tools for innovation in Nordic tourism small businesses and destinations.

The main objectives of the project have been to generate knowledge on ICT tools, to create improved commercial tools and concepts and also to build a strong Nordic cooperation between academic institutions and business clusters. The tools in the toolbox created as the main contribution from this project are all innovative and should as such serve as opportunities for both commercial development and implementation in various subsectors of the tourism industry and facilitate increased competitiveness. A strong Nordic cooperation between the tourism stakeholders and development and research institutes involved in the project is also an important outcome.

The project has been implemented through parallel case studies which are all ground breaking in terms of research and development for innovation in tourism. Regular meetings and workshops have facilitated the exchange of knowledge and ideas between the case studies as well as the identification of common ideas and results. Multiple methods have been employed in the different cases of the project according to the nature of each case study. Two of the cases have developed and implemented ICT prototypes in the form of a new innovative mobile application (Denmark) and a business intelligence process for analyzing user generated content in a destination management information system (Sweden). In the Finish case ethnographic methods were used to develop a service design method and tool specifically for the tourism industry. The Icelandic case employed an online survey and website analysis for the purpose of building a webpage-design toolbox. Interview methods as well as review and participant observation was used in Northern Norway to explore effects of implementing short films as digital marketing tools for experience based businesses. Also, in the case in Southern Norway in-depth interviews were used to identify open innovation practices for experience based tourism businesses.

The project has resulted in the development of a digital toolbox. The seven tools in the toolbox are:

- A mobile app (Pick your food with your mobile, Denmark)
- A service design toolkit (Finland)
- A customer knowledge tool (Customer journey canvas (Finland)
- A website analysis toolkit (Iceland)
- A user generated content sentiment analysis tool (Sweden)
- A methodology for open innovation (Southern Norway)
- A digital marketing tool (Short films for digital marketing, Northern Norway)

The project also generated a few further findings on capabilities for competitiveness, customer knowledge for innovation, and digital marketing and social media for tourism SMEs.

Both tourism businesses, especially SMEs, and destination management organizations at local, regional, and national level will benefit from the results of this project. The benefits can be described as new knowledge and key insights as well as new practices which can be implemented and further developed and adapted to specific contexts. The tools are focused on using ICT for marketing and management of tourism as well as the implementation of new experience based services for new and existing businesses and customers. The tools also offer opportunities for further development and commercial implementation among various tourism stakeholders.

Recommendations for further work within this field based on the project outcomes include; technological testing of the developed prototypes, identifying partners for further development of the prototypes, testing the tools (proof of concept) in various tourism markets, larger scale implementation for the purpose of evaluating expected effects, further empirical examination of proposed concepts, and identifying potential barriers and strategies to overcome these in order to achieve the full effect of the tools in the toolbox.

It seems imperative to continue working on these issues both from a market failure perspective – because of the structural challenges described in the report, SMEs may need help, but also because employing ICT tools that cater to the particular needs of the businesses in their operations is vital to the competitiveness of the industry. Further, the Nordic tourism industry shares many characteristics, and this project illustrates the value and potential of cooperation on the industry's challenges on a Nordic level.

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PART 1

1.0 INTRODUCTION

This report focuses on meeting the practical needs of tourism businesses in the Nordic countries when adopting and employing ICT in their operations. Taking into account the structure and challenges of the tourism industry in the Nordic region, the different case studies in this report represents different approaches to efficient use of ICT, offering a toolbox consisting of suggestions on how to take advantage of ICT for market communication, customer knowledge, service design and innovation.

The tourism sector continues to grow, as evidenced by for instance research by UNWTO pointing to an above expectation increase in international tourism by 5% in the first half of 2013 compared to 2012 (UNWTO, 2013). Competition is increasing and poses many challenges especially for small and medium sized businesses in tourism. An important challenge, as well as an opportunity, is the use of information and communication technologies (ICT) in tourism. ICT provides all stakeholders in tourism with new opportunities to interact with consumers and networks of other stakeholders as well as opportunities to positively affect business performance, efficiency and effectiveness.

The Internet has revolutionized the tourism industry and it is increasingly important for all tourism businesses and organizations to adapt and increase its attention to the use of ICT. One important area for destinations as well as for individual businesses is to work with ICT tools interacting with customers based on dimensions other than “price consciousness” and instead focus on value creation and experiential dimensions. Another important area is for organizations, such as destination management organizations (DMOs) to consider and develop capabilities for innovation such as implementing tools which can provide infrastructure and content that can be used to increase knowledge about customers which can serve as support for strategic decisions about development and marketing.

The main objectives in the project have been to generate knowledge on ICT tools, to create improved commercial tools and concepts and also to build a strong Nordic cooperation between academic institutions and business clusters. The tools in the toolbox created as the main contribution from this project are all innovative and groundbreaking and should as such serve as opportunities for both commercial development and implementation in various subsectors of the tourism industry and facilitate increased competitiveness. A strong Nordic cooperation between the tourism stakeholders and development and research institutes involved in the project is also an important outcome..

The project has resulted in a digital toolbox, focusing on practical needs for innovation in the Nordic tourism industry, based on case studies in the Nordic countries. In this report, we first describe the participants in the project, and then outline two contextual features of the Nordic tourism industry, before the case studies and the toolbox are presented. In the final section of part 1 of the report, some further findings from the project are presented. Part 1 of the report synthesizes the joint project and its findings, and Part 2 presents the details of each case study

THE PARTICIPANTS IN THE PROJECT

Denmark: The participants have been interaction designer and research and innovation specialist Trine Plambech, and systems developers and research and innovations specialists Christian S. Nelleman and Morten Skov Jørgensen, all from the Alexandra Institute and PhD and head of Innovation and Research, Camilla Kølsen, also the Alexandra Institute. Additional participants in the project have been Søren Espersen from the Danish company Kulturlandskab.dk and at an early point, researchers from University of Washington, Columbia University, University of Maryland and the Smithsonian Institution were involved with regard to the plant recognition technology.

The partners of the Finnish case study were JAMK University of Applied Sciences of Jyväskylä and OSKE – Centre of Expertise / Tourism and Experience Management Cluster Programme. Members of the project team were Specialist Juha Tuulaniemi and Project Researcher Annina Riihinen from JAMK and Development Director Miikka Raulo from Jyväskylä Innovation/ OSKE.

The Icelandic case study was done among tourism companies in North Iceland. The members of the project team are Researcher Eyrún Jenný Bjarnadóttir and Researcher Kristinn Berg Gunnarsson from the Icelandic Tourism Research Centre and Project Manager Halldór Óli Kjartansson and General Manager Arnheiður Jóhansdóttir from North Iceland Marketing Office.

The Swedish case study is implemented in the leading winter tourist destination of Åre, Sweden. The members of the project team are; PhD Maria Lexhagen, and Professor Matthias Fuchs, both at ETOUR (European Tourism Research Institute), Mid Sweden University, Östersund, Sweden, as well as Professor Dr. Wolfram Höpken ETOUR and Hochschule Ravensburg-Weingarten, University of Applied Sciences. Additional partners in the case study are; Åre Destination AB, Skistar Åre, Copper Hill Mountain Lodge, Tott Hotel, and Holiday Club Åre.

The project in Southern Norway was a collaboration between the ARENA USUS cluster and Agderforskning AS. The ARENA USUS cluster currently has 73 member firms, all belonging to the experiential tourism industry, located in Southern Norway. Agderforskning AS is an interdisciplinary social science research institute and a part of the university environment in Agder. In this project Tor Helge Aas from Agderforskning AS participated.

The case study in Northern Norway was done among the businesses in the cluster Innovative Experiences, a former ARENA cluster consisting of about 30 businesses in Northern Norway, focusing on experience based tourism. The study was done by Oddny Wiggen and Tone Magnussen from Novadis/Nordland Research Institute.

2.0 ICT IN THE EXPERIENCE ECONOMY IN THE NORDIC COUNTRIES

Postmodern consumption is characterized by the symbolic meaning of consumption and not just consumption to satisfy basic needs (Frochot and Batat, 2013; Holbrook and Hirschman, 1982; Maffesoli, 2006). With the emergence of the information society and the proliferation of new technologies, the symbolic meaning of consumption allows consumers to show their consumption and identity to a mass audience. Cyberspace and electronic media is a basic part of the daily lives of postmodern consumers. This includes consumer participation in virtual worlds, online forums and other interactive communications with businesses and other consumers. Technological tools enable consumers to connect with friends and colleagues or just people with shared interests. In a tourism context a post modern consumer expects to find technology while travelling which supports his/her

need to continue with his everyday habits of connecting with people through technology. In fact, the boundary between work and leisure is blurred and postmodern tourism is distinguished on the demand side by technology savvy and experienced consumers who are marketing-literate (Frochot and Batat, 2013).

The postmodern consumer co-creates meanings of products or advertising and contributes to the offer, hence acting as a resource integrator in value creating networks. The co-creation status of consumers is a direct consequence of empowerment through developments of digital technology. Technology is no longer an exogenous variable but instead a service-provision mechanism and the role of technology in marketing and business in general is to facilitate and transform content in a value creation process. Consumers produce content which is influential and often seen as a credible source of information (Vargo and Lush, 2013).

Furthermore, consumers look for affective memories, sensations and symbolism to create holistic and long-lasting personal experiences. The richest experiences encompass entertainment, aesthetic, escapist, and educational dimensions. Experiences focused on entertainment can be described with various degrees of absorption and rather passive participation (e.g. watching television). The educational dimension also involves various degrees of absorption but with a more active behavior from the consumers' side. The escapist dimension is characterized by consumers' immersion with the experience and being active in its delivery (e.g. skiing, swimming). Immersion is also involved in the aesthetic dimension of an experience but in a more passive form. From a tourism perspective these four types of experiences can occur at different times during the whole duration of a holiday (Pine and Gilmore, 1998).

Hedonism and emotions are the core components of consumption and tourism experiences, and pleasurable aspects of consumption include fun, amusement, fantasy, arousal, sensory stimulation and enjoyment. Therefore, experiential marketing is focused on customer experiences, consumption as a holistic experience, understanding of customers as irrational and emotionally guided, and use mixed methods and tools for marketing and market research (Frochot and Batat, 2013).

Memorability has been identified as a key criterion for the creation of successful experiences. Examples of elements of memorable experiences are; hedonism, novelty, local culture, refreshment, meaningfulness, involvement and knowledge (Kim, Ritchie, and McCormick, 2012). Some of these elements obviously benefit from the support of digital technology such as increased involvement opportunities and novelty as well as facilitating building and accessing knowledge. Also, a consumption experience is not limited to pre- or post purchase activities but also the consumption itself and the memory of the consumption experience.

For smarter development of tourism it should be acknowledged that ICT can play an important role in the pre-consumption experience through facilitation of a search and planning process which recognizes consumers need to day-dream and imagine an upcoming experience. The purchase experience includes choice of product/service, payment, packaging, and encounters with the service and environment. This experience can similarly be augmented by smart use of ICT supporting consumer needs for hedonism and emotion.

The core consumption experience focusing on creating sensations, satisfaction and flow can also benefit from the use of ICT in order to create memorable tourism experiences characterized by active behavior and immersion.

Finally, today's digital technologies in web 2.0 or web 3.0 applications allow tourism stakeholders to facilitate consumers' need to re-live a past experience and share this with friends, family, colleagues, or people with similar interests.

For the next generation of ICT in the consumption experience, it could be the use of ICT as interactive displays, exhibitions, tools etc. that link the online and the off line consumption for the tourists, and in new ways facilitate the co-creation and the pleasurable aspects of consumption (for further reference on technologies please look at http://www.alexandra.dk/uk/projects/labs/pages/interactive-spaces-lab.aspx where examples of interactive exhibitions, football training lab, Pixl Swing, city pulse installations, the info-gallery product among others can be viewed).

(Pixl Swing at Roskilde Festival and City Pulse)

As ICT becomes more and more integrated in our surroundings where even the mobile transmits for instance position data all the time, the pure symbolic meaning gets infused with real life experience logged in sensory data. For instance, if your movement in a swing is producing a light show characterized by your exact movements that can be filmed and uploaded at the playground, then this is a wholly new perspective on co-creation, consumption and customer experience in the tourism industry (see Pixl Swing picture above).

Today we mainly look to ICT for generating, building and accessing information and knowledge. The ICT in the tourism industry for the next generation might leap into wholly new digitalized experiences with even higher immersion on the behalf of the consumer and even more seamless experiences in the consumption cycle as well as the seamlessness between the real world and the virtual world. A brand new example of this is the interactive technology installation at Horsens city in Denmark that has been one of the main tourist attractions this summer and hereby sustaining and promoting the surrounding shops and general city life.

3.0 CHARACTERISTICS OF THE NORDIC TOURISM INDUSTRY

In the European Union there are 21 million micro, small and medium-sized enterprises (SMEs), representing ninety-nine percent of all enterprises. The SMEs in EU provide approximately 87 million jobs which account for 67% of the total labor force in the EU (European Commission, 2012b).

From 2002 to 2010 SMEs created 85% of the total net new jobs in the European Union. Fifty-eight percent of these net new jobs were created by micro sized enterprises with less than 10 employees (European Commission, 2012a).

WHAT IS AN SME?

According to the European Commission an SME can be defined as:

"The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 person and which have an annual turnaround not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro" (European Commission, 2005)

In table 1 the three categories of SMEs are explained more thoroughly.

TABLE 1: EXPLANATION OF SMES

Enterprise category	**Employees**	**Annual turnover**	**Or**	**Annual balance sheet total**
Micro	< 10	≤ € 2 m		≤ € 2 m
Small	< 50	≤ € 10 m		≤ € 10 m
Medium-sized	< 250	≤ € 50 m		≤ € 43 m

As can be seen in table 1, micro sized enterprises have less than 10 employees and an annual turnover of 2 million euros or an annual balance sheet which is under 2 million euros. Small enterprises have less than 50 employees and an annual turnover of 10 million euros or an annual balance sheet under 10 million euros. The medium-sized enterprises are characterized by the limit of 250 employees, and an annual turnover of less than 50 million euros or an annual balance sheet under 50 million euros (European Commission, 2012b).

SMES IN THE NORDIC COUNTRIES

In the Nordic countries the SMEs are a large part of the economy.

TABLE 2: NUMBER OF SMES AND LARGE ENTERPRISES IN THE EUROPEAN UNION AND IN THE COUNTRIES INCLUDED IN THIS REPORT.

	European Union	**Denmark**	**Finland**	**Iceland**	**Norway**	**Sweden**
Number of Enterprises						
Micro	19.143.521	169.791	195.446	25.100	243.297	519.281
Small	1.357.533	23.604	14.706	2.148	19.205	30.691
Medium-sized	226.573	4.688	2.356	388	2.629	5.187
SMEs	**20.727.627**	**198.083**	**212.508**	**27.637**	**265.131**	**555.159**
Large	43.654	772	603	91	560	1.077
Total	**20.771.281**	**198.855**	**213.111**	**27.728**	**265.691**	**556.236**

Table 2 shows the number of SMEs in the European Union and in Denmark, Finland, Iceland, Norway and Sweden. The EU pattern is very similar to the pattern of the Nordic countries. The category "micro sized enterprises" is the far largest, the category "small enterprises" is the second largest, and the category "medium-sized enterprises" represents the smallest share of total number of enterprises in every country. In all these countries, large enterprises stand for a very small share of the economy (European Commission, 2012c; European Commission, 2012d; European Commission, 2012e; European Commission, 2012f; European Commission, 2012g).

TABLE 3: NUMBER OF EMPLOYEES IN SMES AND LARGE ENTERPRISES IN THE EUROPEAN UNION AND IN THE COUNTRIES INCLUDED IN THIS REPORT.

	European Union	**Denmark**	**Finland**	**Iceland[1]**	**Norway**	**Sweden**
Employment						
Micro	38.395.819	328.003	345.521	NA	368.211	720.012
Small	26.771.287	478.208	288.906	NA	360.788	609.237
Medium-sized	22.310.205	451.272	235.349	NA	245.966	507.929
SMEs	**87.477.311**	**1.257.483**	**869.776**	NA	**974.965**	**1.837.178**
Large	42.318.854	641.302	540.314	NA	443.024	1.021.950
Total	**129.796.165**	**1.898.785**	**1.410.090**	**88.000**	**1.417.989**	**2.859.128**

As shown on table 3, employees are spread more evenly between the categories and the category "large enterprises" accounts for the largest share of employees both in the EU and among the Nordic countries.

In table 3 the importance of SMEs in the economy of the European Union and the Nordic countries becomes quite clear. A large number of employees correspond to the SMEs categories. The largest numbers of employees correspond to the micro sized enterprises in all the countries with the exception of Denmark, where both small and medium-sized enterprises' employees exceed those of micro enterprises (European Commission, 2012c; European Commission, 2012d; European Commission, 2012e; European Commission, 2012f; European Commission, 2012g).

The businesses in this project range from large companies and destinations in the cases from Sweden and Southern Norway, to local SMEs as in the cases from Iceland and Northern Norway. These local SMEs face many of the challenges which are characteristic of companies in rural areas (Jóhannesson, Huijbens and Sharpley, 2010; Baldacchino, 2006). With only a few months of high season tourism the companies are highly dependent on marketing and promotion to attract potential visitors to the area. This dependence frequently represents an important challenge for many SMEs with often very limited resources.

Many SMEs have difficulties in obtaining capital or credit, especially in the startup phase. Their limited resources may also reduce their access to or the knowledge of new technologies and/or innovation (European Commission, 2005). The results of the Icelandic case support this view. One factor that may benefit the SMEs is research. Tourism literature identifies cooperation between small companies and organizations as an effective tool to remedy the lack of financial resources (Wilson, Fesenmaier, Fesenmaier and Van Es, 2001; Bramwell and Lane, 2003; Cawley and Gillmor, 2008) and thus support the notion that research with the aim of benefitting SMEs is highly relevant and it may become essential to strengthen the SMEs in the Nordic countries.

[1] Data of employment in the categories of SMEs and large enterprises in Iceland were not available from the report from the European Commission. Yet, the same report states that the total number of employees of SMEs and large enterprises in Iceland are approximately 88.000 (European Commission, 2012e).

4.0 THE CASE STUDIES PROVIDING THE DIGITAL TOOLBOX

4.1 PICK YOUR FOOD WITH YOUR MOBILE - DENMARK

- Using new technology to invite tourists to visit the Nordic nature and to experience the Nordic cuisine

'Pick your food with your mobile' is the Alexandra Institute's contribution to the project *ICT toolbox in the experience economy.* We have developed a prototype of a mobile application, which can help tourists find and recognise wild, edible Nordic plants. It can help tourists who want to explore nature to become more self-reliant as well as strengthen their sustainable-tourism identity.

This is a concrete technological element for the ICT Toolbox that both explore the state of the art in regard to technology in this field and that works directly on the perspective of the tourist. This application is then meant for both the tourists themselves and the tourism clusters as an innovative way of promoting the Nordic countries and creating focus on and interest in the extraordinary Nordic nature.

Further development of the software for the mobile application is needed. This development work includes 1) gathering and photographing plants and loading plant-data into the system, 2) testing the app with potential end-users from different countries. It will be important to find the right partners who a) will be involved in the further development of the app as well as b) partners who are interested in incorporating the app as part of their services towards the tourists. The development of the service infrastructure around the app will be an important part of this.

4.2 SERVICE DESIGN AND CUSTOMER JOURNEY CANVAS - FINLAND

The partners of the Finnish case study were JAMK University of Applied Sciences of Jyväskylä and OSKE – Centre of Expertise / Tourism and Experience Management Cluster Programme. The overall aim of the Finnish project was to create a common understanding of the relevance of different service design methods for the tourism sector. In the project, different service design methods and tools were mapped, examined and evaluated during design processes of (virtual) customer experiences in tourism. (Virtual) customer experiences were researched using various ethnographic methods in the (e)destination of Jyväskylä, a city of 133 000 inhabitants in Central Finland.

The results of the project suggest that several service design methods are relevant for the tourism sector. As a result of the project we also gained comprehensive customer insight about two different target groups ('Active Women' and 'Families with Children') and we were able to create a tourist's customer journey canvas based on these data. Future research could focus on testing the customer journey maps to see if they have the potential for real-world application (Proof of Concept). This could be done in the form of local case studies.

4.3 WEBSITE ANALYSIS OF TOURISM COMPANIES IN NORTH ICELAND - ICELAND

The goal of the Icelandic project was threefold; 1) to analyse the type of companies which are operating in North Iceland, 2) to analyse their knowledge about internet marketing, and 3) to create a toolbox which can be used for marketing purposes online for these companies.

To gather information about the tourism companies and their knowledge about internet marketing an online survey was sent to all registered tourism companies in North Iceland. Because of the surveys limitation to the perspectives of the respondents, an effort was put in gaining a deeper knowledge of the tourism companies' websites from first hand with a framework created for analysing qualities of the websites. The results from the survey and website analysis suggested that most tourism companies in North Iceland were small businesses with 1-2 employees, limited resources and a very limited knowledge of internet marketing.

Based on this information a webpage-design toolbox was created for the tourism companies in North Iceland. The purpose of the webpage-design toolbox was to enable and assist the firms in designing higher quality web-pages. The project also resulted in another toolbox, a timeline. With the timeline information on all activities in North Iceland will be centralized and the potential tourist will get a quick overview over all activities in the area.

In the near future the toolbox will be presented to the tourism companies in North Iceland and when the toolbox has been tested by the companies its effect on the websites will be evaluated.

4.4 UGC AND BUSINESS INTELLIGENCE - SWEDEN

The Swedish case study focuses on creating and applying processes for UGC-based knowledge in a destination information system (DMIS). The aim of the case study is to identify sources of UGC for a destination as well as categorize their content. Furthermore, the purpose is to prototypically design, develop, and implement a business intelligence method for extracting customer based knowledge from UGC.

Interviews with destination stakeholders were conducted and sources of user generated content (UGC) for Åre were identified and their content was collected and analyzed based on categories of type of content, information quality, and sentiment, using multiple tools and methods. Furthermore, a prototypical design and implementation method for sentiment analysis of UGC was developed within a destination information system (DMIS).

The main results of the Swedish case study show that different types of UGC is available in different sources indicating the need to collect from multiple sources. The type of content mostly available is about the main attraction at the destination (in this case skiing) followed by facilities, restaurants, staff, quality and weather. The quality of UGC can mostly be characterized as evaluative, almost equally trivial versus relevant, specific, substantive, and associated with a positive sentiment. Additionally, the results concerning the design and implementation of a method for sentiment analysis show that information can be extracted from feedback platforms and can be classified into different topics and their sentiment with a satisfactory accuracy. The overall quality of extracted and generated information is high enough to be meaningfully integrated into a tourism destination management information system.

Future research needs to add more UGC sources to the destination information system and evaluate the effect on level of accuracy for each proposed method of sentiment analysis in order to retain meaningful and relevant customer based insights for strategic destination management.

4.5 Open innovation in Experiential Tourism firms - Southern Norway

The Southern Norway case focused on innovation processes in the tourism industry and aimed to answer if and how open innovation practices are used to develop new experiential tourism services. In particular the study focused on how ICT was used as a tool in open innovation processes in experiential tourism services.

To answer the research question a qualitative case study approach was chosen. Seven experiential oriented firms in the tourism sector in the south of Norway were selected as case organizations. The main method of data collection was semi structured in-depth interviews with employees involved with innovation in the case organizations.

We found that experiential tourism firms do use inflows of knowledge from external parties to accelerate innovation, and that experiential tourism firms do in part share their knowledge with other parties. However, our findings also suggest that how the knowledge is used or shared varies along different dimensions. Based on the findings we offer five propositions for example including 1) when radical new experiential services are developed inbound open innovation practices are most relevant during the development stage and 2) when incremental new experiential services are developed inbound open innovation practices, often with the use of digital communication tools (e.g., social media), are most relevant in the front end of innovation. Future research should examine the propositions empirically also for other service sectors.

4.6 Short films for digital marketing - Northern Norway

The aim of the study was to explore the use and experienced effect of mini-documentaries, short films presenting the core product/experience, in a format directed at social media and marketing, for digital information and marketing purposes among experience-based tourism businesses.

Interviews were performed among business leaders in the cluster consisting of tourism SMEs focused on experience production. This was combined with a systematic review of the films, websites and other social media, as well as participant observation in cluster activities.

The findings suggest that both the use and effects of the short films, and of social media, differ according to the company's size and resources, degree of professionalization and personal interest in use of new technology. A main finding is that the films are most useful for businesses with a certain level of digital competence, and a certain interest in using this new tool. Used actively, the films are a useful marketing tool for experience-based businesses; by "conveying an experience in a way that words and pictures cannot do". This is of course important to experience providers. The study shows that production and use of films also has certain internal effects in the businesses; mainly connected to reflections over core experiences/products. Regarding external effects, no systematic review exists.

Further studies on barriers and strategies for overcoming these, would give valuable knowledge about how tourism SMEs may achieve full effect of social media and new technology.

5.0 THE DIGITAL TOOLBOX

5.1 PICK YOUR FOOD WITH YOUR MOBILE - DENMARK

'Pick your food with your mobile' is a prototype of a mobile application, which can help tourists find and recognise wild, edible Nordic plants. It is an online and personal guide to nature experiences in the Nordic Countries.

The below illustration shows a collection of the main features of the mobile application.

The first two screens of the mobile application serve as an introduction to the application. In the top there is a headline 'Pick your food with your mobile' The text in the bubbles says: "Can I eat this plant?" The user clicks 'Next' in the below right corner. Then Clicking 'Show concept' takes you directly to the plant recognition part of the app. (See left most illustration below).

At this screen the user gets an overview of the main features of the application: Find out what kind of plant it is, is it edible, where to find it, how to pick it and if there are similar but toxic plants around close by, if it can be used in cooking and other information about the plant that can help the correct identification, such as smell etc.

The user the clicks 'Next' in the below right corner and gets to the right most screen next page.

This is the ‘home-screen’ of the application and the screen you get to if you click the ‘Menu’ button (in the upper right corner of the past two screens)

The headline says ‘The wild edible plants of the North’

Below are images of the plants that you can find close to where you are located right now. Below each plant image an estimated distance to the plant is displayed. If you click at one of the plant images you will go to a screen with detailed information about the plant. In the middle of the screen is the ‘Start Plant recognition’ button. If you click this button you will see the screen displayed below.

In the bottom of the screen there are four small buttons related to customization of the app and social media e.g. positioning of your picking of the plants on a map.

BRIDGING PEOPLE AND PLANTS WITH NEW TECHNOLOGY

Eating and experiencing local food is an essential part of travelling and getting to know the Nordic countries. The Nordic countries are known for their clean, beautiful, wild nature and the New Nordic Food movement has increased the focus on the value of Nordic food, especially the wild edible plants which have got a revival in the Nordic cuisine. There is a growing interest among locals and tourists in experiencing Nordic food, and especially to get out in nature and pick the wild edible plants in their natural habitat.

There are 330 wild edible plants in the Nordic countries. The question is whether we are capable of locating and recognizing them? Where do I find which type of plant at what time of the year? How can I make sure that I don’t pick a similar but toxic plant? How can I use the plants that I have found in my cuisine? These questions can be hard enough for locals because many of us haven’t been taught about the wild edible plants by our parents and grandparents. Finding and recognizing wild edible plants can be even more difficult if you are a tourist.

Many of us are, however, grown up with (or very used to) new technology. We carry the mobile phone with us all the time and we are used to using mobile applications to help us in a number of different everyday activities.

So why not use the mobile technology to bridge people with the wild edible plants?

The technology can provide us with a lot of the knowledge that parents and grandparents would have given us and help us answer the above mentioned questions. Together with common sense and vigilance the app may be the guide that can help you find and pick wild edible plants and transform them into an experience of the Nordic cuisine. As part of this the app will serve as an invitation to visiting and experiencing the Nordic nature.

The prototype of the mobile application investigates new ICT-based services for the tourism industry. It will be a concrete ICT case, from which we can learn and gain new knowledge about the value of ICT in the tourism industry. When fully developed the application gives the Nordic countries an online presence and invites tourists to actively interact with the Nordic values. It is a unique example of how the use of a social media concept can add value and increase tourism in the Nordic countries.

The ultimate objective is to find new ways to encourage tourists to take active part in the core values of the Nordic countries by inviting them to visit and spend time in the nature of these countries.

Using the mobile application requires that the user has a smart phone and that she is able to download the application to the phone. The application itself is developed to be very intuitive and easy to use. The application will contain a set of precautions in order to keep a high level of safety. It has to be used with common sense and vigilance by adults.

5.2 SERVICE DESIGN TOOLKIT AND CUSTOMER JOURNEY CANVAS – FINLAND

A. SERVICE DESIGN TOOLKIT

The Toolkit is used for developing and upgrading services and it can be used by anyone who is interested in improving their business. The purpose / goal of the toolkit is to lead the reader to see a more customer-oriented perspective (without forgetting the business point of view) and familiarize with the philosophy of service design.

Service design is a constant development process that can only be learnt through practice. It is essentially a philosophy where a product or service is constantly being improved: learning, refining, experimenting, modifying and then learning again. The tools are a means to analyze one's thoughts, seek answers to certain questions, and find out customers' needs and their value determination process. Not all of the tools are necessarily needed, they can be modified to better suit each case. Some of the questions may be easier to answer, while others may take more thought. However, mechanically filling out each tool won't do much to improve the business, but time and thinking are needed. After becoming less reliant on and more familiar with the tools, they still function as reminders that can help to review the development of the services. Nevertheless, most important of all is the confidence to try new ideas with the right customers as early as possible and before large investments have been made. This will reduce the investment risks considerably.

This selection of methods was developed in the SDT - Service Design Toolkit project, conducted by JAMK University of Applied Sciences in 2010-2012, in cooperation with Palmu Inc. All material is presented under the Creative Commons license (http://creativecommons.org/licenses/). The toolkit is freely available for commercial use, but the toolkit's origin must be stated according to the terms of the license (SDT - Service Design Toolkit, JAMK University of Applied Sciences, www.sdt.fi). More information and free for download: www.sdt.fi

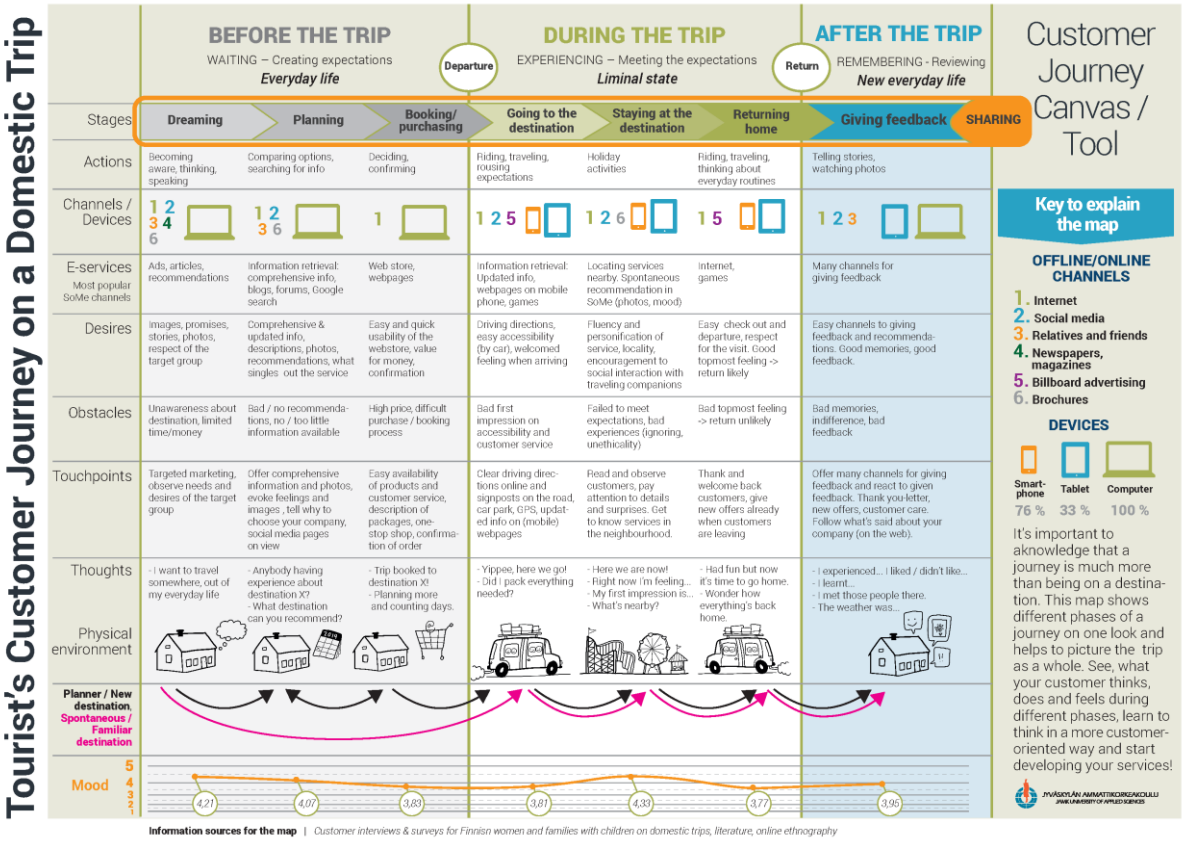
B. CUSTOMER JOURNEY CANVAS: TOURIST'S CUSTOMER JOURNEY ON A DOMESTIC TRIP

Different stages of a journey are visualized in the customer journey canvas. The canvas rests on the Finnish case studies and customer insight data on two more closely studied target groups (women and families with children) on domestic trips. A lot of customer insight data is gathered, simplified, generalized and visualized in the canvas and its purpose is to provide a holistic picture of a tourist's customer journey seen on one look. Of course details vary from customer to customer and from

company to company, so the canvas is a general version and tourism companies can apply it how it best suits their purposes.

When it comes to traveling, it's not only about being at a destination. There are more phases that service providers have to be aware of and by taking them into account, they can see their service in a more holistic and customer-oriented way. They can think of the touchpoints and bottlenecks of their service and make a more detailed customer journey map for their use. This is a good starting point for developing services.

The Canvas is freely available for download: www.sdt.fi



5.3 A TOOLKIT FOR WEBSITE ANALYSIS - ICELAND

The way companies use their websites and what content is being showcased often offers scope for improvement. In terms of use, some basic online services, such as request forms, online payment statements, responsive design and more are not available on the website. In terms of content some key elements such as description and photos of the products are missing. This is a guide to what the costumer might want to know after visiting a website.

The website toolkit is a four page checkbox list, reflecting the four categories of the website analysis; Interactivity, Navigation, Functionality and Site Marketing Characteristics. The manager along with a second person should go through the list, a box at a time and check what is on their website and what is not. Once surveyed the list offers a chance to check if the item queried needs to be improved. Once completed the company should thus have an overview of what needs to be worked on the company's website. Some boxes are more technical than others. We suggest using a

search engine to better understand what is being asked about. When all items on the list have been updated the website design should have improved and the website becomes more professional.

Some things listed can be sorted out quite easily, e.g. photos, text, links and more. Things like a tagline, favicon, responsive design and online payment will require a more professional input to fix or add on. This tool is to improve your customers' experience on your website in terms of information provision and services and should improve online selling capabilities.

The key to Web 2.0 and social media is to socialize. Acting on social media can be difficult if normally companies have only answers to questions but don't ask them. Companies can be involved on social media on different scales but what voice should be out there presenting a company and prompting responsiveness from customers. To help improve the companies use of social media we present a tool that based on two categories; "Public Profile Integration" and "Social Media Strategy".

In the social media toolkit key questions are posed to company managers along with guiding people in understanding social media. The questions are to be read through once before looking at the company's online profile to see what can and has been done. The two categories then allow for a better understanding of what is being presented and could be presented.

When this tool has been used a strategy and a better online profile of a company should emerge. This helps you focus on what you want social media to bring back to your business. With a strategy time spent on social media will be more efficient and should take less hours. While a profile is set to be a profile of a company it will contribute to brand awareness. While having the correct information and a well spread profile over social media and every online media that can be accessed the traffic should be directed to the places . Next step is to measure the effect of the website and social media toolkits with an analytics program.

The amount of marketing data on the internet is gargantuan. This requires a stern focus on the data that is already in place from media that is owned by companies. Today many programs are offered on the internet to help people analyse data, Google Analytics is the most popular program to date. We will use websites (Google Analytics, 2013) and Facebook as examples in this toolkit.

What the insights on social media do is a lot like web analytics, however these better gauge the people that are using the media. For example basic demographic variables like gender and age can be a good addition for marketing managers, which basic website analytics would not provide.

To get analytics software in place professional help is recommended in setting up an account. Once an account is in place this tool guides what information can be analysed, in order to see who is watching the company and how those viewing found it. In this tool we only talk about free software that is commonly used for website analysis and integrated analytics on social media (Facebook Insights, 2013). Like the website toolkit this one is based on two checklists, focusing on audience, traffic and analytics for websites and social media. Again a company manager assisted by a second person should go through the list a box at a time. Once done the list offers a chance to check if goals have been met. Once completed the company should thus have an overview of what need to be worked on and setting goals to be reached in a period of 3 months. This tool requires some computer experience.

When this tool has been used there are several things that have been learned. The first thing is to understand who visits a company website. This is imperative to the success of all marketing. The

next step would be testing if the visitors are from the company's identified target markets. If this is not the case then a new market could be identified. The second thing is to see how effective a company's online presence is. This is the idea behind the traffic goals. A measurable marketing plan should connect to online media so it can be measured.

5.4 SENTIMENT ANALYSIS OF UGC - SWEDEN

This tool is used to automatically identify and extract subjective information (opinions and emotions) from user generated content available on various Internet websites. The proliferation of reviews, ratings and recommendations online as well as increasing international competition for tourist destinations call for strategies and structured methods of using this readily available information about customer preferences to improve decision making as well as marketing management. The tool is used to filter out non relevant information, understand customer conversations based on their sentiment, and identify relevant content. It allows users to track attitudes and feelings expressed by customers and potential customers.

To start using this tool you should first identify some of the main sources of user generated content relevant for your tourist destination or tourist business. Then if you also have the ambition to implement a destination management information system, to which the sentiment analysis tool should be attached, you should acquire the open source software for data mining, RapidMiner® (http://rapid-i.com/content/view/181/). The web crawlers in Rapid Miner are then used to collect web pages containing the relevant information for sentiment analysis. Four steps of processing the collected documents are important; 1) extraction of opinion texts obtained from HTML documents or from HTML code, 2) removal of those reviews that do not contain any text, 3) filtering of multi-lingual texts, 4) generation of single statements from the entire review texts. The accuracy of sentiment analysis is about how well the output of analysis agrees with human judgment. Therefore, try out and then choose a method (e.g. machine learning or dictionary-based) with an accuracy level of above 70%. This level of accuracy is comparable to agreement between human raters who typically agree about 79% . In this prototypically developed sentiment analysis of UGC the results were based on; 1) recognition of properties with dictionary-based method, 2) recognition of subjectivity with dictionary-based method, 3) recognition of sentiments with support vector-based method (with bigrams).

There are some important expected effects from using this tool:

- You will be able to find out if there are positive or negative opinions about your tourist destination or your tourist business
- You can find out if there are new ideas and attitudes about your tourist destination or tourist business
- You can find out how customers perceive your tourist destination brand in a less constrained way compared to regular customer surveys
- Benchmark against competitors
- Receive early warnings of unsatisfactory quality of tourist experiences
- Differentiate between the opinions of different customer profiles
- Identify the main social media and user generated content platforms used by your current and potential customers
- Create a more in-depth understanding of how to create and respond to customer dialogues online

There are some necessary basics for using this tool. First, you will need to devote resources to implement this tool both from a technical perspective and from a staff perspective. Most likely you will also need to already have resources and competence for traditional market analysis and you will need to commit to the task of improving the way in which you collect market data about your customers. However, this automated tool will not solve all your problems. You will still need humans to set up the tool and reflect on the output of the tool. After all, understanding you customer is not simply about facts and figures but also about experience and contextual understanding.

5.5 OPEN INNOVATION TOOL - SOUTHERN NORWAY

Open innovation may be perceived as a tool or a methodology experiential tourism firms may use when they aim to develop new services.

There are two types of open innovation: 1) Inbound open innovation refers to the use of purposive inflows of knowledge to accelerate internal innovation, and 2) outbound open innovation refers to outflows of knowledge to expand the markets for external use of innovation. Experiential tourism firms may benefit from implementing inbound open innovation practices in the early stages of their incremental innovation processes to obtain ideas from customers and other stakeholders, and they may benefit from implementing inbound open innovation practices in the development stage of radical new services, to obtain input from experts. Social media is particularly useful to improve incremental inbound open innovation processes. Experiential tourism firms may also benefit from implementing outbound open innovation practices where they share their knowledge with other stakeholders that is able to use this information to actually innovate and improve its products.

It is expected that the use of inbound open innovation will accelerate innovation in experiential tourism firms, and that the use of outbound open innovation practices may have long term positive effects on sales both for the firm sharing knowledge and the firm receiving knowledge.

Basic knowledge of Innovation Management is needed to succeed with the implementation of open innovation processes.

5.6 SHORT FILMS FOR DIGITAL MARKETING - NORTHERN NORWAY

The tool in this case study, the making of mini-documentaries - short film clips presenting the core experience/product, is used to communicate the so-called “goosebump-effect” – the immersion in the experience that the tourism SMEs provide. Text and still pictures are less successful in conveying the experience and context than film, and for experience products the customer’s ability to themselves in the experience and get an impression of what they pay for is central for the decision to purchase.

The tool consists of short films (30, 60 and 90 seconds), focusing on the core experience provided, for use in social media and digital marketing in general. In this case the production of the films was done as a project in the cluster Innovative Experiences , where all businesses were presented with a predesigned process with low cost to the company. This resulted in high participation in the project, and a variety of businesses as to size, professionalization and resources available were represented.

The films were made by a tv producer who first visited the company to plan content and format, including identification of core-experiences. The actual filming was done shortly after, and the

films were handed over to the businesses in different digital formats, along with a manual for technical implementation. The manual contained explanations of how to embed the films on the company website, uploading the films to You Tube and posting on Facebook.

The short films are expected to enable the companies to reach new customers through social media, and increase future costumers' purchase motivation of an experience product based on enhanced knowledge of the experiences provided.

All participants in the project reported positive effects of the film project, whether internally for their business practice as a result of carefully considering what to present as their core experience/product, or externally both to be able to present their product in a more engaging and realistic manner to the customer and to present the company to new customers through new channels of marketing.

The case study, however, also shows that several of the businesses met with problems in implementing the films in their marketing. The general tendency was that the companies that had the largest effect of the tool were larger companies in the cluster (Small SMEs according to the EU classification) with specialized positions in charge of sales and marketing. For the smaller companies (Micro SMEs), the level of use and effect depended on general level of professionalization and personal interest in taking advantage of new technologies.

Experiences from this cluster project suggests the following steps both for individual companies and clusters when using this tool: 1) Use a professional filmproducer, 2) prepare properly either through a workshop with the producer or alone, to identify the core message/product to feature, 3) allow for necessary flexibility in the production phase so that the main message/product can be featured to its advantage, 4) seek necessary help to ensure effective implementation of films.

The best practice examples from this case study illustrate that employing mini-documentaries in digital marketing is an efficient tool if implemented and most importantly: used actively.

There are some necessary basics required in order to make the most of the potential that short films offer for digital communication and marketing. If for an individual company: resources to produce and implement the film with professional partners. For a cluster: adequate motivation among the companies, a basic level of digital competence and interest among the participating businesses. Technical and strategic support in implementation also proved important.

6.0 FURTHER FINDINGS

6.1 CAPABILITIES FOR COMPETITIVENESS

How do firms achieve and sustain competitive advantage? This is the fundamental question discussed in the comprehensive strategic management literature (Teece, Pisano, and Shuen, 1997), and throughout the years researchers have suggested a number of different answers to this question. One school of thought within the strategic management area suggests that an organization's internal characteristics are the source of sustained competitive advantage. The resource based view (RBV) (e.g., Barney, 1991) and the dynamic capabilities view (DCV) (e.g. Teece and Pisano, 1994) are two research streams within this school.

In RBV a resource is defined as "*an asset or input to production that an organization owns, controls, or has access to on a semi-permanent basis*" (Helfat and Peteraf, 2003, p. 999). According to the RBV resources that are valuable, rare, inimitable, and non-substitutable are the source of sustained competitive advantage (Barney, 1991). The DCV may be perceived as an extension of the RBV. The DCV acknowledges the importance of resources, but suggests that possessing a set of resources is necessary, but not enough to ensure sustained competitive advantage for a firm. In addition the DCV suggests that a firm's dynamic capability, i.e. a "*firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments*" (Teece, Pisano, and Shuen, 1997, p. 516), is related to (sustained) competitive advantage and superior performance.

Some recent contributions to these research streams (e.g., Wang and Ahmed, 2007; Teece, 2007) identify generic resources and dynamic capabilities that are assumed to be related to sustained competitive advantage. Teece (2007) for example suggest that the capacity to shape opportunities and threats, and the capacity to enhance, combine, protect and reconfigure a firm's assets, are important dynamic capabilities for all firms. Most literature, however, is generic and does not offer industry specific advices. Thus, the strategic management frameworks offered by the extant literature are not specified for a specific tourism services context.

The ICT Toolbox for Nordic tourism SMEs project did not aim to identify or define new theoretical strategic frameworks for the tourism industry. Nevertheless, the findings of the project's case studies gave insights into five capabilities that may be particularly important for firms in this industry: 1) the capability to implement open innovation processes (discussed in the case of southern Norway), 2) the capability to use specific service design methods (discussed in the Finnish case), 3) the capability to make use of video marketing (discussed in the case of northern Norway), 4) the capability to develop and implement new mobile applications (discussed in the Danish case), 5) the capability to capture customer knowledge (discussed in the Swedish, Finnish and Icelandic cases). The findings of this project suggest that these capabilities may directly affect the innovativeness, sales and service quality of firms in the tourism sector in the short term, and long term competitiveness.

These findings are summarized in the table below.

TABLE 1: IDENTIFIED CAPABILITIES AND THEIR EFFECTS

Capability	Direct effect of the capability	Discussed in case
Capability to implement open innovation processes	Innovativeness	Southern Norway
Capability to use service design methods	Service quality	Finland
Capability to make use of video marketing	Sales	Northern Norway
Capability to develop and implement new mobile applications	Innovativeness	Denmark
Capability to capture customer knowledge	Innovativeness	Sweden, Finland, Iceland

6.2 CUSTOMER KNOWLEDGE FOR INNOVATION

As the main driver behind innovation capacity of tourism destinations, *knowledge* has been identified as the essential base for long-term competitiveness and sustainable development (Jafari, 2002; Hjalager, 2010; Buckley, 2012) (see section 4.2). Specifically, customer based knowledge allows businesses to re-configure the use of resources and competencies, but to succeed depends on how easily they can access this information (Fuchs and Höpken, 2009; Höpken, Fuchs, and Lexhagen, 2013). The major challenge of knowledge management is to make individual knowledge about customers, products, processes, competitors or business partners available and meaningful. Moreover, in order to get a holistic understanding of customers businesses need to employ multiple methods, such as surveys, interviews, observations, and online ethnography, to get customer insights. A key finding from the service design toolkit is the possibility to draw a customer journey/customer service pathway, make customer profile types, and customer behavior models and using the "5 why's" technique when interviewing.

In addition to asking customers directly, recent developments in Internet technologies have led to the creation of user-generated content (UGC) which is hence a source of customer insight. UGC has received much attention in recent years due to its word-of-mouth (WOM) attributes, which offer new opportunities for marketing (Lexhagen, Kuttainen, Fuchs, and Höpken, 2012; Schmallegger and Carson, 2008). UGC has been described as a new source of market information. Thus, extending the classical mix of information sources available (Töpfer, Silbermann, and William, 2008) and which, compared with conventional market research methods, provides more reliable and neutral information, more rich in substance and can reveal information, not obtainable through traditional market research methods (Pan, MacLaurin, and Crotts, 2007).

However, literature only recently emphasizes business intelligence (BI) and data mining for knowledge creation in travel & tourism and few BI studies exist for destinations. Although huge amounts of customer and supplier data are available at destinations and on the Internet (e.g. web servers store tourists' website navigation, data bases record transaction data, digital guest surveys, online user generated content) these sources typically remain unused (Bloom, 2004; Wong, Chen, Chung, Kao, 2006, Fuchs and Höpken, 2009). Managerial competencies and organizational learning could be significantly enhanced by applying methods of *business intelligence* (Min, Min, and Emam, 2002; Pyo, Uysal, and Chang, 2002) which for example offers highly reliable, up-to-date and strategically relevant information, such as tourists' travel motives and service expectations, information needs, channel use and related conversion rates, occupancy trends/forecasts, quality of service experience and value-added per guest segment, sentiment of online ratings and reviews, etc. Methods of business intelligence are then applied in order to retrieve relevant and previously unidentified knowledge from customer-based data.

A key finding from the Swedish case study is that through the design and prototypical development of a tool for sentiment analysis, as part of a destination management information system, it is evident that tourist destinations and businesses can gain important knowledge about customer needs and wants by implementing such a tool. The topic and sentiment of UGC content can be classified with a satisfactory level of accuracy. Importantly, it is also found that user generated content relevant for a tourist destination or tourist business can be found in multiple online sources, with multiple types of content demonstrating the need to identify all relevant sources. Furthermore, the quality of UGC varies but is mostly evaluative, specific, substantive and equally trivial versus relevant. Thus it is concluded that the analysis of UGC content can be made accessible for all tourist

destination stakeholders in order to serve as one important source of knowledge about customers for the purpose of making more informed decisions about destination development.

6.3 DIGITAL MARKETING AND SOCIAL MEDIA FOR TOURISM SMES

Social media are more than a technical innovation, they are a social innovation that changes the way people and companies communicate and interact (Amersdoffer et al 2012). It is no longer sufficient for businesses in the tourism industry to rely on traditional media for marketing, the "user democracy" culture and the ability to share information by means of social media have made substantial changes in information asymmetry and the bargaining power of consumers. Social media have been widely adopted by travelers to search, organize and share travelling experiences. In 2011, more than one-third of all leisure travelers in the United Kingdom choose their hotels on the basis of social media sites like Trip Advisor and Facebook. Social media play an important role not only for consumers in travel information search, but also as a tourism marketing tool (Leung et al 2013).

Use of social media in the tourism sector is largely experimental, and despite the increased use of social media, few businesses make the most of the technology for marketing purposes (Hays et.al 2013, DiPietro et.al 2012, Leung et al 2013, Hvass & Munar 2012). It seems safe to assume that SMEs are less able to do so than larger businesses.

In this report cases describe companies' use of social media for different purposes. The Swedish case uses User Generated Content from social media to gain customer knowledge, the Danish case will use people's interaction with the app to expand and improve its performance, and the case from Northern Norway and to some extent the case from Iceland examines use of social media for digital marketing.

Findings from these cases show that the tourism industry in the areas consists of rural micro SMEs, dependent on marketing to attract visitors. For peripheral businesses like these, arguments for marketing through social media are wide access to internet among potential customers, and low costs. However, as both the Icelandic and the case from Northern Norway show, some of the inherent challenges of SMEs, the limited capabilities and resources, make it difficult for these businesses to make the most of the potential presented by social media.

FINAL REFLECTIONS

It seems imperative to continue working on these issues both from a market failure perspective – because of the structural challenges described here SMEs may need help, but also because employing ICT tools that cater to the particular needs of the businesses in their operations is vital to the competitiveness of the industry. Furthermore, the Nordic tourism industry shares many characteristics, and this project illustrates the value and potential of cooperation on the industry's challenges on a Nordic level.

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PART 2: CASE STUDIES

1 PICK YOUR FOOD WITH YOUR MOBILE - DENMARK

- USING NEW TECHNOLOGY TO INVITE TOURISTS TO VISIT THE NORDIC NATURE AND TO EXPERIENCE THE NORDIC CUISINE

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INTRODUCTION

Pick your food with your mobile is the Alexandra Institute's contribution to the project *ICT toolbox in the experience economy.* We have developed a prototype of a mobile application, which can help tourists find and recognise wild, edible Nordic plants. This is a concrete technological element for the ICT Toolbox that both explores the state of the art in regard to technology in this field and that works directly on the perspective of the tourist. This application is then meant for both the tourists themselves and the tourism clusters as an innovative way of promoting the Nordic countries and creating focus on and interest in the extraordinary Nordic nature.

Eating and experiencing local food is an essential part of travelling and getting to know the Nordic countries. The Nordic countries are known for their clean, beautiful, wild nature and the New Nordic Food movement has increased the focus on the value of Nordic food, especially the wild edible plants which have got a revival in the Nordic cuisine. There is a growing interest among locals and tourists in experiencing Nordic food, and especially to get out in nature and pick the wild edible plants in their natural habitat.

The aim of the new mobile application is to give tourists an online and personal guide to nature experiences in the Nordic Countries. The prototype of the mobile application investigates new ICT-based services for the tourism industry. It will be a concrete ICT case, from which we can learn and gain new knowledge about the value of ICT in the tourism industry.

When fully developed the application gives the Nordic countries an online presence and invites tourists to actively interact with the Nordic values e.g. clean and accessible nature, openness and sharing, a healthy and active life. It is a unique experience economy example of how the use of a social media concept can add value and increase tourism in the Nordic countries.

The ultimate objective is to find new ways to encourage tourists to take active part in the core values of the Nordic countries by inviting them to visit and spend time in the nature of these countries.

WHY IS IT A GOOD IDEA?

BRIDGING PEOPLE AND PLANTS WITH NEW TECHNOLOGY

There are 330 wild edible plants in the Nordic countries (some of them are illustrated below). The question is whether we are capable of locating and recognizing them? Where do I find which type of plant at what time of the year? How can I make sure that I don't pick a similar but toxic plant? How can I use the plants that I have found in my cuisine? These questions can be hard enough for locals because many of us haven't been taught about the wild edible plants by our parents and grandparents. Finding and recognizing wild edible plants can be even more difficult if you are a tourist.

Many of us are, however, grown up with (or very used to) new technology. We carry the mobile phone with us all the time and we are used to using mobile applications to help us in a number of different everyday activities.

So why not use the mobile technology to bridge people with the wild edible plants?

The technology can provide us with a lot of the knowledge that parents and grandparents would have given us and help us answer the above mentioned questions. Together with common sense and

vigilance the app may be the guide that can help you find and pick wild edible plants and transform them into an experience of the Nordic cuisine. As part of this the app will serve as an invitation to visiting and experiencing the Nordic nature.

RAMSLØG, WILD GARLIC, *ALLIUM URSINUM*

Almindelig Gederams, *Chamerion angustifolium*

Kveller, Glasswort *Salicornia europaea*

Rynket Rose, Rugosa rose *Rosa rugosa*

Havtorn, Sea buckthorn *Hippophaë*

FROM URBAN AREAS TO RURAL AREAS

The application can be used in a lot of different green spaces; from parks in the cities to the rural areas; at the fields, in the forests, in the mountains and by the sea.

ALL AGES

The application can be used by people of all ages and in many different situations from a small walk in the park to a long trip in the mountains. Tourist attractions can be designed around the app taking people out into the wild and teaching them about the edible plants and the Nordic cuisine.

RESULTS

The overall goal of the project was to develop a first prototype of a mobile application, which can help tourists find and recognise wild, edible Nordic plants.

The project has generated new knowledge about the technological possibilities within plant recognition. As described above we have proved that the idea of developing plant recognition software is possible. As part of this we have started developing methods to safely and easily gather knowledge about wild, edible plants in a form that can be used in the future development of the mobile application.

The project also investigated how to disseminate knowledge about wild, edible plants to end users in an easy-to-understand way. We have found out that it is important that the plant recognition does not stand alone. The plant recognition has to be supplemented by textual as well as visual information about the plants to let the user approach the recognition from different angles and with a wide range of information available. The different ways to approach the recognition is via the plant recognition software, information about where the plant grows, how it looks and smells during the season, what colour it has and if there are risks of mistaking the plant with a toxic plant (and how to avoid that).

We have found out that the mobile application can support value creation for tourists in the Nordic countries via a strong focus on service innovation. It will be further elaborated in the Next step section.

THE MOBILE INTERFACE

The mobile interface of the application is illustrated below.

The first two screens of the mobile application serve as an introduction to the application.

In the top there is a headline ‘Pick your food with your mobile’

The text in the bubbles says: “Can I eat this plant?”

The user clicks ‘Next’ in the below right corner.

Clicking ‘Show concept’ takes you directly to the plant recognition part of the app.

At this screen the user gets an overview of the main features of the application:

- Find out what kind of plat it is
- Find out when the plant is edible
- Find our where to find a specific plant
- Find our how to pick the plant
- Find out if there are similar but toxic plants
- Get information of how the plant taste and can be used in cooking
- Get information about how the plant smells

The user clicks ‘Next’ in the below right corner.

This is the 'home-screen' of the application and the screen you get to if you click the 'Menu' button (in the upper right corner of the past two screens)

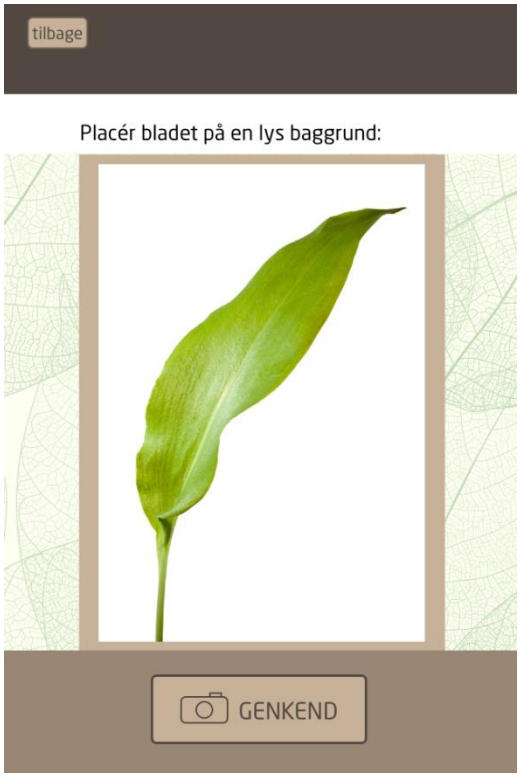
The headline says 'The wild edible plants of the North'

Below are images of the plants that you can find close to where you are located right now. Below each plant image an estimated distance to the plant is displayed. If you click at one of the plant images you will go to a screen with detailed information about the plant.

In the middle of the screen is the 'Start Plant recognition' button. If you click this button you will see the screen displayed below.

In the bottom of the screen there are four small buttons:

- Map: If you click this button you will see a map. The map shows the area where you are now. Plants that have been tagged by previous users are displayed at the map. You can select another location by searching for it in the search-field of the map.
- Favourites: Clicking this button will display a list of the plants that you previously has marked as your favourite plants.
- Flora: Clicking this button will open a flora where you can look up the different edible plants and get more information of each of them
- About: Information about this application. Disclaimer.



When you have clicked the 'Start Plant recognition' button (at the previous screen) you will see this screen. You place the plant leaf at a light background and click the button 'Recognize' below the leaf. Then the software will start to analyse the leaf and return with a list of possible plants that match the leaf that you are about to recognize.

The user selects the plant which she think is most likely to be the right plant and a page with detailed information will be displayed to help the user take the final decision. If it seems not to be the right plant the user can go back to the list of possible plants and select detailed information of another one etc.

This screen display detailed information about the selected plant.

The headline is the name of the plant – in this case it is Wild Garlic.

A number of images of the plant are displayed. Each image shows a characteristic of that specific plant. It can be the flower, the leaf the bud etc. Clicking an image will display it in full-screen size.

Below the images are two icons:

- The flag icon: By clicking this button you tag the plant and it will be displayed at the map in order for other users to see that Wild Garlic has been found at this location
- The heart icon: This is the add to favourite icon which add the plant to the list of favourite plants (described above)

Below the images and the two icons is detailed written information about the plant under the headlines:

- Description of the plant
- When is the plant edible?
- Where do I find the plant?
- How do I pick the plant?
- Can the plant be mistaken with other plants – if yes how do I tell the difference between the plants?
- How does the plant taste and how can it be used in cooking?
- How does the plant smell?

The 'Back' button in the upper left corner of all the screens (except from the first one) takes you to the previous screen.

THE TECHNOLOGY

The project builds on the latest research in computer vision and machine learning in the following ways:

1. **Computer vision**: Removal of poor images before calculation
2. **Segmentation**: Separation of leaves from the background
3. **Feature extraction**: Description of the shape of leaves at micro and macro level
4. **Comparison** of these features with the database of already classified images.

The plant recognition software is developed from scratch using state of the art knowledge about this kind of technology.

RECOGNISING SPECIES

Since many plants only flower in a short season, recognizing species by leaves is the most feasible approach.

• First we have to sort all the pictures that are of too poor quality or not of leaves from the rest, using automatic classification.

• Separating the sample leaf from the background is surprisingly non-trivial, so we have to ask the users to place it on something with high contrast.

COMPARING LEAVES

Once we have the silhuette of the leaf, we can measure its curvature along its edge

• This is done for many different scales, and captures e.g. a smooth curve on the coarse scale, but a serrated shape on the fine scale.

• The values are then compared to a database of pre-classified samples.

THE DATABASE

The features extracted must be compared to something, and herein lies a great part of the work; for each species, we need at least 40 images that have been correctly classified by experts.

• This entails a very large amount of work, and will have to be done in part by external parties (when we continue with the development of the application).

• To keep the scope of this first prototype realistic, we limited the first version of the application prototype to a few species.

PROCESS

Below is a detailed overview of what we have done as part of the project.

Photo: Dried plants (unknown photographer – image from the Internet)

Going in more detail we have been going through the following processes:

- Description and investigation of end-user requirements
- Design of user interfaces and interaction design

- Graphical design of the prototype

- Description and investigation of software requirements
- Software development of the plant-recognition technology
- Software development of the mobile application

- Gathering of wild edible plants
    - Photographing the plants
    - Drying the plants for a herbarium of the plants that we use in the project

- Been writing articles about the project and talked about it at several occasions (meetings, workshops, seminars)

- Held 2 workshops with potential partners who are interested in applying for more money for the next step of the development of the mobile application

- Participated in the two NIC workshops; In Lofoten, Norway and Copenhagen, Denmark

DEVELOPMENT OF PROJECT GOAL

Photo: Trine Plambech

During the time of the project our contribution has to some extend developed a bit from the original formulations.

CHANGES IN SCOPE

There has been a change in project scope since the very first formulation. This update of the Danish contribution was deliberately made to ensure a more fruitful contribution.

Originally the contribution from The Alexandra Institute was supposed to be a mapping and conceptualization of the ICT and social media platforms relevant for the tourism industry (Location based services, search, organizing travel, maps etc.)

In agreement with the project coordinator (and approved by Nordic Innovation) we chose to make a prototype of a mobile app in order to supplement the other studies in the project of tourism and service providers etc. with some technology in use by the tourists. We regard this as an experiment of how to promote the Nordic nature to tourists. This was a very ‘hands-on’ installment in the resulting ‘ICT toolbox’ and thus a demonstration of, how ICT can further the stated goals of the project, e.g. promotional campaigns across multiple media and communications channels, use of innovation and deployment of technology to grow demand from new markets among others.

In short, instead of mapping the possible ICT elements that could be used, we aimed to use a much applied ICT-element in regard to online presence, namely the app's to promote our Nordic tourism industry.

CHANGES IN TECHNOLOGICALLY APPROACH

Spring 2013 we were forced to make a change in the technological approach as things didn't turn out the way we had expected in the beginning of the project. In this case we managed to come up with a new solution that is very close to the one originally described.

As the technology used for plant recognition is very advanced we saw that with the limited time scope of this project, building everything from scratch was not an option if we would like to end up with a prototype that could be tested with tourists.

Therefore the original ideas were to make an agreement with people who had already developed the base of the plant recognition software. Neeraj Kumar of Washington State University was kind enough to allow us to use the source code of the classifier from the mobile app Leafsnap[2] (which is able to recognise leafs from North American trees). He promised to provide it during the fall of 2012.

Unfortunately he never managed to provide us with the software. Realising this we had to come up with a plan B that could help us fulfil our commitments in the project.

Based on another project which The Alexandra Institute is part of we could see an opportunity to develop the classifier (the plant recognition software) our self. After a period of intense coding and machine learning we managed to make a prototype of a mobile application which is actually able to recognise a limited amount of wild edible plants.

The consequences of having to start from scratch are of course that the prototype isn't as mature as we had hoped when we first took off with the project. A consequence of this is that we have not been able to test the prototype with users outside of The Alexandra Institute. Instead we have made internal user tests that gave us valuable knowledge about how the application should be developed further.

Even without the fully developed classifier, the application ties expert knowledge on plants and herbs to existing crowd-sourced information on their whereabouts that is a great outcome of the project.

NEXT STEP

Below is the plan for taking the mobile application to its next step assuming that we have got the sufficient amount of funding.

- Continued studies of end-user requirements and incorporation of the new knowledge gathered from this project
- Design of user interfaces and interaction design for the fully working app
- Graphical design of the fully working app
- Formulating the text for the app in cooperation with skilled botanists
- Translate the mobile application into English (and maybe also other languages)

[2] http://homes.cs.washington.edu/~neeraj/projects/leafsnap/

- An extensive literature-study in order to be able to learn from similar projects around the world.
- Elaboration of the software requirements
- Further development of the plant-recognition technology and as part of this load the extensive amount of plant-data into the system
- Development of the fully working mobile application
- Test and further development based on the test results

- Gathering of the full amounts of wild edible plants (we need at least 40 leaves from each plant species) by qualified botanists
    - Photographing the plants in high quality
    - Drying the plants for a herbarium of the plants

- Develop the crowd-sourcing part of the app. Finding partners who could be interested in this role.

- Perform user-tests of the mobile application with tourists and develop the mobile application further based on the user-test results

- Take contact to tourist organisation and develop the service design around the mobile application.

The Alexandra Institute will be responsible of lifting most of the above listed tasks. For the rest of the tasks that we are not qualified to take care of we have identified the partners that we would like to cooperate with. It would be very valuable for the further development of the mobile application to keep the partnership's with the partners from the NIC project.

SYNERGIES BETWEEN THE DANISH CONTRIBUTION AND THE REST OF THE ICT PROJECT

The Danish contribution taps into the aims and success criteria of the project in a number of different ways of which all can be said to be related to *service innovation of the promotion of the Nordic countries to international tourist*. First we will comment on the goals from the project description and then add a few new goals of our own.

KNOWLEDGE TRANSFER

The app we have made, can be used as an easy-to-use technology for the tourists that they can get at the national tourism portals (e.g. *Visit Denmark,* or *Wonderful Copenhagen* and the counterparts to these in the other participating countries). In this way the app can facilitate promotional campaigns across multiple media and at the same time sustain valuable customer relationships. This means that the mobile app can be a driver of new content alliances by e.g. installing it in the tourism portals.

CO-OPERATION AND EXCHANGE OF BEST PRACTICE

The project it-self is the base for developing the transnational partnerships of best practice. We hope that the partners in the project will be inspired by our work to directly engage and thrill the tourist, as we have been inspired and enlightened by the other projects and their scope. We view it as strength in the project that the ICT-contributions as so varied as they are across the partners in that we each explore different angles and best practices. We see our contribution as a best practice in technology and conceptualisation of how to promote the Nordic countries.

ECONOMIC SUSTAINABILITY OF THE EFFORTS

In the Danish case, we are now considering and planning alliances with new and existing partners in order to take the work from this project and produce a working mobile app on top of the now existing prototype. This will involve local tourist offices and local entrepreneurs and probably also grants from central funds and the like. We expect to offer the resulting app to our Nordic partners in this project, so they later can experiment with using mobile apps as a part of sustainable marketing campaigns. This goes to show our exit-strategy from the Nordic project into a commercial product.

REACH NEW MARKETS

Through the mobile app and the strong focus on the Nordic food and nature, we hope to be able to create a new streak in the existing tourism campaigns. The need for strategic partners (e.g. restaurants with a Nordic cuisine, tourism portals, people with the necessary plant knowledge, technological skills and competencies) in order to finish the prototype and make a full flown app gives us a unique opportunity to broaden our network within these areas. This might also shed light on new opportunities to cooperate.

TECHNOLOGY IN USE BY TOURISTS

The mobile application aims at enriching the experiences that tourists get when visiting the Nordic countries. By addressing some of the core values of the Northern countries – the nature and the new Nordic cuisine – the apps helps to communicate as well as engage tourists.

The app itself is an interesting piece of innovation both when it comes to its content as well as the software, which makes it all possible. It is, however, even more interesting when we take a service design approach and look at the application as part of a bigger tourist experience which will be further elaborated on in the below section.

INSTALMENT IN THE ICT TOOLBOX

The ICT toolbox represents a range of different approaches to Nordic tourism whereas the mobile application and the service design around it represent one tool within the toolbox.

As described above the full value of the mobile application can be gained when understanding how to encapsulate it in new services addressing Nordic nature and the new Nordic cuisine. Therefore this tool (the mobile application) will be relevant and can provide new value for not only the other partners of this project but also different tourist clusters as well as researchers interesting in the technological as well as the plant communication parts of the project.

We see that the app can be a catalyst for new business within the tourist industry as well as business development of existing events and experiences.

PROMOTIONAL CAMPAIGNS, MULTIPLE MEDIA AND COMM. CHANNELS

There are different levels on which communication and partnerships are needed in order to lift the app to its full potentials, hence the mentioning of strategic alliances above.

DEVELOPMENT OF THE APPLICATION

A very important part of the further development of the application is crowd-sourcing. The development of the application gives us a possibility to get in touch with engaged end-users who will help us collect and take photos of the wild edible plants from each of the Nordic countries. We imagine that it will be people who is very enthusiastic about botany and wild edible plants as well as scouts and other volunteer groups.

COMMUNICATING THE APPLICATION AND DEVELOPING NEW SERVICES AROUND IT

The development will also be a catalyst of a strong network between key-partners. It will give us an efficient way of getting the mobile application out there where the tourist can find and use it.

Tourist organisations in the Nordic countries plays an important role as well as stand-alone service providers who can see an opportunity to develop new services or enrich existing services with the mobile application. As an example we see Wonderful Copenhagen as an important partner as well as the other regional tourist providers around the country.

INVOLVING PEOPLE VIA CROWD-SOURCING AND SOCIAL MEDIA

Crowd-sourcing will also be used when the application is up and running. People will help tell where they have found which plants so that other users of the app can gain from it.

Facebook and other social media platforms are considered to be important aspects of the community building around the app. Via the social media tourists can get in touch with each other in a wild edible plant community. New service and experiences may most likely grow out of a community like this.

DEPLOYMENT OF TECHNOLOGY AND INNOVATION

The technical innovation as well as the new way of making wild edible plants available to tourists in the Nordic countries can be the driver of new business opportunities for the tourist companies as well as new experiences for the tourists.

As part of it we will develop business scenarios for the service innovation that are in accordance with partners and customers needs and wants. This we see as an activity outside the current project and as a part of the continuance of the work.

LITERATURE REVIEW OF RELATED APPROACHES

There is especially two theoretical aspects that we would like to include in the literature review, as they are important to the success of the mobile application:

1. *Promoting sustainable tourism*, seen as the focus on nature and facilitating that people get out into the nature which is very much the goal of the mobile app
2. *Viral marketing* seen as a way to engage and interact directly and authentic with the tourists instead of providing information about the nature and the good effects of going out into nature

As part of the literature review we could also have included a section about the technological aspects of the mobile application. We have, however, chosen not to include it as the target group of this report most likely not are with a heavy technological background.

PROMOTING SUSTAINABLE TOURISM

Over the past years the notion 'sustainable tourism' has gained ground among stakeholders of the tourism industry. The term should according to World Tourism Organization (UNWTO) and the United Nations Environment Programme (UNEP) be understood very broadly:

> "It covers all forms of tourism, ranging from mass traditional tourism becoming more environmentally friendly, culturally sensitive and socially responsible, to new forms of ecotourism and nature-based recreational activities." (UNEP/UNWTO 2012: 65)

Thus, the term does not denote a particular kind of tourism, but all kinds of tourism striving to become more sustainable.

The increasing focus on sustainability ensures not only more socially, economically and environmentally friendly practices. Evidence suggests that sustainability will also be a significant competitive factor for the tourism industry in the coming years. This relates in particular to the fact that tourists around the world are becoming more aware of the importance of thinking and acting in a sustainable way and demands sustainable solutions (ibid. vii-ix).

Furthermore, a Danish study conducted by Wonderful Copenhagen and Centre for Cultural Studies at Copenhagen University finds that tourists associate sustainable initiatives with positive socio-cultural values such as ´trust´, being honest' and 'in harmony', which also means that tourists perceive to sustainable forms of travel and destinations as attractive (Damsholt & Ren 2010: 13).

This trend places the Nordic countries in a favourable position as we have for many years focused on sustainability in many different sectors e.g. development of renewable energy sources and waste collection.

Within the past few years, this focus on sustainability been particularly pronounced in the Nordic gastronomy and food production. It should be read in conjunction with the leading Nordic gastronomes in 2005 came together to formulate a manifesto for the new Nordic cuisine. This set out a number of ethical principles for cooking, which together guarantee food culture centered on self-sufficiency, health, well-being and nature awareness (newnordicfood.org, Nordisk Ministerråd 2012).

High-profile restaurants like Noma is already a tourist attraction in itself, but there is also a significant tourist potential of more active forms of exploring the Nordic food culture e.g. by gathering his own food.

VIRAL MARKETING USING WEB 2.0 TECHNOLOGIES

The other part of the literature review is connected to viral marketing and the possibilities in online presence and engagement of the young people in the campaigns for the Nordic nature.

We perceive the mobile app as method to new forms of tourism promotion relying on web 2.0 technologies that are characterised by user interaction and content provision. In this way '*Pick your food with your mobile'* is both interactive in the sense of the surrounding community and the strategy of crowd sourcing, and in the sense that we would like to build more interactivity into the app, for instance through up loading various scores, edible plants collected, recipes etc.

In this part of the literature review, we take point of departure in the so-called SNS, e.g. the *Social Network Sites* as the definitions of these, border on the vision for use and interaction for the mobile app.

In other words, we propose that the mobile app should be used for promotion along the lines suggested for SNS's. That is for instance that you broadcast sustainability and proximity to nature, if you use the app, and this broadcast is seen as an instance of your identity. This sort of image for the use of the app would indirectly boost the tourism campaigns in an innovative way that might also appeal to young people and their other social networks – online as well as offline.

DEFINITION OF SNS

SNS is an acronym for Social Network Sites. This is a term that can be related to the concept of web 2.0 technologies. Thus, SNS are a sub-group of social media that can be defined as:

… a group of internet-based applications that build on the ideological and technological foundations of web 2.0, and that allow the creation and content of User Generated Content (Kaplan, AM & Haenlein, M; 2010).

Tufekci defines SNS as:

…a category of websites with profiles, semi-persistent public commentary on the profile, and a transversable publicly articulated social network displayed in relation to the profile (Tufekci, 2008).

Both definitions incorporate internet-based technology and user-generated content as primary features. Kaplan & Haenlein focus on social presence and media richness combined with the concepts of self-disclosure and self-presentation as central features. Thus social media integrate the possibilities of internet-based technologies with social processes for the users of these technologies.

Other characteristic features of SNS are that they are mainly used for maintaining past and present networks and are integrated elements in young people's formation of identity (Raacke and Raacke-Bonds, 2008).

This corresponds with the concept of self-disclosure:

Usually such a presentation is done through self-disclosure; that is conscious or unconscious revelation of personal information (e.g. thoughts, feelings, likes, dislikes) that is consistent with the image they would like to give. Self-disclosure is a critical step in the development of close relationships. (Kaplan, AM & Haenlein, M; 2010)

In our opinion, given the features of SNS, the argument for using SNS as channels for promotion of nature and hereby indirectly as promotion of tourism destinations to young people can be theoretically underpinned by two arguments:

1) SNS are a powerful marketing tool

The use of web 2.0 or social media in marketing – especially direct marketing – has often proven effective. Customer reviews posted in forums, web blogs and podcasts are, in some cases, more powerful marketing tools than traditional expert product views. Web 2.0 technologies and social media are effective identifying ways to enhance customer experience, meet customer information needs and help the customer become more successful in their endeavours (Constantinides & Fountain, 2008).

2) SNS are relevant to adolescents

On SNS, actions and feedback mechanisms from peers are publically available to other members. This corresponds well with adolescents' increased focus on the self and on how they are evaluated and perceived by others (Valkenburg *et al*., 2006).

This suggests that integrating promotion messages in peer-related communication among teenagers can be useful, as this group wants to form an identity and maintain meaningful networks. This makes them a valid target for communication of the shared norms on nature, health, nordic cuisine and sustainability.

SOCIAL MEDIA FOR PROMOTION OF NATURE

SNS is part of the movement from web 1.0 to web 2.0 and has different characteristics to interactive websites or e-learning programs. A clear difference between web 1.0 and web 2.0 is the movement from communication through *single* channels to a *mixture* of communication channels and media. Web 2.0 creates a stronger social presence for the people communicating, as well as increased media richness. User-generated content is a key driver of the move from web 1.0 to web 2.0 (Kaplan AM & Haenlein M, 2010) and peer-to-peer communication enabled by social computing (Smith & McKeen, 2008).

The value of peer communities and peer reviews is described by Constantinides & Fountain (2008) in this way:

The value attributed to these applications (peer communities, ed.) is not based on the classic customer value approach, but rather on some feeling of achievement through personal gratification. As to the consumer behaviour this is increasingly influenced by peer opinions and the collective intelligence (Constantinides & Fountain (2008)).

In this way, social media can be viewed as a new source of customer creativity, influence and empowerment (Constantinides and Fountain, 2008). Peer communities seem to have great potential as a tool for interventions.

The interactive web 1.0 websites facilitate individually-customised interventions and on-going communication between the message sender and its target group recipient. In interventions on SNS, focus is on the *essence of the media*, such as meaning created by the users and/or their peers, identity forming and self-expression, emergent structures and viral dissemination.

On account of this we assume that a nature promotion campaign implemented on SNS has different working mechanisms and resulting effects because of their differing method of communication, actions, interactions, relation making and identity building than traditional one-way communicating internet-based interventions or off-line interventions.

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2 SERVICE DESIGN TOOLKIT AND CUSTOMER JOURNEY CANVAS - FINLAND

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CONTENT

1 INTRODUCTION

This report is a Finnish contribution to the Nordic project ICT Toolbox in the Experience Economy. The partners of the Finnish project were JAMK University of Applied Sciences of Jyväskylä and OSKE – Centre of Expertise / Tourism and Experience Management Cluster Programme. In this project different service design methods and tools were mapped, examined and evaluated during design processes of (virtual) customer experiences in tourism. Those service design methods can be found in the Service Design Toolkit, which is also available in English and for the use of different kinds of companies to upgrade their services. (Virtual) customer experiences were researched using various methods in the (e)destination of Jyväskylä, a city of 133 000 inhabitants, situated in Central Finland, about 270 km north of Helsinki.

2 PURPOSE AND GOAL

The overall aim of the Finnish project was to "create a common understanding of the significance of different service design methods and tools during the design process of (virtual) customer experience". This aim was divided into two different deliverables.

Deliverable 1: Mapping different service design methods and tools during the design process of (virtual) customer experience. Responsibility: JAMK.

Deliverable 2: Mapping and evaluation of different service design methods and tools, in relation of creating (virtual) customer experiences of Jyväskylä (e)destination. Responsibility: JAMK / OSKE.

In the beginning of the project it was decided that two different customer segments and their traveling patterns (on domestic trips) would be more closely studied. These two segments were chosen according to the main customer segments and future-oriented potential segments of Jyväskylä Region Tourist Office.

Target group 1: Active women (Finnish, about 25-35 years old, active travelers)

Target group 2: Families with children (Finnish, min. 1 parent + 1 child aged 0-15)

The aim was to get to know and to understand the needs and desires of customers to upgrade services of Jyväskylä Region Tourist Office as well as local companies.

3 LITERATURE AND THEORY – SERVICE DESIGN

3.1 BACKGROUND

Service design is a relatively new field of expertise. Marketing of services was first identified and addressed as an independent topic in the United States in the 1970s, and service design did not exist as a concept until the early 1990s. Service design as this form we know it started to grow in the early 1990s. The economic basis of industrial nations has changed dramatically in the last decades from manufacturing to provision of information and services (Mager 2008). The Internet has been rapidly growing from the middle of the 1990s. Those two phenomena are the main reasons for the growth of Service design expertise – The service dominant logic is a changing market and Service design is one answer to the management of services.

If Marketing of services is well known expertise in the United States, we could say that the roots of service design are in Europe. Even though Germany, Italy and UK have been active in area of Service Design, there have been active actors in Scandinavian countries as well. The first service design agency in the world was established in London 2001: live|work. Finland's first Service Design agency Ego Beta was established in 2007.

Service design is a rapidly growing field that has been given a profound theoretical and methodological basis and that has established itself internationally in research, teaching, and consulting. However, it is still a very young discipline having many exciting, undiscovered lines of research and doing (Mager 2008). The basis of service design is established and there are a lot of activities and interest going on all over the world.

3.2 WHAT IS SERVICE DESIGN

Service design is a multidisciplinary approach. With a good reason we can say that the roots of service design come from the discipline of design. We simplify its applying the methodologies of product design (that we have always known as 'industrial design') to an intangible product we call a 'service' (Viladas 2011). Service design is an interdisciplinary approach that combines different methods and tools from various disciplines (Stickdorn 2010).

Professor Birgit Mager, one of the pioneers of service design wrote: Service design addresses the functionality and form of services from the perspective of clients. It aims to ensure that service interfaces are useful, usable, and desirable from the client's point of view and effective, efficient, and distinctive from the supplier's point of view. Service designers visualize, formulate, and choreograph solutions to problems that do not necessarily exist today; they observe and interpret requirements and behavioral patterns and transform them into possible future services. This process applies explorative, generative, and evaluative design approaches, and the restructuring of existing services is as much a challenge in service design as the development of innovative new services. (Mager 2008.)

Service Design is a systematic way to develop and innovate services both in an analytical and intuitive aspect at the same time (analytical meaning conclusions based on what is true, quantitative data and facts from yesterday). Intuitive examination tries to see what could be possible in the future, but does not exist yet. (Tuulaniemi 2011.)

People and their needs are the core of service design. Service design is a human-centered approach that focuses on customer experience and the quality of service encountered as the key value for success. In service there is interaction between people; customer and customer servant. Customer can also interact with a computer or other machines. Service design is always human-centered and designing services is based on the understanding of needs and desires of customers. If there is interaction between customers and customer servants in a service situation, it's very important to understand also the customer servant's needs as a human being.

As it is crucial to understand customer needs, it's also necessary to know what goals the service provider has set. If service only maximizes value for customer the service is not viable. Critical important is the balance between Business case and Customer case. Business cases are often more familiar for us but how can we manage customer cases - How can we get to know customer needs and desires? We have to study our customers' lives and needs using ethnographic methods: what our customers say, feel and do.

3.3 SERVICE DESIGN AND EXPERIENCE ECONOMY

Our context of experience economy in this project is tourism industry. Tourism is a complex industry where customer experiences consist of various services. In a tourism destination, there are various service providers producing the whole travel experience. One characteristic of a tourism business is that during the service period, not all touchpoints are under the direct supervision of the service provider, since products in tourism are often boundless and do not only consist of individual services but of different service providers (Stickdorn 2009).

In order to design travel experiences, we have to look at the experience in a holistic way. In tourism products there are touchpoints in pre-service period, service period and post-service period. First we have to identify and analyze different paths and touchpoints in the customer journey. Touchpoints need to be defined from the view of the customer. When we have a holistic understanding about the customer journey and touchpoints of the whole experience, we have to get insights from the customer. This is done by using ethnographic research methods such as existing materials, interviews, observation, co-creation, cultural probes and on-line-ethnography.

3.4 USING SERVICE DESIGN IN TOURISM INDUSTRY IN FINLAND

There is some experience of using service design tools and methods in tourism industries in Finland. Tourism and Experience Management Cluster Programme in Finland has been using service design in their projects. There have been cases such as understanding Russian tourists' needs and how to customize Finnish tourism products for Russian Customers.

The possibilities of using service design methodology in the development of tourism services were being studied in the Service Design Toolkit project, operated by JAMK University of Applied Sciences in 2010-2012. The project was operated with five Finnish destinations and company networks participating to their service design processes. The aim was to analyze the processes through case studies and find advantages in using service design methods.

The outcomes of the project were:

- Better understanding of target groups.
- Customer insights in usable form for the regional business networks.
- A study of the best service design methods for tourism service development.
- A Service Design toolkit, which can serve tourism businesses and regional organizations in customer-oriented product development.

In Service Design Toolkit project we tested service design tools and methods with companies in their service development processes. Workshops were used as working methods with five company networks and all of them had three workshop-days. The process also included a research stage where project staff and student researchers conducted a customer study for defined target groups. During those three workshop-days we showed shortly how to gain customer insight and how to use it to develop better services. At the end of the third workshop-day we revealed that the methods and tools used during the process were service design on the context of tourism industry. The goal for all of the five groups was to realize the process and to get a concept to be piloted and tested in the real market.

4 METHODS

4.1 SERVICE DESIGN METHODS AND TOOLS ON VIRTUAL CUSTOMER EXPERIENCE IN JYVÄSKYLÄ

In this project Service Design Toolkit tools and methods were used and tested during the customer insight data collection. Testing and evaluation of the Service Design Toolkit lead to launching of the tested and further developed version in English (Service Design Toolkit 2.0). The Toolkit is freely available for download: www.sdt.fi.

We identified and mapped periods and touchpoints of (virtual) customer experience. In Jyväskylä context we created (virtual) customer experiences of Jyväskylä (e)destination, our target groups being active women and families with children on domestic trips. To gain insight from customers, we researched people's habits, actions, needs and use of e-services during a domestic journey and its touchpoints. We identified a customer journey and different kind of action patterns of the target groups. All our insights and background researches are documented, and most importantly visualized. One of the main targets was to build clear action pattern(s) from quantitative data. Those action patterns and visualizations help designers to adapt all information.

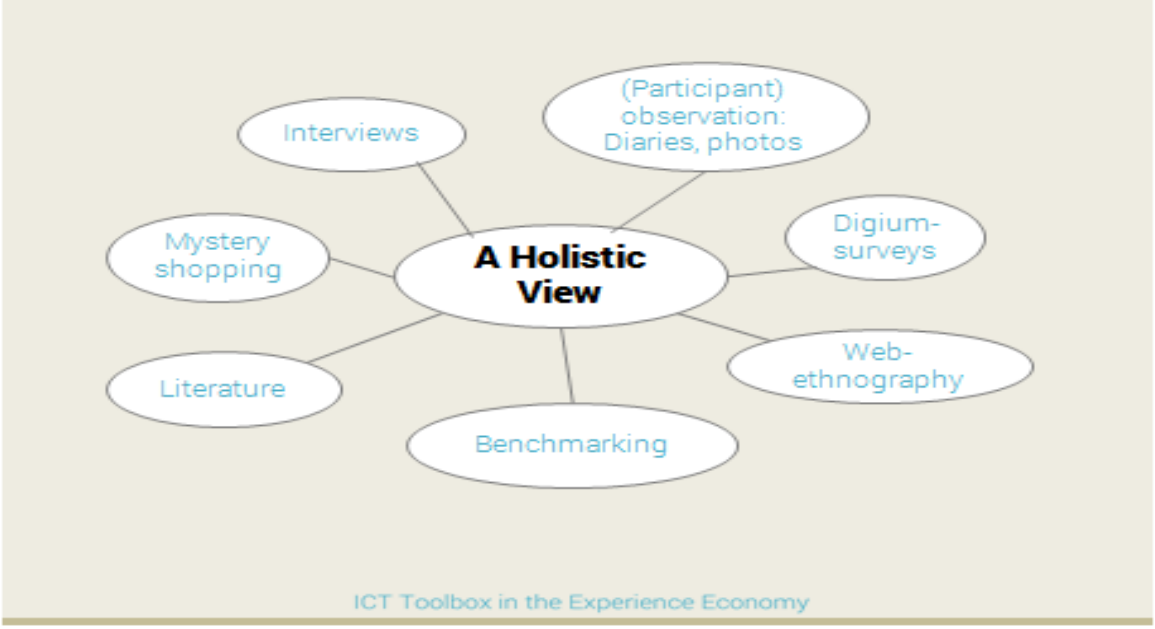
4.2 ETHNOGRAPHIC METHODS

Traveling habits of the two chosen target groups (women and families with children) were studied using different methods and fieldwork techniques. To better understand their travel patterns, it was important to ask questions related to their travel motives, information retrieval processes and the use of e-services during different phases of the journey, to name but a few. Data collection concentrated on the domestic travel processes and patterns and paid special attention to Jyväskylä region as an (e)destination.

The data was collected using mainly ethnographic research methods, such as different kind of interviews and observation techniques. Informants from the target groups were interviewed face to face, on the phone and / or via e-inquiries (Digium survey). The length of the interviews varied from a few minutes to about one hour, depending on the interview technique, place and time. Observation and participant observation methods gave complementary information to the interview and inquiry data and so broadened the big picture. Observations were written down during fieldwork and reported in the form of fieldwork diaries. In addition, some photos and videos were taken.

The data was collected in different places, at different times and there were many people involved collecting the material. Most of the interviews were made by students of JAMK, who were taking courses of project management / research and development studies and even thesis, and as a part of their studies carried out some data collection. Since there were many people involved from different contexts, the interviews and observations turned out diverse, which was challenging and fruitful at the same time.

In addition to the above-mentioned data, e-services, social media behavior and benchmarking were studied using web-ethnography. The purpose of using these multiple research methods was to collect holistic, high-quality material about the customer target groups. This way it was possible to acquire a comprehensive view of the segments and to achieve a better customer insight for further development and service design.



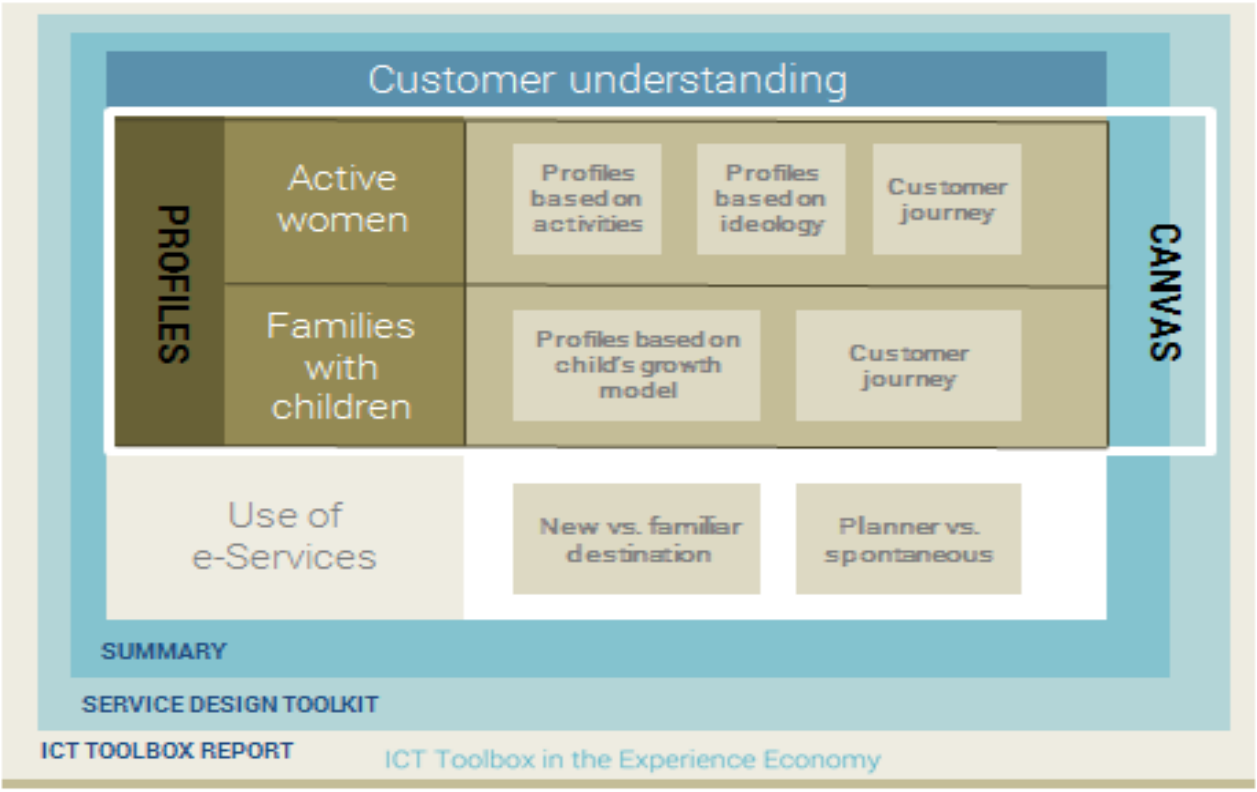
Data Collecting and Customer Insight Activities – Timetable

When	What	Methods	Data	Conducted by
July 2012	Jyväskylän Kesä summer festival. Interviewing and observing active women at the event and getting to know their travel patterns.	Quick interviews, (participant) observation	20 interviews, fieldwork diary, photos	Project staff, JAMK students / Project studies
August 2012	Interviewing active women about their travel patterns, information retrieval processes and use of e-services.	Thematic interviews on the phone	6 qualitative interviews	Project staff, JAMK students / Project studies
October 2012	Active women travelers were interviewed about their travel patterns and asked to design their dream hotel room.	Interviews, drawings, observation	36 interviews and drawings	JAMK students / Research and development studies
October-November 2012	Survey for female travelers about their domestic trips and travel patterns when traveling with other women	Digium-survey	More than 200 respondents, summarized visualized material	JAMK student / author of thesis, Jyväskylä Region Tourist Office
December 2012	Analyzing and visualizing the material about active women	Service design tools, online ethnography, benchmarking	Analyses, ideas, visualized processes, customer profiles on 5 power point slide shows.	Project staff
Spring 2013	Analyzing and visualizing the data about families with children	Service design tools, online ethnography, benchmarking	Analyses, ideas, visualized processes, customer profiles on 8 power point slide shows.	Project staff
June 2013	Fieldwork on the buying process and use of Lasten Löytöretket pass (Voyages of discovery for kids in the Jyväskylä region)	Mystery shopping, participant observation, interviews	Fieldwork diary, photos	Project staff
June 2013	Survey on families' use of e-services on domestic trips	Digium-survey	46 respondents, summarized visualized material	Project staff / Jyväskylä Region Tourist Office

5 RESULTS AND FINDINGS

5.1 OF CUSTOMER INSIGHT STUDIES

As a result of the case studies, comprehensive data about both customer target segments was gained. The data was analyzed, visualized and conclusions and some development ideas were made based on the analysis. All data is in Finnish and has been exploited in the local development work in companies, workshops and tourism industry. However, some of the data is summarized and translated into English. The following picture describes the outcomes of customer insight data available in English:



Some main findings from the data to be underlined:

Basic Facts about Domestic Travel

According to the data, both customer segments make a few domestic trips per year (a couple of longer trips (about one week) and various short trips (day and weekend trips)). People travel more and make longer trips in summer than in winter. The most common and popular means of travel is a car, because it's usually the most economical and practical mode of transport.

Travel Motivations

The most common travel motivations are escape from everyday life, spending time with the travel companions and relaxing. The social aspect of traveling becomes essential on domestic trips, whereas (new) places and environment are seen important when traveling abroad.

Planner and Spontaneous

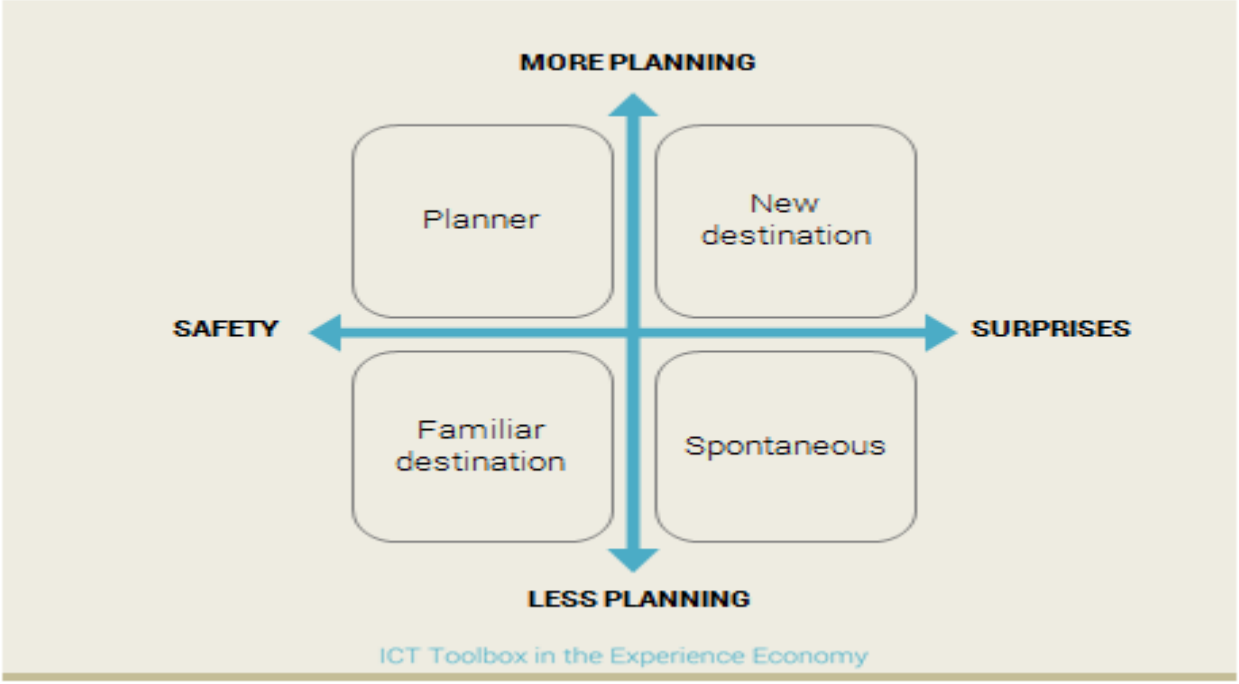
Various differences can be pointed out between planning and spontaneous travelers. Whereas spontaneous travelers seem to live in the moment, planners seem to be thinking about the future (before going on a trip) or remembering the past (after the trip). Their information retrieval processes are quite different.

Planners use quite a lot of time searching for information and making plans for the trip. They also make reservations beforehand. They make plans for budget, timetable and destinations they want to visit. They also read other people's recommendations online. When being on a trip, planners don´t search for much information, only the most exact facts. After the trip they like to look back on their experiences. They can recall many details like names, places and facts concerning on the trip because of the well-made information retrieval beforehand.

Spontaneous travelers don't have time to look for comprehensive information before the trip, because they make fast decisions based on invitations and feelings. They leave for a trip at short notice and that's why their information retrieval remains little before the trip. That's also why they have to find out the necessary information when they're already on their way. At that point they don't have a lot of time for doing this and that's why they prefer information that's easy to find, current and brief. They don't make traveling plans because they think the best trips are spontaneous and that planning would ruin them: plans always change, so why to make plans at the first place? After the trip spontaneous travelers don't remember details as well as planners because the information hasn't been adopted so well.

Information Retrieval

The travel planning process and information retrieval are done nowadays mostly in the Internet. Recommendations, especially from people belonging to the same segment, are highly valued. Photos are essential because they give an image about the destination on one look. Photos are expected to give realistic information about the destination. Information retrieval about new destinations is comprehensive and time-consuming, because the information is searched from many different channels (Google, destination's official pages, social media, articles, WOM etc.). Comprehensive information retrieval is done to prevent disappointments on holiday. Less information retrieval is needed about familiar destinations, because then it's already known what to expect from a destination. Then it's only important to search for current information (opening hours, prices etc.) The following picture demonstrates differences between planning and spontaneous travelers as well as new and familiar destinations.



Female Traveler Profiles

According to the data, female travelers were divided into the following profiles (based on activities and based on ideology):

Female Traveler Profiles Based on Activities

HEDONIST
- Gracious sentimentalist
- Passive onlooker, object of activities
- Loves to be pampered

ACTIVE WOMAN
- Energetic
- Functional
- Active player and participant, player of activities

Experiences

ECO WOMAN
- Close to nature
- Listener of silence
- Manages on limited facilities

CITY WOMAN
- Social
- Good company
- Open-minded
- Curious

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Female Traveler Profiles Based on Ideology

COST-CONSCIOUS
- Tight budget
- Bargain hunter
- Penny-pinching
- OK with mediocrity of quality
- Creative

QUALITY CONSCIOUS
- Demanding
- Well-off
- Elitist
- Generous

RESPONSIBLE
- Aware
- Sensible
- Involved
- Reliable
- Honest/decent

LIBERAL
- Careless
- Open
- Uninhibited
- Boundless
- Relaxed, easy-going

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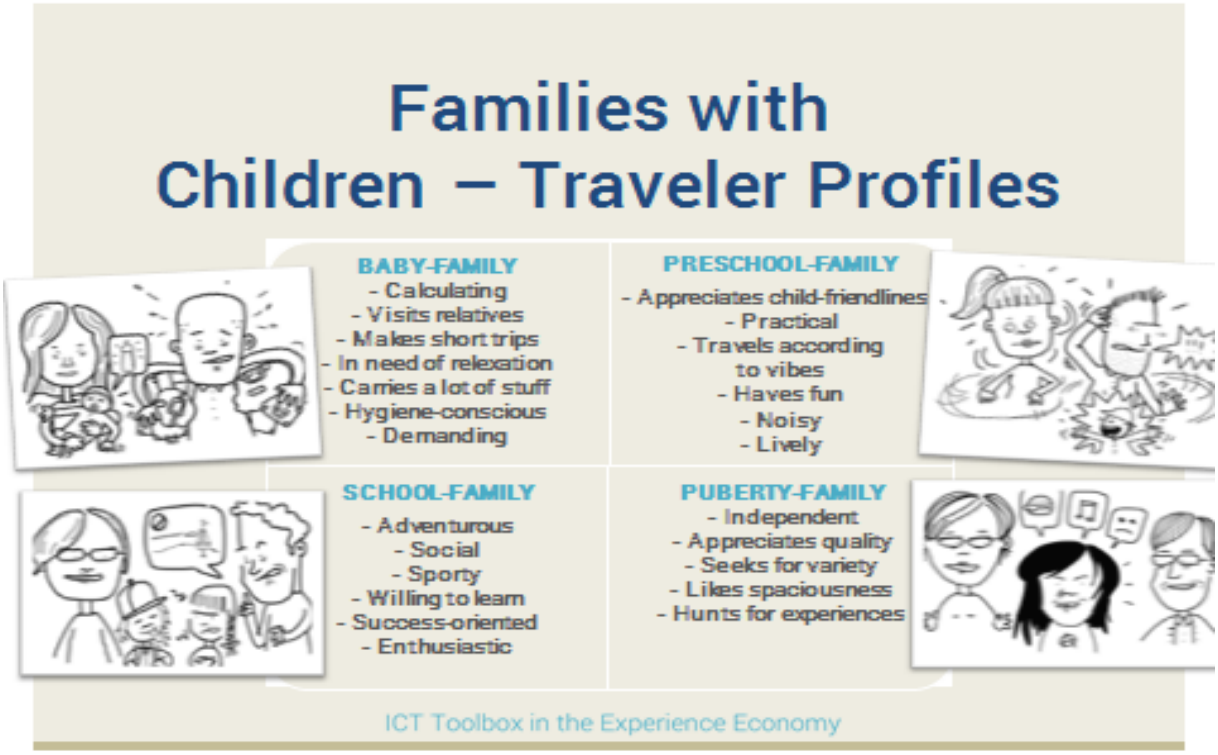
Family Traveler Profiles

Family travelers were divided into four different profiles on the basis of child's growth model. For example families with babies have certainly different kind of needs and wishes than families with teenagers.



E-services

As mentioned, most of the information retrieval takes place online. That's why it's essential to know how and where people search for information. According to the interview data, some generalizations can be made:

- Searching for information often starts at Google. Google is the most popular (and only) search engine used by Finns. Other popular web addresses for information retrieval are destination's own official web pages and city's official tourism pages.

- Information is searched about the destination but also about the surrounding area. Are there some interesting destinations to visit nearby? It's even better to kill two birds with one stone.

- Customers, who like to plan their trips, want to get comprehensive information about the destination and its services on the internet. They want to read descriptions and imagine themselves spending time in the destination. Photos and videos also enrich their imagination process. As important as or even more important than the official company web pages, are other customers' comments and recommendations (in social media), especially from the same segment group. Negative feedback affects more than positive.

- According to the data, two most popular social media channels in Finland are Facebook and YouTube.

- Customers, who use to leave for a trip more spontaneously, don't have as much time as the planners to look for information. That's why they appreciate more exact, brief information and facts concerning the destination, easy readable webpages on smart phone.

Phases of Journey

When it comes to traveling, it's not only about being at the destination. There are more phases that are important to be aware of.

- When planning to go for a trip, many things are done already before hitting the road (dreaming, planning, comparison of options, deciding, booking/buying). These are the phases service providers and tourism professionals should pay attention to when attracting tourists.

- They should also think about how to serve their clients when they're on their way to the destination or on their way home. Being on the way is an important part of the trip, but so far seems to be under-estimated in service processes and experiences.

- Last but not least, customer behavior after the trip is also important to recognize because after the trip customers share experiences with each other.

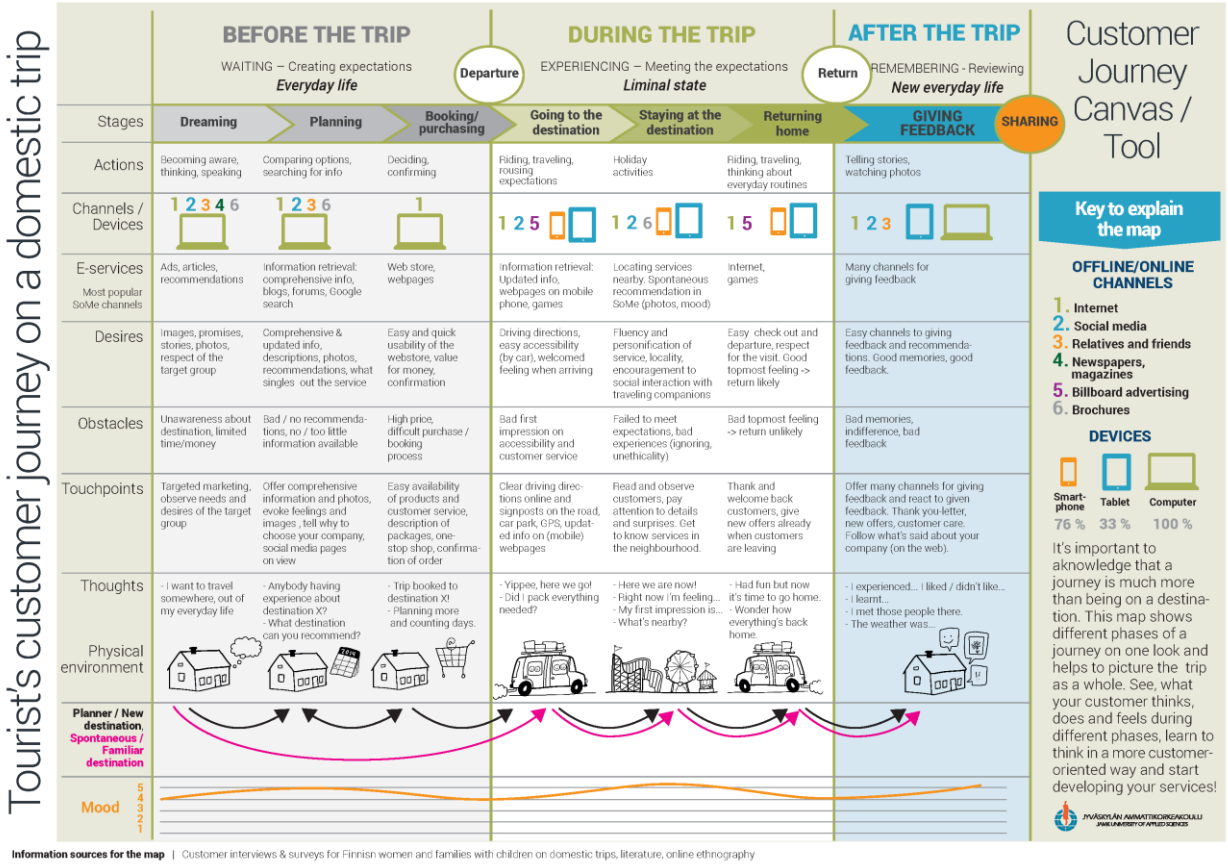
Different phases of journey can be covered by anthropological theories on the ritual process, for example the transition rites by van Gennep (1960) and Turner (1978). In transition rites, ritual subjects go through phases called preliminal (normal profane state of being), liminal (abnormal, anomalous, "betweenness") and post-liminal (the normal profane stage after the transition which is not the same however than in the preliminal stage, because one has changed and grown during the liminal stage). Inspired by van Gennep's, Turner's and Leach's theories, Nelson Graburn wrote that tourism can be understood as a sacred journey in an analogy with transition rites. In tourism industry products are made for consumption and they're promised to take the consumer away from everyday life and that way create a transition into the liminal stage where "everything is possible". It's typical that in the liminal stage one experiences that normal social time stops, normal routines, schedules and roles don't have to be followed and there are no "have to do's". (Selänniemi 1996.) This liminal stage is possibly experienced more strongly abroad because many things (environment, culture, people etc.) are differently there compared to home country and everyday life. The farer away (physically or mentally) one is from home and everyday life; the stronger the liminal stage experienced.

Customer Journey Canvas: Tourist's Customer Journey on a Domestic Trip

Different stages of a journey (on a domestic trip in this case) are visualized in customer journey canvas. The canvas rests on the case studies on two target groups (women and families with children). What are their travel patterns, desires and obstacles in different stages of a trip? What channels are used to search for information and which devices are used at

different stages? What do they expect from e-services and what kind of touchpoints should tourism companies take into consideration when thinking about their customers' service experiences? A lot of information is gathered, simplified, generalized and visualized in the canvas to show a holistic picture of a customer journey in tourism on one look. Of course details vary from customer to customer and from company to company, so the canvas is a general version and everybody can apply it how it best suits them.

The Canvas is freely available for download: www.sdt.fi



Tourist's Customer Journey on a Domestic Trip Canvas

5.2 UTILIZATION OF CUSTOMER UNDERSTANDING IN SERVICES / TOURISM INDUSTRY / COMPANIES

In this project JAMK University of Applied Sciences conducted the data collection and case studies and created the Service Design Toolkit. OSKE Centre of Expertise / Tourism and Experience Management Cluster Programme has used this material so far for example in workshops, product development and marketing. OSKE has also organized trainings, where customer understanding of the case studies has been shared with entrepreneurs.

Development of Internet Marketing in Companies and Co-development of Physical Services and Virtual Experiences in Services

OSKE Centre of expertise / Tourism and Experience Management Cluster Programme started a development programme of internet marketing for tourism companies from Jyväskylä region. During the programme a company-specific development path of internet marketing is created. With the help of it, marketing and selling especially for active women and families with children, is developed and coverage on the web is increased. Through the development programme a company gets a summary about its current situation and a strategy for the development of internet marketing and selling, as well as a realizable plan to achieve the set targets. Measures in accordance with the marketing plan of a company are being piloted over the summer 2013 with 15 participating companies. The material of customer understanding has been exploited in the planning of the programme and marketing measures, as well as in constructing of a common customer understanding in companies.

Development of Services in Companies

OSKE together with Jyväskylä Region Tourist Office has organized two thematic product development groups (active women and families with children). Groups meet once in 1-2 months and there are 15 companies participating in the groups. The customer understanding data has been shared to participating companies and it has been exploited in the development work of service packages for the target segments.

Building of E-services and Tourism Portal of Jyväskylä Region

The meaning of e-services for Jyväskylä region tourism has been emphasized along with the change in the behavior of tourists and consumers. In addition, Jyväskylä Region Tourist Office together with regional network of service providers have noted that current online service jyvaskylanseutu.fi and the tourism organization behind it have to be renewed comprehensively in regard to the network environment and user needs. The aim was that the project material would have been at disposal when defining the portal and at the phase of competitive tendering for technical realizer, focusing on the contentual concept. Customer understanding will be utilized when constructing the portal starting this summer 2013.

The needs of companies and customers of tourism, welfare and commerce meet with service design, IT and professionals of content providers in SoLoMo – Competitive advantage from social, local and mobile services -project. The goal is to generate competitive advantage from social, local and mobile services. There have been more than 50 companies and developers from all over Finland participating in the national project of Tourism and Experience Management Cluster Programme.

In the workshops of the project, service design is introduced exploiting the customer needs in different operating situations. Amongst other things, the customer understanding produced in ICT Toolbox will be shared and used when telling about the best SoLoMo-practices and the

most cost-effective possibilities for implementation. Brand new service concepts are sought through Open Innovation Camp.

6 DISCUSSION

Service design is a good, well tried and valid technique for developing services. This is no exception in tourism industry. On the contrary, service design is especially useful approach and development technique for tourism services, because tourism is such a complex discipline. The complexity should be dealt with and broken down somehow to be able to see all the aspects of it. After that, begins the reconstruction process of those different viewpoints in a new, creative way and that's how it's possible to develop better services.

Nowadays they talk about experience economy and even experience society. In tourism industry, it's all about experiences. There are many companies and operators competing with each other about who offers the best experiences. But the truth is that experiences are always individual and personal. To be able to offer experiences, customers should be known. What they appreciate, fear, think, feel etc. in different phases of a service process (before, during and after the service). This is where customer understanding comes in. By doing well the process of collecting and analyzing customer data, operators can benefit from it by putting it into operation and so offering better and better services for their customers, who will be more satisfied with them and more willing to return.

In this project, customer data was collected from multiple sources and by using multiple methods, with the aim of achieving holistic data from many points of view. Analyzing the data gave comprehensive and saturated information about both customer segments (active women and families with children). The analyzed, worked and visualized data could then be shared on for the use of development purposes. The material has given valuable information for companies and tourism industry to be exploited in the development of tourism services. So far the material of the project has been utilized locally in development groups, workshops and for improving marketing, online services and portals. The development work has only started and that's why its effects can't be measured yet. However, the need for the material has been noted.

Studying Jyväskylä as an e-destination through case studies gave us a possibility to get to know our two target groups and make more generalized assumptions and conclusions about travel patterns, which have been gathered in the customer journey canvas. Also utilization, testing and evaluation of Service Design Toolkit tools and methods during the customer insight data collection process was important because now the updated, tested and further developed version, Service Design Toolkit 2.0 is launched. We hope the toolkit will be helping companies to upgrade their services in all Nordic countries.

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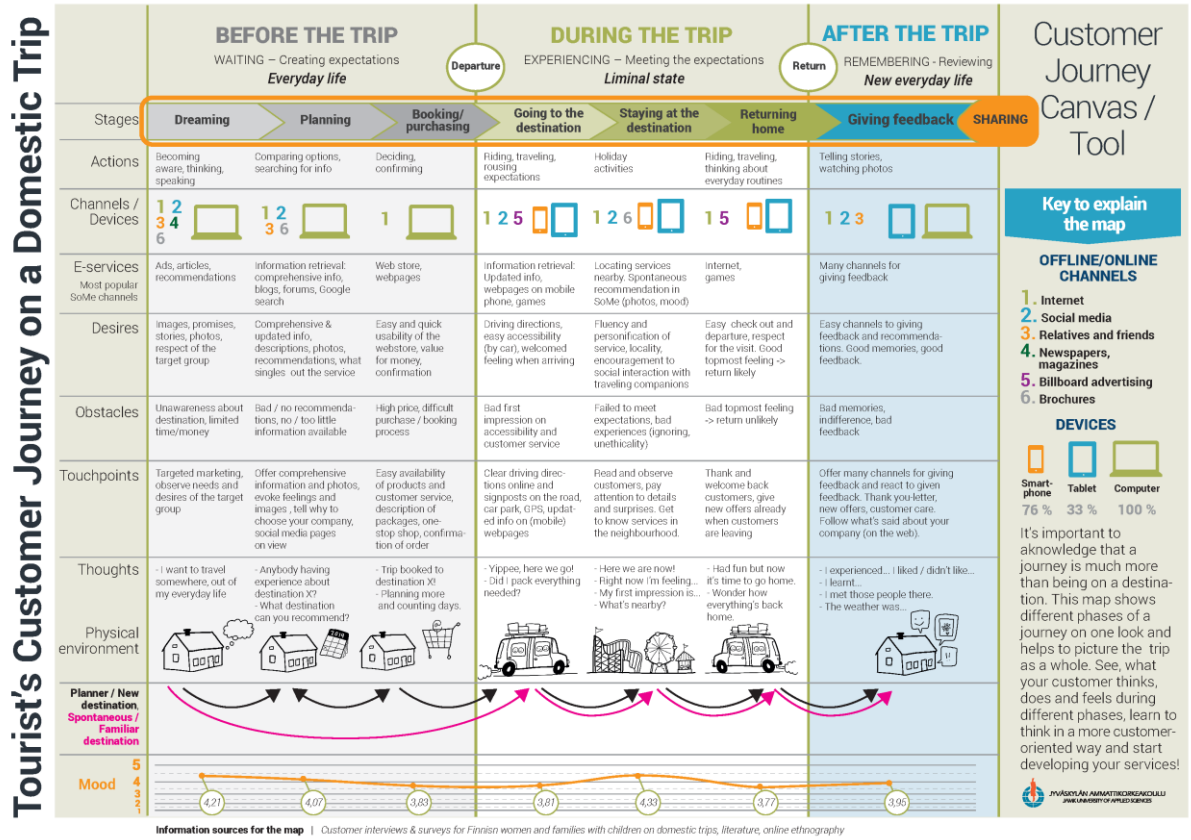
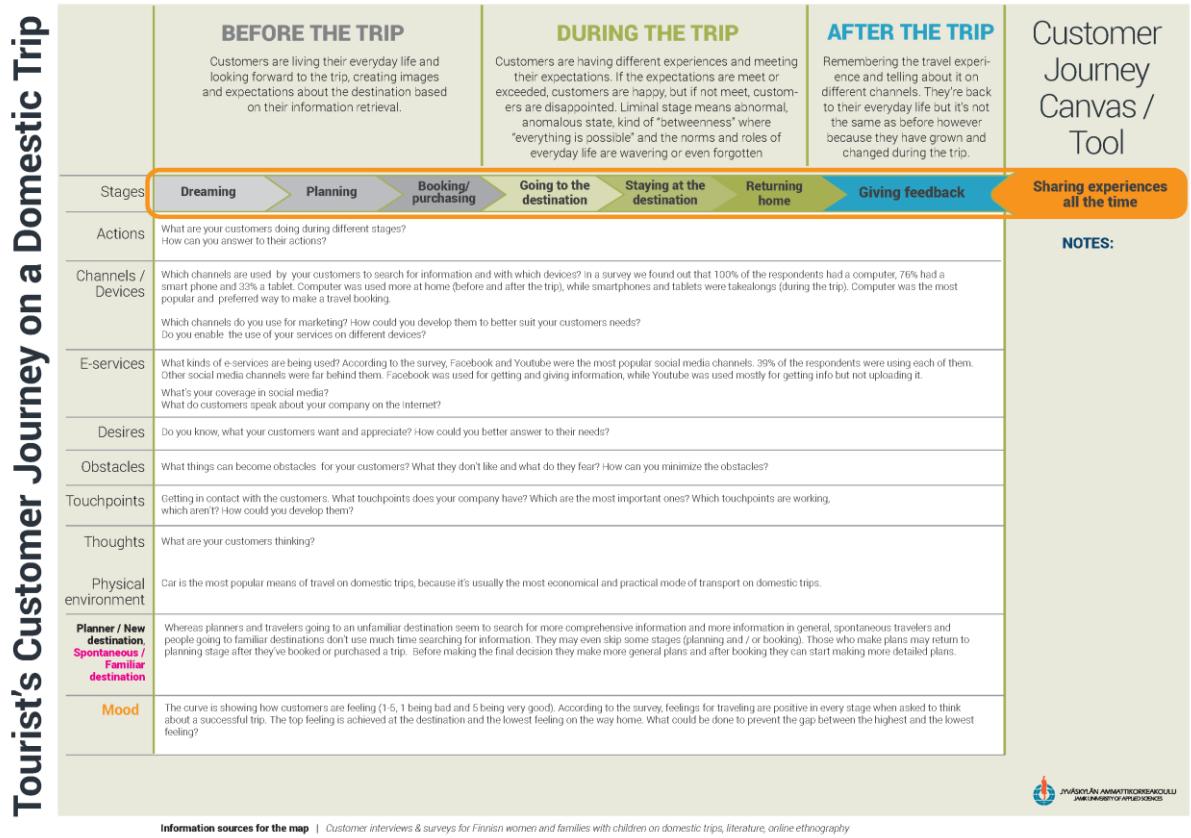
APPENDIX 1 CUSTOMER JOURNEY CANVAS/TOOL





3 WEBSITE ANALYSIS OF TOURISM COMPANIES IN NORTH ICELAND - ICELAND

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INTRODUCTION

Tourism companies in North Iceland face challenges which are typical for companies in rural areas and island tourism (Jóhannesson, Huijbens and Sharpley, 2010; Baldacchino, 2006). With only a couple of months of high season tourism and 75% of tourism coming to Iceland via the national airport in Keflavík on the islands south west corner (Icelandic Tourist Board, 2012), the North Icelandic tourism companies are highly dependent on marketing and promotion to attract potential visitors to the area.

According to the research in this project at least 87% of the travel companies in North Iceland are fitting the category micro, small and medium-sized enterprises (hereinafter referred to as SMEs), employing fewer than 250 and having an annual turnover of less than 50 million EUR (European Commission, 2005). These companies are mostly micro sized with very limited funds and resources for marketing and promotion. The identified route in the tourism literature is cooperation between small companies and organizations to remedy this lack of financial resources (Wilson, Fesenmaier, Fesenmaier and Van Es, 2001; Bramwell and Lane, 2003; Cawley and Gillmor, 2008).

This project's main goal is threefold;

1. to analyse the type of companies which are operating in North Iceland,
2. analyse their knowledge about internet marketing,
3. creating a toolbox which can be used for marketing purposes online for these companies.

With such a toolbox in hand the companies in North Iceland can professionalize their company's online profile and enhance their online marketing and promotion skills. This should ultimately lead to more online activities and visibility and in the end attract more visitors to North Iceland and increase the area's market share.

METHODS AND STRUCTURE OF THE REPORT

The research effort of the project was twofold. The main thrust of the research effort dealt with gathering information about the travel companies in North Iceland and their internet habits. To gather this information an online survey with 48 questions was sent to all registered travel companies in North Iceland. The questions focused on the companies' structure, type, size and resources and their knowledge about the internet, their habits and interests in the web for

marketing purposes. The first half of this report will highlight the key findings of this survey in order to provide an overview of the challenges an ICT toolbox would need to tackle in the Icelandic case, presented in the second half of the report. A survey is inevitably limited to the perspectives of the respondents. Therefore the effort was put in gaining a deeper knowledge of the travel companies' websites from first hand. Therefore before the survey findings this research will be outlined. With the two the challenges to be met when developing an internet toolkit will be summarised and thereafter three toolkits outlined. The toolkits that will be presented are focused both on how the North Iceland tourism companies can professionalize their online presence and use the internet in their marketing. Social Media is a big part of online profiles and the awareness that can be raised with WEB 2.0 technologies will be presented. Finally a marketing and content webpage that will help North Iceland tourism companies market themselves and the area on the internet will be outlined.

THE WEBSITE EVALUATION

Maintaining a good website has become one of the most important marketing tool for companies today as the number of internet users and customers online increases. With a good website companies are able to communicate directly with their potential customers and inform them about their services. In that way they can easily strengthen their relationship with the customer and potentially increase their market share. When it comes to web design, functionality, user interface and ease of navigation are the most important features. According to Buhalis and Law (2008) a successful company website should be based on the interests, participation and wishes of the customers. With this information a company should be able to build a successful website with the purpose of communicating with the customers and servicing them. According to Cunliffe (2000; Buhalis and Law 2008) a poorly built and designed website can reduce the conversion rate of customers by 50% and the customers negative experience on the website can reduce the likelihood of a repeated visit by 40%. It is therefore important that companies keep their websites up to date and make sure the website is effective, relevant and useful for customers (Baloglu and Peckan, 2006). In terms of tourism Chu (2001) points out, that tourists expect that websites are informative, interactive and catchy.

Numerous articles in the tourism literature have pointed out the importance of evaluating the effectiveness and quality of websites (Yang, Cai, Zhou and Zhou, 2005; Park and Gretzel, 2007; Buhalis and Law; 2008, Chiou, Lin and Perng, 2010, 2011; Law, Qi and Buhalis, 2010; Li and Wang, 2011). There are many ways to analyse a website and there have been a number of studies based on various analyses (for a more detailed overview of research within this area see: Law *et al*, 2010). Attempts have been made to find one specific method to analyse the quality and performance of websites though without success, as the purpose and aims of both websites and research are diverse and multifaceted. However one thing is clear, the overall quality of a website can affect the traffic on the site and conversion rate (Liebmann, 2000; Baloglu and Peckan, 2006). Therefore, when talking about effective marketing online, the design, content and aims of those running the site need to be considered in tandem (Legohérel, Fischer-Loko and Guéguen, 2002; Baloglu and Peckan, 2006).

THE WEBSITE EVALUATION OF BALOGLU AND PECKAN

The framework used to gain a deeper knowledge of the travel companies' websites from first hand was based on Baloglu and Peckan (2006) and the concept of website effectiveness. The framework is largely based on counting factors that should be present for making a good

website. The counting method is used to evaluate the performance of a website or to determine how rich of content the website is (Law, Qi and Buhalis 2010: 308). The framework was originally designed for analysing hotel websites in Turkey and premised on the assumption that web design and marketing can have a huge impact on how the quality of products, services and brand images are communicated to potential customers (Perdue, 2001).

There are two main categories in Baloglu's and Peckan's (2006) framework. The first category focuses on the term "Site Design Characteristics" with sub categories like Interactivity, Navigation and Functionality, the second main category focuses on the term "Site Marketing Characteristics".

1. Interactivity, is the flow of information between the company and the customer (Sterne, 1995 Benckendorff and Black, 2000). Interactivity entails the users' ability to interact with the company. This includes presenting such factors as phone numbers, addresses, email addresses and in some cases an online contact form. The concept of interactivity in the design and evaluation of a website is also found in other studies such as Park and Gretzel (2007) and Chiou *et al*. (2010), although more gauging the responsiveness of the customer.

2. Navigation, entails the websites setup and how logical and easy it is to navigate. A website should be logically built so the user easily can move from one page to another within the website without getting lost (Hamill, 1997; Benckendorff and Black, 2000).

3. Functionality, is mainly about evaluating factors which improve the activity on the website, for instance the aesthetic appearance and diversity of the site (Hamill, 1997; Benckendorff and Black, 2000). The main factors in functionality are; the corporate identity and whether it is shown in the text or in a graphical form (e.g. logo), the use of multimedia such as images, sounds and videos. According to Benckendorff and Black (2000) it is also important that the content on the website is updated and that it is somehow visible. Language is also an important factor in this category, whether a website is multilingual or not.

Site Marketing Characteristics: In this part of the analytical framework Baloglu and Peckan (2006) focus on how the various elements of the website are used for marketing purposes. The Site Marketing Characteristics should lead to the customer's purchase of the company's product or services. In this category factors like images and description of products or services, map of location, booking and payment through the website, price information and links to other tourism sites are placed.

THE WEBSITE EVALUATION OF BALOGLU AND PECKAN FROM THE NORTH ICELANDIC PERSPECTIVE

The fact that the website evaluation of Baloglu and Peckan (2006) was created to research the websites of Turkish hotels in 2006, means that the list is not complete with reference to other tourism companies and those operating in North Icelandic and is not current. The original website evaluation of Baloglu and Peckan contains a list of 45 keywords used for evaluating websites. Each keyword is evaluated individually whether it appeared on the websites supplied with a simple yes or no answer. In addition to the existing keywords some new important keywords have been added to the website evaluation so it is up to date for 2013.
The most important of the added keywords are links to social media (i.e. Facebook, Tripadvisor, You Tube etc.) languages on website, whether the website is responsive (adaptable for mobile devices).

Below in table 1 the original website evaluation of Baloglu and Peckan can be viewed on the left meanwhile the edited evaluation of the North Icelandic website analysis can be viewed on the right. The changes that have been made in the evaluation are highlighted with bold.

Table 1: Website analysis framework of Baloglu and Peckan (2006), with added criteria and keywords.

Internet Site Evaluation Form (Baloglu and Peckan, 2006)	Internet Site Evaluation for Northern Iceland
Interactivity	
Phone number	Phone number
Address Listed	Address Listed
E-mail Hyperlink	E-mail Hyperlink
E-mail Listed	E-mail Listed
Calendar (for special programs)	Online Information Request Form
Updated Exchange Rate	Online comment form
Online Survey	**Other: Calendar, survey etc.**
Online comment form	
Guest Book	
Navigation	
Links to Other Sites	Links to Other pages on website
Links to other Revenue Centers (hotel, restaurant, bar, etc.)	Consistent Navigation (is the navigation/menu always visible?)
Consistent Navigation	Links to Other Sites
Ease of Navigation	Consistency in navigating the site
www links (hyperlinks)	Ease of Navigation
Index Page	Index Page
Search Capabilities	Search Capabilities
Functionality	
Corporate Identity	Corporate Identity
Background Color	**Favicon**
Background Image	Video
Video	Banner Advertisement
Audio	Do you have to scroll down on first page?
Banner Advertisement	Download Facilities?
Date Last Updated	What's New?
Banner Advertisement	Multilingual Capabilities
Do you have to scroll down on first page?	**Icelandic**
Download Facilities?	**English**
Ease of Download	**German**
What's New?	**French**
Variety of Information	**Other languages?**
Detailed Information	Flash Animation
Multilingual Capabilities	**Tagline**
Flash Animation	**Responsive design**
Ease of Physical Access to Website	
Site Marketing Characteristics	
Hotel Picture	**Photos of facilities**
Room Picture	**Photos in high quality**
Quality of Pictures	**Description of Product and Services**
Quality of Text	Location Map of the Company
Any Promotion Mentioned	Online Payment
Description of Product and Services	Online Reservation
Location Map of the Hotel	Reservation by E-mail
Online Payment	Links to Tourist Information
Online Reservation	Availability of Price Info
Reservation by E-mail	**Safe payment statement**
Links to Tourist Information	**Links to social media (Facebook)**
Availability of Price Info	**Links to social media (Tripadvisor)**
	Links to social media (Twitter)
	Links to social media (Youtube/Vimoe)
	Links to social media (other)

CHOICE OF COMPANIES IN THE WEBSITE EVALUATION

Before the website evaluation began some criteria were made by the Icelandic Tourism Research Centre and the North Iceland Marketing Office. The companies in the website evaluation had to be in North Iceland (see figure 1), they had to be working partners of the North Iceland Marketing Office and they had to be licenced tour operators from the Icelandic Tourist Board (2012). In the end a total number of 110 companies fit this profile.

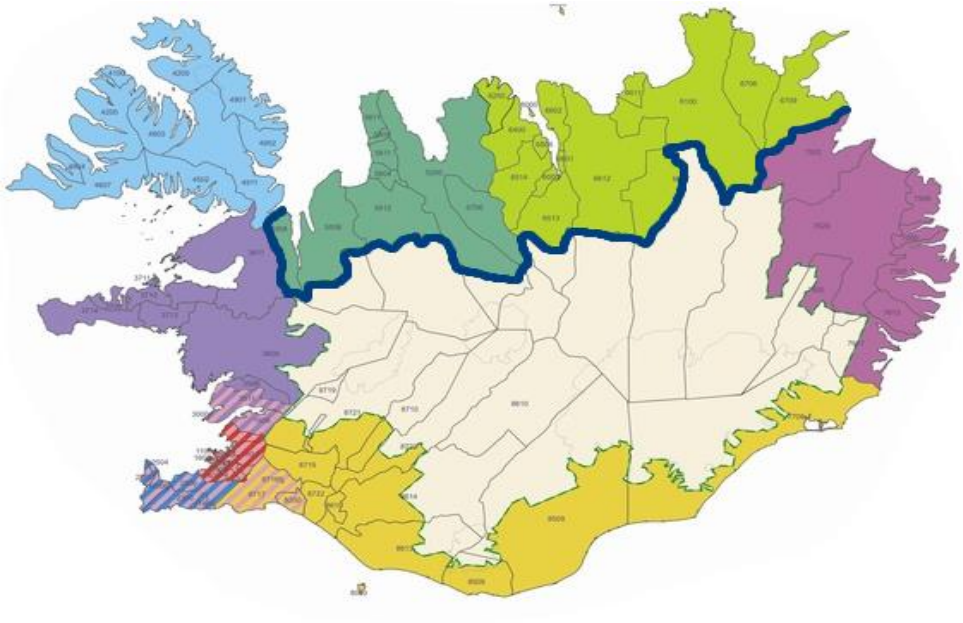

Figure 1: Map of Icelandic municipalities. North Iceland municipalities are bordered.

RESULTS OF THE WEBSITE EVALUATION

The website evaluation results are presented in tables 2 to 5, but the websites were analysed during the period June 15th to July 29th. Table 2 deals with interactivity.

Table 2: Interactivity on North Icelandic tourism company's websites.

Interactivity	**Appears on website (%)**
Telephone Number	97%
Address Listed	90%
E-mail Hyperlink	71%
Online Information Request Form	34%
E- mail Listed	93%
Online Comment Form	9%
Other: Calendar, Survey, etc.	2%

In the category "Interactivity" the overall score among the travel companies is quite high when it comes to the most important keywords in this category. This indicates that the companies are well aware of the importance of the information being available for potential customers. On 97% of the companies' websites the phone number is visible, while the company address is visible on 90% of the websites. A large part of the travel companies has their email address listed on the website or 93% however only in the case of 71% the email address is a hyperlink. With other less important factors like online information request form, online comment form, calendar and survey the companies score slightly lower, and those are also the least important factors in the category.

Table 3: Navigation on North Icelandic tourism company's websites.

Navigation	**Appears on website (%)**
Links to other pages on website	60%
Consistent Navigation	95%
Links to other sites	57%
Consistency in Navigating the site	95%
Ease of Navigation	91%
Index Page	15%
Search Capabilities	28%

In the second category "Navigation" the companies score high when it comes to navigating their websites. Most of them or 91% are very easy to navigate and they are logically built, so the potential customer can easily navigate through the pages on the websites. However there are some important factors that a large part of the companies are missing on their website. One of them is the index page or site map which only 15% of the companies have on their websites. The other important factor is search capabilities, which is only available on 28% of the websites. In the website evaluation it is also clear that a large part of the companies find it important to link to other websites, for example to events or activities in the area, as 57% of the companies are linking o other websites.

Table 4: Functionality on North Icelandic tourism company's websites.

Functionality	**Appears on website (%)**
Corporate Identity	47%
Favicon	52%
Video	14%
Banner Advertisement	12%
Do you have to scroll down on first page?	91%
Download Facilities	11%
What´s new?	7%
Multilingual Capabilities	77%
Icelandic	87%
English	89%
German	27%
French	12%
Other Languages	13%
Flash Animation	0
Tagline	33%
Responsive	20%

As table 4 clarifies 47% of the websites have a visible corporate identity, more companies have the small favicon visible but on 52% of the websites there is a favicon. On 33% of the websites the most important keywords (company name, product/services and location) are visible in the tagline. As can be seen in table 4 video is not a very common tool on the travel companies websites, only 14% use videos on their websites. The largest part of the travel companies in North Iceland have websites in English (89%) even more than those having their website in Icelandic (87%), 77% of the websites are multilingual. The third most common language is German (27%) and on 12% of them information in French are available. Other languages can be found on 13% of the websites.

In Europe 61% access the internet from a mobile device and 73% in North America (Consumer Barometer, 2013a; Consumer Barometer, 2013b). Despite the fact that mobile devices are getting more popular as a tool for browsing only 20% of the websites are responsive or scalable for mobile devices and tablets. Another interesting fact is that not one single website in the site evaluation has flash animation.

Table 5: Site Marketing Characteristics on North Icelandic tourism company's websites.

Site Marketing Characteristics	**Appears on website (%)**
Images of facilities	53%
Description of product and Services	86%
Location Map of the company	46%
Online Payment	17%
Online Reservation	37%
Reservation by e mail	19%
Links to tourist information	25%
Availability of Price Info	71%
Safe Payment Statement	1%
Links to social media (Facebook)	46%
Links to social media (Twitter)	18%
Links to social media (Youtube/Vimeo)	9%
Links to social media (Tripadvisor)	13%
Links to social media (Other)	24%

The results of the website evaluation of site marketing characteristics (table 5) shows that 53% of the companies have photos of their own facilities, meanwhile 42% have images of high quality. In the cases of 46% the location of the companies are shown on a map. On most of the websites or 86% there are descriptions of products or services of the companies. On 71% of the websites it is possible to find information about prices.

With increasing online traffic, online booking is more essential now than ever. However it is noticeable that only 37% of the websites offer booking through an online booking system, only 17% of the websites offer online payment and only 1% has a safe payment statement.

Social media seems to be one of the biggest selling channels for many of the company websites evaluated. Facebook is by far the most popular social media and appears in the cases of 46% of the websites. The second most used social media platform is Twitter which appears on 18% of the websites. The only social media platform angled directly to the travel business, Trip Advisor is only the third most popular social media and appears in 13% cases on the websites. Youtube and Vimeo appears on 9% of the sites. On 24% of the websites other platforms (Google+, Instagram, Pinterest, Foursquare and many more) are used by the companies.

RESULTS FROM ONLINE SURVEY

The website survey of the Icelandic Tourism Research Centre and the North Iceland Marketing Office was sent to travel companies in North Iceland in April 2013, where participants were asked to answer a questionnaire about their company's internet and website habits. The survey was sent to 322 active email accounts, a total of 117 responses were received representing approximately 36%.

RESPONDENTS

Table 6 summaries the respondents of the survey, showing that 60% of the respondents in the website survey were female and 40% male.

Table 6: Survey respondents, demographic profile.

Gender	**Percentage**
Female	60%
Male	40%
Age	
12-20	1%
21-30	6%
31-40	15%
41-50	34%
51-60	30%
61-70	9%
≥ 71	5%
Occupation	
Managers & owners	89%
Other	11%

When it comes to age of the respondents they can be divided into two main groups. Those aged 41 to 50 years old are 34% and the group aged 51-60 represents 30% of the respondents. The third largest group with 15% is the group from 31-40 years old. In case of the age group of the 61-70 years old were 9% of the respondents and 5% were over 71 years old. The youngest generation is almost absent with 1% of the respondents.

In the survey the respondents were asked about their occupation, 89% answered they were owners of the company or managers, only 11% of the respondents were not owners or had a management position.

THE TRAVEL COMPANIES IN NORTH ICELAND

As mentioned previously a large part of the travel companies in North Iceland can be categorized as SMEs with less than ten employees. Table 7 summarises the company characteristics of those responding.

Table 7: Company profile.

Number of employees	**Percentage**[3]
1-2 Employees	47%
3-5 Employees	24%
6-9 Employees	15%
10 or more	13%
Age of company	
< 1 year	5%
1-2 years	5%
3-5 years	24%
6-9 years	15%
> 10	50%

Almost half of the companies only have between 1-2 employees or 47%. Meanwhile the second largest group of companies have 3-5 employees. Companies with 6-9 employees are total 15% and only 13% of the travel companies in North Iceland represented in the survey have more than 10 employees.

The companies have existed for several years. Half the companies have been operating for more than 10 years. At the same time companies operating for 6-9 years, represent only 15%. Among companies that have been operating for 3-6 years there is a small rise, 24% have been operating for minimum three years. Companies started in the past couple of years or the past year equals only 10% or 5% in each group.

When it comes to the companies' tourism operations, figure 2 shows the tourism sector in which the responding firms operate.

[3] Due to rounding total percentage equals 99%

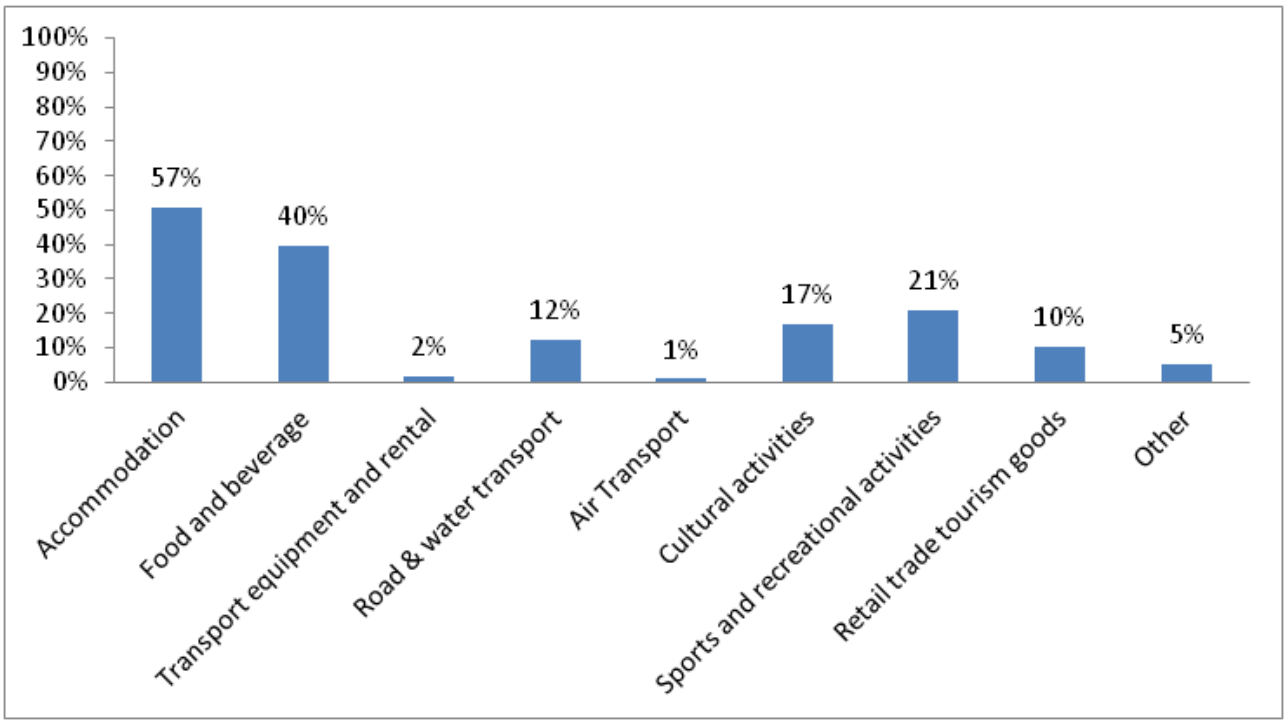

Figure 2: Tourism sector of responding firms.

Figure 2 shows that the dominant tourism services provided by the surveyed companies are accommodation (57%) and food and beverage (40%). Sports and recreational activities is the third largest sector (21%), while cultural activities are the main operations of 17% of the North Iceland tourism companies represented in the survey. Other sectors such as road and water transport (12%) and retail trade tourism goods (10%) are smaller and other sectors of activities and services significantly smaller with 2% of the companies operating in the field of transport equipment rental and 1% in air transport.

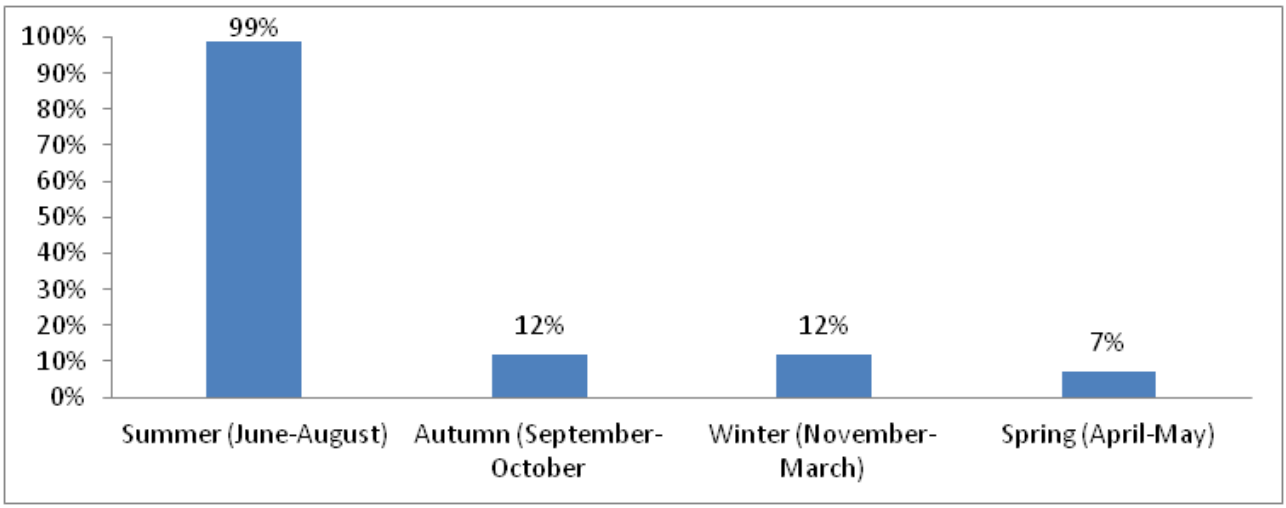

Figure 3: High season of tourism companies in North Iceland.

One of the really big challenges companies in North Iceland face is the fact, that for most of them high season is in the summer time. Even though 79% of the travel companies are open all year, 99% of them claim that the period of June-August is the high season (figure 3). Only 12% count autumn (September and October) and the winter months (November-March) as a high

season periods. The spring season in North Iceland is the absolute low season for travel companies in North Iceland where only 7% counts that period as high season.

Table 8: Website use of tourism firms in North Iceland.

Does your company have a website?	**Percentage**
Yes	90%
No	10%
Price for website[4]	
0 kr.	12%
< 50.000 ISK (312€)	40%
50.001-100.000 (313-624€)	15%
100.001-250.000 (625-1562€)	6%
250.001-500.000 (1563-3124€)	18%
500.001-1000.000 (3125-6247€)	3%
> 1.000.001 (>6248€)	6%
Price per month	
0-5.000 ISK (0-31€)	57%
5.001-10.000 ISK (32-63€)	21%
10.001-20.000 ISK (64-125€)	9%
20.001-30.000 ISK (125-188€)	3%
30.001-50.000 ISK 189-313€)	1%
Don´t know	9%

The website survey shows that the travel companies in North Iceland value the importance of websites, 90% of the companies have established one (table 8). Another interesting factor is to get an overview of the investment in a website and maintaining one. Most of the companies or 40% paid 50.000 ISK or less for their website, 15% spend between 50.001 and 100.000 ISK. An interesting fact is that 18% of the companies represented in the survey spend between 250.000 and 500.000 ISK on their website which make it the second largest group. Only 3% spend between 500.001 and 1000.000 ISK on their website meanwhile 6% spend more than 1.000.001 ISK on their website.

When maintaining the website 82% of the companies spend 5.000 ISK or less a month, while 8% spend between 5.001-10.000 ISK. Few (6%) pay a monthly fee of 20.001-30.000 ISK, while 1% pays between 40.001-50.000 ISK per month. One company spent around 250.000 ISK on

[4] According to currency rate July 29th 2013

a monthly fee maintaining the website which seems rather extravagant and is omitted from table 8.

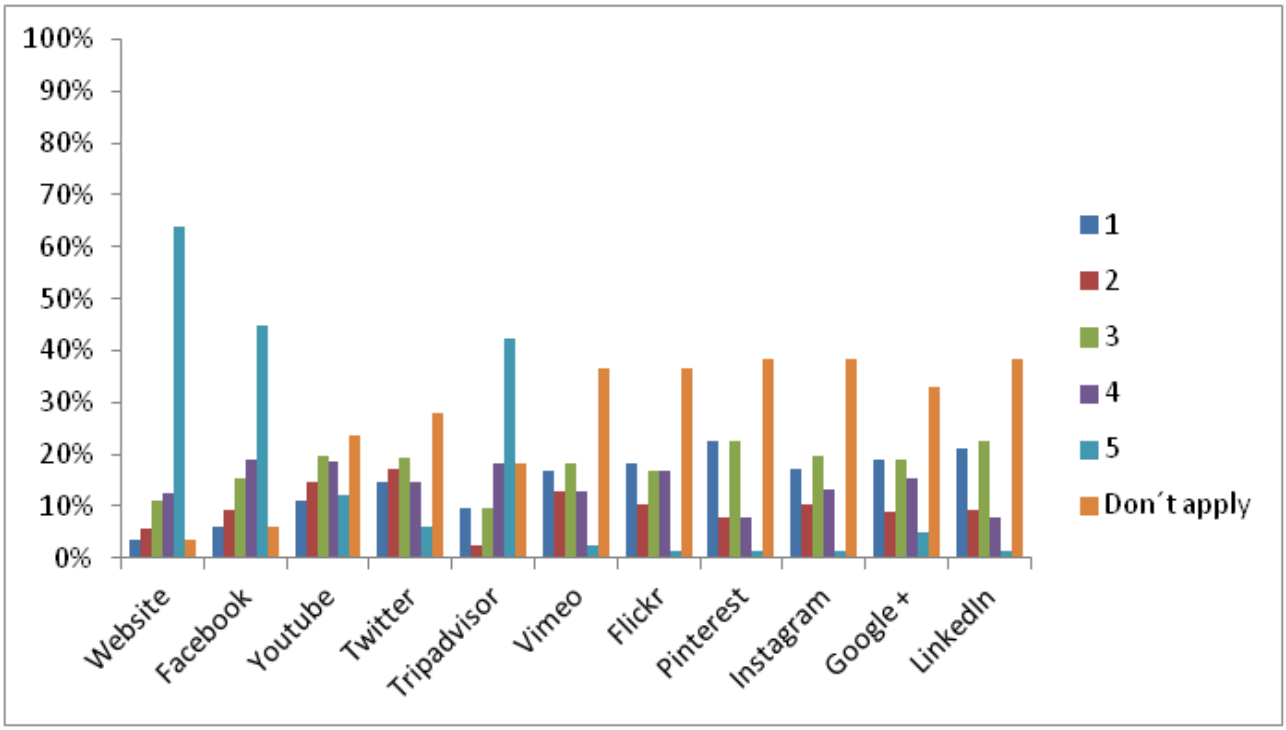

Figure 4: The importance of different online media channels.

Figure 4 shows the findings from the firms' evaluation of the importance of different media channels on the scale of 1-5 (5 being the highest). More than 65% of the respondents recognize their website as a very important channel, about 45% claim that Facebook is very important meanwhile 42% find Tripadvisor very important. The other social media platforms appear to be of considerably less importance to the firms. A surprisingly high number of companies claim that Youtube, Twitter, Vimeo, Flickr, Pinterest, Google+ and LinkedIn do not apply for their type of activities. However when it comes to the actual use of social media platforms Facebook is by far the most popular among the travel companies, 65% of them use Facebook in their marketing.

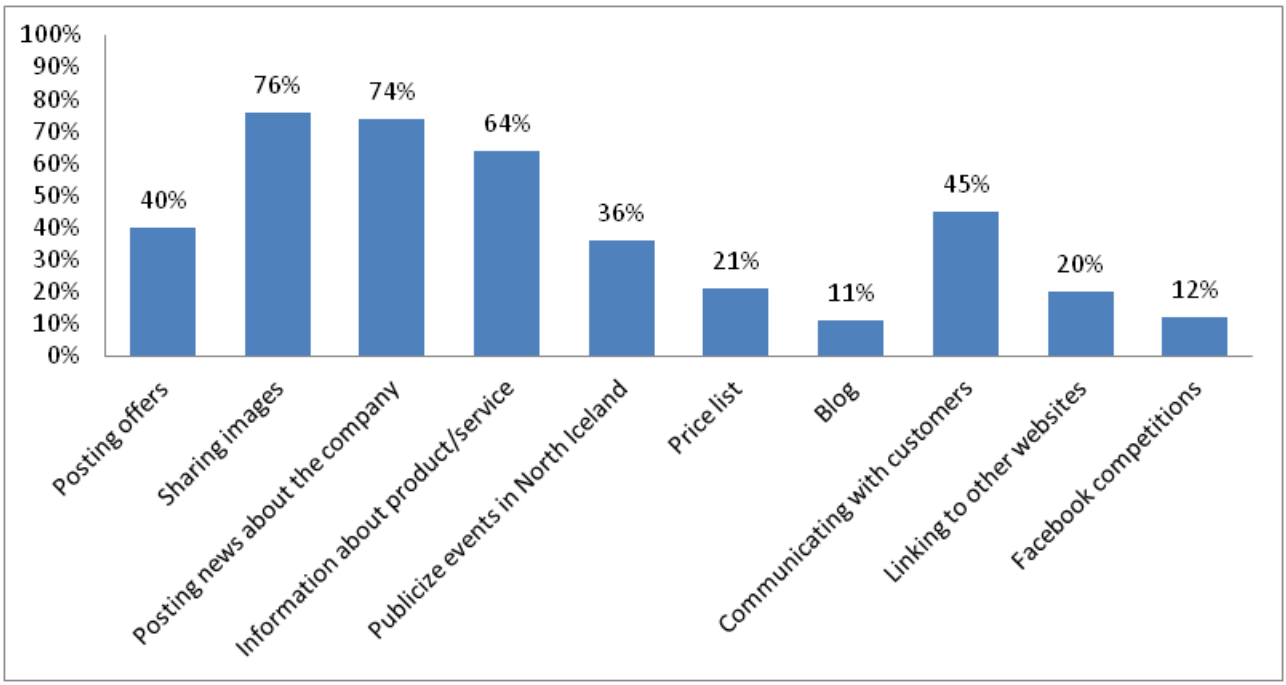

Figure 5: How travel companies in North Iceland use Facebook in their marketing.

As shown in figure 5 sharing images (76%), posting news about the company (74%) and informing friends/followers about procuct and service are the three dominating factors in the travel companies Facebook strategies. Posting offers (40%), publicize events in North Iceland (36%) and communicating with customers is also a part of their strategy on Facebook. Suprisingly few publish their price list on Facebook (21%), and 20% link to other websites. Facebook competitions are not popular among the travel companies (12%) and only 11% use Facebook for publishing their blog.

When it comes to tracking the visitors of the websites, more than fifty percent of the companies do not track their visitors and therefore have no idea where they are coming from and how they find the websites (figure 6).

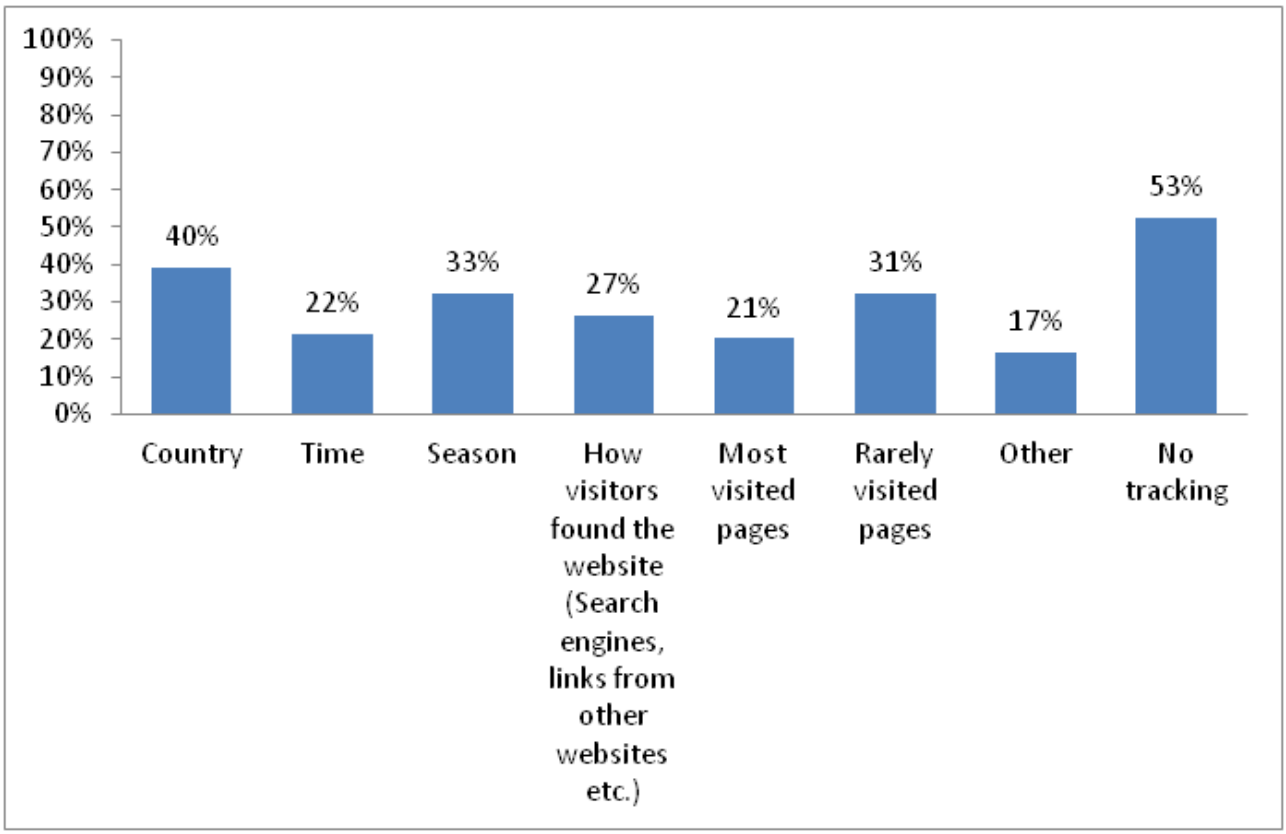

Figure 6: Tracking of visitors to company websites.

Of the companies that do track their visitors 40% track the country they are coming from and 33% track which season they get their traffic in and 21% which pages are most visited. Over a quarter (27%) of the companies track how the visitor found the website (keywords, social media, etc.). Of the companies that do track the traffic of the websites only 34% use the information from the tracking for marketing purposes.

However when it comes to tracking traffic on the Facebook page more than 76% track the visits on Facebook. This could either indicate that the companies focus more on Facebook or the fact that tracking traffic on Facebook is easier for the companies compared to tracking traffic on the websites.

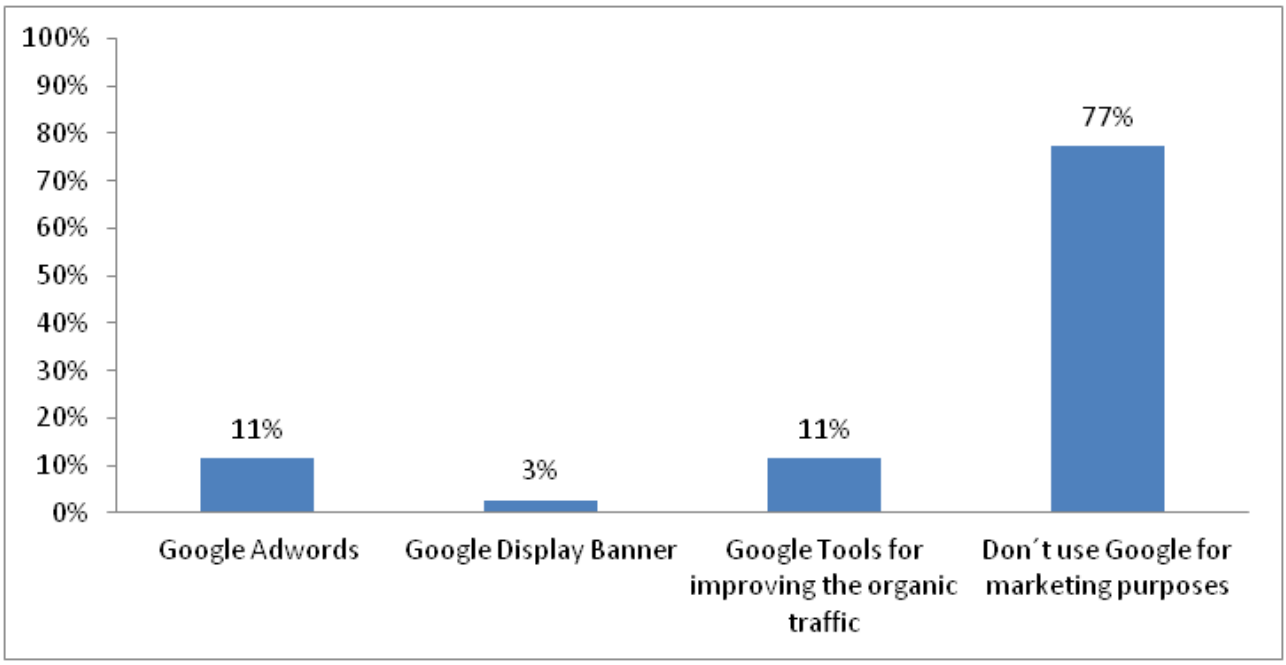

Figure 7: Using Google for marketing.

In today's internet marketing Google is by far the largest search engine and most active in the world with approximately 83% of global market share (Netmarketshare, 2013). However 77% of the companies do not use Google for marketing purposes. Only 11% uses Google Adwords to promote their company on the Google search engine and the same percentage of companies use Google tools for improving the organic traffic to the company website.

CONCLUSION

The fact that the largest part of travel companies in North Iceland can be defined as SMEs results in limited knowledge about the internet as a marketing tool, except for the basic knowledge that a website is important as an identity outwards and as a communicative tool. It can also be concluded that most of the respondents recognizes the importance of social media, however primarily Facebook. Despite the fact that most of the companies have a website and a large part of them uses social media, a very limited number track their visits on the websites as the survey confirms. In addition, very few use Google in their online marketing. Few companies have implemented responsive design on their website indicating either that the companies have limited resources to do that, or they simple don't know how. The whole point with the survey and the website evaluation was to gather information about the companies in North Iceland and gather information about their internet habits, with the question in mind, where do these companies stand? With the information gathered an understanding of the SMEs in this area and their situation has been generated. With this knowledge it is much easier to develop a toolkit that is directed at the companies in North Iceland and in the long run will help the companies and North Iceland to get more visitors in the future. The results indicate that the components of a toolkit need to be:

- Guidelines as to which information a website must contain based on the revised website evaluation of Baloglu and Peckan.
- Aimed at social media. Results from the website survey shows that most travel companies are present on social media, mainly Facebook. Guideline on to how to use social media can help

the travel companies in North Iceland to professionalize their approach and communicating with potential customers.

- Guidelines as to how to analyse incoming traffic on websites and followers/friends on social media. A result of the website survey is that very few companies are gathering information about the visitors on their websites, for instance where they are coming from, what keywords bring them to the website and which pages are the most and least popular etc.
- A hub of information where tourists can gather information about all the events and activities in North Iceland.

In part two the toolkit will be presented and explained thoroughly.

TOOLKIT DEVELOPMENT

Dealing with SMEs with limited expertise of how the internet can be used as a marketing tool we have concluded which tools would help to professionalize the North Iceland tourism companies in general. The research shows that websites, social media, data and content are factors that need to be worked on. Therefore we identify three toolkits and a marketing concept that would benefit the SMEs in North Iceland. These are; Website Toolkit, Social Media Toolkit, Internet marketing Data Toolkit and the Timeline.

The research shows that 47% of the North Iceland tourism companies only have 1-2 employees and 24% have 3-5 employees. Only 34% of the 47% that use marketing data from their internet media put it to actual use in marketing. This tells us that our tools need to be very basic and easy to use. This led us to the marketing concept part and forming the timeline in addition to the three toolkits.

WEBSITE TOOLKIT

Most of the North Iceland tourism companies have a website. However the way in which the companies use their websites and what content is being showcased offers scope for improvement. In terms of use, some basic online services, such as request forms, online payment statements, responsive design and more are not available on the websites that have been tested. In terms of content some key elements such as description and photos of the products being sold are missing. Our solution is a guide to what the costumer might want to know after visiting a website.

HOW TO USE THE TOOLKIT

The website toolkit is a four page checkbox list, reflecting the four categories of the website analysis; Interactivity, Navigation, Functionality and Site Marketing Characteristics. The manager along with a second person should go through the list, a box at a time and check what is on their website and what is not. Once surveyed the list offers a chance to check if the item queried needs to be improved. Once completed the company should thus have an overview of what needs to be worked on the company's website. Some boxes are more technical than others. We suggest using a search engine to better understand what is being asked about. When all items on the list have been updated the website design should have improved and the website become more professional.

Table 9: Website toolkit query list.

Page 1/4 Interactivity						
Website Toolkit	**Yes:**	**No:**	**Does not apply:**	**Should Be:**	**If Ok:**	**If needs work:**
Phone Number Listed (Is your phone number listed on your website)				Yes		
Address Listed (Is your address listed on your website)				Yes		
E-mail Hyperlink (Is your email hyperlinked on your website, this means that your email can be clicked on and then the visitors email program will open)				Yes		
Online Information Request Form (Can people send anonymous requests on your website)				Yes		
E-mail Listed (Is your email in general listed on your website)				Yes		
Online Comment Form (Can people give feedback on your website)				Yes		
				Total:		

Page 2/4 Navigation						
Website Toolkit	**Yes:**	**No:**	**Does not apply:**	**Should Be:**	**If Ok:**	**If needs work:**
Links to Other Pages on Website (This can shorten the time for customers to see different things that are relevant on your website)				Yes		
Consistent Navigation (is the navigation/menu always visible?)				Yes		
Links to Other Sites (Are there links to other websites that could help your costumers in selecting you)				Yes		

Ease of Navigation (Is it always easy to travel around your website)				Yes		
Index Page (A front page with easy navigation to other pages on your website, also should include the basic information)				Yes		
Search Capabilities (Is it possible to search within your website)				Yes		
				Total:		

Page 3/4 Functionality						
Website Toolkit	**Yes:**	**No:**	**Does not apply:**	**Should Be:**	**If Ok:**	**If needs work:**
Favicon (The icon that is shown on the left side of the address bar)				Yes		
Video (Do you have a video that shows your product)				Yes		
Download Facilities (Is there a place on your website that abeles users to download content that they would need, could be a logo or an itinerary)				Yes		
What's New? (Can people see what new products you are offering)				Yes		
Responsive Design (Is your website smart device ready, you can try this by visiting your website by phone or on a tablet)				Yes		
English (Is your website in English)				Yes		
Flash Animation (Flash Animation does not show on all devices, this can be a problem)				No		
				Total:		

Page 4/4 Site Marketing Characteristics						
Website Toolkit	**Yes:**	**No:**	**Does not apply:**	**Should Be:**	**If Ok:**	**If needs work:**
Photos of Facilities (Photos that show what you are selling)				Yes		
Image Quality (Do your images seem out of focus)				Yes		

Description of Product and Services (describe what you are selling)				Yes		
Location Map of the Company (Map that shows where you are located)				Yes		
Online Payment (A way to pay for services online, this makes the selling part more easy)				Yes		
Tagline (If you look at the header of your browser you should see a description. This is a part of search engine optimization)				Yes		
Online Reservation (Is it possible to order online)				Yes		
Reservation by E-mail (Can people send an email to buy your product)				Yes		
Links to Tourist Information (Are there links to more information about tourism in your area)				Yes		
Availability of Price Info (Are prices shown on your website)				Yes		
Safe Payment Statement (If you have an online payment option this will help people trust you)				Yes		
Links to Your Social Media (If you have social media here you should advertise it)				Yes		
				Total:		

THE ACCOMPLISHMENT

Some things listed can be sorted out quite easily, e.g. photos, text, links and more. Things like a tagline, favicon, responsive design and online payment will require a more professional input to fix or add on. This tool is to improve your customers' experience on your website in terms of information provision and services and should improve online selling capabilities.

SOCIAL MEDIA TOOLKIT

Most companies have social media presence. The research identified a lack of knowledge of what social media is and how it can be used as a tool to help businesses. The key to Web 2.0 and social media is to socialize. Acting on social media can be difficult if normally companies have only answers to questions but don't ask them. Companies can be involved on social media on different scales but what voice should be out there presenting a company and prompting responsiveness from customers. To help improve company use of social media we present a tool that based on two categories; "Public Profile Integration" and "Social Media Strategy".

HOW TO USE THE TOOLKIT

In the social media toolkit key questions are posed to company managers along with guiding people in understanding social media. The questions are to be read through once before looking at the company's online profile to see what can and has been done. The two categories then allow for a better understanding of what is being presented and could be presented.

- **1/2 Public Profile Integration**

Social Media is everything where it's possible to socialize. Examples of social media are; Facebook, Twitter, Pinterest, Google+, Trip Advisor and more. Some websites even offer social plugins where everyone can communicate on a platform with the company. To make a strong image on social media have a plan and stick to it. Similar to the website toolkit, some key questions need to be asked to check if everything is in order.

1. Use the same name for all media, company name or brand name.
2. Use the same picture/logo for all your profiles.
3. Remember to link to your website, list your phone number and email.
4. Most of the media offer a unique user URL, use the same one on all media.
5. Remember to direct people to your social media from your website

- **2/2 Social Media Strategy**

The efficient way to use social media is to bring a voice to the public. This can be hard at times but a strategy will simplify having a constant appearance. Take these notes in consideration to organize your social media strategy.

- Have a strategy, it can be guidelines of how to react and how not to react on social media.
- On social media you are on a personal level and that means a robot or a standard message is not the answer to save time.
- To safe time schedule time to each and every one in the company that can answer questions and share stories.
- Use the right staff to answer the right questions. If someone asks a hotel on social media if rooms are available the booking manager should answer not the marketing manager.
- Socialize with things that are relevant to your business. Don't just talk about yourself, use other things like events in the area of your business. This way you can integrate your brand with another brand.

THE ACCOMPLISHMENT

When this tool has been used a strategy and a better online profile of a company should emerge. This helps you focus on what you want social media to bring back to your business. With a strategy time spent on social media will be more efficient and should take less hours. While a profile is set to be a profile of a company it will contribute to brand awareness. While having the correct information and a well spread profile over social media and every online media that

can be accessed the traffic should be directed to the places benefitting the company. Next step is to measure the effect of the website and social media toolkits with an analytics program.

INTERNET MARKETING DATA TOOLKIT

The amount of marketing data on the internet is gargantuan. This requires a stern focus on the data that is already in place from media that is owned by companies. Today many programs are offered on the internet to help people analyse data, Google Analytics is the most popular program to date. We will use websites (Google Analytics, 2013) and Facebook as examples in this toolkit.

HOW TO USE THE TOOLKIT

To get analytics software in place professional help is recommended in setting up an account. Once an account is in place this tool guides what information can be analysed, in order to see who is watching the company and how those viewing found it. In this tool we only talk about free software that is commonly used for website analysis and integrated analytics on social media (Facebook Insights, 2013). Like the website toolkit this one is based on two checklists, focusing on audience, traffic and analytics for websites and social media. Again a company manager assisted by a second person should go through the list a box at a time. Once done the list offers a chance to check if goals set have been met. Once completed the company should thus have an overview of what need to be worked on setting goals to be reached in a period of 3 months. This tool requires some computer experience.

WEBSITE ANALYTICS, GOOGLE ANALYTICS TOOLKIT

Using a website analytics program helps companies understand what is being done well and what can be done better. The first thing to understand is the number of visitors to a website.

Table 10: Website analytics query list.

Page 1/3 Audience Overview					
Website Analytics, Google Analytics toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
People Visits (This means how many single IP addresses have visited your site. This is the same as unique visits)					
Visits (how many visits in total you have had, this means that the same person can visit your website more than once and the total will show up in this criteria)					
Page Views (Shows how many pages your visitors looked through in total)					
Average Visit Duration (Shows you how long each visitor stays on your page. Depending on what kind of website you run this number can tell you a lot about if people are reading and exploring your content. If this number is getting lower you might want to renew your content)					
Language, Country and City (This tells you where your audience is exploring you from, what language they speak and even in what city people are looking at you. This can tell you a lot about what language your visitors speak and even where you might want to infiltrate a new market)					
				Total:	

Page 2/3 Audience and Traffic Sources					
Website Analytics, Google Analytics toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
All Traffic (This tells you where the traffic is coming from. This can help you determine if you are showing up on search engines and if there are connecting sites that are helping you raise your traffic)					
Keywords (This tells you what words where used to look for your site on search engines. This can help you see what people are interested in. The big thing about keywords is that more and more companies have begun to hide their customers' cookies so software like Google Analytics can't pick them up. The time is now to use this data while it's still there)					
				Total:	

Page 3/3 Content					
Website Analytics, Google Analytics toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
Here you can see what pages are generating most visits. This tells you what is important to others on your website. The goal can be to increase visits on pages that do not rank high.					
You can see what search terms are generating traffic and to what content they lead. Here your goal can be to have more words generating traffic					
In-Page Analytics shows you how many clicks every site gets. It is also possible to see your website in colours indicating what areas are being clicked on the most. A goal can be to make more parts of your website popular					
				Total:	

SOCIAL MEDIA ANALYTICS, FACEBOOK INSIGHTS TOOLKIT

What the insights on social media do is a lot like web analytics, however these better gauge the people that are using the media. For example basic demographic variables like gender and age can be a good addition for marketing managers, which basic website analytics would not provide.

Table 11: Social media analytics query list.

Page 1/3 Page overview					
Social Media Analytics, Facebook Insights toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
Page Likes (This tells you how many people like your page and your success in gaining likes)					
Post Reach (This shows the number of impressions that your page has made during a period of time that is usually measured in weeks. This offers a chance to see if you have been sharing things that have impact on people. This is probably the best way to see how your social media strategy is working)					
Engagement (This shows how others are socializing with you, measured in likes, comments, shares and general post clicks. These are things that help you get organic growth and is valuable for you market wise)					
Recent Posts (Here you can compare how many people each post has reached and see what the engagement is. Facebook also has a special layout for post analytics with gives you a better understanding and more data to look at)					
				Total:	

Page 2/3 Page insights					
Social Media Analytics, Facebook Insights toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
This page tells you how your page has been evolving. To know if your likes are rising in a general manner and if you have a peak somewhere. This helps you find out what is working and what is not working.					
Ads are a factor that most companies use, here you can see how your ads are helping you in your social marketing campaign. To know if ads are making your page more visible and if they are generating likes, that is an indicator that you have gained something from your investment.					
				Total:	

Page 3/3 People insights					
Social Media Analytics, Facebook Insights toolkit	**Status now:**	**Goal:**	**Status after 3 months:**	**Difference:**	**Goal reached:**
Age and Gender (This is when it gets interesting. To know what gender and age people are that watch your every move on social media are basic facts that marketers have used for a long time)					
See if your target group is following you, if you see that most of your followers are much older or younger that gives you a clue. Maybe you are offering something that is interesting to people that you did not know could be in your target group. This also tells you that you need to change something to get to the people that you were going to set your strategy towards.					
Geography and Language (This tells what language people speak and where they are from. This is always good knowledge to know what to say and to whom on social media. If most of your followers are from France you could quote some French people in your posts to raise more attention)					
				Total:	

THE ACCOMPLISHMENT

When this tool has been used there are several things that have been learned. The first thing is to understand who visits a company website. This is imperative to the success of all marketing. The next step would be seeing if the people that are visit a website are from the company's identified target markets. If this is not the case then a new market could be identified. The second thing is to see how effective a company's online presence is. This is the idea behind the traffic goals. A measurable marketing plan should connect to online media so it can be measured.

THE TIMELINE

Lastly to be presented is a marketing concept that we feel can offer scope for collaborative marketing, which we have identified as key to the success of rural tourism companies. The Timeline was developed by people in the tourism industry and the North Iceland Marketing Office as a base for marketing information and services. The timeline answers common questions about North Iceland such as when the northern lights are visible and the midnight sun and show the diversity of events in the area. Furthermore the Timeline answers seasonal questions, such as when the Northern Lights are visible, when the Midnight Sun appears, when there is snow and what the average temperature is which are common questions from travellers.

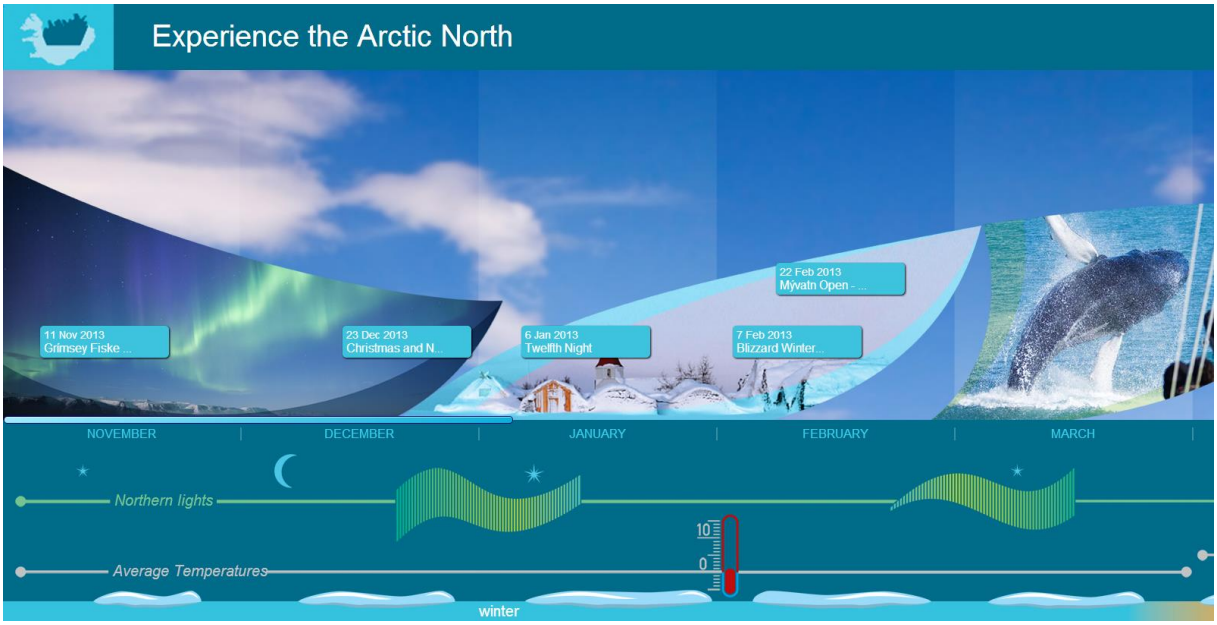

Figure 8: The Timeline showing northern lights, snow, events and the average temperatures.

MAKING OF THE TIMELINE

The Timeline is a smart device website accessible on smart phones, tablets and computers. To keep the Timeline updated the North Iceland Marketing Office is the owners and is responsible for it. It is hosted on the website www.northiceland.is. Programming of the Timeline was a six month period with beta testing. Open source software was used so the programming would be easily accessible for others to use.

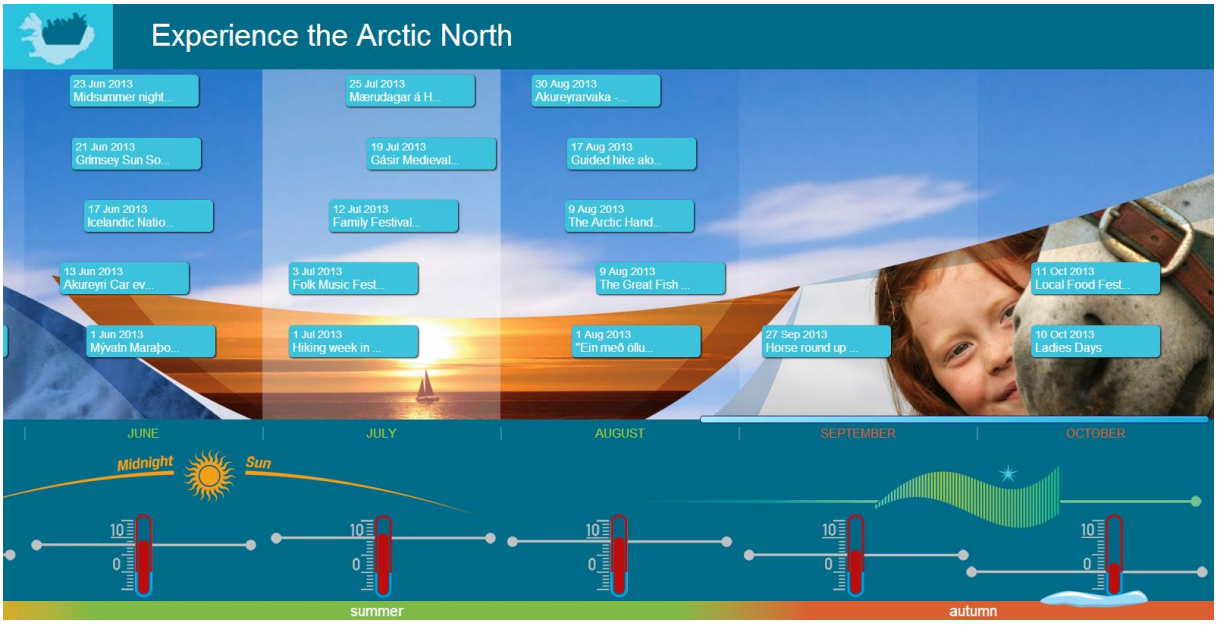

Figure 9: The Timeline showing midnight sun, average temperatures, northern lights and events and snow.

The criteria for events to get on the Timeline are that the events need to be able to welcome foreign visitors. Every event needs to have information in English, a website in English and programs that foreign tourists can be involved in. The events need to be seasonal and biannual to decrease the work needed to update the Timeline.

Figure 10: The Timeline, how events show when clicked on.

HOW DID IT WORK?

To measure if the Timeline is successful in increasing traffic it's possible to see both the traffic that leads to the website and from it through links to every event's official site. When the Timeline was launched the tourism industry responded with feedback and information. Today the other marketing offices in Iceland have decided to use the Timeline as part of their marketing tools. To get a better idea on the next steps in development we interviewed marketing managers and general managers from tourism about the Timeline, how it works, how it works in marketing for their companies, how the Timeline could be developed in the future and then about events on the internet in general. We asked about how they think events are shown online today and if their companies use events in promotion. We asked them if they think that events attract more tourists to North Iceland and if there is any other solution in showcasing events then the Timeline. The conclusions from the interviews were:

- Everyone was glad that a good solution was found for answering some of the more common questions.
- Some suggestions were made whether the Timeline could be used as a selling or booking website.
- The social media part was critiqued and the fact is that the socialized themes of the Timeline are still incomplete and need to be worked on. The Timeline needs to have built in tools so the events and the website are shareable on social media. Companies and visitors need to have a quick simple solution to share the content.
- A way to show services around events no more than one click away was mentioned and could benefit both the viewers of the Timeline and the companies which service events.
- The factors that show how nature is showcasing itself made a good impression to most of the people whom were interviewed.
- How the events generally open when clicked needs improvement. Adding a video function so the selling of the travel destination of the event could be more efficient.

FURTHER DEVELOPMENT

The conclusion for further development is to make the Timeline a well-known template for showcasing what areas can offer. In the near future technical adjustments will be made and the content on the Timeline renewed. Later a version 2.0 using Web 2.0 will be launched entailing the integration of a list of service providers. This requires a solid strategy that would need to be developed with stakeholders in tourism. The challenge is to secure financing for this development, but once secure the strategy can be formed and sales paths discussed. To determine how users would like the timeline to be developed a small research effort would be required. Overall the Timeline is a tool for bringing marketing content to SMEs and helps them sell their services. People in tourism agree that the Timeline is a success and the future holds both an update the Timeline 2.0 if funds will be available. The format is accessible for use and can benefit areas that have both events on a regular basis and natural aspects to showcase.

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4 UGC AND BUSINESS INTELLIGENCE - SWEDEN

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CONTENT

INTRODUCTION

UGC and business intelligence is ETOURs contribution to the project ICT Toolbox in the Experience Economy. We have developed a prototype for using user generated content (UGC) as a source of knowledge in a destination management information system. The prototype is fully functional and currently available in the destination management information system prototypically developed in another project for the Swedish destination of Åre. By including UGC in an all encompassing destination management information system it is possible for destination stakeholders to deduce important knowledge about customer perceptions and behavior for the purpose of adapting management and marketing strategies and activities.

KEEP YOUR EAR TO THE GROUND

The attractiveness of tourism destinations depends on how communication and information needs of tourism stakeholders can be satisfied through information and communication technology (ICT)-based infrastructures, so that sustainable knowledge sources can emerge (Buhalis, 2006). Although huge amounts of customer-based data are widespread in tourism destinations (e.g. web-servers store tourists' website navigation, data bases save transaction and survey data, respectively), these valuable knowledge sources typically remain unused (Pyo, 2005). However, managerial competences and organizational learning could be significantly enhanced by applying methods of *business intelligence* (Shaw & Williams 2009). The latter method offers highly reliable, up-to-date and strategically relevant information, such as tourists' travel motives and service expectations, information needs, channel use and related conversion rates, occupancy trends/forecasts, quality of service experience and value-added per guest segment, etc. (Min, Min, and Emam. 2002; Pyo, Uysal, and Chang, 2002).

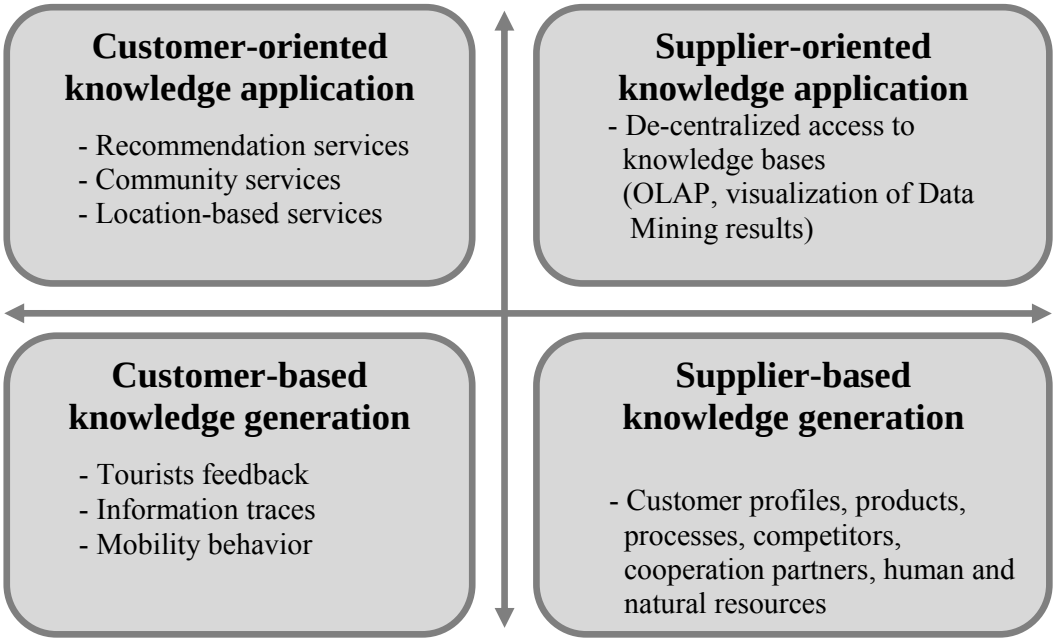


Figure 1: The Knowledge Destination Framework (Höpken, Fuchs, Lexhagen, 2011)

A major customer-based knowledge area covers knowledge needs related to "Customer Perception & Experience", thereby focusing on perceptive and experiential dimensions related to the customers' (i.e. guests') destination stay. First of all, this knowledge area covers the customers' perceived destination brand awareness, typically measured as guest visibility,

customers' knowledge about the destination, perceived destination attractiveness (pull-motivation), as well as functional and emotional value areas (Fuchs, Chekalina, Lexhagen. 2012). Similarly, the experiential dimensions value for money and customer satisfaction as well as loyalty (i.e. propensity to recommend and to revisit) fall into this knowledge area. This type of customer feedback is typically collected through (online) surveys and text analyses (i.e. sentiment detection) of social media content, such as eRatings, eReviews & blogs (Waldhor & Rind 2008; Pan, McLaurin, and Crotts, 2007; Lau, Lee, and Ho, 2005).

With the advent of web 2.0 applications the web has become an invaluable source of information for businesses and organizations (Cheng and Tseng, 2011). Developments in Internet technologies have led to the creation of user-generated content (UGC). UGC has received much attention in recent years due to its word-of-mouth (WOM) attributes, which offer new opportunities for marketing (Schmallegger & Carson, 2009). UGC has been described as a new source of marketing information, thus extending the classical mix of information sources available (Töpfer, Silbermann, & William, 2008).

Furthermore, since an important goal for destination management organizations (DMOs') is to build and monitor the destination brand (Chekalina, Fuchs & Lexhagen, 2011) it is

important to acknowledge that unofficial information sources, such as those available on the Internet, are gaining in popularity implying the need to manage a destinations online reputation from a holistic perspective (Inversini and Cantoni, 2011).

Importantly, knowledge from UGC should be integrated with other business data in order to be most relevant for decision-making. Yet, among the benefits of using UGC as a source of marketing intelligence is that this type of information is perceived as unsolicited.

PURPOSE AND GOAL OF THE SWEDISH CASE STUDY

The Swedish case study is implemented in the tourist destination of Åre, Sweden. It is a leading Scandinavian ski destination and part of the international network of Leading Mountain Resorts of the World. It is situated in the north of Sweden one hour away from the Åre/Östersund airport. The destination management organization (DMO), Åre Destination AB, is owned by companies in Åre and also consists of more than 200 member companies. The vision for the destination of Åre is to become an all-year around destination with an attractive brand and product not just for the winter season. Some of the business goals include a significant increase in international visitors, increased marketing effectiveness reaching niche segments such as families, wealthy and healthy older people as well as couples without kids. In order to reach these business goals access to knowledge is vital. Hence, there is a great need for a digital destination information system that can give all stakeholders access to knowledge on customer perceptions, behavior and needs as well as customers use of destination resources both on an individual stakeholder level (many small business do not have their own databases) and most importantly at the level of the entire destination including all businesses.

Apart from the DMO also Skistar (SkiStar is a public company, whose core business is alpine skiing. Skistar operates five destinations in Sweden and Norway, one of which is Åre. The company runs the ski-slopes, ski-school, and ski rental and also offers tourist accommodation) and three of the main hotel operators (Holiday Club, Tott Hotel, Copper Hill Mountain Lodge) are partners in a project at ETOUR named "Engineering the Knowledge Destination through Customer-based Competence Development". The goal of that project has been to design and implement a knowledge-based destination management information system (DMIS) that is

using the various types of customer-based data to support enhanced decision making. In doing so, information is extracted from heterogeneous data sources belonging to various stakeholders in the tourism destination of Åre, Sweden. Knowledge is retrieved by analyzing customer-based data through methods of business intelligence.

A small part (i.e. the Swedish case study of the ICT Toolbox in the Experience Economy) of the above mentioned project has focused on creating knowledge based on UGC sources and applying this in the destination management information system (DMIS). All knowledge requirements and indicators for the DMIS have been discussed and prioritized with industry partners. Specifically collection and analysis UGC was given a priority of 4.5 on a scale between 1-5 and is hence perceived as an important source of knowledge about the customer. The Swedish case study focusing on creating and applying UGC-based knowledge in the DMIS consists of two deliverables; 1) mapping of UGC sources, 2) Design and implementation methods for sentiment analysis of UGC. The purpose of the case study is to indentify sources of UGC for a destination as well as categorize their content. Furthermore, the purpose is to prototypically design, develop, and implement a business intelligence method for extracting customer based knowledge from these sources. An important goal is also to share the results of the case study through both scientific publications as well as through various presentations at conferences and seminars, and through public media channels.

MAPPING OF UGC

The first deliverable include an exploratory case study approach in two steps relating to the Swedish ski destination of Åre. First, interviews with the manager and assistants at the marketing department in the largest individual stakeholder (SkiStar Åre) were conducted in order to understand current use of social media marketing and monitoring as well as to identify some destination specific UGC sources. Next, using a variety of social media monitoring and analysis tools text-based data were collected from blogs, Twitter, travel and tourism review sites, special interest sites and a company Facebook group during the pre-winter and throughout the winter season. Due to very large volumes for some of the search words, Twitter content was only collected for a limited period of one month towards the end of the winter season.

LITERATURE

Web 2.0 technologies empower Internet users to powerfully participate and collaborate with other users to produce, consume and diffuse information and knowledge. The new types of tourism information consumers that emerge from this development in technology implies that also tourism destinations and businesses can benefit if they involve tourists in new service development as well as collect and use customer knowledge generated from web 2.0 sources. However, there are challenges involved such as how to identify, collect and evaluate the value of UGC as well as how to analyze and interpret for increased quality, precision and efficiency of decision-making? (Sigala, Christou, Gretzel, 2012).

WHAT ARE PEOPLE SAYING?

UGC can be used by tourism destinations and stakeholders to better understand the needs and wants of tourists as well as to detect strengths and weaknesses related to existing product offers. (Pan, MacLaurin and Crotts, 2007; Zhang, Ye, Law, Li, 2010). Thus, this type of information, which is considered rich and readily available, can be used to enhance satisfaction through

product improvement, solve problems perceived by visitors, evaluate competitive strategies (Litvin, Goldsmith, and Pan, 2008) and act as performance indicators (Pantelidis, 2010). For example, blog entries can be seen as a manifestation of a tourism experience (Pan, MacLaurin and Crotts, 2007) and popular topics, image dimensions as well as attribute based loyalty of a destination can reliably be deduced from such information (Schmallegger and Carson, 2009; Wenger, 2008; Dickinger, Költringer and Körbitz, 2011; Zhang and Mao, 2012; Banyai, 2012).

However, taking the example of using travel blogs as a source of market information it has been suggested that this is a difficult task for DMOs' due to large variations in content, language barriers and cultural nuances in sentiment (Puhringer and Taylor 2008). Research results have pointed out that a fully automated system for social media monitoring would be of immediate value to firms in assessing the effect of their marketing strategies (Sigala et al, 2012). Also, buying a ready-made technological solution for monitoring social media content is often not enough as a single method to use as input for branding strategies. In order to get results relevant for decision-making output from monitoring tools should be integrated with other business data, such as web statistics and guest satisfaction data (Birch and Karma, 2011).

Deciding what information to collect, from what source, and with which methods is, however, a risk-laden choice for any business (Adams, Richey, Harvey and Hilton, 2010). Destinations can use simple web searches to get a glimpse of how their brand is being portrayed but the risk is that a large volume of search results will deter them from efforts to deduce valuable knowledge from this.

Research suggest that increasing usage of social media and hence volumes of UGC, allow for businesses to cost-effectively monitor and use this as a source of marketing intelligence (Decker and Trusov, 2010; Chang, 2011; Pan, MacLaurin and Crotts, 2007). Dickinger, Költringer, and Körbitz (2011) proposed a method to automatically collect thousands of posts from international travel communities and travel guides. They found that the results of text mining blogs reach similar results as traditional image studies but the benefits are that analyzing UGC is less intrusive.

Content analysis of ratings and reviews has helped to identify the most common concerns of hotel and restaurant guests (Pantelidis, 2010; Stringam and Gerdes, 2010; Zhang and Mao, 2012). Research on social media content has also revealed issues of quality and relevance (Chen and Tseng, 2011) and that quality varies greatly from excellent to abuse and spam (Agichtein, Castillo, and Donato, 2008). In a recent tourism study which integrated consumer ratings with comment narratives Bender Stringam and Gerdes (2010) found that cleanliness, location, food and beverage, breakfast, staff and management, and attentive service were the most frequently occurring words in reviews on Expedia.com, with differing effects on ratings. Furthermore, a study on hotel image by Zhang and Mao (2012) found some important tangible and intangible attributes of hotels such as availability of restaurant, food value, convenient parking, friendly and efficient staff, hotel décor ad aesthetics, which are important to for loyalty. Similarly, an analysis of online restaurant comments found that major preferences were about food, service, ambience, price, menu, and décor (Pantelidis, 2010). Moreover, in a content analysis of blog entries for a specific country on travelblog.org, Wenger (2008) found that content was quite homogenous with only limited variety in information about local destinations, attractions, transport, accommodation and other services. Research has also found that blog entries were largely dominated by plain non-evaluative descriptions of various trip aspects. Overall in blogs, review sites, and special interest forums, content about general feelings and atmosphere as well as information featuring new types of product use is limited. Interestingly the type of information found in forums and review sites was different to that found in blogs (Schmallegger and Carson, 2009). Through collecting data from travel blogs destinations can find much

needed generalizable data about their markets, but also increase understanding of the uniqueness of the travel experiences (Banyai, 2012; Banyai and Havitz, 2013). These results indicate the need for analyzing multiple UGC sources.

Quality is also a major concern. Chen and Tseng (2011) used an information quality framework with 9 dimensions to develop a method for evaluating the quality of information in product reviews on review sites. Based on the characteristics of the data collected in this case study two of these dimensions were finally used. The first dimension was the level of significance for decision making, *Substantial* (in Chen and Tseng appropriate amount of information). The focus here is to which extent the information given in each UGC is sufficient enough, i.e. containing a great deal of product information in order for readers to judge the value of a product. Content in this case is concise, to the point, complete and covering various aspects of a product. The second dimension was *Relevancy* which is defined as the extent to which it facilitates decision-making by such quality attributes as mentioning of product names together with opinion based statements. As a complement to the development of a framework for analyzing quality of UGC, two additional dimensions were derived from the literature. Accordingly, the third dimension, *Specific*, concerns the level of specification including a clear mentioning of product, product features and brands (Pühringer and Taylor, 2008), or mentioning of details regardless of product names (Pan et al., 2007). Finally, according to Carson and Schmallegger (2009) the fourth dimension, *Evaluative*, includes expressions of values (e.g. satisfaction) as well as emotional expressions.

Furthermore, sentiment detection in UGC is a hot topic. In the quality of information framework this is represented by the dimension of objectivity in product reviews (Chen and Tseng , 2011). Reviews are mostly written as a means to spread the word about great experiences and interestingly enough,motivation to write reviews has been shown not to be about venting negative feelings (Yoo and Gretzel, 2008). Pantelidis (2010) found that favourable comments were far more common than negative reviews. For instance, in the tourism domain, food quality, service quality, and atmosphere trigger customers to spread positive eWOM (electronic word-of-mouth) (Jeong and Jang, 2010; Sidali et al., 2011).

METHODOLOGY

Social media monitoring tools are a relatively new and innovative development. These types of tools facilitate monitoring and to various extents the analysis of content in social media across multiple channels (Sigala et al, 2012). In this study data were collected using the monitoring tools Google Alerts, SM2 Alterian (Laine and Frühwirth, 2010) and Tweettronics for capturing Twitter content [note that Tweettronics cannot handle the Swedish letter Å and hence not the destination name Åre as a keyword], as well as the web scraping software Mozenda (for most of the review sites and the special interest site). The reason for using Mozenda was that it greatly reduces the effort of collecting data compared to tedious manual procedures, as for example, in Carson and Schmallegger (2009). Sources with a relatively small number of relevant postings, the Facebook group and Snöbloggen (found on Skistar's website), were manually collected using copy-pasting into an Excel file. Google Alerts were manually scanned by clicking all links included in the alerts and copy-pasting the relevant content into an Excel file. The data was then manually prepared for further analysis by removing text that was not written in a language understood by the researchers (mainly Swedish and English) as well as content where Åre or Skistar was only mentioned in passing. Also, UGC which related to the results of sports competitions, politics, videos without comments, local community events, general news about Åre/Skistar with no user comments (e.g. the financial value of the Skistar share on the stock

market and ski lift incidents) and online advertisement, was removed. All data files where then stored in Excel format for later import into the qualitative analysis software package Nvivo 9.

RESULTS

YES, IT MAKES SENSE!

The results show how much UGC is quantitatively and qualitatively available about an exemplary tourism destination for a specific time period from multiple sources. From these empirical insights, the character and value of these data from an innovation and knowledge management perspective can be evaluated. More concretely, more than 2 000 posts and 12 364 tweets with UGC were collected for the destination Åre, Sweden, during the pre-winter and winter season. At present, it is difficult to know how this volume compares to other destinations, whether it is large or small, since no such comparative measures are currently available. However, it seems reasonable to say that there is not an avalanche of information from UGC available for a rather predominant winter destination such as Åre. Volume is an important competitiveness indicator in that positive reviews and large volumes of UGC attract the interest of online consumers and hence effect popularity (Zhang, Ye, Law and Li, 2010), However, a total of 12 744 references have been coded in terms of type of content, quality and sentiment (out of which 5408 references refer to tweets) indicating that a substantial amount of information can be extracted from the data collected.

Although results show that content is varied in some sources, in general different types of UGC occur in different types of sources demonstrating the need for collecting UGC from multiple sources. The type of content mostly available is about the main attraction at the destination (in this case skiing) followed by facilities, restaurants, staff, quality and weather. Additionally, the quality of UGC can mostly be characterized as evaluative, almost equally trivial versus relevant, specific, substantive, and associated with a positive sentiment. Interestingly enough, although our results on character of sentiment confirm the results of Pantelidis (2010), one source shows a majority of negative sentiment in UGC. This could be used as a source for identifying problem areas and should not be seen as potentially damaging company or destination image. Regarding the quality of information the results also confirms the results from Agichtein, Castillo and Donato (2008) in that UGC differ greatly in quality. Therefore, it is a challenge for tourism destinations and stakeholders to monitor and analyze UGC in order to find the relevant content and sources of UGC for generating useful knowledge.

DESIGN AND IMPLEMENTATION METHODS FOR SENTIMENT ANALYSIS OF UGC

DESIGN AND IMPLEMENTATION METHODS FOR A DMIS

In order to more easily understand the design and implementation methods for sentiment analysis of UGC, this section outlines the general architecture and functionality of the DMIS in which the sentiment analysis of UGC is a part.

TECHNOLOGICAL ARCHITECTURE

The general knowledge destination architecture distinguishes between a knowledge generation layer, extracting and collecting relevant information and generating new

knowledge by data analyses and data mining, and a knowledge application layer, using the collected and generated knowledge as input to decision support. 2 shows the overall architecture of the knowledge destination on an abstract, logical level, showing:

- the knowledge generation layer comprises
  - structured and unstructured data sources,
  - the process of extracting relevant data, transforming source data into a homogeneus data format appropriate for further analyses and storing/loading the data into the data warehouse (ETL),
  - the data warehouse (DW) as central and homogeneus destination data store and
  - data mining and knowledge generation (DM);
- the knowledge application layer comprises a destination management information system cockpit (DMIS cockpit) as central application to offer data visualization and data mining functionalities to destination stakeholders and managers.

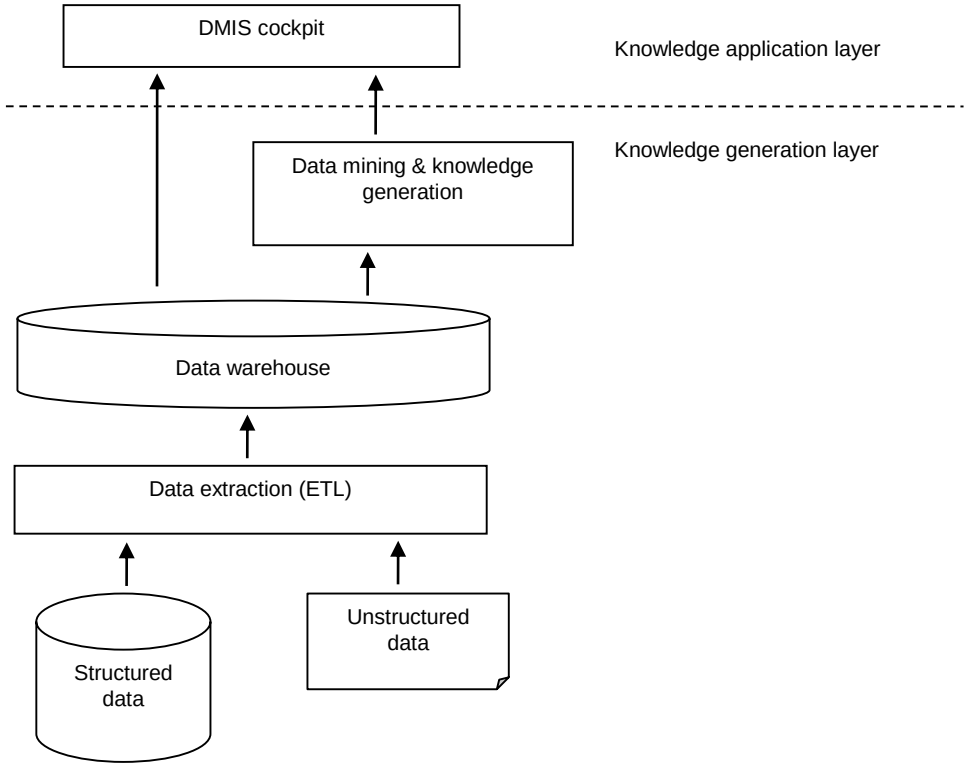


Figure 2. Knowledge destination framework architecture (Höpken et al, 2011)

DATA EXTRACTION AND DATA MODEL

Data extraction or Extraction, Transformation and Loading (ETL) represents the process of extracting relevant data from different data sources (e.g. operational data bases, CRM

systems, webserver logfiles, etc.), transforming data into a data format appropriate for visualization or data mining activities and loading or storing data into a data base (typically a data warehouse).

The first step of the ETL process is extracting relevant data from different data sources. The most important requirement for the step of data extraction is the support of all possible data sources and data formats, which can be differentiated into structured and unstructured data.

Specifically for social media the process of extracting unstructured data is relevant to explain. Unstructured data can take different formats, like semi-structured html documents, free text or even images. Methods for extracting data from unstructured data sources vary quite widely:

Html documents: Structured data is extracted from html documents by the means of wrappers, either created manually based on static patterns or (semi) automatically generated by means of (un-)supervised learning methods (Liu, 2008). Additionally, free text can be extracted as blob and stored in the data warehouse as text field.

Free text: Free text is stored in the data warehouse as is and/or transformed into structured data by means of statistical language models (e.g. word vectors or TF/IDF weights) or linguistic approaches (Manning & Schütz, 2001).

The Åre case study deals with unstructured data in form of user feedback, either provided as part of customer surveys (free text answers) or as product reviews or comments on social media platforms. Product reviews or comments are extracted from social media platforms by the means of simple wrappers, based on static patterns, as the amount of relevant social media platforms is limited and their structure relatively fixed. Free text, either stemming from customer surveys or extracted from social media platforms, is stored in the data warehouse as text blob, in order to be shown to the user as is. Additionally, where meaningful, free text is transformed into word vectors and processed by text mining techniques in order to classify reviews into topics or sentiments.

The second step of the ETL process is transforming data into an appropriate format for visualization/OLAP and data mining. Data transformation includes the following steps (Kimball, 1997); data cleaning, data migration, record linkage, slowly changing dimensions, data enrichment, and data aggregation.

The complete process of data transformation takes place in a staging area, clearly separated from the data warehouse itself. After finalization of the data transformation process, the resulting data are loaded from the staging area into the data warehouse.

Compared to an operational database, a data warehouse is theme-oriented, time-oriented (periodic updates), integrated (aggregating data from different data sources) and invariant (new data are appended but existing data never changed) (Inmon, 2002). Two approaches for modeling a data warehouse exist: multi-dimensional models (Kimball, 1997) and normalized models (Inmon, 2002). Dimensional modeling (DM) is a logical/conceptual design technique as a modeling framework. A dimensional model is composed of a fact table and several dimension tables. Facts are mostly numeric and additive (i.e. can be accumulated along a dimension). Snowflake schemas are an extension of DM, normalizing dimension tables.

In contrast, Inmon proposes a fully normalized data model as the basis for a data warehouse (Inmon, 2002). Normalized data models offer a better support of data integration. De-normalized tables contain redundancies and inconsistencies that are hard to identify.

Comparing the two approaches above and their evolution during the last decade, an emergence of a unified approach can be observed, consisting of a two layer data model with a normalized data structure to foster data integration and a multi-dimensional data structure, generated from the normalized data structure, to enable data analyses and OLAP. The concept of a central data store (Inmon, 2002) is especially important for companies aiming to overcome inconsistencies across different operational databases (even enabling to correct data in operational databases in a second step). In the case of a tourism destination, the focus is not on reducing inconsistencies but enabling powerful analyses on data of the whole destination. Destination stakeholders are relatively independent from each other (compared to departments of one company). Thus, a central data store as the basis for eliminating inconsistencies between source systems is not of high priority or even unrealistic. Due to the independence of stakeholders at the destination, overlapping parts across different systems are relatively rare (e.g. typically no overlapping products) and thus inconsistencies across different systems unlikely.

Consequently, for a tourism destination a central data store seems dispensable and the direct integration of source data into a homogeneous multi-dimensional structure is appropriate. In specific situations, where core data are repeated in each row of a dimension table (e.g. country demographics within the customer dimension), outrigger dimensions can be used to reduce redundancies and simplify data integration.

(Multi-)dimensional modeling (DM) is a modeling paradigm for data warehouses and not an optimization technique to increase analysis performance only. A dimensional model is a representation of quantitative enterprise information (measures) from different qualitative perspectives (dimensions). DM follows the idea of deriving data warehouse structures from enterprise goals and business processes. Star or snowflake schemas are relational representations on the logical level of a multi-dimensional model on the conceptual level (Böhnlein, Plaha, & Ulbrich-vom Ende, 2002).

DATA MINING AND KNOWLEDGE GENERATION

The purpose of the step data mining & knowledge generation is to analyze data available within the data warehouse by data mining methods and generate new and so far not available knowledge as input to decision support. Results of data mining processes, i.e. data mining models like decision trees, cluster models, or association rules are stored in the data warehouse.

In the context of the knowledge destination framework, data mining processes consist of the following steps:

Data extraction: Extracting relevant data from the data warehouse

Preprocessing: Preprocessing extracted data, according to specific requirements of the analysis methods, like missing value replenishment, outlier detection, normalization, etc.

Modeling: Execution of data analyses and generation of resulting data mining models

Storage: Storing data mining models in the data warehouse

Visualization: Visualization of results. In case of DM models, stored directly within existing dimensional structures of the DW, the visualization takes place by the normal reporting and OLAP functions of the DMIS cockpit.

The DMIS (Destination Management Information System) cockpit represents the interface of the knowledge destination architecture (KDA) to the end user. The DMIS cockpit enables the end user to access the data and knowledge stored in the central data warehouse and execute data analyses to support decision making. Available functions and analyses can be differentiated into reporting, i.e. offering fixed and predefined reports, OLAP (online analytical processing) and data mining.

Reporting denotes the process of generating static and predefined reports consisting of a collection of charts and analysis results. Reports can include the full range of results stretching from simple descriptive analysis to complex data mining results like clustering or classifications. Analog to data mining processes, reports can be generated offline (e.g. in a period manner), online (if no expert intervention is necessary) or as hybrid approach.

OLAP (Online Analytical Processing) is a specific technique of interactive data analysis. Based on a multi-dimensional data model, OLAP enables a natural view on the contained information – the OLAP cube, containing measures along different dimensions and corresponding hierarchies. As individual requests can be executed directly by the end-user online and due to simplicity of results, OLAP is a vital functionality of the DMIS cockpit.

BI frameworks typically offer powerful dashboard functionality but usually not as part of an open-source solution (e.g. the Rapid Analytics Enterprise Edition), leading to additional software costs. When offering OLAP functionality by a self-developed web application, based on RapidMiner, this solution can be easily extended by specific dashboard functionality, based on the following simple approach. OLAP requests can be stored by the user in order to repeat favorite requests at any time. Stored OLAP requests can then be composed to a dashboard in a flexible and individual way. Again, dashboards can be stored by the user in order to provide individual dashboards for different purposes and circumstances or to exchange dashboards between users in a collaborative BI environment.

Especially in the context of a tourism-specific collaborative BI environment, a self-developed solution offers a higher degree of flexibility and extendibility compared to available BI frameworks.

Figure 3: Start page in DMIS Åre

LITERATURE

Sentiment analysis, or opinion mining, aims at detecting expressions of sentiment in texts and subsequently classifying them according to their polarity into different categories (usually positive or negative). Sentiments are related to expressions of emotion in texts and can be either direct ("I like xx"), in-direct ("This xx is very useful) or implicit ("I paid $20 for this xx and I can't get it to work"). Subjectivity analysis and sentiment analysis are growing research topics in artificial intelligence. Subjectivity analysis, often used as a prior step to sentiment analysis, deals with detecting "private states" including sentiment, opinions, emotions, evaluations, beliefs and speculation (Wiebe, 1994). Sentiment is a personal belief or judgement that is not founded on proof or certainty (Balahur, Hermida and Montoyo, 2012). Companies can use sentiment analysis to quickly aggregate and organize reviews into information that can help them learn about their customers and how they perceive their products and services (Duric and Song, 2012).Knowledge extracted through sentiment analysis has been proven to be a much valuable asset to companies that employ it (Montoyo, Martínez-Barco and Balahur, 2012).

Importantly for this case study, one research strand on social media monitoring deals with automation and machine-learning along with methods to extract sentiment and prediction opportunities (Bai, 2011; Li and Wu, 2010) semantic oriented content analysis (Walchhofer, Fröschl, Dippelreiter, Pöttler and Werthner, 2009), and sentiment and relational extraction (Xu, Liao, Li and Song, 2011).

In sentiment analysis classification approaches are different to general text classification which seeks to classify a text by its topic often using word frequency as the basis of classification. For instance, the indicators of sentiment must be aligned with the language the reviewer is most likely using. Also, not only adjectives should be used as indicators but also verbs and nouns. Furthermore, using frequency of indicators should rather be replaced by presence of an indicator. The different meanings of indicators in different context should also be considered. An indicator can have a positive connotation in one context but a negative connotation in another context. Sentiment analysis is also a challenging task since most UGC is written using free-form natural language which mostly pays little attention to spelling and grammar (Duric and Song, 2012).

HOW TO DO IT

The topic of sentiment analysis is an important area of business intelligence (Fayad, Piatetsky-Shapiro & Smith, 1996). Text Mining is defined as the discovery of new, previously unknown information, by automatically extracting information from different written resources (Hearst, 2003). Text mining, also known as text data mining or knowledge discovery from textual databases, also refers to the process of extracting interesting and non-trivial patterns or knowledge from text documents. Finally, opinion mining identifies the expressed opinion on a particular subject and evaluating the polarity of this opinion (Tsytsarau & Palpanas, 2011).
The goal of the selection of documents is to identify relevant documents and selecting them for the implementation of the text mining or the opinion mining procedure (Hippner & Rentzmann, 2006). To carry out a sentiment analysis, data is obtained from external sources (Gabriel, Gluchowski, & Pastwa, 2009, p. 127). Typically, various review sites are considered and the relevant documents within these sites are used for further analysis. In this context, sentiment analysis is performed for the case study of Åre, Sweden.

Before opinions about hotels in Åre can be extracted with RapidMiner, a manual search for tourist review sites containing opinions about hotels in Åre was conducted (also see section on Mapping of UGC). The following hotel review sites are considered:

- Tripadvisor.com: With over 60 million monthly visitors and representation in 30 countries it is the largest tourism rating and review portal in the world. Tripadvisor.com contains over 100 million experiences reports and reviews about hotels, pensions, restaurants and attractions (TripAdvisor, 2013).

- Booking.com: is the world's leading hotel reservation portal and shows over 450,000 bookings for overnight stays per day. Furthermore booking.com contains more than 18 million reviews about hotels (Booking, 2013).

Table 1 shows the number of hotels and reviews about Åre found in the two review sites.

	No. of Hotels	No. of e-reviews
Tripadvisor.com	10	248
Booking.com	17	1193

Table 1: Number of ratings and hotel facilities for Åre

Rapid-Miner offers numerous opportunities to access information on web sites, based on a web crawler functionality. For this purpose the "Crawl-Web" operator and the "Get-Pages" operator are used (Rapid-I, 2010). Web crawlers are software programs that automatically download web site content by visiting the sites and collecting all information contained on this website (Liu, 2011, p. 311). The information can then be used either for online or offline analyses. Also search engines, like Google and Yahoo!, use web crawlers to collect web pages and subsequent indexing. For sentiment analysis, web pages of review sites are required. Here, not all web pages of these portals are needed, but only those that contain opinions about hotels from the tourism destination Åre.

The processing of documents, essentially, consists of four steps: 1) the extraction of opinion texts obtained from HTML documents or from HTML code; 2) the removal of those reviews that do not contain any text; 3) the filtering of multi-lingual texts, and finally 4) the generation of single statements from the entire review texts.

HTML documents or HTML codes that are obtained through Web Crawling contain a lot of information that is irrelevant for sentiment analysis. Thus, this information was removed so that only the review texts (opinions) are available. Figure 4 shows an exemplary Web page with opinions from TripAdvisor.com which was detected by the Web crawling procedure.

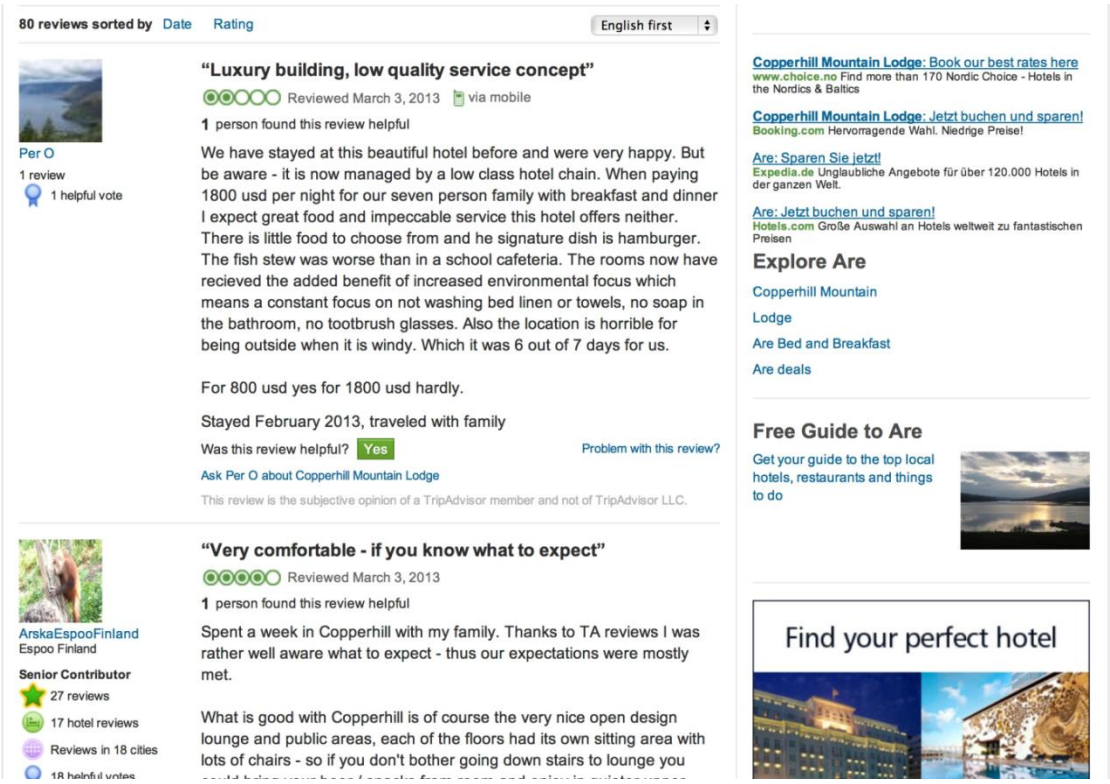


Figure 4: Tripadvisor.com HTML document with opinions
Source: tripadvisor.com Accessed 22:03:13

For property-based sentiment analysis, the entire review texts are sub-divided into single statements. With the "Cut-Documents" operator regular expressions can be specified according to which rules a certain text is divided into statements. As delimiter only punctuation and end characters are chosen, including point, exclamation and question mark. With other characters, such as the comma, there would be the risk to separate associated (product) properties and the information about their polarity (sentiment). After the division of review texts into individual sentences (statements), from the original 208 reviews a total of 1516 statements are generated.

	No. of reviews	No. of statements
tripadvisor.com	127	1296
booking.com	81	220
Total	208	1516

Table 2: Number of reviews and statements after preprocessing

For the detection of product properties two approaches have been implemented: a machine learning method and a dictionary-based method. For the machine learning method, different learning algorithms have been applied to over 100 training data per class. In addition, in this case, the POS-tagging method has been used, to identify each word's position or function within the sentence (part of speech). By contrast, for the dictionary-based approach, the most

frequently occurring words per class were counted in each statement and then used for classification of the property. Overall, satisfactory results could be gained for the detection of properties with both types of methods all provided by Rapid-Miner®. Table 3 shows the accuracy level achieved through the various methods applied.

	Accuracy
Support Vector Machine (with POS-Tagging)	72,36%
Naive-Bayes (with POS-Tagging)	49, 72%
Nearest-Neighbor (with k = 8, without POS-Tagging)	57,08%
Dictionary-based approach for property recognition	71,28%

Table 3: Accuracy of methods for property recognition

The dictionary-based approach achieved an accuracy result of 71.28%, thus, suggesting that the proportion of correctly recognized classes is relatively high. However, a problem with wrongly assigned properties arose with assignments to the neutral class "Uncategorized", because here many properties were incorrectly assigned. One reason may be the limited extent of word lists, since infrequent words were not considered in the creation of word lists. For example, the statement "Good Hamburgers" was assigned to the class "Uncategorized". Although the word "Hamburger" is a good indication to the class "Food / Breakfast / Restaurant", it happens only once in over 1,500 records and was, thus, not included in the word list. Of course, through the further enlargement of the used dictionaries better result could be achieved.

The support vector-based method (with POS tagging) gained the highest accuracy for the classification of product properties with a level of 72.35%. However, also for the support vector-based method even better results could be achieved. In this case, we assume that not enough data to train the algorithms were created. For instance, instead of 100 manually classified training data in a future re-validation 500 training data could be used per class.

Also for the recognition of subjectivity in a statement, machine learning and dictionary-based methods were used. Through these methods it is possible to recognize statements with a subjective opinion and those without opinion. Thus, the aim of this classification is to distinguish opinions from pure factual statement. In total 300 training data per class were crated manually for machine learning techniques and various learning algorithms, such as support vector machine, Naive Bayes and nearest neighbor. For the recognition of subjectivity through the dictionary-based method all occurring words in a statement were counted based on a publicly available word list containing 6,800 opinion words (Liu 2008). If a statement contained an opinion word, this record was assigned to the class "Subjective". The highest accuracy of 82.63% was achieved with the dictionary-based method (Table 4).

	Accuracy
Support Vector Machine (with POS-Tagging)	65,50%
Naive-Bayes (with POS-Tagging)	60,67%
Nearest-Neighbor (with k = 5)	55,50%
Dictionary-based method for subjectivity recognition	82,63%

Table 4: Accuracy of methods for subjectivity recognition

Table 5 provides some examples for the recognition of subjectivity.

Statement	Recognized Class	Real Class
Hmmm must be a hospital because of that sweet smell of mould and or dead old lady	Subjective	Subjective
Would not recommend unless you have children	Subjective	Subjective
Skiing and staying in Sweden is so different to other European resorts	Factual	Factual
The restaurant is high standard very original and lots of local products	Factual	Subjective
This can be a cost saver for families with children	Subjective	Factual

Table 5: Examples for the recognition of subjectivity

Also for the sentiment recognition, similar machine learning techniques and dictionary-based methods were used. The goal was to classify single statements into the class "positive" or "negative" in order to recognize the overall 'mood' of the customers' opinions. The class "neutral" was only considered in the dictionary-based approach for the case of no clear possible assignment to either the "positive" or "negative" class. Thus, the class "neutral" does not comprise statements with neutral opinion words, like the study of Hu and Liu (2004), but rather statements comprising the same amount of "positive" and "negative" words. In order to recognize the sentiment with the dictionary-based method the word lists from Liu, comprising about 2,000 positive and about 4,800 negative words, were used (Liu, 2011). By doing so, only those words were counted which are contained either in the set of "positive" or "negative"

dictionaries. Thus, the statement was assigned either to the positive or negative class, depending on the predominant amount of relevant words stemming either from the positive or the negative dictionary. Furthermore, negation words were considered if they occurred in a statement in order to change the semantic orientation of the statement accordingly. For the machine learning methods (support vector method, nearest neighbor and Naïve Bayes), a total of 250 training data per class were generated for the training phase. Furthermore, in order to increase accuracy bigrams and trigrams were used for sentiment detection (Pang, Lee & Vaithyanathan, 2002). Table 6 shows the best accuracy results for sentiment detection gained by applying the various machine-learning techniques and dictionary-based methods.

	Accuracy
Support Vector Machine (with bigrams)	76,80%
Naive-Bayes (with trigrams)	69,80%
Nearest Neighbor (with k = 8)	69,60%
Dictionary-based method for sentiment recognition	71,28%

Table 6: Accuracy of methods for sentiment recognition

Overall, the best sentiment recognition is gained by the support vector- based method (with bigrams) showing an accuracy of 76.80%. A likely reason for the somewhat poorer performance of the dictionary-based approach can be attributed to the fact that, in this case, an additional class "neutral" is considered when the amount of opinion words for the two classes “positive" and “negative” are equally frequent.

The following table displays some examples for the sentiment recognition.

Statement	Recognized Class	Real Class
Parts of the hotel seems to be an old hospital	Negative	Negative
All other guests I would recommend hotel diplomat instead	Positive	Negative
The rooms aren’t too big but very clean and comfy	Negative	Positive
Good rooms and nicely clean	Positive	Positive
Very nice breakfast room good selection for breakfast	Positive	Positive

Table 7: Examples for the recognition of sentiment

RESULTS

The overall results show that sentiment analysis can be successfully executed with the data mining software Rapid-Miner. Information can be extracted from feedback platforms and can be classified into different topics and their sentiment with a satisfactory accuracy. The overall quality of extracted and generated information is high enough to be meaningfully integrated into a tourism destination management information system.

VISUAL EXAMPLES OF AGGREGATED UGC FOR A TOURIST DESTINATION

For the whole process of sentiment analysis three necessary tasks are required: the recognition of properties, the recognition of subjectivity and the recognition of sentiments. Figure 5 displays the entire process of sentiment analysis applied in this research study.

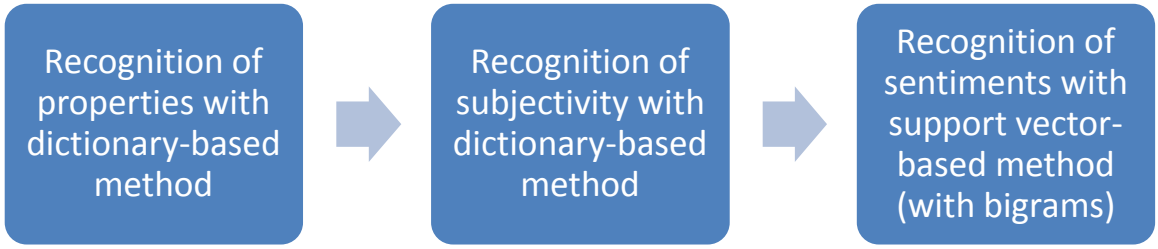


Figure 5: Entire process of sentiment analysis

In the dashboard of the DMIS for Åre a number of visualizations of the results of analyzing UGC are available. In figure 6 users can profile the contributors of UGC to the various sources currently integrated into the DMIS (Tripadvisor and Booking.com). As seen from figure 7 the dashboard also presents the rankings of hotels in the destination. Figure 8 is a snapshot of the categorized content of the reviews according to product area for each of the current users of the DMIS as well as the average feedback value of each review based on product area for each accommodation provider included in the UGC dataset.

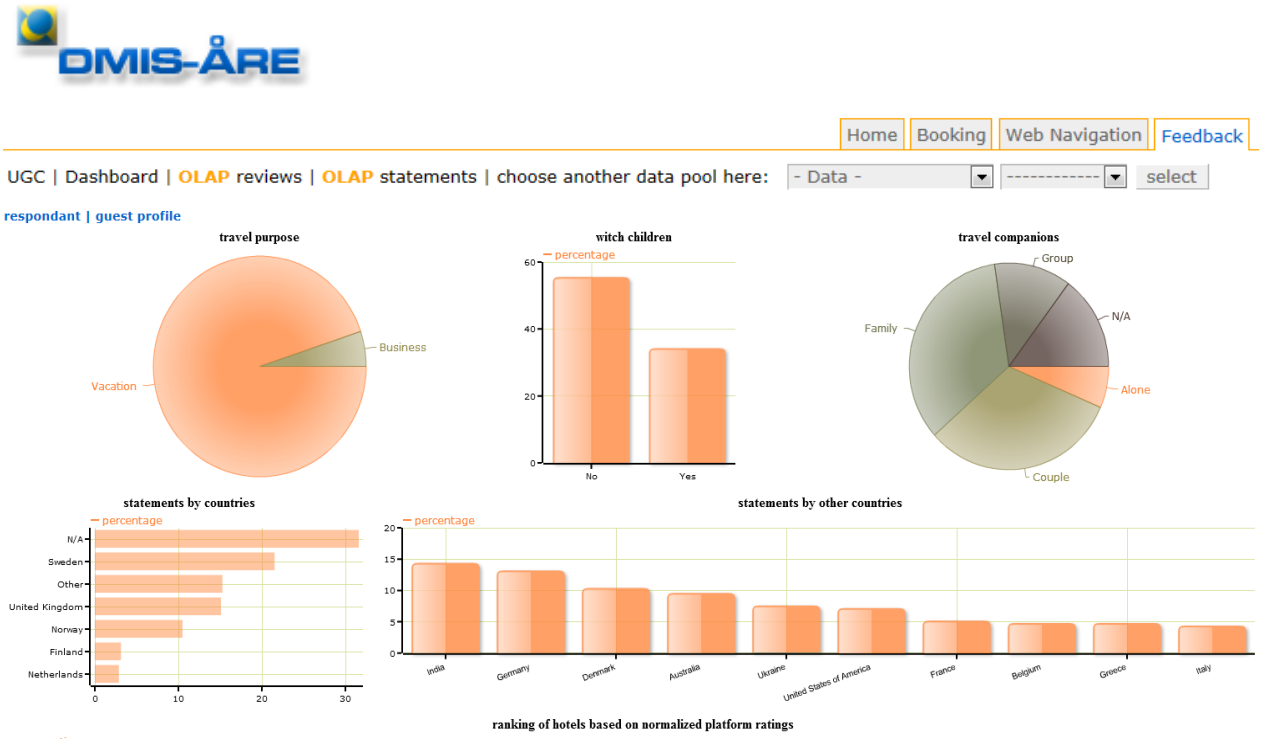


Figure 6: Example of dashboard view in DMIS showing profile of users

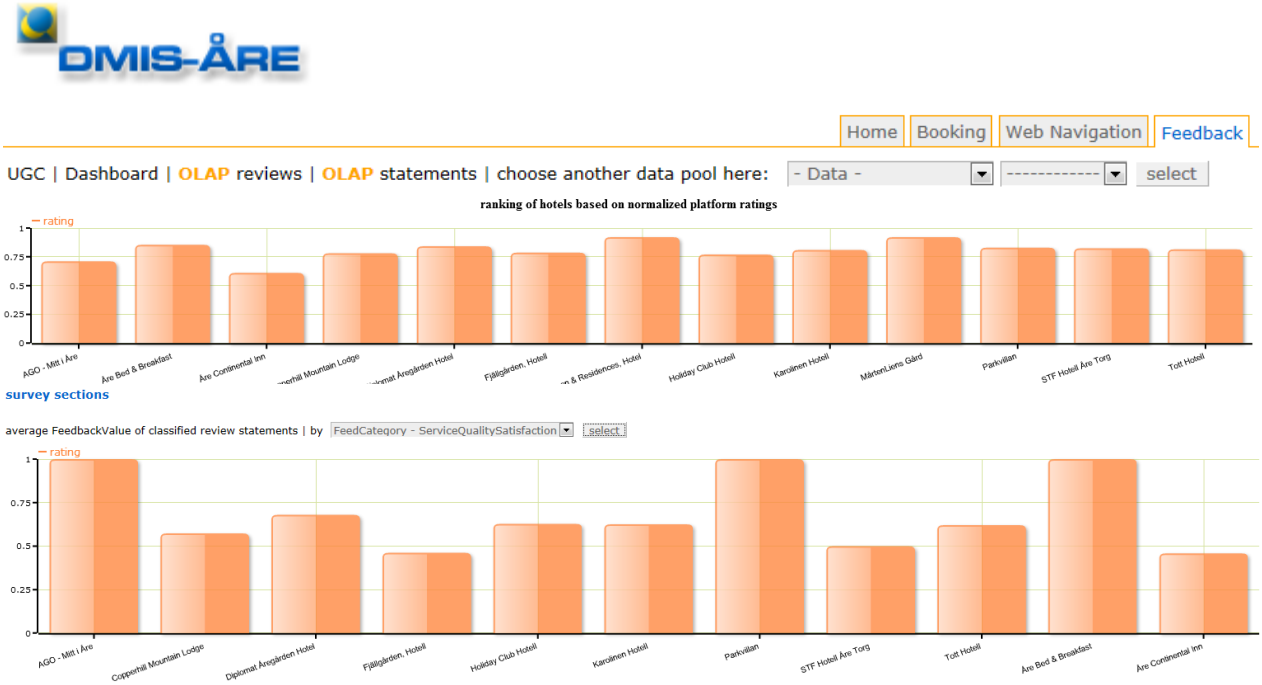
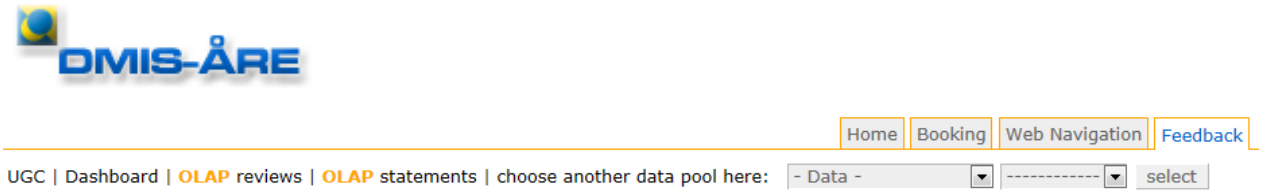
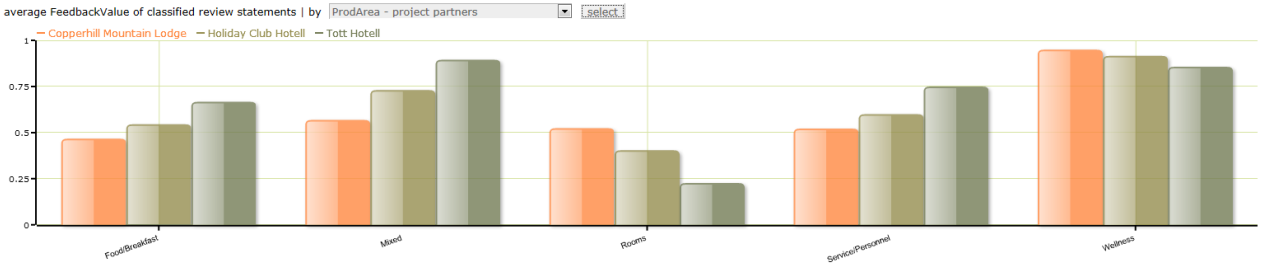


Figure 7: Example of dashboard view in DMIS showing hotel rankings





average FeedbackValue of classified review statements | by ProdArea - all combinations select

items	Copperhill Mountain Lodge	Diplomat Åregården Hotell	Fjällgården, Hotell	Holiday Club Hotell	Karolinen Hotell	STF Hotell Åre Torg	Tott Hotell	Åre Bed & Breakfast	Åre Continental Inn	AGO - Mitt i Åre	Granen & Residences, Hotel	Parkvillan	MårtenLiens Gård
Food/Breakfast	0.467	0.704	1	0.545	0	0.500	0.667	1	1	?	?	?	?
Location	0.837	0.938	0.556	0.764	1	0.909	0.933	1	0.667	?	?	?	?
Mixed	0.569	0.680	0.667	0.731	1	0.625	0.895	1	0.571	1	?	1	?
Rooms	0.524	0.571	0	0.404	0.333	0.333	0.227	?	0.200	?	?	?	?
Service/Personnel	0.522	0.750	0	0.600	?	0.500	0.750	1	1	?	?	?	?
Wellness	0.950	0.750	?	0.917	?	?	0.857	?	1	?	?	?	?

Figure 8: Example of dashboard view in DMIS showing classification of review content

In figure 9 all positive separate statements derived from all reviews are listed. The same list can be retrieved also for negative statements and other statements not categorized as positive or negative. As seen from figure 10 full reviews, with date and source, can also be retrieved in the DMIS dashboard based on selecting individual, in this case, accommodation providers. A further important feature in DMIS in general, including the analysis of UGC, is the possibility to run OLAP (online analytical processing) analysis where the user can choose number of indicators to include and the variables to group the analysis by (see figure 11).

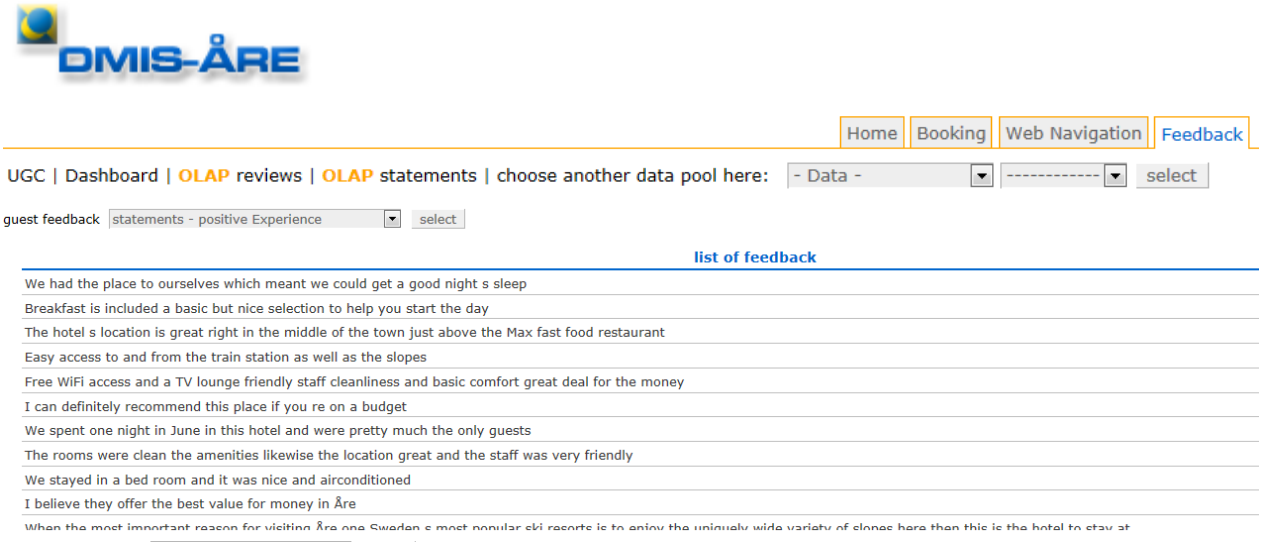
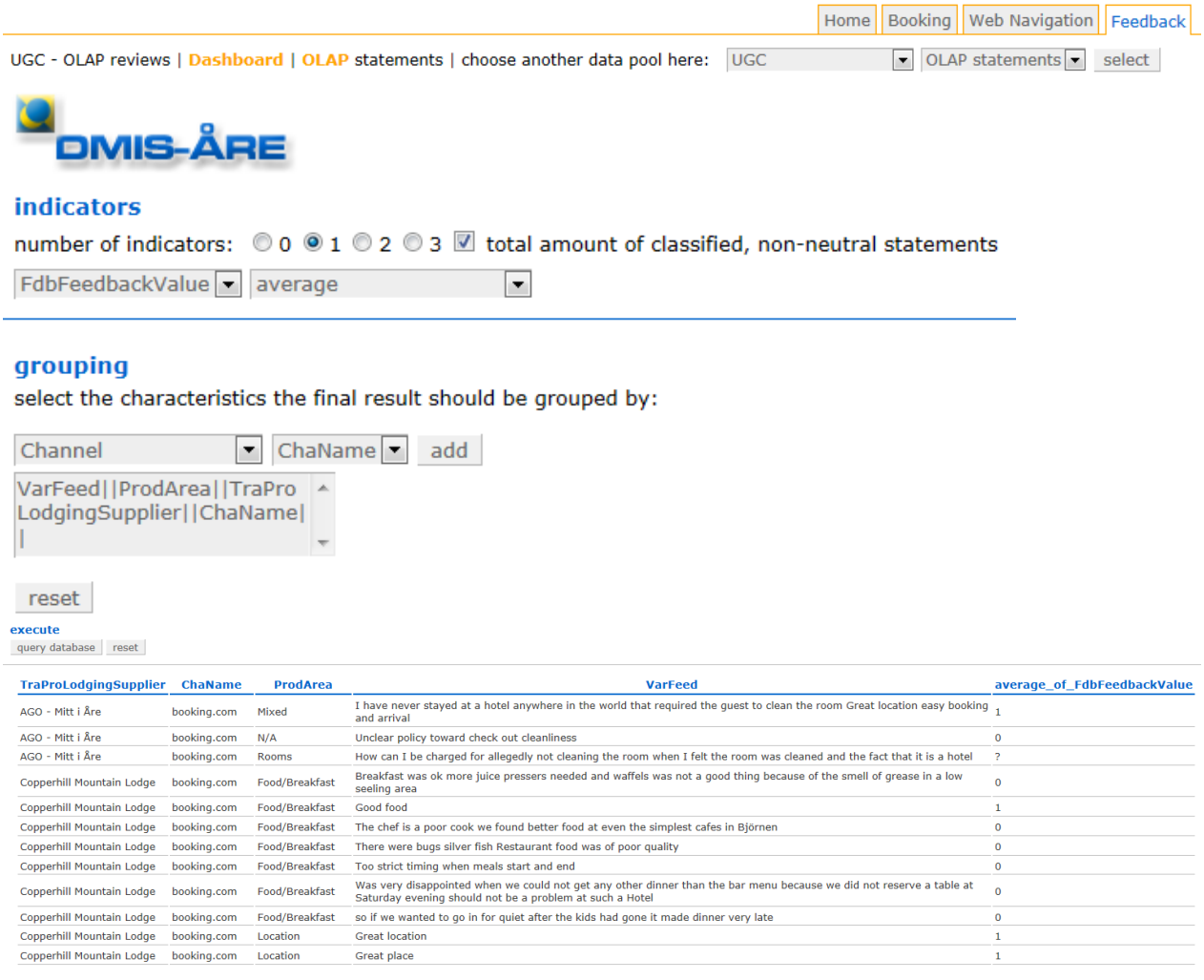


Figure 9: Example of OLAP view in DMIS showing positive statements from UGC

Figure 10: Example of OLAP view in DMIS showing list of complete reviews



TraProLodgingSupplier	ChaName	ProdArea	VarFeed	average_of_FdbFeedbackValue
AGO - Mitt i Åre	booking.com	Mixed	I have never stayed at a hotel anywhere in the world that required the guest to clean the room Great location easy booking and arrival	1
AGO - Mitt i Åre	booking.com	N/A	Unclear policy toward check out cleanliness	0
AGO - Mitt i Åre	booking.com	Rooms	How can I be charged for allegedly not cleaning the room when I felt the room was cleaned and the fact that it is a hotel	?
Copperhill Mountain Lodge	booking.com	Food/Breakfast	Breakfast was ok more juice pressers needed and waffels was not a good thing because of the smell of grease in a low seeling area	0
Copperhill Mountain Lodge	booking.com	Food/Breakfast	Good food	1
Copperhill Mountain Lodge	booking.com	Food/Breakfast	The chef is a poor cook we found better food at even the simplest cafes in Björnen	0
Copperhill Mountain Lodge	booking.com	Food/Breakfast	There were bugs silver fish Restaurant food was of poor quality	0
Copperhill Mountain Lodge	booking.com	Food/Breakfast	Too strict timing when meals start and end	0
Copperhill Mountain Lodge	booking.com	Food/Breakfast	Was very disappointed when we could not get any other dinner than the bar menu because we did not reserve a table at Saturday evening should not be a problem at such a Hotel	0
Copperhill Mountain Lodge	booking.com	Food/Breakfast	so if we wanted to go in for quiet after the kids had gone it made dinner very late	0
Copperhill Mountain Lodge	booking.com	Location	Great location	1
Copperhill Mountain Lodge	booking.com	Location	Great place	1

Figure 11: Example of OLAP view in DMIS showing UGC content

DISCUSSION

This Swedish case study, which has prototypically developed a process for integrating UGC in a destination information system, contributes to the overall aim of the "ICT toolbox in the experience economy" project by facilitating innovation in destinations based on knowledge about customers. The architecture, models and processes described in the case study are based on research and development using open source solutions and can be used by others who wish to implement a DMIS similar to what has been done here. Our contribution can be seen as best practice in the design and implementation of destination management information systems for the benefit of customer-based innovation in tourism in the Nordic countries.

The partners who have participated in this research are all stakeholders of a leading Scandinavian tourist destination, Åre, and as such they hold a high level of experience, competence and maturity in terms of professionally working with market analysis and destination development and innovation. This is most likely important for a successful implementation of an advanced destination information system (DMIS). However, the basic insight on the importance and factors of business intelligence in tourism and especially with UGC as a source of information about customers is valid for any tourist destination. As technology continues to develop and the availability of big data continues to increase it is vital for any tourism stakeholder to consider how to take advantage of the analytical opportunities in connection to this. Destinations which are concerned with increasing tourist volumes, satisfaction levels and loyalty behavior as well as leveraging brand equity should focus on identifying their most important knowledge areas for basing decisions on a sound understanding of customer needs and wants as well as develop skills and competencies to design a structured process and business intelligence system which can help them become competitive.

Technology evolves and tourism is a complex business which of course puts a challenge on any attempt at implementing an IT-based knowledge system. Therefore, choosing open source solutions is an option which minimizes risk but involves some input in terms of own development and specification. The question will always be about whether to develop a system which is purely built on specific needs and specifications of available data, or buy a ready-made solution which might then not be adapted to the requirements of a destination or its stakeholders.

Finally, it should be mentioned that using UGC as a source of information and analysis without the consent of the person who contributed with the review or ranking can always be questioned. However, as long as the data is analyzed on an aggregate level where the identity of the contributor is never revealed it is proposed that collecting and analyzing this type of information is not different to collecting information through surveys.

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5 OPEN SERVICE INNOVATION IN EXPERIENTIAL TOURISM FIRMS: AN EXPLORATIVE STUDY - SOUTHERN NORWAY

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CONTENT

1 INTRODUCTION AND PURPOSE

In recent years, the potential of open innovation practices has received much attention both from researchers and managers (Huizingh, 2011). Until now, however, most research has focused on open product innovation, whereas the relevance of open innovation practices to innovations in services has not been researched correspondingly (e.g., den Hertog et al., 2010; Huizingh, 2011). Most services have some characteristics that distinguish them from physical products, and experiential tourism services is a subset of services that is particularly far away from tangible products (e.g., Zomerdijk and Voss, 2011). These services are characterized by intangibility, simultaneous production and delivery, perishability, heterogeneity (Zeithaml, Parasuraman and Berry, 1985), and co-creation of value (Lusch and Nambisan, 2012). An open question however, that has not been answered in the extant research literature, is in what way the characteristics of experiential tourism services affect the relevance of using open innovation practices when new experiential tourism services are developed. This literature gap is concerning both due to the size of the tourism sector (Spohrer and Maglio, 2008) and due to the importance of innovation to firm-level success in tourism (Hjalager, 2010).

By suggesting that "*open innovation accelerates and deepens services innovation*" Chesbrough (2011, p.15) aims to contribute in filling the literature gap related to the relevance of open innovation in services. Chesbrough (2011) uses the success stories from product innovation to argue why open innovation is beneficial also for innovation in services. However, in his argumentation Chesbrough only to a limited extend discusses open innovation in traditional service firms. Most of his examples are from manufacturing firms that follow a service transition strategy (servitization) and deliver scale-intensive services (Aas and Pedersen, 2012). He does not discuss how the fact that some services, and in particular experiential tourism services, have some characteristics (e.g., intangibility, heterogeneity, simultaneity and perishability (e.g., Zeithaml, Parasuraman and Berry, 1985)) that distinguish them both from tangible products and from scale-intensive services, may affect to what degree, and in what way, the application of open innovation practices is feasible for experiential tourism services. Thus, further research is needed to understand the relevance of open innovation in tourism.

To fill the literature gaps related to the relevance of open innovation in experiential tourism services we argue that an in-depth qualitative study is needed where it is investigated if and how tourism firms use open innovation practices when they develop new services. Thus, the following research question is raised: Is open innovation practices used to develop new experiential tourism services, and if so; how?

To answer these questions we first establish a set of baseline open innovation practices prescribed by prior product innovation studies. Based on the findings of prior empirical studies, innovation in experiential services is then distinguished from product innovation to suggest why such open innovation practices may, or may not, be relevant for service innovation activities. Thereafter, we describe the chosen research method, and we provide the findings and conclude if and how open innovation practices are implemented by experiential service providers. The paper ends with a discussion of the implications of the study and suggestions for further research.

2 LITERATURE

OPEN INNOVATION

The term open innovation refers to "*the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and to expand the markets for external use of innovation, respectively*" (Chesbrough et al., 2006, p. 1), and Chesbrough (2003, p. 24) argues that "*open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology*". The first process, i.e. the use of inflows of knowledge, is often called inbound open innovation whereas the second process, i.e. the use of outflows of knowledge, is often called outbound open innovation (Huizingh, 2011). Dahlander and Gann (2010) also distinguish pecuniary and non-pecuniary types of open innovation, and consequently suggest four different categories of open innovation: 1) pecuniary inbound open innovation (acquiring), 2) non-pecuniary inbound open innovation (sourcing), 3) pecuniary outbound open innovation (selling), and 4) non-pecuniary outbound open innovation (revealing).

The literature discusses both benefits and disadvantages with the four types of open innovation. There are for example many obvious benefits from being able to buy external ideas or expertise (inbound pecuniary open innovation), but research indicates that acquiring knowledge that is too close to what the firm already knows may also hamper the positive effect (Dahlander and Gann, 2010). Inbound non-pecuniary open innovation may also be beneficial since it is an opportunity for firms to benefit from the ideas of outsiders to generate new products or services (Dahlander and Gann, 2010), but since there are cognitive limits to how much it is possible for the individuals working within firms to understand, firms may potentially risk to rely too much on external sources of innovation and this may be a disadvantage (Laursen and Salter, 2004). Furthermore, outbound pecuniary open innovation may have advantages since firms can more effectively benefit from their investments in R&D (Chesbrough, 2006), but a disadvantage is that there are often significant transaction costs involved (Gambardella, Giuri and Luzzi, 2007). Outbound non-pecuniary open innovation enables firms to build upon each other's work and may result in increased innovativeness (Nuvolari, 2004), but an obvious disadvantage of revealing knowledge and ideas is the difficulty to capture the benefits (Helfat, 2006).

Recent literature reviews (Huizingh, 2011; Aas and Pedersen, 2012), however, reveal that the research reporting these results has investigated a limited sample of industries and sectors. According to Aas and Pedersen (2012) conceptual articles in this area have predominantly focused on software, telecommunication and chemical (e.g., Chesbrough, 2003), electronics/semiconductor and pharmaceutical (e.g., Chesbrough and Schwartz, 2007), and fast moving consumer goods (FMCG) (e.g., Cooper, 2008), whereas empirical articles have covered the industries above (e.g., Lichtenthaler, 2008), but also automotive (e.g., Lichtenthaler, 2007), aerospace (e.g., Witzeman et al., 2007), bioscience and home improvement (e.g., Chesbrough and Crowther, 2006), consumer electronics (Christensen et al., 2005), sports goods (e.g., Piller and Walcher, 2006), apparel (Jacobides and Billinger, 2006). To summarize the existing open innovation literature is to a large extent based on investigation of manufacturing firms and service firms providing scale-intensive services (e.g., telecommunication and software), whereas investigation of the open innovation practices in service firms providing services with a higher degree of intangibility, heterogeneity, simultaneity and perishability, like for example experiential tourism services, have not been conducted to the same extent.

THE DISTINCTION OF INNOVATION IN EXPERIENTIAL SERVICES

The service industry accounts for more than 70% of the GNP and employment in most developed countries (e.g., Spohrer and Maglio, 2008), and research indicates that service firms that succeed in innovation prosper, at the expense of their less able competitors (e.g., Cainelli et al., 2004; Aas and Pedersen, 2011). However, the fact that innovation management research has primarily been concerned with management of physical product innovation (e.g., Droege et al., 2009), and not the management of service innovation (Drejer, 2004; Adams et al., 2006; Nijssen et al., 2006; Spohrer, 2008), has resulted in the status that "*current theory and understanding of the strategies and tactics for developing new services is inadequate*" (Menor and Roth, 2007, p. 825).

However, scholars are increasingly examining how services and service innovation management are different from products and product innovation management (Johne and Storey, 1998; Johnson et al., 2000; Menor et al., 2002). Furthermore, the diversity of the service sector suggests that "*differences exist not only between the development of services and the development of physical products, but also between different types of services*" (Zomerdijk and Voss, 2011, p. 63), and that "*different types of projects carried out in different environments are likely to require quite different development processes if they are to be successful*'' (MacCormack and Verganti, 2003, p. 217).

Experiential services represent a subset of services that is quite far away from tangible products. Zomerdijk and Voss (2011) define experiential services in the following way: "*An organization delivers an experiential service when it places the customer experience at the core of the service offering. Such organizations focus on the experience of customers when interacting with the organization rather than just the functional benefits following from the products and services delivered*" (p. 63). Thus, due to the characteristics of experiential services, successful management practices for innovations in experiential services are expected to differ substantially from the management practices prescribed to product innovation. Our current knowledge on how organizations should organize and manage the (open) innovation process for experiential services, and on what methodologies and tools (e.g., ICT tools) that may be relevant to help firms in their innovation and development of experiential services, is insufficient.

Therefore, to explore the open innovation practices for experiential services and provide an initial view of what these practises look like, relative to open innovation practices in manufacturing, an exploratory research study was undertaken.

3 METHOD

To answer the research question a qualitative case study approach (e.g., Yin, 2003) was chosen. This approach has been chosen since qualitative research arguably has advantages when the phenomenon to be studied is not well understood and where the variables are still unknown (e.g., Meredith, 1998; Johnson and Harris, 2003).

To enable selection of case organizations that offer opportunities to learn and build theory, and to get a preliminary overview, one preliminary short interview with a manager of an experiential oriented tourism firm, and two preliminary short interviews with two managers of networks of experiential oriented tourism firms, were carried out. These informants were asked to propose firms in different subsectors of the tourism industry with an exceptional focus on innovation. As a consequence seven experiential oriented firms in the tourism sector in the south of Norway were selected as case organizations: Two firms provided hotel

services (one was part of an hotel chain, one was independent), one firm provided transportation and cruise services, one firm provided amusement services (theme park), one firm provided festival services, one firm provided restaurant services and one firm provided theatre services. All firms were members of a business network called USUS (www.usus.no), indicating both their experiential orientation and their interest in and focus on innovation.

The main method of data collection was semi structured in-depth interviews with employees involved with innovation in the case organizations. We developed and deployed a semi-structured interview guide, where questions about the four open innovation types were included.

Information about the sample is listed in Table 1.

Table 1 The sample

Firm	FTEs	Experiential Tourism Type	Informants
A	2600	Cruise and transport shipping	Vice President Tour Operations
B	159	Amusement park	CEO
C	12	Music Festival	CMO
D	72	Hotel (part of a chain)	CEO
E	11	Hotel (independent)	Chairman of the board and owner
F	29	Restaurant	CEO, Chairman of the board and owner
G	60	Theatre	CEO and CMO

All interviews were recorded and transcribed and the data were coded and mapped onto the four open innovation dimensions reflected in the framework of Dahlander and Gann (2010), i.e. inbound pecuniary open innovation, inbound non-pecuniary open innovation, outbound pecuniary open innovation and outbound non-pecuniary open innovation.

4 FINDINGS

Our findings suggest that experiential tourism firms do use inflows of knowledge both from customers and other firms, as well as research institutions to accelerate innovation. Likewise our findings suggest that experiential tourism firms do in part share their knowledge with other parties. However, our findings also suggest that what type of knowledge that are used from different external parties and what types of knowledge that are shared, varies along two dimensions; 1) the degree of newness (radical vs. incremental innovations) of the service developed, and 2) the stage in the development process. In the subsequent sections we report our detailed findings:

INBOUND OPEN RADICAL INNOVATION

We found that that the case organizations often got inspiration for radical new services from external parties, but the identification and specification of more concrete radical new experiential services ideas or new service concepts in the case organizations were usually done as an internal activity inside the organizations. Our data also reveal that the management, or the owners, were often heavily involved in identifying and defining radical

new service ideas. Radical new service examples from our data set include a new conference concept called "Green Conferences" developed by Firm D, a new concept for affordable hotel accommodation developed by Firm E, a new concept for themed accommodation developed by Firm B, and a new travelling package developed by firm A. All these ideas originated from either the management or the entrepreneur/owner, and the early stages of the development stages were more or less exclusively done internally.

However, in later development stages the case firms also involved external parties. Prospective customers were for example involved (non-pecuniary) through focus groups, and consultants as well as research institutions were involved (pecuniary) to solve explicit tasks. According to our data the communication between the developing firm and the external parties for the most part had an analog character when radical new services were developed. Physical meetings seemed to be the preferred communication method. Digital tools were used to a very little degree.

The following statements from the informants of firms A and B, respectively, may illustrate the practice when radical new experiential services are developed:

"I can mention an example on a new product we have developed in the German market. We have one large cruise ship travelling between Oslo in Norway and Kiel in Germany and it is of course very important for us to fill up this ship both with people from Norway and Germany, and to increase the number of German travellers we decided to collaborate with the Opera in Oslo, and we developed a new product that is called the "Oslo-package" where the customers can buy a travelling package including both the ship travel and a show at the Opera. We did this by reserving seats at the Opera, we have a lot of seats reserved for our customers there every day on all shows… This year 75,000 customers have bought this product…The operahouse provided us a lot of insight about their customers that we used when developing the new product…"

"When we work with innovation and development we pay attention to what is happening around us, we always look at what other firms are doing and we contact and visit the firms that have what we believe are the best in the world in our industry, and we try to learn from them. (…) The idea to build themed accommodation as an extension of the experiences we already offer is in many ways my personal idea based on such visits to other parks. (…) However, although it was my personal idea, I very quickly involved a lot of people, both internally and externally, to detail and improve the idea. (…) What we did very early was to build a model. We used both internal and external resources in this phase. (…)"

INBOUND OPEN INCREMENTAL INNOVATION

We found that the practice when the case organizations incrementally improved existing services or service concepts differed from the practice when radically new services were developed. The incremental new service ideas (ideas related to how existing services may be improved) in our cases were usually «born» outside the company. These ideas often came from existing customers and were identified by the management or other employees. We were given a number of examples of such incremental development projects by our informants. One example was that firm B recently built a new restaurant due to the fact that several customers had complained on the prior restaurant facilities.

Our findings suggest that knowledge from external parties is particularly valuable in the early stages of incremental innovation projects. Customers seem to be the most important external parties providing knowledge, and the knowledge transfer is usually non-pecuniary. We found that digital communication tools (like for example facebook and trip advisor) were used intensively to facilitate the knowledge transfer in the early stages. However, the informants also stressed the importance of analog communication especially between front-line personnel and customers. During such personal communication front-line personnel often obtain rich information that is difficult to obtain via digital media.

The following statement from the informant in Firm A may illustrate the practice for incremental innovation projects:

"… I should also mention that all our customers are given a questionnaire after they have travelled with us, and we get lots of insights on how to improve our products from their answers… We are also working right now on how we can establish a better dialogue with our customers via different social media…"

OUTBOUND OPEN INNOVATION

Our findings suggest that experiential tourism firms do use outbound open innovation practices when new services are developed. Knowledge is transferred both to other firms in the value network and to regulatory authorities. The knowledge shared often accelerate innovation in the firms receiving the knowledge.

The following statement from the informant of Firm A illustrates the outbound innovation practice in the case organizations:

"Since a lot of the tourists that come to Norway travel with our ships we have a lot of insight about what tourists travelling to Norway need and request. We are very willing to share this information with firms that are providing experiences for tourists in Norway so that these firms are able to improve their products and services. We believe that in the long run both we and them will benefit from this since better experiential services will generate more satisfied customers which in turn will result in more repurchase…"

"We do not only share knowledge with other firms. We also provide information to regulatory authorities. For example right now the municipality in one of the most important ski resorts in Norway are regulating a new area for holiday houses, and we provide information to them about customer needs and expectations."

Our findings further suggest that the outbound open innovation is of the non-pecuniary type in experiential tourism firms. The firms sharing knowledge do not get paid directly. However, in the long run there is an expectation that the sharing of knowledge will result in increased sales also for the party owning and sharing the information. This may be illustrated with the following statement of the Firm A informant:

"We do not share what we know with everyone. We have to be sure that the party receiving the information is able to use this information to actually innovate and improve its products. If we are not sure about this we will not neither share nor collaborate. We do not want our brand to be associated with firms that do not deliver what the customers expect."

5 DISCUSSION AND CONCLUSIONS

Our findings indicate that experimental tourism firms have implemented open innovation practices. Based on this we offer P1:

P1: Both inbound and outbound open innovation practices are relevant for experiential tourism firms

However, the findings suggest that open innovation is practiced in a somewhat different way in experiential tourism firms than in manufacturing firms. While both pecuniary and non-pecuniary types of open innovation are relevant for manufacturing firms, our findings suggest that the latter is most relevant for experiential tourism firms. We believe this may be explained by the intangible nature of services (e.g., Zeithaml, Parasuraman and Berry, 1985)). Since both services and the knowledge needed to develop services are intangible and difficult to valuate both selling and acquiring knowledge is difficult, whereas revealing and sourcing become much more relevant given that it is possible to see some benefits in the long run.

Hence, we offer P2:

P2: Non-pecuniary open innovation is more relevant for experiential tourism firms than pecuniary open innovation

However, our findings did also reveal somewhat different open innovation practices for radical and incremental innovation projects. When radical new services are developed knowledge sharing was found to be more important in the later development stages than in the early idea identification and specification stages. When incremental new services are developed it is opposite, according to our findings. Our findings indicate that knowledge from external parties is most important in the early stages in the innovation process, and not that important during the later development stages. P3 and P4 are offered:

P3: When radical new experiential services are developed both pecuniary and non-pecuniary inbound open innovation practices are most relevant during the development stage

P4: When incremental new experiential services are developed non-pecuniary inbound open innovation practices, often with the use of digital communication tools (e.g., social media), are most relevant in the front end of innovation.

Furthermore, our findings indicate that outbound open innovation practices are relevant for experiential tourism firms when both the firm providing the knowledge and the firm receiving the knowledge will benefit in the long run. Here, however, the pecuniary type of outbound innovation seems to be less relevant than the non-pecuniary. This may be due to the very intangible nature of experiential services. As a consequence we believe that trust become a more important factor to succeed with outbound open innovation in experiential tourism firms than in manufacturing firms. When it is not possible to put an exact value on the information to be shared it is a prerequisite for sharing that the party providing information trust that the receiving party will use the information in a way that benefit both. Our findings also indicate that the existence of a network organization that all firms in a value network trust and that is able to facilitate open innovation activities seems to have a positive effect on the results of open innovation in experiential tourism firms. Hence, we offer P5:

P5: Non-pecuniary outbound open innovation practices are relevant and beneficial for experiential tourism firms when both the firm providing the knowledge and the firm receiving the knowledge will benefit in the long run

The propositions P3, P4 and P5 are summarized in Figure 1.

	Inbound	Outbound
Pecuniary	Relevant in the development stage when radical new experiential services are developed (P3)	Not relevant for the development of experiential services (P5)
Non-pecuniary	Relevant in the front-end when incremental new experimental services are developed (use of digital communication is associated with success) (P4)	Relevant when both the part providing knowledge and the part receiving knowledge benefit indirectly (P5)

Figure 1 How open innovation practices are used to develop new experiential tourism services

Future research should examine these propositions empirically also for other service sectors. Continued exploration of different types of service firms and empirical examination of the propositions offered in this paper will enhance our understanding of the relevance of open service innovation and its success characteristics.

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6 SHORT FILMS FOR DIGITAL MARKETING - NORTHERN NORWAY

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CONTENT

1. INTRODUCTION

The focus of this study is the *use and experienced effect of short films, mini-documentaries,* in digital information and marketing for experience-based tourism businesses. We will present a project run by the business cluster Innovative Experiences, where they produced short films presenting the core of the experience provided, for use in social media and digital marketing in general. We will then explore the companies' experiences with the project, and try to extract learning points and recommendations useful for other companies or clusters when working with similar marketing activities.

1.2 INNOVATIVE EXPERIENCES – HISTORY OF THE CLUSTER

The business cluster "Innovative Experiences" is a network of about 30 SMEs in tourism focused on experience production. It is primarily based in Nordland county (Lofoten, Vesterålen and Bodø), with a few member businesses in Svalbard. The businesses in the cluster are all among the most advanced on innovation and business development in experience based tourism in the region, but variy greatly as to size, professionalism and maturity.

Innovative Experiences was part of the ARENA programme from 2008-2012. ARENA is a national programme for long term development of regional business clusters, owned by Innovation Norway, SIVA and the Research Council of Norway. The objective is to strengthen the clusters' innovative ability through a stronger and more dynamic interaction between the industry, R&D institutions, universities and the public sector. The interaction is to be long-term, goal-oriented and focused on innovative collaboration, international awareness, access to knowledge and new business.

The experience based tourism sector in Northern Norway consists of small businesses (small and micro SMEs), facing common challenges posed by very small staff, narrow profit margin, remote location, infrastructure, recruitment of qualified staff etc. Innovative Experiences has had special focus on collaboration with R&D institutions to address the challenges of its sector, as well as innovation within experience production.

1.3 "YOU TUBE GOOSEBUMPS"

One of the projects initiated by Innovative Experiences during its participation in the ARENA programme, is "You tube Goosebumps", a project where the companies made short films for digital marketing. For the cluster, the goosebump-effect has been a way of describing what the businesses seek in terms of immersion in the experience they provide, and one of the challenges these businesses face is to communicate the feeling, the goosebumps that the customer may experience when participating in one of the products provided by the cluster members. Still pictures and text fail to communicate the sensory and emotional experience that may be what sets these products apart from other tourism products.

During a cluster meeting in 2009, where a TV producer was invited to talk about dramaturgy in experience design, the idea was born. The TV producer had previously worked on travel shows, and recommended to the cluster using short films to convey the experiences and the spectacular nature context to the customer. You tube and Facebook were taking off, and provided a new way of reaching customers with films. Innovative Experiences then developed a project in collaboration with the TV producer, where the goal was to produce short films (30, 60 and 90 seconds) focusing on the core of the experience provided, for use in social media as well as digital marketing in general. The short films in such a "You tube format" can

be considered mini documentaries or docu-commercials – they aim to enable the viewer to envision herself in the situation – in the boat, on the mountain, or making the cheese, and make the decision to purchase the product.

Innovative Experiences received financial support from Innovation Norway, so the cost for each business to join the pilot project was fairly low. The process entailed that the tv producer visited each business, a research/coaching stage where the experiences to be featured were chosen, and the films were outlined. Then the actual filming of the experiences was done on location, and the finished edited films were sent the businesses with a short manual on how to implement them in their marketing – embedding the films on company website, posting on Facebook etc. The duration of the process differed, factors such as weather, type of activity to be featured (winter/summer), and peoples' schedules made for very different efficiency in production. 25 companies joined the project, and they have received a total of 50 short films.

In addition to each company's use of the films and presentations of Innovative Experiences, the cluster has promoted the films through a joint landing site (www.seeyouinnorway.no), and they have also been promoted through online campaigns with Visit Norway (www.visitnorway.com) and Northern Norway Tourist Board (www.nordnorge.com).

2. THEORETICAL FRAMEWORK

2.1. STATE OF THE ART

A limited literary review based on recently published articles on the topic social media in tourism and hospitality, shows that the social web is more than a technological innovation; it's a social innovation that affects and changes the way people and companies interact and communicate (Amersdoffer et al 2012). The implication of this is that it is no longer sufficient to use social media as a channel for marketing; use of social media affects almost every part of the business.

Leung et al (2013) states that given the emergence and prevalence of social media among the consumers, it is no longer enough for businesses in tourism and hospitality to rely solely on traditional media for marketing. In a large review of research on social media in tourism, Leung et al (2013) argues that the "user democracy" culture and the ability to share information by means of social media have made substantial changes in information asymmetry and the bargaining power of consumers. Social media have been widely adopted by travelers to search, organize and share travelling experiences. In 2011, more than one-third of all leisure travelers in the United Kingdom choose their hotels on the basis of social media sites like Trip Advisor and Facebook. Social media play an important role not only for consumers in travel information search, but also as a tourism marketing tool.

Leung et al (2012) show in their study that research on social media in tourism industry could be divided into different perspectives or point of views; studies that focus on the consumers perspective, and studies that address the topics from the from the suppliers perspective. The latter includes promotion, product distribution, communication and management.

Several studies argue that social media uses among different business actors in the tourism sector are largely experimental and that strategies vary significantly (Hayes et.al 2013, DiPietro et.al 2012, Leung et al 2013, Hvass & Munar 2012).This includes restaurants, airlines, destination marketing organizations and other parts of tourism industry. Leung et al (2012) argue that despite the adoption of social media as an increasing trend, there are few businesses that exploit the potential of this technology. The world of social media is

characterized by rapidly evolving technologies, and some companies may embrace the pressure to be digital, but are not aware of what it means to do business in social media.

Some of the arguments for using social media in tourism industry are connected to easy access to the Internet and low costs for updates. The emotional bonding – and thereby the effect of social media as a marketing tool, can be achieved more easily because pictures, videos and films are integrated. Kim & Mattola (2011) have examined how hotel websites use electronic video clips, and conclude that video clips are suited for providing visual evidence of service quality by helping customers to a visual impression of their products. They argue that for experience-based services, such as hotels, the use of video clips helps to reduce uncertainty related to service. Customers can easily assess and evaluate services with video clips. For experience providers, reducing customer uncertainty is important, but conveying the emotional and contextual aspects of the experience is critical, and both purposes may be served through including short film in their digital marketing.

2.2. METHODOLOGICAL FRAMEWORK

This study has an explorative approach, aiming at understanding the use and effect of the short You Tube-films in a cluster of businesses.

The collection of data is based on different approaches:

- *Qualitative interviews* with business leaders in the cluster. All businesses were informed about this study on e-mail, and asked to participate. 11 out of a total of 21 businesses chose to take part in the study. Qualitative interviews were conducted face-to-face or as phone interviews. A thematic question guide was used to structure the interviews; with a focus on the process of filmmaking, implementation, use and experienced effect of the films. In addition, interviews were done with the film producer and project leaders.
- *Systematic review of You Tube-films* was considered as a suitable approach for mapping out content and form. This part of the study also included a systematic review of websites and use of social media.
- *Participant observation* in cluster activities, especially meetings and discussions concerning marketing and use of social media for a period of one and a half year.

3. EMPIRICAL FINDINGS

3.1. PROJECT DEVELOPMENT

As described earlier, the project was developed by the project management of the cluster in collaboration with the producer Per Thomas Govertsen, experienced from travel and news productions for tv. The project was partly financed by Innovation Norway, and the package presented to the businesses was “an offer too good to refuse” – a planned process with a professional producer, a set format, and a very low price. Most companies in the cluster participated in the project.

3.2. PRODUCTION

For each of the companies, the project started with the producer visiting the company to plan the content and format of the films. One day's workshop on what the company had to offer and wanted to present to the customer, to identify the core-experience to be featured. The businesses have very different levels of marketing competence, especially in regard to digital marketing, and this process of reflection was seen as necessary to obtain a usable product. Most of the businesses found it useful to have "a professional" to come and work with them – it became "more than a film" to them, the producer became a business advisor to several of the companies.

The time span between the planning visit and the actual filming varied. For some, the filming was done the next day, for others weeks or months passed. This was due to busy schedules or in some cases weather constraints, but also time of year – some businesses wanted to feature summer activities, while others focused on winter. The companies offer differing experiences with this part of the project. For some, it worked well, the initial planning meeting was done early and they had plenty of time to prepare and plan for the filming. One informant, Svinøya rorbuer, describes the time between planning visit and filming as very useful, and that it made it possible for them to prepare for the filming, organize an event, inviting extras to be featured as guests etc. Another informant, Lofotr Viking museum, reported that the early planning session gave them the opportunity to time the filming to coincide with planned activities in the business, in their case the annual Viking festival.

Some companies say that the production period went too fast, and was too stressful, that they would have liked more time with the producer before filming. The last production that was made, had a particularly negative experience, they felt that the production was done too late for them to be able to use it for marketing, the season had begun, and they also felt that the process was too rushed, they had lots of ideas, and when the producer went through what was realistic to achieve in this kind of film, they ended up with a plan they were disappointed with. They felt that the lack of time after the first planning day, for reflection, regrouping and planning made for a less than optimal product. The reason for this particularly tight schedule lay largely within the company itself, and serves more as an illustration of a potential problem than a description of the project process here.

A few companies also felt that the timing of the production period ended up favoring summer activities, one who has the Northern Lights as its key experience ended up with films not featuring the Northern Lights because of the time of year.

The role of the film producer is emphasized by most companies. The collaboration is described as very positive, a view on the business and their products from an outsider, and help in identifying their core-experience/product and how to promote it, was a big help for most of the companies, the smaller ones in particular, who do not necessarily have a lot of resources for business development and marketing strategy. The personal chemistry between the businesses and the producer was also said to be very good, and he was regarded as very helpful and competent.

One potential problem with using one person to work with this many different companies is that some of them cater to very different niche markets with specific codes. One informant working towards the international golf market said that he performed very tight quality control on the filming – what is considered nice grass for a non-golfer, is very different from what a golfer would appreciate. When a company caters to a specific customer group or demographic, the wrong angle or the wrong cut in a film can cause damage to the image it is trying to communicate. For this type of cluster, quality of the product is a main selling point,

and that requires the companies to keep a close eye on how they are presented in a film like these. Another example came from a company that made an action packed film featuring skiing for advanced skiers. The music in the film was not one appreciated by this demographic, and had to be changed when re-editing the film for a specific campaign.

3.3. IMPLEMENTATION

The companies use the short films in different ways. The finished films were given to the companies along with a simple introduction or manual of basic ways of dissemination. Simple explanations of how to embed the films on the company website, uploading to you tube and posting on Facebook were given. We have identified three different types of users among the businesses:

- "The average user"
- "The super user"
- "The inactive user"

"The average user" is usually a small company, where marketing, sale and information are among the many daily tasks for the general manager. These users e.g Bodøgaard kunst og kultur, follow the manual given by the film producer, and place the film on the company website, and attach a link to the films in special offers to new potential customers. When they find the time; they post the films on their Facebook-site. Some of the companies in this group, like Kobbelv Vertshus, express how the implementation and use of the film has led to processes of "learning by doing"; through the cooperation with film producer and project leaders, the company has developed digital competence that is crucial for the further development of the business.

"The super user" is more often a larger company, with specialized positions in charge of sales and marketing. Lofotr Vikingmuseum is one of the super users in this group, and has a marketing position on half time who uses the film actively in her work. Use of the film is an integrated part of the business' active external work towards different groups in the market. The companies in this group represent a pro-active attitude to new channels of communication, marked by openness and flexibility. In the group of super users is also Svinøya Rorbuer, a company that makes very active use of the film by sharing it from their website, and Lofoten Golf Links that has several websites and Facebook pages where the You Tube-films are actively used. Another aspect of the super user groups is their possession of digital competence, which also includes a genuine interest for using and developing this competence further. Among the companies in this group is Aalan Gård, a small farm producing goat cheese. One of the employees has a special interest in ICT-tools, and in addition to an active and innovative use of the You Tube films, this has led to development of an app. The super users were all able to disseminate the films widely to their customer base, as well as in social media.

"Inactive users" refers to the very small, often micro-companies, with a lack of competence, resources and perhaps also interest in digital tools. Inactive users are very few, but some of the companies were not particularly active in their digital marketing, did not put the films on their webpage, and might not have a Facebook page or profile. A characteristic for these firms are that their size and lack of digital competence make it difficult to use films in their marketing work.

Many of the companies expressed regret feeling that they had not put enough effort into disseminating the films, or that they had not been able to use them for maximum effect for

other reasons. Some had technical barriers such as websites solutions without much flexibility or were tied to a web distributor that did not facilitate films, but for most companies that did not use the films actively the main barrier was digital knowledge and lack of familiarity with digital tools and social media. This is a common challenge for small businesses; one or two people run the business and lack the time and resources to develop skills beyond the delivery of services and running of the company.

The project management was surprised to see that so many of the companies failed to make use of the opportunities presented by the films. In spite of the manual provided and the guidance from the project management, implementation was more complicated than expected for the companies. The additional need for personal tailored guidance was a surprise.

All companies report some marketing effect of the films, of only that customers get a better impression of the activities offered than they would have only from still photos and text. The films seems to reduce uncertainty regarding experience and quality. All films have also been featured on the joint landing site, and people arriving there from watching one film would often watch other companies' films also. Among the average and super-users, most companies have also benefited from reaching new customers through social media, and some achieved wide dissemination. A couple of examples of this are the Viking song film from Lofotr Viking museum that played on humor, and achieved viral distribution because of that, and the Hamsun centre's wide distribution of its film featuring the famous architect Stephen Holl.

3.4. EXPERIENCES OF USE

The films were immediately used by the project management when giving presentations about the cluster and its work, and they were also incorporated in the business presentations on the cluster website (www.innopp.no). Also, a You tube channel was established (www.gotonordland.com). To promote the films further, a common landing site was created (www.seeyouinnorway.no) where the films appeared together, a short description of the specific company was given, along with a link to the company's webpage. The site exists in Norwegian, English and Dutch. This site has had a better effect than the You tube channel, and more visitors have seen more films here. The films have also been used in test campaigns by Innovation Norway, in banner ads on relevant destination websites, and in campaigns with Visit Norway (www.visitnorway.com) and Northern Norway Tourist Board (www.nordnorge.com). A tv series from the national broadcaster in Norway last winter, called Oppdrag Nord-Norge, led to a moderate surge in viewing, based on general interest in extreme winter sports in North-Norway sparked by the tv show.

The cluster has some data on viewing of the films, but mainly from Googleanalytics, and analysis beyond number of visitors and viewing, such as demographic breakdowns will not be reliable. Also, the numbers are fairly low for an informative analysis.

A general tendency is that the companies themselves have not done any systematic evaluation of use and effects of the films. They have no forms of monitoring or counting of number of hits, visits or downloading. One exception is Aalan Gård, who has monitored and followed visitors on their website. They have counted numbers of visitors and downloading of the film from their website, but are in doubt as to the usefulness of this counting.

What the companies do experience is that visitors have seen the films before they arrive and that they have appreciated the preview of what to expect. Visitors do refer to events presented in the film, and expect to meet these when they actually are visiting the business and the

touristic experiences they do offer. One example is Henningsvær bryggehotell, where the film shows a day at sea, consisting of a boat trip with deep sea fishing, where at the end of the day, the fish is prepared in the restaurant, by professional chefs. Costumers on their way to visit this company, asked by e-mail: "does the chef actually come in to the dining room to prepare the fish?" Henningsvær bryggehotell sees how the film gives potential customers an experience in advance, where their senses are being engaged and challenged. This experience by the business owners illustrates Kim & Mattolas (2012) general point: visual evidence of the service provided helps to reduce customer uncertainty before purchase.

Several companies see the qualitative aspect of the films as more important than quantitative measures. Kobbelv Vertshus, who are offering a very special experience "the tunnel dinner", have learned that a film is a very strong and useful medium; "*the film creates an experience in a way that word and pictures cannot do".* The manager of Lofoten Golf Links shares this; "*Film is a good medium. Experience industry is about pictures and dreams".*

Another dimension related to use of the films, is connected to film as "internal medicine". Some of the companies, like Stella Polaris, claims that the process of making and using the film do have internal effects in the company. The film points out the core activities in the company, and makes them visible both to the employees and visitors.

For Stella Polaris, it has also been particularly useful to show the film to tour operators and travel agencies located in the southern part of Norway. The film has worked as an eye-opener for these market operators, showing them that the core activity of Stella Polaris is coordination of experiences. Other companies have also used the films successfully towards tour operators. One example is Tuvsjyen, whose films are featured on Anglers World's web page (http://www.anglersworld.tv/destinations/bodo-region/).

3.5. LESSONS

When asked what they have learned from making and using film, answers from the companies fall into different categories.

Some of the smaller companies, with no previous experience from making or using film as a part of their daily work, emphasize how useful the meeting with film as a medium has been for them. Film was a new and unknown medium, and the owner of Kobbelv vertshus explains how the process have led to new and creative ideas: "*After some time, you ask yourself – could I make my own film – using my mobile camera?*". Seen in this perspective, the process of filmmaking has broken down some mental barriers, and made film a useful option for marketing experience products.

For others, the experience with film as a medium, has led to reflections on how to use resources most effectively. Several businesses are of micro size, often based on household resources and no employees, and for these businesses, every amount of money spent needs consideration. One of the smallest businesses in the cluster asks this question: "*Film or vacuum cleaner? It's a relevant question for small businesses, because you always have to choose where to spend money".* Professional production of film for marketing purposes might not be the best use of resources for all tourism SMEs.

Some of the businesses have noticed that their films need adjusting. Through their own use and feedback from external users, they have become aware of certain weaknesses in the films. Some have made their films in the middle of a design process, and need to update the film according to new design. Others have realized that the use of Norwegian language and text do

not work when the costumers come from all over the world. Companies also claim that given the opportunity again, they would make films that were more action-packed and shorter – having seen the format and the use, several companies feel that their films are slower and longer than they would have liked.

Some companies have made changes in the services provided, such as Galleri Bodøgård, who has built a new wing in their gallery, incorporated a gourmet kitchen and now target the corporate market in a way not featured in the films. The films present their former activity well, but they would like to show their present activity to a larger extent.

For the Hamsun centre, the film project came too early with regard to their development of experience products, so their films focus on the stunning architecture and the architect. This has in itself created a lot of interest for the films, but as a tool for marketing the experience products they offer now, the films are less useful. Timing of producing any marketing material for businesses in development can be tricky. And films may run the risk of being outdated sooner than a leaflet due to just its advantage over other forms of marketing material - the fact that they communicate to the senses and gives a better impression of the experience at the time of filming.

For a rather large number of businesses, the experience from use of the film is that it had led to improvements within the business. Some, like Aalan Gård, state that the film has led to digital and technological improvement. A new website had to be created to optimize the effect of the new film. The business did possess the necessary digital competence, was able to identify the need for a new web solution, and they could carry out this themselves.

The project leaders state very clearly that experiences made through the process of making and implementing the film has led to important learning. If they were to plan film making with a new group of businesses or a second round with this cluster, it would have been done differently. The whole process would have been planned and organized in a different way, especially the implementation part. One possible way of organizing this would be to arrange a tutorial on implementation as a workshop, and make sure there were assets in the project that could be used to finance digital assistance. A set of "superusers" among the participating companies, or a mentor system with a professional might also have been tried.

One learning point for some companies was the need to consider and target the message and form of the film to the specific target group for the experience offered. Lofoten Golf Links emphasized that one has to know who one is talking to – and what kind of message you are sending. For them, the informal and unpretentious way these films presented golf was perfect for the Norwegian audience. For his Chinese market, however, another form and tone of communication is necessary. The challenge posed by the web is then – how do you tailor you communication to specific markets, when web communication is more or less universal?

One informant said that the films were less useful for his company because they targeted individual travelers, and not tour operators that would use the films as marketing for their customers. However, the format of these films – tailored for social media and web marketing, should make them an equally useful tool for companies targeting individuals.

When asked if they would make another film in the same format given the experiences with this process, a majority of the companies answered yes. Some of the smaller companies said that they would if they were offered a participation in a project similar to the last one that did not require a large investment on their part. A few of the larger companies had other preferences. Lofotr Viking museum uses film regularly in their own marketing work, and will also make more of this specific format, but will then use local producers to allow for closer

communication and flexibility in the process. Svinøya will also use a local producer, to achieve more flexibility with regard to weather and production time and process.

4. EVALUATION AND RECOMMENDATIONS

BARRIERS FOR IMPLEMENTATION

When the businesses themselves are asked to evaluate implementation and use of the film, the common answer is that the *films are most useful for businesses with a certain level of digital competence, and a certain interest in using this new tool.* Some of the businesses are dissatisfied; their expectations have not been met. When asked, these businesses express that they would have *needed more coaching* from the project to implement the potential that the films represent. The project leaders share this view, and were surprised to see the need for personal, tailored guidance in the implementation of the films. The project leaders and the film producer provided the participating companies with a user manual and offered guidance in implementing the films. In spite of this, implementation and use have seemed to be too complicated for some, and personal guidance seems to be a better alternative.

One informant describes the project as *«stopped just short of the finish line",* and speculates that perhaps the thresholds, although intentionally low in the design of the project, were still too high for the smaller and less digitally minded companies. Some companies found it too hard and gave up instead of getting what they could have from the films. A mentor system, or workshop on implementation, or perhaps best: another day with the producer for each company, ensuring a minimum of promotion of the films could have made this a more useful tool for all companies involved. Still – as one informant said – even for the smaller businesses that were not able to get maximum effect out of the films, this is still better than no film.

Another aspect connected to implementation of films, is that this process is complicated by the companies different web site –solutions, which represents *different levels of flexibility*. A solution to this challenge that are mentioned by different actors, are *a more differentiated structure,* where the smaller and digitally more immature businesses were provided a "packet solution", consisting of film-producer and personal and tailored implementation, while the larger and more digitally mature companies were more free to make their own choices as to film producer and implementation.

LEVEL OF PROFESSIONALIZATION

One striking feature when examining this project is that even in a relatively homogenous business cluster, are the differences in size, competence and maturity. Not only with regard to digital marketing, these contextual elements naturally have a direct effect on the degree of professionalization in the companies, and this in turn affects how the companies are able to adopt and make use of new and additional tools of marketing. This is also illustrated by the way informants describe the process with the producer – for the smaller companies the planning session became business development through its focus on communication of their core products. Most companies report the start-up workshop as important and useful, but for the larger and more mature companies it was a complement to their own work. The level of professionalization will be decisive for any development project initiated by the cluster, but this film project was a particularly good illustration of how the effect is dependent on it. As argued above, development projects that are to encompass all the businesses in the cluster may have to be designed as a multileveled exercise to allow for the differences within the cluster.

COMMUNICATING TO TARGET AUDIENCE

Isolating the main target group for the companies' experience products is reported by several informants as important to ensure that marketing activities yield the desired effect. This was not a main focus of this project, but arose more as a reflection among a few of the informants who were or became aware of the pitfalls of online communication of experience products by way of film. Both on a general level – reflection on who the recipient of the message is, and more specifically when targeting niche markets, a short film will communicate more directly than text and photos, and small differences in content or distribution may have substantial effect on the image projected. As a future improvement, a clear identification of target group for the films, and a more distinct attention to niche markets, would be recommended.

FORMAT OF THE FILMS

The aim of the project was to produce mini-documentaries, short films focusing on the core of the experience provided, for use in social media as well as digital marketing in general. This format seems to have been well chosen, allowing for a wide range of uses of the films in addition to the relatively simple use planned for the companies themselves. The films have been used extensively in presentations and in campaigns by Innovation Norway, Visit Norway and Northern Norway Tourist Board as well as private sharing in social media, due to their user-friendly format and their availability free of charge.

ACTIVE PROMOTION AS CRITICAL FACTOR

The general message from companies, producer and project management alike is that the short films will have marketing effect only if the company itself uses them actively. They will have effect for everyone, not only the large companies, if promoted. To realize the potential that film in digital marketing represents, some necessary steps can be suggested. Identification of barriers for active use of films and incorporate strategies for overcoming them, will be an important starting point. Providing the companies with the necessary competence, guidance and instruction would be a next step. This will be important considerations for anyone considering using films in digital marketing, whether it is a single company or a cluster.

The short films are described as a useful digital marketing tool for experience-based tourism businesses provided they are used actively. The ability to do so varies greatly even within a relatively homogenous cluster such as Innovative Experiences. Still, all companies report to have had some effect of the films and some also have had effect on their own product development through the process of isolating and presenting the core-experience.

A joint project for an entire cluster will benefit from differentiated processes depending on the size, maturity and level of professionalization of the companies. The advantage of doing this as a joint project with other companies or cluster members is that costs of filmproduction may be reduced, the disadvantage is that a set process may be too limited and rigid for larger companies with specific objectives for their films.

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FACT-SHEET

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Title: DIGITAL TOOLBOX: INNOVATION FOR NORDIC TOURISM SMES

Author(s): Oddny Wiggen and Maria Lexhagen (eds)

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Abstract:

This project consisted of 6 Nordic partners (collaborations between academic institutions and business clusters from the Nordic countries), and focused on identifying and developing ICT tools for innovation in Nordic tourism small businesses and destinations.

Meeting the practical needs of tourism businesses in the Nordic countries when adopting and employing ICT in their operations has been the focus of the study. Taking into account the structure and challenges of the tourism industry in the Nordic region, the different case studies in this report represents different approaches to efficient use of ICT, offering a toolbox consisting of suggestions on how to take advantage of ICT for market communication, customer knowledge, service design and innovation.

The seven tools in the digital toolbox developed, are a mobile app, a service design toolkit, a customer knowledge tool, a website analysis toolkit, a user generated content sentiment analysis tool, a methodology for open innovation and a digital marketing tool.

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Digital Toolbox: Innovation for Nordic Tourism SMEs

This report focuses on meeting the practical needs of tourism businesses in the Nordic countries when adopting and employing ICT in their operations. Taking into account the structure and challenges of the tourism industry in the Nordic region, the different case studies in this report represents different approaches to efficient use of ICT, offering a toolbox consisting of suggestions on how to take advantage of ICT for market communication, customer knowledge, service design and innovation.

The tourism sector continues to grow, as evidenced by for instance research by UNWTO pointing to an above expectation increase in international tourism by 5% in the first half of 2013 compared to 2012 (UNWTO, 2013). Competition is increasing and poses many challenges especially for small and medium sized businesses in tourism. An important challenge, as well as an opportunity, is the use of information and communication technologies (ICT) in tourism. ICT provides all stakeholders in tourism with new opportunities to interact with consumers and networks of other stakeholders as well as opportunities to positively affect business performance, efficiency and effectiveness. The Internet has revolutionized the tourism industry and it is increasingly important for all tourism businesses and organizations to adapt and increase its attention to the use of ICT. One important area for destinations as well as for individual businesses is to work with ICT tools interacting with customers based on dimensions other than "price consciousness" and instead focus on value creation and experiential dimensions. Another important area is for organizations, such as destination management organizations (DMOs) to consider and develop capabilities for innovation such as implementing tools which can provide infrastructure and content that can be used to increase knowledge about customers which can serve as support for strategic decisions about development and marketing.

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