Master thesis

The influence of interactive web applications in tourism communication on travel motivation and intention

- Tested on a self-developed web application

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Master in Media Practices
2019

Abstract

Tourism is a strong economic branch for many countries. Exposing the right destinations to the right tourists can be challenging in a time where distribution technology for communication is as quickly obsolete as one got used to them and information is forgotten after the next click. But it is not just the distribution technology that is changing, also how people perceive and experience destinations is changing as tourists' expectations change. A new tourist generation with different values and habits than the generations before will soon be the main focus in tourism communication. This thesis focuses on the role interactive features of web interaction play on tourists' motivation and intention of this new generation of tourists. For this, an interactive map including videos was developed and evaluated through user-testing and qualitative interviews with eleven informants. The result was that interactive features have an influence on the user experience of the communication technology and therefore influence on the perception and satisfaction of the destination which then leads to an increasing chance of visit intention. The findings increase the understanding of the complex decision-making process of tourists, especially the ones that took part in the evaluation and how to use new and interactive technologies in order to influence the destinations they will choose for future trips.

Keywords

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Introduction

Finding travel destinations in a foreign country secluded from the normal, over-crowded touristy areas can be challenging. Mostly one has to ask their way through with the help of the locals or use a traditional map. But what if there is no local available or the language barrier too high? Then the only option left is to consult destination marketing organisations with its standard websites, whose only goal it is to squeeze money out of your pocket. How practical would it be to have a map of the area that presents visit-worthy and sustainable insider locations in short videos, so you can play around, discover the area and directly get an impression of the places? This idea seemed very promising to me. But what seems promising to me does not necessarily need to be as useful for others.

It is clear that in tourism communication new ways of addressing people need to be approached as there is a lot of competition among destinations and the main consumer group is changing as well as their practices. A more intense use of technologies and mobile devices shape the visitors' way of travel research and will influence their use of on-location guides as noted by Carmen Cox and Meredith Wray (2011). As a result, tourists are more mobile (mobile devices, mobile in the sense of travelling); therefore, they can access information from any place of the world while service providers are more or less bound to a specific place, the place they are promoting. Tourism has transformed from providing and choosing a pre-planned and standardised trip to a more unique and individual experience (Urry, 2011). Therefore, a closer look on the spatial relation to tourism places experience needs to be taken. How destinations and its attractions are promoted and how media and technology was used has been part of previous research and is also important for an efficient marketing strategy (Cox & Wray, 2011). Related to this, Koo, Joun, Han and Chung (2014) mention the push and pull factors where the use of media and technology is most important due to its influencing potential.

Moreover, the decision which technology and distribution channels to use to address the target group and change their visiting intention is a key strategy in tourism marketing (Cox & Wray, 2011, Reino, Alzua-Sorzabal & Baggio, 2013). Research in this field has been done, which especially focused on big destination marketing organisations' communication strategy and the importance of using new media (for example Grüter, Schneider, Myrach, 2013). But just a few concentrate on smaller and local destinations with specific target groups (Cox &

Wray, 2011, p. 528) and almost none of them investigate how new technology has an effect on decision-making (that motivation and intention are part of) (Rodriguez-Giron, Vanneste & Ioannides, 2018; Vinerean, 2014b). They just agree on the fact that media does have an influence on how a destination is perceived (Vinerean, 2014b). Thus this thesis aims to find out how interactive applications in tourism communication can have an impact on people's travel motivation and intention as part of the decision-making process.

For my investigation, a self-developed, interactive web application will be used, which is not a common thing to do in the research field but recommended to do so more often. Recently, media design products have been designed and used for investigations, but mostly in relation to journalism (Nyre, 2014). My project communicates locations with a non-commercial approach as recommended by Lars Nyre in *Media Design Method: Combining Media Studies With Design Science To Make New Media* (2014). In coherence with my project, I will explore if an interactive application (including videos, text and pictures presented in a non-linear narrative) in tourism communication has an impact on people's travel intention or motivation. The aim is to figure out **how interactive web applications in tourism communication influence the viewers' travel intention and motivation**, and if there are any specific characteristics people have that are influenced by the map. Based on a pragmatic perspective, inspired by John Dewey (Gouinlock, 2019), I will use multiple questions and methods to investigate the topic to have a practical outcome in the end that can be adapted to other projects and destinations. I chose the pragmatic perspective, because it emphasizes on the significance of experimental testing and revision through interacting with people (Gouinlock, 2019).

For the thesis and my project, I narrowed down the field of tourism as different kinds of tourism require different strategies, and also concentrate on a specific target group during my investigation. The fields of tourism I concentrate on for the thesis are abiotic (geotourism that focuses on landscapes), biotic (ecotourism that concentrates on animals and plants) and cultural tourism, further on called ABC tourism, inspired by Ross K. Dowling and David Newsome (Magee, 2011). These tourism forms are related and include parts of each other. Furthermore, they describe a growing trend in the tourism industry (Stokes, Cook & Drew 2003). People like visiting these kinds of tourism attractions as they provide views that are worth taking pictures, which they then can share on Social Media (Rich, 2012). Additionally, these tourism fields include attractions only accessible by walking and therefore are more environment-friendly than other forms (Weston & Mota, 2012). This thesis assumes that the

behaviour of those tourists will be different than in other forms of tourism. Other tourism forms, like for example adventure tourism or dark tourism, require other characteristics and imagery than ABC tourism. It is more likely that people are partly ABC tourists than a specific other kind. According to Dowling (2013) they are driven by curiosity and enlightenment over the earth's landscape evolution.

Understandings and Definitions

For a better understanding of the thesis specific terms, it is significant to define them in the following (Legg & Hookway, 2019).

Interactivity in this thesis refers to the interface of the application and the possibility for the user to decide what to look at or to select and in which order.

Travel **motivation** is meant to be the main influence that makes someone change their (travel) behaviour – the reason for travelling with the goal to satisfy one's own wants (Jang, Bei, Hu & Wu, 2009) . Maslow's theory of needs can be linked to it. The **intention**, in contrary, describes the traveller's mindset towards an action. It can be described as the connector between motivation and behaviour (Jang et al., 2009).

If the destination does not seem to meet the expectations or is not visually attractive enough as seen through the application provided, the application itself might be without relevance and will be drowned out by other competitors and not be memorized (Urry & Larsen 2011). Therefore, my project will work with strong visuals.

ABC Tourism is part of what is known under researchers as geo-tourism. It focuses on the abiotic aspects of an area to strengthen awareness and understanding for the biotic environment (flora and fauna) that is determined by the geological environment, hence shaped the human culture in the same area (Dowling, 2013, p. 59). It is strongly related to ecotourism and cultural tourism, but it is not exactly the same. In ABC or geo-tourism the impact of the abiotic environment is always in focus. That means, for example, that the cultural aspect shows the use of geological material by humans in the past and now or the living conditions in a geological relevant area and how people adapt(ed) to it (Dowling, 2013, p. 60). There is no clear definition for geo-tourists. Any ordinary tourist can partly be a geo-tourist. Most

importantly, they need to appreciate visiting ABC destinations, like learning about their formation and discovering the necessity to conserve them (Dowling, 2013, p. 61-67). Apart from the already mentioned characteristics of an ABC destination, geo-tourism is classified by prioritising conservation and protection over tourism experience or service (Dowling, 2013, p. 67) with the goal to achieve sustainable tourism (p. 59).

My interactive web application that is used for this investigation is an interactive map with geo-tagged locations that are worth visiting within two hours driving around Volda, Norway. Behind each location, a short video is concealed that presents the location with flashy images and some interesting facts. The target audience of the map is international students from the Volda University College.

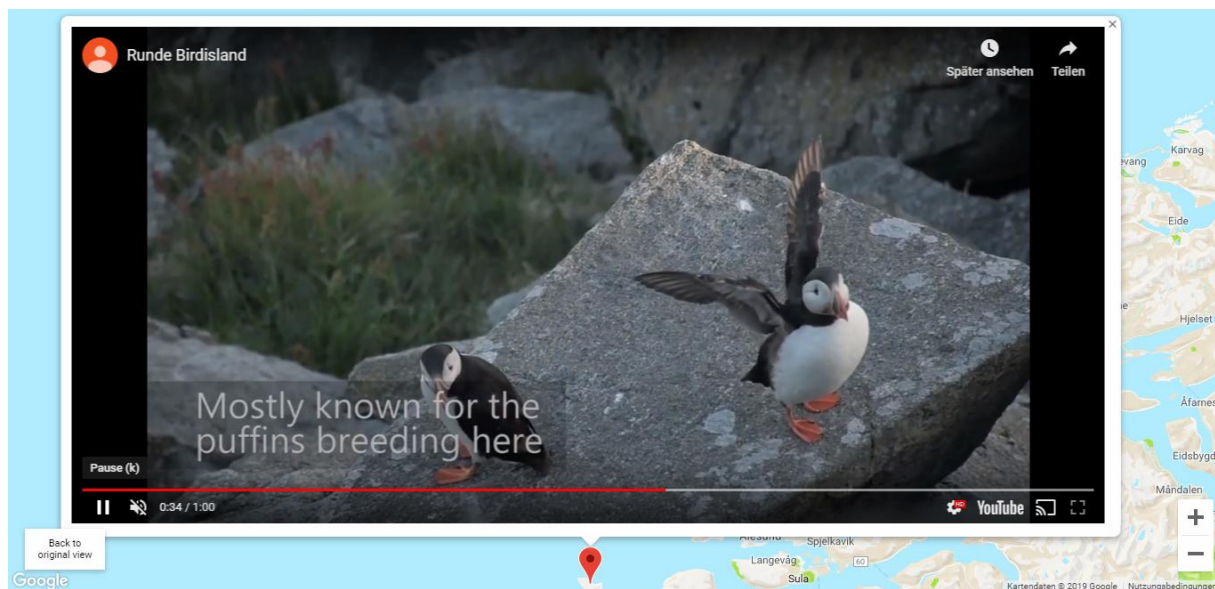Figure 1: Screenshot from the interactive map prototype while a video (from Runde) is playing

Previous research

Main contributers

There are several contributors that elaborate on tourists and how media is influencing them or how media could be used to inform them better. The evolution of tourists and tourism and the impact different media had on it, is described by John Urry and Jonas Larsen (2011). They

also make suggestions how to use media to create believable and attractive tourist communication. In contrary to that deals Tussyadiah (2017, 2013a, 2013b) more with the effect technology has on tourism communication with an emphasis on interaction design. Lars Nyre and Anders Fagerjord are also names to mention when it comes to technology in tourism. They are amongst the few who started using prototypes for their investigations in the field of media studies and tourism (Nyre, 2014, Fagerjord, 2015).

When it comes to ABC tourism, there are not many well-known contributors yet, but one that is worth mentioning: Ross K. Dowling who published several papers about geo-tourism and its characteristics already (e.g. *Global geotourism – an emerging form of sustainable tourism*, 2013).

Very detailed information about the decision-making process in tourism is provided by several authors, such as Cohen, Prayag and Moital (2014), Decrop (2006) or Vinerean (2014a & b). This thesis will refer to these authors and make use of their concepts and theories later.

Impact of interactive web applications in tourism communication

Previous research has shown that interactivity and videos are perceptual important in tourism marketing both for travel research and to show off to others (Rich, 2012). While there has been a lot of research on the impact of video in tourism communication (for example Tussyadiah, 2009; Leung & Dickinger, 2018), less has been done regarding the impact of interactive web applications in tourism communication.

Wang (2018) points out advantages of implementing interactive propositions in communication strategies. Interactive offers give the opportunity to escape real life by "playing" around. Because of this, the engagement with the destination increases, which in turn has a positive effect on the experience with it. A value co-creation can be the result by creating value and joy for the tourists who in turn tell other people and visit the place (spending money on it) (Wang, 2018).

A study initiated by the European Travel Commission investigated a computer-generated virtual world that had no given linear narrative with the result, that there was no opportunity to actually measure the relation of virtual visits and real-life visits. Most of the interviewed representatives from big destination marketing organisations believed, that there was a positive relation, though (Mascho & Singh, 2014).

Advantages of interactive maps

Bauer, Boksberger, Hergut, Hierl and Orsolini (2008) emphasise in their article *The Virtual Dimension in Tourism: Criteria Catalogue for the Assessment of e-Tourism Applications* that tourist applications should focus on adding value for the tourists. In their criteria catalogue for analysing web applications, level of interaction even got its own category. They also refer to interactive maps that can benefit tourists to get an overview about a destination especially if they do not know much about its geography before. In their conclusion they suggest including more interactivity in tourism web applications since it is a possibility to "test" the location beforehand. Therefore the use of geotagging is highly recommended, because it supports interactivity and collaboration (Bauer et al. 2008).

Dickinger, Scharl, Stern, Weichselbraun and Wöber (2008) add here, that maps with geotagged information can increase the research experience of users. The trend to include maps (without geotagging) is already on the rise. Maps give the opportunity to get a spatial comprehension of a place. They can be an important connecting element in the current of communication (Nyre, Bjørnestad, Tessem & Øie, 2012, p. 301).

The importance of videos and other visual presentation formats in tourism communication

Robert Cheong (1995) described already in 1995 the potential influence of virtual reality in tourism. He sees several advantages in using it. Potential tourists would get more detailed and realistic information related to look, sound and feel about the place they want to visit, thus they can make a better "informed decision" (p. 419).

Daniel Leung and Astrid Dickinger (2018, p. 2) underline the importance of videos in tourism marketing as they can be screened and viewed on many different websites at a time which is comfortable for the user. Previous studies showed that videos help changing the attitude towards a destination positively but there has not been much research about the extension of it so far, although it is getting more popular among researchers now. In their study, they found that videos for destinations have huge potential in creating a destination's image. But a focus on specific aspects and professional selection of scenes is crucial for convincing the audience (Leung & Dickinger, 2018, p. 5). Tourists will not accept media outage when researching. They demand "committed, reliable communication channels" (Bauer et al. 2008, p. 531).

The diversity of visual presentation formats (VPF) that can be used is evaluated in Grüter, Schneider & Myrach's (2013) article about hotel websites in Switzerland. They point out more advantages. Their main argument is that VPFs offer the possibility to discover a service or place before actually visiting it. But just presenting them is not enough. An interaction with them is necessary to enhance the experience. They understand interaction as form of "visual controls such as zoom and rotation" (Grüter et al., 2013, p. 401) and actions that produce responding (e.g. clicking). Through VPFs the viewer is virtually transported to another location, which is represented by the VPF. This is coherent with the degree of interaction my web application will provide. The interactive map will allow the user to visually control the map by zooming and moving around. But they will also be able to control which videos and in which order they want to watch the videos.

In their article Grüter et al. (2013) also refer to Steuer and Hyun et al., who divided VPFs differently than themselves. According to Grüter et al. (2013, p. 403), Steuer and Hyun et al. classified them into interactive VPFs and vivid VPFs. Different media can be evaluated according to these classifications. Videos for example have a higher vividness than pictures while 3D formats are more interactive than videos and also have the highest telepresence. The results of the article were, that, the higher rated the hotel was, the more different VPFs were used on the website. That creates not just a USP but also manifests a modern and innovative brand image, and makes these hotels stand out from their competitors (Grüter et al., 2013).

These findings might be adaptable to tourism destinations in ABC tourism, because Koo et al. (2013) point out the importance of media culture for cultural tourism in their article. The media used for visual presentation is key to convince the visitor of a certain destination and exposing the information that produces the desires to travel, thus they may influence the decision for a destination. Video related formats play a big role, because of their emotional and entertaining aspects. But Social Media play an even a bigger role, since they give opportunity to be in exchange with other travellers as well as sharing pictures or videos from a place (Rich, 2012). Most important, however, is that the expectations of the visitor are fulfilled to create loyalty towards the destination (Koo et al., 2014).

The Narrative behind interactive maps

Promotion videos of various destinations and advertisements have lately been analysed increasingly regarding their narrative or non-narrative structure. While pointing out why

narratives work well, they do not take into consideration why non-narratives are still used to a great extent. Only Lien and Chien (2013) point out advantages of non-narrative advertisement and the importance to have strong arguments, because that is where the focus of the viewer lies, if the message is not wrapped in a story. That does not mean that it is not possible for a non-narrative to affect the viewer emotionally or otherwise.

Having interactive applications like interactive maps mostly means having a non-linear narrative. Research in non-linear narrative has also been made but concentrates mostly on education and web documentaries. Nevertheless, in studies of web documentaries interesting and adaptable facts can be found. First, in *The Interactive Documentary as a Living Documentary* by Sandra Gaudenzi (2013), here the author distinguishes interactive documentaries from normal documentaries by emphasizing the correlation between the objects implanted in it, the user and the application. She also describes interactivity as form of control but likens it later to a form of transformation, because of the mentioned correlation. This leads to her conclusion of calling it living documentary, because interacting with applications like this helps the user shape and understands the world just like life does while we interact with other humans and our environment.

Each documentary has a different impact on the viewer, though, and therefore each viewer will shape his reality differently (Gaudenzi, 2013). This assumption is connected to the philosophy of constructivism, as each individuum shapes his reality in his mind and might be influenced by its culture. What Gaudenzi says is interesting when thinking about interactive applications in tourism. It seems like no matter how many benefits we will have from implementing interactivity in destination communication, we will never be completely sure on how the user will perceive it and what image of the destination he creates in his head. Finley Coyl (2017, p. 5) is agreeing on that in *Trace Elements: Non-linear multi-narrative storytelling as a means of deconstructing American mythologies*. He says that the origin of each person's perception is laying in the way they operate information which can lead to different perceptions of the same context. But this also provides the chance for the user to inquire specific questions or put an emphasis on specific aspects. As a result, they might perceive the interactive application more like a special experience than before.

ABC tourist and the decision-making process

There is not much literature about interactive propositions in the tourism field that I am focusing on in this thesis. There are some findings that can most likely be adapted to ABC tourism, though there is not much literature to be found about ABC tourism or the characteristics of ABC tourists (Dowling, 2013). Dowling is one of the pioneers when it comes to ABC tourism. Additionally, Alexandra Vinerean (2014b, p. 67) says that the decision-making process of tourists is not yet fully discovered and understood due to its complexity, even though there is a lot of research about it already, like in Cohen, Prayag and Moital (2014). Also, there is a lack of user studies in tourism communication platforms. With a focus on a specific tourism field (ABC tourism), Generation Y as target group and trying to understand the decision-making process once again, the thesis aims to learn about user habits and web interaction of future travellers and how that influence their decision-making process.

Theory

In this chapter I will elaborate theories and concepts that will be helpful investigating how interactive web applications in tourism communication can influence the tourists' travel motivation and intention.

A project based approach

This thesis is a normative project and has similarities with Lars Nyre's perspective on project-based research. Doing a project based research has several advantages and should be considered being done more often by researchers. Anders Fagerjord and Lars Nyre already make and use prototypes for research purposes and so contribute to the field of media studies. With their non-commercial approach, media studies differ from commissioned research and are going through a shift from development-process-centred to user-centred (Nyre, 2014). The goal in this case is to develop a tool that improves the communication in the chosen field. Nyre (2014, p. 97) underlines also, that there are different genres in which a technological innovation can occur, but the technology should always be the one parameter that changes,

while the genre should keep its characteristics as always. Fagerjord (2015, p. 109) adds that the chosen genre determines the understanding and hopes of the viewer. In my case, the genre remains "enlightenment" (after Nyre's definition of genre; Nyre, 2014, p. 97), because the videos will be made in a documentary style, while the interactive map represents the new technology. Being the producer of the media project and the researcher at the same time has the advantage of gaining experiential data more easily than if you were not involved in the development (Dalsgaard, 2009, p. 44). Furthermore, Peter Dalsgaard (2009, p. 48) adds that using a self-developed project eventually leads to new findings and theories which would not be discovered if one had just looked at already existing research. Developing a prototype is time-consuming, though, and may take several iterations before being ready to be presented and tested. After the investigation may be even more work to invest in the product to implement the feedback and results from the research (Dalsgaard, 2009, p. 44).

The medium's influence on the tourism experience

The field of communication in tourism is often placed under the philosophy of social constructivism, because phenomenon within the field like "tourism experience" are composed by the society (Tussyadiah & Fesenmaier, 2009) and are influenced by its temporary changes. Fesenmaier and Tussyadiah mention some concepts in their article *Mediating Tourism Experiences – Access to Places via shared videos.* I will explain them in the following. This thesis will make use of these concepts when collecting, analysing and interpreting data to better understand what motivates tourists to go to a certain place.

 The concept of markers describes how media is used as source of information and can give significance and make up points of interests or activities. How much a video can stimulate or "fulfil" your dreams and fantasies or recalls your memories is part of the imaginative concept (Tussyadiah & Fesenmaier, 2009). The fact that media can transport you to other places without really making one physically move (Grüter et al., 2013) is pooled in the concept of virtual mobility (Tussyadiah & Fesenmaier, 2009). Urry and Larsen (2011) agree with this but add, that a phantasmal travel fulfils one's desires for travelling, instead of encouraging them to physically visit that place. *That leads to the question if pictures and videos in tourism communication might not anticipate too much of the experience and stop the process of building an intention to visit the place?*

In their study, Fesenmaier und Tussyadiah (2009) also referred to the theory of flow experience by Csikszentmihalyi from 1991. It underlines the relation between optimal experience and the enjoyment and pleasure which are highly related to motivation. It is important, because the media being used is driver for the viewer feeling involved and enjoys what he sees, hence the perception of the experience increases (Tussyadiah & Fesenmaier, 2009).

Cultural artefacts play a significant role for the tourist's experience. New media is an artefact that can improve the experience by involving the viewer and thus provide an enjoyable experience (Tussyadiah & Fesenmaier, 2009). But new media can also be considered as technical or media artefact depending on its definition as concept, representation or socially constructed metaphor (Roberts, 2015). In my research I understand new media or technology as a media and technical artefact under the definition of representation (a cultural habit) as well as a cultural artefact, since it is both representing social and cultural characteristics of our time, especially for Generation Y.

Characteristics of a medium

In order to understand a medium's characteristics, Nancy Baym's (2015) seven concept serve as a helpful tool for analysing media affordances or to distinguish between different mediums. These concepts differ in interactivity, temporal structure, social cues, storage, replicability, reach and mobility (p. 7). She divides interactivity in three different kinds: social interactivity with the power to facilitate interaction between individuals or groups, technical interactivity describing the degree to which users have an impact on the medium's interface, and textual interactivity describing the interactions between users and content (p. 7). Joakim Karlsen distinguishes interactivity from participation in his article *Transmedia Documentaries: Experience and Participatory Approaches to Non-Fiction Transmedia* (2018). For him (p. 2), interactivity is limited to let the audience make a connection with the medium by giving them the opportunity to experience the content through actions like pressing buttons, deciding over the order to watch or read etc., but not changing or contributing to it. This would be a participatory medium. According to both of them, my application can be classified as an interactive project with the meaning of textual interaction, because the users can decide over what to watch and in which order, thus having an interaction with the content rather than with

changing the interface or making people interact with each other. Baym's (2015) concept got used during the method and analysing part to see how the users perceived the content.

The second concept Baym presents is temporal structure. She divides it into synchronous and asynchronous communication, depending on the occurrence of communication in real time or with a time delay (Baym, 2015, p. 8). This is strongly related to sending messages and therefore difficult to apply to other mediums.

The third concept is social cues. Social cues are described as information over the person's characteristic who is involved in the interaction. They are important for the interpretation of messages (Baym, 2015, p. 9). In my project there is no information given about the person communicating the destinations. The only similarity between producer and user can be assumed as the same interest. According to Baym (2015, p. 9), this is a phenomenon of digital media.

Contrary to social cues, my application is rich of storage and replicability which is the next concept of Baym (2015, p. 10). It also has a high reach which is the sixth concept. The reach describes how many people can be addressed at the same time. Due to my application being designed as a website, it can reach many people (Baym, 2015, p. 11).

The concept of mobility is interesting, because it refers not just to the availability at any location but also to the ability to virtually move someone (Baym, 2015, p. 11), which is similar to the concept of virtual mobility by Tussyadiah and Fesenmaier (2009). How much my application falls into this concept will be part of the investigation later on.

Coyl (2017, p. 26) adds that new media also gives the freedom to choose a point outside the system and being accepted for that by the system, yet not excluded. There are different dimensions or phases that need to be considered when practising tourism communication. Tourists have a different focus on aspects each phase. In the "experiental phase", tourists are already on the spot, in the "anticipatory phase", they are planning the trip and in the "reflective phase", they recall the memory of the trip (Tussyadiah & Fesenmaier, 2009, p. 25).

There are many possibilities through which the technology can have an impact on the viewer. In order to approach my research question, I will also try to answer W*hich aspect of the technology has the biggest impact on the viewer?*

The audience

The investigation concentrates on a specific target group: Generation Y. Generation Y is also called Millennials which means, that people belonging to that Generation, are born around the turn of the millennium, between 1990 and 2000. There's no grand theory about it yet but former research has shown some reliable facts we can assume to be true for the sake of further research. Generation Y will be the primary source of visitors by 2020. With their technological affinity, ability to identify with real and virtual social groups, need for accomplishment and regularly trips, the members of this generation play an important economic role in tourism in the future (Cohen et al., 2014, p. 890-891). According to Cohen, Prayag and Moital (2014, p. 890-891) this concept of Generation Y originates from the US but is applicable to almost the whole world. Rich (2012, p. 27) says in her article that especially for Generation Y the technology used for travel planning is highly important, finding that already four out of five persons are using their phone for travel research. But also laptops and desktops are amongst the mostly used devices when it comes to travel research (Rich, 2012). Photos, videos and Facebook or twitter posts are used to estimate if a destination will provide shareable views. They rely more on the opinions and experiences of friends, family and locals than on classical advertisement. The research and questioning is conducted online. Therefore, to address this target group, it is important for DMO's to interact and enter a dialogue with the potential visitors. (Rich, 2012).

Rich (2012) also notes that applications and websites will have a higher influence not just in the planning process of a journey but also during a trip. The provision of insider information (recommendations of locals) is suggested. Generation Y is paying attention to authentic and real experiences displayed in an advertisement video that is more personal than commercial. Her study shows that they prefer entertaining, immersive and interactive presentations of potential activities. Interactive maps that present destinations, for example, have a high impact (75%) on decision-making (Rich, 2012, p.13, 24).

It might be hard for the researcher to draw conclusions of current events from outside or to reconstruct causes that lead to a certain behaviour. Therefore, it is recommended in the field of new media and especially media design to come up with a sample that suggests a solution and to test it under real conditions (Nyre et al, 2012).

John Urry and Jonas Larsen define 'real' experiences in their book *The Tourist Gaze 3.0* (2011) as following:

"A supposedly real holiday has two main characteristics. First, it involves visiting somewhere well away from where the mass of the population will be visiting. [...] Second, the real holiday maker will use small specialist agents/operators to get to their destination." (p.107-108).

They also mention that commerce and culture are merging more and more, especially with the media highlighting the spectacular and destinations wanting to surpass each other. This is the mediatized side of tourism. On the other hand, there is the romantic view on tourism where travellers find delight in nature and landscapes that are good enough to take pictures of or that they have been seeing in movies or famous paintings etc. That is what the 'real' travellers prefer and where the trend is going to, especially in Scandinavia. Pictures taken by travel photographers are more likely to be accepted as 'real' and objective, because they reproduce and underline other people's concept of 'reality' (Urry & Larsen, 2011). Daniel Fallman (2008, p. 12) points out the importance of an interactive design to be 'real' in comparison to what research needs to present, which is the 'true'.

Key concepts in tourism decision-making

In their review article, Cohen, Prayag and Moital (2014) present nine key concepts of consumer behaviour in tourism. These concepts will be considered when investigating the impact of interactive applications in tourism marketing. The concepts deal with decision-making, value, motivation, self-concept and personality, expectations, attitudes, perception, satisfaction and trust and loyalty. The importance of each of them in tourism marketing is described and their effect on other concepts and the success of a destination elaborated. The concepts are mainly used further on in the analysis of the interviews and in connection with the interactive application. But also Vinerean (2014a) and Decrop (2006) mention what they call "factors" (p. 14) and "major variables" (p. 7), whereby Vinerean distincts between internal and external factors (p. 14). Her external factors, in contrary, are more coherent with Decrop's situational influences (2006, p. 14), which are not resulting from individual attributes or marketing strategies. Some of her internal factors are similar or equal to Cohen, Prayag and Moital's (2014) concepts. But while Vinerean (2014a) is not giving a description of them, Cohen et al. (2014) elaborate them in the following. Through clarifying w*hich of these concepts has the biggest influence on travel motivation and intention,* I hope to get a better insight on how my web application is influencing the travel motivation and intention.

The first concept is decision-making. How tourists make decisions depends on attitude, intention and behaviour of the visitor. They call it rational decision-making. Sub-decisions are made on assorted factors of the trip. Furthermore, there are various factors playing into the decision-making process, such as situational factors or previously made experiences at the same or other destinations. They also mention the theory of *Reasoned Action and Planned Behaviour* (Cohen et al. 2014, p. 875), meaning that all actions and behaviours are the result of the mindset of a person and his or her social norms and values that influence their valuation of the action being socially accepted or not. Thereby the mindset develops through thinking of the repercussions to be expected by proceeding the action (Lee & Green, 1991). Decrop (2006, p. 2) divides the process of decision-making into five steps, where the first describes it as rational decision-making, which is the easiest way of making sense, because the "same actions [...] lead to the same consequences" (p. 2).

The second concept is the concept of value. The value of a journey influences the visitor's actions, attitudes, emotions, judgements and behaviour. It can happen external (e.g. based on knowledge from experience) or internal (towards group of things). The individual motivation and choice of destination, together with previous experience, is directly connected with the outcome of the tourist's journey. It is of central importance in this concept to understand how tourists perceive features in order to display benefits or consequences that increase the traveller's value (Cohen et al. 2014, p.881). Value is also central in Decrop's (2006) first step of decision-making, because tourists want to extend it as much as possible to be more satisfied with their journey (p. 2).

Vinerean (2014b) divides the different kinds of values into motivators (p. 62). The categories she defines are the reasons for someone wanting to travel: cultural, physical, emotional, personal, personal development and status.

The concept of motivation is described as a force that influences a person's actions. According to Cohen et al. (2014, p. 882) the push-pull approach is the most common explanation in tourism marketing. Pushed by their psychological needs and pulled by the destination's features, the motivation to visit a place grows. Images, feelings and the degree of interaction influence the process. The concept of motivation is important to consider, because of its influence on other concepts such as expectation, attitude and loyalty (Cohen et al., 2014, p. 882). It is also one of Decrop's (2006) "major variables" (p. 7) consisting of "motives, needs, wants and benefits" (p. 10), which are pretty much the basic elements of attitudes and push factors (p.10). He also adds another concept tied to motivation: involvement - which

describes the increased and longer lasting interest in an idea (in this case travelling) due to an exposure to a communication tool or method (like media for example) (p. 10).

The concept of self-concept and personality inhabits four dimensions: real self-image, ideal self-image, social self-image and ideal-social self-image. Each dimension is a construct of the own identity and social or ambitious facets resulting in one's self-description or personality (Cohen et al., 2014, p. 883). The personality is influencing how viewers perceive destinations and their decision process as well as attitude and behaviour. Decrop (2006, p. 8-9) describes it in a similar way and also Vinerean (2014b) mentions it as a factor influencing the travel motivation (p. 63).

The concept of expectations describes the needs of a tourist in relation to their prospect of what a destination is offering. It also mirrors the standards travellers have towards specific characteristics of products or services. Cohen et al. (2014) elaborate different types of expectations. Efficacy, outcome expectations and predictive expectation are the most accepted types among tourism researchers. The common sense is that "expectations are formed through previous experience, personal and non-personal communication sources, personal characteristics, attitudes and motivation" (Cohen, Prayag, Moital. 2014, p.884).

The often mentioned attitudes make up their own concept. The mindset of potential visitors has an immense influence on marketing provisions. In their review article, Cohen et al. (2014, p. 884-885) describe attitude as a taught behaviour of the person's evaluation of key features or beliefs regarding a specific item. They are important when it comes to the prediction of behaviour but are not free of influence. Especially emotions and moods can influence the attitude, but to which degree is not yet researched enough. Decrop (2006) and Vinerean (2014) have similar opinions and simplify attitude as a positive or negative feeling or effect towards something that can have an impact on the motivation (Decrop, 2006, p. 9).

The seventh concept is about perception. It is described as the process in which a person selects, structures and interprets charms to make sense of them. These charms are recognised by human senses. The interpretation is therefore influenced by social and personal circumstances. The way tourists perceive marketing strategies can have an impact on the destination image and satisfaction for them (Cohen et al., 2014, p. 885-886). Both Vinerean (2014a, p. 14) and Decrop (2006, p.7-8) refer to perception as an influence on decision-making.

This leads to the next concept: Satisfaction. According to Cohen et al. (2014, p. 886-887) satisfaction is a central aspect in tourism marketing. How satisfied a customer is influences the further success of a destination. Satisfaction can be planned through pull-push factors (Cohen et al. 2014).

The last concept is about trust and loyalty and their importance as powerful method to build a relationship with the visitors. There cannot be loyalty without trust. Both are influenced through satisfaction, but can grow with time by increasing satisfaction and fulfilling expectations. Cohen et al. (2014, p. 887-889) also mention another kind of trust that is the result of digitalisation: eTrust refers to the confidence in a technology or a proposition of a technology. Revisits are mostly an indicator for loyalty (Cohen et al., 2014, p. 889). Hence, too much of an effort can result in the opposite effect. If the location is presented in a way that makes it look unbelievable, inaccessible or "too good to be true" for the target group, scepticism will be the result, resulting in less trust and loyalty (Vinerean, 2014a, p. 14).

Apart from presenting their concepts, Cohen et al. (2014) give a short summary about external influences on tourist behaviour, such as technology and Generation Y. They criticise, that, although the offer of information continuously increases and the presentation of them becomes more innovative, it may result in an overload of information. They suggest developing a concept to counteract that. It is already common sense that technology is crucial for tourism communication, but less researched on its influence in the decision-making of tourists (Cohen et al., 2014, p. 890). Peter Dalsgaard (2009, p. 69) defines technology based on John Dewey's pragmatist approach. According to them, technology is just a tool that can help constituting and changing an experience and with that we draw an understanding of our circumstances. It is just as useful as we assume it to be. It can develop further over time into special forms that then increase experiences or our understanding.

My method chapter is informed by the perspectives from the theory chapter such as user interaction, theory of flow experience, concepts of decision-making etc. and makes use of them also during the analysis.

Research method

In order to investigate how members of generation Y relates to my interactive web application, a user test with additional qualitative interview was conducted to identify what were the driving factors of decision-making in ABC Tourism. According to Sandra Gaudenzi (2013), a quantitative approach of an investigation involving interaction is not recommended. There are multiple elements that influence each other and the user, as he is in constant exchange and repositioning with the programme. Since interactivity is also an advantage for the supplier to provide information relevant to the user faster, its efficiency and effect is easier to measure using a qualitative approach (Gaudenzi, 2013). Lars Nyre (2014, p. 101) has a similar argument and agrees on using vernacular methods like observation, qualitative interviews and focus groups in media design. According to Fagerjord (2015), qualitative interviews are the most "valuable evaluation" (p. 116) form for a media innovation, which I see my project as.

John Law (2004) argues that the research methods should not be automatized or stick to the common procedures. Instead, they should get more creative with slow, quiet and multiple methods (p. 10-11), because our world is "generative and complex" and our methods should help generate an understanding of it, whereby we might have to drop simplicity (p. 7-8). Daniel Fallman (2008) agrees on it. Especially when it comes to interaction design, we should become more active and try to alter existing methods (p. 15). Law (2004) also recommends using field specific "methods" (p. 49). Since user-testing is a method employed in the field of media design, it is logical to include it for my investigation. Observing the user-testing falls into what John Law (2004, p. 59) calls praxiography.

> It "allows us to investigate the uncertain and complex lives of objects in a world where there is no closure. [...] It allows us to explore the continued enactment of objects. And as a part of this, it allows us to investigate the multiplicity of those objects, the ways in which they interact with one another." (p. 59).

Fallman (2008) uses a similar term: praxiology (p. 9), among others a key element in design studies. Furthermore, he divides interaction design research into three parts that are intertwined and overlap each other: Design practice, Design exploration, Design studies. My project is not exclusively interaction design; neither does my investigation aim at concentrating on the design. Nevertheless Fallman (2008) mentions elements that can be

adapted to my research, which does have an interactive nature. Fallman also agrees with Dalsgaard (2009) (see *Theory* chapter) that researchers should be involved in the development process and not just try to look at it from the outside. It offers the opportunity to switch perspectives between the three defined parts (p. 10), meaning, for example, that the researcher is able to switch from a reflective scope (e.g. "How is the technology used?") to a activity-centered view (e.g. "What influence does the technology have?") within the same research (Fallman, 2008, p. 9). Although he notes that his model of interaction design research distinguishes interaction design from other related disciplines like HCI (Human Computer Interaction) or media studies (p. 10), other research (e.g. Law, 2004, Dalsgaard, 2009) shows, research projects can be cross-media and interdisciplinary in media or design. Additionally, Zimmerman, Forlizzi and Evenson (2007) mention similar arguments when it comes to methods and procedures in HCI. For one, the researcher should be involved in the design process and produce prototypes to generate a practical outcome, as well as he should frame the problem in order to reach that goal (p. 496).

This leads to the potential of many valuable findings if qualitative interviews are conducted along with an observation while testing my self-developed application in order to answer *How interactive applications and videos in tourism communication have an impact on people's travel intention?* It also offers the opportunity to better understand the complexity of the topic with all its interrelations between technology, user demographics and the decision-making process.

The findings will influence the media design as they are used as evaluation and iteration. This "participatory approach is inspired by design thinking" (Dalsgaard, 2009, p. 44). An evaluation with iterations is common practice in the field of media design. User-testing leads to evaluating if the programme achieved its communication purpose or to what degree it has to be revised (Nyre, 2014, p. 99). This method is especially suitable for generating practical result. Additionally, the user-testing will enlighten the test-user as suggested by Lars Nyre (2014). Not just the programme itself profits from an iterative approach, also the content does. The videos go through constant revision by myself while they are produced and with the testing they are also evaluated by the target group (Fagerjord, 2015, p. 115).

The pragmatist philosophy

Working with user-testing and iterations fits perfectly to my pragmatic approach inspired my John Dewey (Gouinlock, 2019). In his view, exchange between people is key to progress and solving problems of any kind. This also means that assumptions are fallible. If assumptions are socially accepted or not is a matter that can only be determined through a democratic process, but also revised later on, because change is a constant event. Respect towards each other and each other's views is important. Through working with a prototype and interviews I relate to his philosophy and am in an open exchange with the future user of my application. Peter Dalsgard adds that not just assumptions are falsible or revisable, but also our view of the world in general. It is never finished and in constant change. How we see the world is constantly evaluated through theories and practice. Being in a pragmatist position helps approaching design-related topics by getting deep insights through asking wicked questions and user-testing.
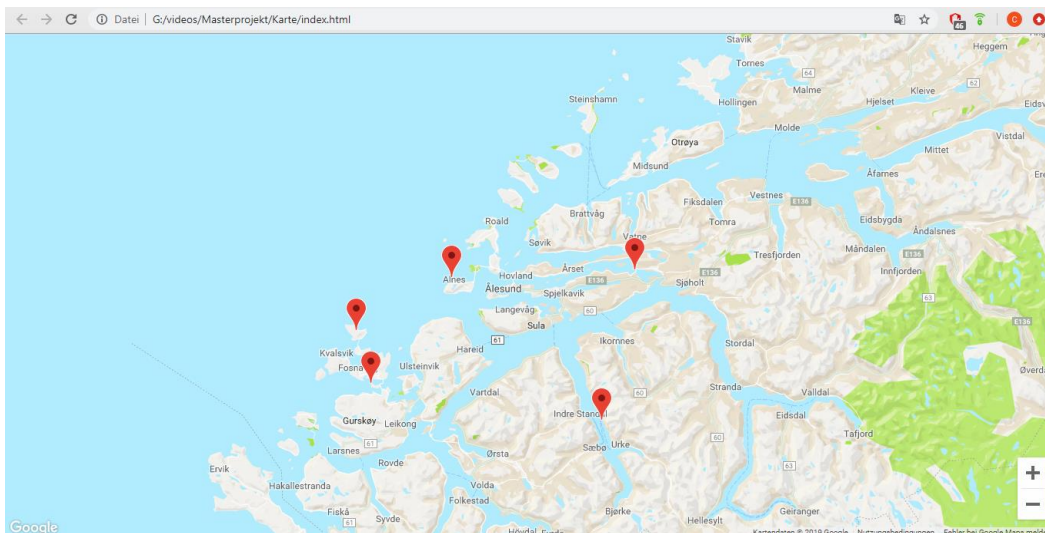
The application

Figure 2: Screenshot of the map, how the participants got it presented the first time
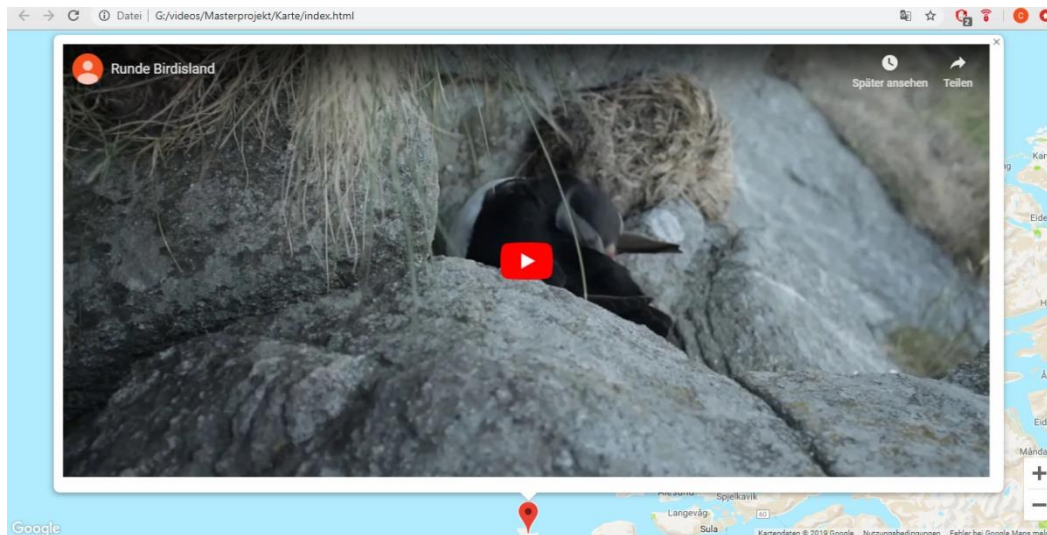
Figure 3: Screenshot of the map after clicking on one of the locations – a video (Runde) opened.

The application itself is an interactive map with geotagged places and each place having a video attached. The places are worth a visit within two hours driving distance from Volda, Norway. The main target group consists of international students who want to explore the surrounding areas with friends or family that come for a visit, for they are most likely motivated to travel and discover the setting they are studying in and also are more used to modern technologies and new media (generation Y). I drew a sample from the target group for the interviews. The locations are presented in short videos with a maximum length of 60 seconds due to the limited attention span of viewers online. Additionally, they could be further used after my study as Social Media posts for destination-marketing agencies or similar. The purpose of the map is to be used in the planning phase of the travel, meaning before the travel rather than on-scene. The application is programmed with HTML, CSS, JavaScript and Google Maps JavaScript API (coded by Jan Reyer after my sketch), to be usable both on a computer and mobile devices. The map is not published online yet. That's why it is presented to the participants from a file on a laptop. The locations include well-known sights as well as insider tips from locals within the earlier mentioned ABC tourism. The chosen destinations are free or cheap to access (meaning no entrance etc.) to not promote for anyone's pocket and make it more interesting for students. This is what makes it different from other destination platforms. Written information will be shown as overlay in the videos to save time and connect the information with the pictures instantly. There will be

no further information about the locations apart from what is given in the videos (at least during the iteration I status).

The development of the application took from having the idea in June 2018 until the hand-in of thesis in May 2019. First shootings were done in June and August (for the bird island Runde) when the weather was still good. The weather conditions in autumn 2018 and spring 2019 impeded the production of the videos a lot. Each video took at least one day of production on set, except for Runde which I visited several times to get all shots and Trandal which took just an afternoon due to the ferry schedule. The postproduction took up to five hours per video (file logging, cut, colour grading, text writing etc.). The coding of the map went fast in comparison to the video production, also because Jan Reyer is a studied coder. It would have taken much longer to do it myself since I am not advanced in web coding. I finished the code by inserting the video paths, geotags, pictures and descriptions (just in submitted version). All in all the coding took about two working days.

All videos are produced by myself, as well as all shots are taken by myself apart from the drone shots which are taken by Elisabeth Eiksund (Runde), Einar Mortveit (Alnes Lighthouse), Andreas Solbakken (Patchelhytta; not in prototype included) and Jonas Közle (Briksdals glacier; not in prototype included). I shot with a Nikon D7500 in DX format, resolution 1920x1080 with 50fps and an 18-140mm lens, with an added UV or polarisation filter if needed except from the Patchellhytta video that got recycled from an earlier shooting in 2016, shot with the Olympus Pen E-PL1 with a 14-150mm lens, 30fps and the Garmin Virb XE action camera. More equipment and advanced film camera would eventually have increased the quality of the videos but due to the fact that many destinations include hiking, the amount of equipment I could bring was limited. The videos are edited in a documentary style to underline the non-commercial aspect of the map.

At the time of the interviews and user observation, the interactive map was in a prototype status. Not all videos had been implemented at this time. This leads, of course, to limited possibilities of "playing around" for the users but also offers the opportunity to see it as iteration phase to develop the map further. The map had iteration status I from March 20 to April 20, 2019 in which the observations and interviews took place. At this point, it included five videos of five different destinations: Trandal, Heroy island, Skodje bridges, Alnes Fyr and Runde bird-island. Afterwards the map was extended and further developed until May 20, 2019. When submitting the thesis it consisted of ten videos with the potential to include even more of course, because this area is providing many more visit worthy places.

Sample

It was logical having the target group of the map as cases. For the investigation, international students at Volda University college were chosen as sample from which a non-random sample was drawn according to the people's characteristics to ensure a fair representation of gender and diversity of origin. The goal was to have as many different nationalities as possible, because tourists come from all over the world to Norway. So instead of focussing on tourists from one country, I wanted to see if people from different origins also perceive the web application differently (due to cultural reasons maybe or others). In the end, students originating from three different continents were interviewed. A total number of eleven students participating in the interview were achieved. Ten of them are students, one of them a former student of Volda University College. Seven students are currently studying at Volda University College, either as exchange student or as full degree student. Three students study at NTNU in Aalesund. They stem from eleven different countries in three different continents. The three students from NTNU Aalesund ae male, amongst the other students there were four women and four men. They were all between 20 and 30 years old, making them members of generation Y.

The students were, one by one, exposed to the programme on a computer and asked to figure out where they would like to travel to in case a family member or friend from home was coming for a visit. Before though, their current mood towards travelling was examined as this can have an influence on their motivation and intention. To reduce the chance of the interviewee being biased or influenced by knowing me as interviewer, a small sample of international students from Aalesund was drawn as well. Here, the contact was established over a friend of mine who lives in Aalesund. The disadvantage of that was that I got only male participants from Aalesund and so the genders were not equally represented anymore. The students from Aalesund study in other fields than Volda students and did not know my person. They study in the field of engineering and business, while most of the Volda students study social science-related topics of studies. I expect the study programme to have an influence on the participant's perception of the application depending on how affine they are with media and media production. Due to the fact that my interviewees were international students coming here for study (most of them), the duration of their stay in Volda varied from two weeks up to a year or even longer. This is of course not the average duration a normal tourist would spend in a destination. We may have to be careful and critical with adapting the findings of this research to other destinations or when trying to generalize. The relatively

small amount of participants does not make it possible to generalize for the whole population of cases.

Testing and Interviews

When asking potential interviewees if they would like to participate in my research, I gave them a brief summary of my project and an overview of what kind of questions they would have to expect and what task I would like them to do. Once they agreed to participate, we set a date and time for the interviews to take place or, in some cases, conducted them right away.

In the beginning I asked some questions regarding their socio-demographic background, to eliminate or get aware of influences on the participants answers or perception of the map. It also made it possible to check on their attitude towards the topic and break the ice, so they felt more comfortable saying what they think while testing and being honest. Depending on how much the participants would elaborate on the questions, this part was taking ten to fifteen minutes.

During the testing, the interviewees were encouraged to imagine that a friend or family member was coming for a visit and that they were trying to find a place that they would like to visit with them. At the same time, they were exposed to the map on a laptop in a quiet room of the university. This method gave the possibility to check on the efficiency of the programme and usability. While doing so, they were encouraged to "think aloud", in order for me to better observe their reaction (Fagerjord, 2015). Also,based on this, I was able to draw conclusions on how the interviewees were using the application. This took about ten minutes per person.

Testing alone, however, is not sufficient enough, because it only focuses on how the user is operating the interface but not on how he deals with the content, which is mainly the reason for the ordinary user to access an application (Fagerjord, 2015, p. 108). So, after testing and "thinking aloud", some questions on how they immersed into the application with its videos and questions on their motivation and visiting intentions towards the places they have seen in the map, were asked. Again, this took about ten to fifteen minutes depending on how extensive they answered. I am aware that I might not have gotten too detailed answers on the users' feelings about the application, as they might not have felt keen enough to do so or did not find the right articulation to express their impressions (Fagerjord, 2015, p. 116). However,

the answers will be analysed in order to answer my research questions and to improve the map. Every interview was transcribed, analysed and compared with the other interviews. I am also aware that asking to imagine that a friend or family member is coming for a visit may influence the result, as the participants would then not only think of themselves and their interests but also about their friend's.

Ethics

According to the informed consent, the participants were informed about the purpose and the main features of the study. The participants were able to withdraw from the interview or investigation at any time. No personal data that can be drawn interferences from about the person will be recorded, stored or published. The students were also notified that their actions while testing the map would be observed by me. Taking part in my study did not entail any risks for the participants apart from being spoiled about the destinations. But at the same time, this is also a benefit for the participants: They got to know visit-worthy places around Volda and Aalesund. Since I asked questions about their relationship to travelling in the past, a friendly distance between interviewer and interviewee was held up to avoid therapeutic relationships or conversations. An advantage is that I, as a researcher, am independent and therefore not under any pressure from "above" or "below". Because of this, I could adapt to the direction the interview was going to. Before I started asking them the questions, they had to fill out an interview agreement that they had been informed by me on their right of withdrawal, use of data and eventual consequences.

Analysis

For the analysis of the interviews, I first printed the interviews, then I categorised the questions and answers of the participants and colour-coded each answer for meaning condensation (Brinkmann & Kvale, 2015). The categories were inspired by the concepts mentioned in the *Theory* chapter: Concept of Value, Theory of Flow Experience, Concept of Attitude, Usability, Concept of Expectation, User Habits, Imaginative Concept, Concept of Satisfaction, Concept of Loyalty and Trust, Concept of Virtual Mobility, Phase of Use, Motivation/Intention, Concept of Perception. Some categories overlap by containing the same

questions, because the concepts cannot be clearly distinguished from each other. The code book is also attached in the end of the thesis.

For each question, I counted how often each possible answer appeared to get an overview of the sample's tendency. Then, I started analysing each interview for itself before comparing it to the answers of other interviewees. First, I had a look at their attitude towards travelling and what they value about it. Later, I analysed how they perceived the map and its destinations through the videos. With regard to the concepts mentioned in the *Theory* chapter, I then estimated to which degree the concepts were fulfilled for each person. To conclude over the maps' impact on travel motivation and intention, I developed a scheme based on a concept that shows the connections and interrelations of the concepts and their impact on each other and the decision-making of what motivation and intention is a part of. The scheme is to be seen in the next chapter.

Findings and Analysis

In this chapter I state my findings from the interviews and user-testing with the aim to analyse, how my interactive web applications had an influence on the people's travel intention and motivation. While doing so, I make use of the concepts and theories from the *Theory* chapter. The chapter is divided into findings and analysis with several sub-chapters, going from a rather shallow understanding to a deeper understanding of the topic.

Findings

The findings are divided into three parts. The first part consists of the answers to the interview questions before the testing, the second part covers the testing and the third part is again the interview related to the questions after the testing. This structure follows the order I conducted the interview in.

2. *Interviews before the testing*

The questions I asked before the testing aimed at figuring out the mindset towards travelling in general, travelling in Norway and Volda's surroundings, their attitude towards ABC

tourism and new technology, as well as their travel research habits so far and expectations on travelling.

Most of the participants value travelling highly, because of its cultural aspect, like getting to know new people and their culture, seeing new landscapes or learning about the historical background of a place, like this participant from Germany:

> *"I value travelling highly, because [...] I'm super curious to see different places on earth. And I think it's a good experience for everybody, because you learn about other cultures." (Interviewee 03)*

These motivational drivers where highlighted in various ways by most of the participants. But they also see travelling as a chance to personally develop further by challenging themselves and going out of their comfort zone, illustrated by a participant from France:

> *"It means getting out of my comfort zone and meeting new people, seeing new landscapes, opening my senses, trying out a lot of unknown things [...]." (Interviewee 01)*

The answers given mirrored some of the motivators Vinerean mentioned in her article *Motivators that Intervene in the Decision-making Process in Tourism* (2014b, p. 62). This coincides with the interest the students have in a destination. Aspects of a destination regarding ABC tourism (mostly culture and nature/landscape) were what most interviewees were looking for in a destination. This is why I interpret that they are at least partly, eventually not exclusive, ABC-/geotourists. It was closely followed by the journey itself that matters and the social aspect, meaning the opportunity to get in contact with other people. This just partially reflects their reasons why they came to Norway. As opposed to the fact that all interviewees are students, of course, their main reason to come to Norway was for practical reasons like studying or having relatives living here, coupled with some pre-interest in the country's nature or because of earlier, positive experiences. A participant from Albania concludes his motivation as the following:

> *"[...] short version is that I have a lot of family in Norway and it was presented to me as a good opportunity for me to study in a place that was not home and in the same time, I would have a lot of connection to that place." (Interviewee 06)*

Since the reasons for coming to Norway, the value travel has for them and the interest in a destination are very similar, it is no surprise most of them already discovered part of their

surroundings and liked it. In contrary to this, most students from Aalesund tended to not having discovered much of the city's surroundings yet, which might be due to its size and cultural or recreational offers.

Almost all of the interviewees cited their childhood travelling habits as influence on how they see travelling now – even if they did not travel a lot initially. Just two out of eleven thought that their travel behaviour has nothing to do with their lack of travelling in their childhood.

At this point of the interviews, it became clear that all participants appear to have a positive attitude towards travelling. They value travelling highly, especially if destinations cater to their interest (ABC-destinations) which amongst others is a reason why they have chosen to study in Norway. The concept of ABC tourism was not presented to them. I only drew the conclusion from their answers regarding their interests and expectations for a destination. None of the participants were looking for completely different aspects than what I categorise as ABC.

But to figure out if an interactive application, like my map, can have an influence on their travel motivation and intention, we have to have a look at their travel research behaviour and habits as part of the concept of markers. It will give us an insight in how they usually access travel-related information and immerse in media applications. Moreover, it will give us an overview over their attitude towards new media (Tussyadiah & Fesenmaier, 2009).

In contrary to Rich's dissertation about *Generating valuable content for a destination in order to reach a new generation of travellers* (2012) where she states that four out of five people prefer to use the phone for travel research, there is no significant preference of the students regarding the use of a computer or phone for their travel research during the anticipatory phase of my investigation. Most of them do not have a preference and use both of it, depending on how considerable their planning for a travel is. This leads to the conclusion that it would be better to provide information on both types of devices, like the answer of this Latvian student shows on the question which device he prefers:

> *"Depends, if it's a bigger trip then I would use the computer, then it would take more planning but if it's like just a one-day trip then I would use my phone." (Interviewee 05)*

There is also no clear preference between text, picture or video-based information. Video-based information is most relevant to media students (three out of the four media students that

were part of the investigation answered with video-based information, or a combination of all three is the most relevant for them), while students from other study programmes preferred a combination of text and pictures for their research. This phenomenon could also be observed during some testing. A few people skipped parts of the videos or increased the video speed, others wished for additional text information, while media students mostly commented on the visual beauty of the videos (see *User-Testing results*). A few interviewees adopted a critical position when it came to video, as they might enlarge expectations on the experience. Later, they agreed that the videos, seen in my prototype, were not showing everything possible to be seen.

While there are many possibilities for travel research on the internet, like specific websites or websites of destination marketing organisations, most of my interviewees prefer the simple search over Google or Google Maps, followed by Social Media. Additionally, they use other sites to book the hotel, or flight or bus. In contrast, help by friends and family or TripAdvisor were not used that often. This contradicts the answers to the question regarding the students' source of inspiration for where to travel next. In this case, friends and family seem to be the main influence, followed closely by Social Media, especially Instagram. Interesting, however, were the answers of two participants that only used flight-searching websites as trigger where to go, because the transport price to a destination was crucial for them to go on a journey or not. Furthermore, this aspect was also mentioned when I was asking for what a location needs to offer them in order to be chosen as a destination. While most other participants answered something similar regarding their interests and values, these two pointed out the costs of the journey:

> "[I get inspiration from] Just friends and discussion or sometimes I just see, okay, from here, if I want to travel, which is the cheapest destination and also, if I go to one destination, from that destination, which more cities/places can I cover." (Interviewee 10)

2. User-Testing results

I tested the usability and experience of my interactive application by observing the users testing the map and encouraged them to think aloud if they had any thoughts about it. Some had problems in understanding that they could click on the geotags to make a video show up. Also, they zoomed in and out a lot, but without telling me the reason. There were many

positive reactions on the video content and look. They articulated their impressions directly or expressed that they liked the combination of information and video. Some people skipped parts of the videos or increased the video speed, because they got bored quickly. Some lowered or raised the sound volume, either because they did not need it or preferred it to be quiet, or they wanted to see if the atmosphere was supported by the sound. But also ideas for improvement were mentioned, either already during testing or later on as answers to the follow-up questions. Although the prototype status of the map was known, some participants already demanded for more videos and destinations, which I interpret as an overall success of the map and a proof that - at least for these people - the map worked very well and was likely to be used in the future. Most testers gave their opinion for improvement during the question of how much they enjoyed using the map or during the question, if they are satisfied with the information they got from the map. Here, the results show, that a bit more of description is needed, that explains what is clickable on the map. Also, the wish for a bit more information regarding the destinations came up either in form of a little text box - with a picture - when hovering over the geotags or aside the video. Individual videos got comments for improvements as well.

The comments on the map show the interest in the application in general and that the users would still like to use it, especially when it gets improved. This conclusion is also supported by their positive answers regarding the prospect of them looking for more interactive maps like this. According to the theory of Flow Experience (Csikszentmihalyi, 1991 in Tussyadiah, & Fesenmaier, 2009) the joy one has using the map and the more the user can decide, the better is the virtual experience. Mentioned terms like "fun", "playful", "easy to use" and "I had control" show that my interviewees were enjoying the map and thus had a good experience with it.

3. Interviews after testing

Furthermore, I tested the usability of the map by asking follow-up questions where they had to describe the application with their own words as suggested by Fagerjord (2015, p. 116). Most people could give a decent description of the application and used keywords that described the main features of the project. The mostly mentioned terms were: interactive (clickable), videos, information, geotags/points, map and destination/places. These terms describe the application pretty well in my opinion and coincide with the description I have

given about the application earlier. This shows at least that the application and its function are understood by the users.

The interviewees would like to use the map mostly in the anticipatory phase of travelling but could also imagine using it in the reflective phase to show friends and family where they travelled to or showing it to people who are physically not able to travel anymore. For those, it might create an illusion of travelling by compressing time and space (Tussyadiah & Fesenmaier, 2009) to a virtual and imaginative journey, although they cannot leave their current place, allowing them to develop similar emotions as if they would go there for real (Cheong, 1995). Similar to the participants' research habits, I asked before the testing about, there's no preference in using the map on a computer or phone. Some people prefer a computer in this case, because they feel using a map is handier on a computer as well as watching videos on a big screen. We have to consider though, that the map was presented on a computer (even though it was also designed to work on a phone) what eventually had an influence on that answer. We cannot exclude potentially biased opinions in this case.

Interviewees who have visited some of the places before mentioned that the videos made them recall memories of their visit and revoke the want to go there again or actually bring friends there. They think that the videos capture very well how they remember the place and reflect their experience there. This was already described earlier in the *Theory* chapter as a "power of the imaginative concept" in the reflective phase (Tussyadiah & Fesenmaier, 2009).

> *"I get excited about it, especially because I've been there [Runde] before. And then seeing the puffins for example it reminded me of my own trips here." (Interviewee 03)*

Additionally, the other videos in the map also gave them a positive impression of the destinations in the surrounding area they are currently living in. Even people that had been living here for quite a while already and that have thought they knew most of the area, were surprised by the destinations and had not heard of all of them until the point of testing. The phenomenon that videos can make one virtually travel as mentioned earlier (concept of virtual mobility) is also confirmed by my sample. The majority felt like they were travelling already just by using the map and watching the videos or at least felt motivated to visit the places after being exposed to them. This falls into the earlier mentioned concept of virtual mobility (Tussyadiah & Fesenmaier, 2009) and concept of mobility (Baym, 2015). Certainly, we have to consider that the quality of the videos and type of narration might have an impact. Poor quality and/or another kind of narration might lead to other results but was not subject of this

investigation. None of my interviewees thought that the videos reveal too much - meaning that the videos, even though they liked them, did not fulfil their desire for travel as much as a real travel would do. They do say that it revealed some things but that there is always more to be seen and it still will be a different experience seeing those things in real life. Especially because of the length of the videos (max. one minute), it will not be possible to show all facets at once. Even the interviewees that were usually not using video during their research to not get anything anticipated agreed on that, like this British student:

> *"There's always more to be seen. [It did] Not necessarily [anticipate too much], because they weren't all in the brilliant weather, so this is the best case scenario [brilliant weather] which is quite nice. Some were in snow, some were in sun. They all change depended on the weather anyway. And this is [not] always want to be seen."* *(Interviewee 08)*

After listing the findings of the interviews, it was expectable that most people would like to visit all or at least some of the shown destinations now. Since all participants had a positive mindset towards travelling and the region they were living in, coupled with the destinations matching their interest in ABC destinations, there were barely other answers to expect. But being motivated to go there does not necessarily mean that they actually go there. How likely it is for them to go there was hard to estimate for the interviewees. Even though Urry and Larsen (2011) argued that seeing videos will already completely fulfil the desire for travelling and keep the people from actually going there, my interviewees did not agree with this. Based on their own estimation, half of my interviewees seem to have a strong intention now to visit some of the places soon. Others will not intent to visit them for the stronger influence of situational factors like time and work that make it impossible for them to go there for the time they are still here.

Analysis

It is hard to estimate how pronounced the travel intention is based only on the interviewee's own estimation. Therefore, I tried to gain a deeper understanding by going back to the concepts described by Cohen et al. (2014) in their review article and by understanding the interdependencies of the concepts. Based on the concepts, I categorized the interview questions and developed a scheme that shows the influence of the concepts on each other (see figure 1). The concepts describe how the tourists make a decision, thus develop a travel

motivation and visit intention. Decision-making is the overall concept that inhabits the other concepts, such as motivation and intention, but also considers situational factors, such as budget etc., that have a minor impact on building a travel motivation or intention and therefore are not considered in this research. Decision-making includes all sub-concepts that lead towards the final decision. Of course, many of them are influenced by more than just one other concept. In order to answer my research question, I tried to arrange the concepts in a logical order according to the strongest impact on each other. *Intention* is not mentioned in the scheme, because it is mainly influenced by the concept of trust and loyalty. So the more pronounced trust and loyalty are, the bigger the travel intention.
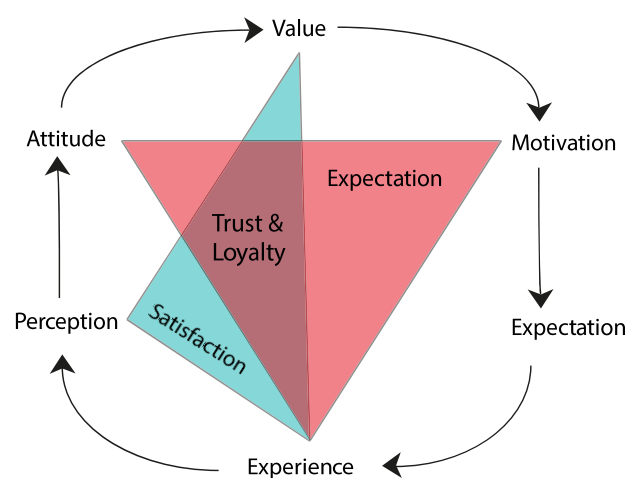
Figure 4: Decision-making scheme

1. *The attitude as starting point*

The concepts are represented by a cycle, which can be started at any point. The concept of attitude might be explained first. As mentioned earlier, the mindset of visitors has a big influence on how travel communication is interpreted. It also has a strong influence on what a visitor values and expects from a destination. It is usually a taught behaviour of the person's evaluation of key features (perception) or beliefs regarding a specific item (Cohen et al., 2014, p. 884), in this case travelling. It is a main feature to predict the behaviour. Because of this, I asked for how they perceived travelling when they were young and if it had an influence on them now. Furthermore, I asked questions to figure out their attitude towards Norway to estimate if they were motivated exploring it further. Most of the participants' attitude developed through the years while they grew up and could discover the advantages and disadvantages of travelling. Some grew up with travelling being something good, other's had

to discover that travelling is not scary and change their mind with time. Their attitude about travelling in/around Norway/Volda/Aalesund was also mainly increasing with the time. So we can consider a positive and open attitude towards ABC tourism, because this area offers mainly destinations falling into this kind of tourism. The attitude is closely related to and has a high impact on the value (Cohen et al., 2014, p. 885).

2. *What they value the most*

As described earlier, the value of a trip is very important to the tourists. It is built through previous experiences and interests. It has a main influence on the tourists' motivation and choice of destination (Cohen et al., 2014, p.881). That is why I asked the international students about their value of travelling and what they were interested the most when travelling. It is also central when assessing the satisfaction of a journey. Knowing what the visitors value most in travelling helps showing them exactly these things in order to satisfy their needs. For my sample, that was clearly the cultural and abiotic aspect (e.g. new culture, new people, new landscapes) and something that I would call the personal development (e.g. going out of the comfort zone, adventure, relaxing the mind).

3. *Attitude and values determine travel motivation*

The values form the motivation of the visitors. So, the more positive the attitude towards travelling is and the more values can eventually be fulfilled by a certain place, the higher is the motivation to go there. That is what Cohen et al. (2014, p. 882) call the push-pull approach. In the case of the study at hand, the analysis of the interview suggested that the chosen destinations in the map do indeed match up with the interviewees' values. This was also verified by their positive answers about visiting all or at least some of the places in person. For some interviewees, the reason for not wanting to visit all of the places was thus clearly related to their values and interests that some places might not fulfil as much as others. For people that stressed the point of culture and history, places like Heroy island and Skodje bridge seemed more interesting than the swing in Trandal for example. They felt motivated to visit these places rather than others, because they present historical living conditions in the area, in contrast to Trandal, which is visit-worthy due to its swinging possibility in beautiful

landscape. This means that values have the strongest impact on motivation. The concept of motivation, however, has a high impact on the expectations and further actions.

4. *personal expectation vs. epectations generated by media*

Attitude, values and motivation build up to expectations. With the motivation to visit a location, expectations about the place meeting personal values arise. But also external communication sources can raise expectations about a place. That explains why some of my interviewees usually do not try to watch many videos beforehand. They try to make themselves free from expectations, which is almost impossible to achieve, as it is a tacit process. The reason for it to show up twice in my scheme is the high impact it has on the further actions of the tourists. The "amount" of expectations will later be key to the visit intention while it also has an impact on the experience.

5. *The influence of the virtual experience*

There is no concept of experience in Cohen et al. (2014). In several places, they refer to previous experience that has an impact on perception and attitude etc. (p. 881-885). Expectations are having an impact on the real experiences. For the understanding if interactive applications are having an impact on the travel motivation and intention, it was logical to add this in the scheme. Considering the Theory of Flow we have to start thinking of another dimension when talking about experience. Also Dalsgaard mentions in his dissertation (2009) that technology "serves as situated tool for experience and interaction" (p. 70). Experience in this cycle does not just refer to the "real" experience but also to the virtual experience, because it might have an impact on the decision-making, thus visit intention, as well. As referred to Urry (2011) earlier, if a destination does not meet expectations through the application provided, then the application itself might be without relevance and does not reach its aim, thus does not have any impact. The virtual experience is not just determined through the visual elements but is also influenced by its usability. The usability of my application was estimated by observing a trial scenario including "thinking aloud" and questions in the interview where the students had to describe the application, as well as asking for improvements and their overall impression. The analysis and interpretation of the interviews has shown that my application in its prototype form as of March 15 was already

providing a good experience but could have been even better with some improvements and additional explanations. With the final version, we can assume an increased impact. Interaction seems to have the biggest impact on experience and perception, because the interviewees referred to the interactive aspect of the map increasingly during the testing and the questions related to these two concepts than during any other questions. They recognised the map as interactive and did not just describe it as such but also liked it, because it was "fun" and "playful":

> *"[...] It is very fun if you have a bunch of videos there and it's loaded with information there and it can be very very interesting. It's very playful I would say and interesting. [...] And a very good tool to help people go around in the area, I think" (Interviewee 01)*

> *"It's interactive, interesting, something I haven't seen, I guess easy to digest the information from and a fun way to get the information from as well." (Interviewee 05)*

6. Perception as pillar for satisfaction

Hence, the overall concept of experience is related to the concept of perception. Classically, as described by Cohen et al. (2014, p. 885-886), the concept refers to how visitors interpret and make sense of attributes during their experience. Those attributes then have an impact on the tourists' attitude and values, which would start the cycle again. But the perception of a place in combination with a person's values and experience determines also the tourist's satisfaction after a visit. In a sense, it is the verification of the expectations. But this procedure can also happen on a virtual basis. The way they perceive applications has an influence on the satisfaction and the destination image as well (Cohen et al., 2014). In the interviews, this part was checked on by using questions about the impressions the users got from the videos showing the different places. Here, I asked for answers regarding a place they already knew and a place that they have not been before as well as the overall impression of the map. The more positive the impression is, the better is the perception of the application which then increases the satisfaction towards the use of the application and the destinations.

The positive perception of an interactive application like this is then able to influence the attitude and values of a user not just regarding travelling and the type of destinations, but also regarding the attitude towards new technology, interactive applications and videos. Moreover,

these concepts get another dimension as well. One of my interviewees confessed that he would prefer video with embedded text over the combination of pictures and text after testing the map. Of course, the attitude and value regarding the use of technology will have an impact on the motivation of a user. With a positive attitude and highly valuing technology or trying out new technology, the motivation in using a application like this will also increase. The perception is nevertheless a very individual process, which can never be predicted to 100%, but having the technical knowledge to develop an application like this and knowledge about the values and motivation of the target group will bring us close to it.

7. *The coformance of satisfaction and experience*

How a destination is perceived through real life experience or virtual experience has a strong impact on satisfaction. The satisfaction is determined through value, experience and perception. In comparison with the expectation of an individual, determined by attitude, motivation and experience not just on the destination but also towards the communication tool, it is giving us a clue about the actual visit intention. The bigger the conformance of satisfaction and expectation (pull-push factors), the bigger is the trust and loyalty towards the destinations seen in real life or through the application.

8. *Trust and loyalty as key to travel intention*

Trust and loyalty are very important and inseparable. They serve as indicator on how strong the relationship with the visitor is. There can be trust and loyalty towards a destination but also towards a technology, which then is called "eTrust" by Cohen et al. (2014, p. 888). In my interviews, I asked the participants to tell me if they rely on the map and its information. This was mostly the case, because of the fact that videos were involved. By figuring out their "amount" of satisfaction and expectation, I could estimate that they were all trusting the application to a certain degree. The consequence of trust and loyalty is then shown in the behaviour of the visitor, usually a (re)visit intention (Cohen et al., 2014, p. 889). There was one participant that was not satisfied with one of the videos of a place he has been to before. Due to the fact that it wasn't showing the hiking trails at that place, he was disappointed by the video and information he got from that specific video. So, due to a lower satisfaction barely matching his expectation about that place, he was not building enough loyalty to visit

that place again. In contrary to that, he intends to visit another place now that was also shown on the map.

Results

Interactive applications seem to have an increasing impact on the travel motivation and intention. However, the way I which this manifests itself is very individually depending on different (individually influenced) aspects of decision-making towards both the technology and the kind of destinations. My interactive application, even though just a protoptype, had an impact on the visit intention for most of the students I interviewed. In one case, I could note less impact due to a less positive attitude and less valuing of the technology, which made this person less motivated using an application like this, especially due to a more critical perception of video as medium. For the other participants, it should just be considered that even though the overall visit intention is influenced, we cannot assume or say for sure that they will visit all of the places, or that the impact is the same on every place. Some locations might not have matched up with their values, so the interviewees might just visit one or two destinations. Furthermore, even if location and values matched up and the intention is there, there might still be situational factors that cannot be influenced by the application or the student himself that will keep him/her from visiting the place. To make a final assumption about how strong the influence is, we would have to follow the participants for the period of their visit here (or even longer) and check on their actual visits. But the interviews and the concepts show that attitude, value and perception especially regarding the technology have the strongest impact on travel motivation, which then has a significant impact on the travel intention as well.

Conclusion

Understanding the decision-making process in tourism, the influence of media and technology on it and the attitude and values of the target group is crucial when developing successful tourism communication tools. This research has elaborated on the influence of an interactive application on the travel motivation of tourists and their visit intention by giving an overview

about the importance and advantages of each element (map, video, interactivity, decision-making process etc.) through former research and theories. The combination of existing theories, qualitative interviews and user-testing of a self-developed interactive application gave new insights in tourism communication. It shows that attitude and values towards travelling in general, the specific kind of tourism and the technology have a major impact on the travel motivation. Attitude and value towards the technology can be influenced mainly through the experience and perception of the application. Here, interactivity has its biggest impact. The intention of a tourist to visit a place is mainly determined by the satisfaction of expectations, which builds trust and loyalty towards the place. The bigger the trust and loyalty is, the bigger is the intention of visiting a place. If the expectations can be fulfilled or not can be estimated through the application. Flashy images and the possibility to identify with people in the videos enable the viewer to estimate if the location corresponds with their abilities and values.

All in all, it can be said if a tourism communication tool works with interactivity and strong visuals, it definitely has the potential to influence the tourists' travel motivation and intention as long as it matches the tourists values and needs. However, it is important to know the target group, as the findings may not or less apply to other target groups than Generation Y or other kinds of tourists than the ones being mostly or partly ABC tourists.

Acknowledgement

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Attachments

Interview questions

Questions to ask before, to figure out mindset towards travelling in general, travelling in Norway and Volda's surrounding; current mood that can influence other aspects; attitude and characteristics of the traveller; travel research habits so far; and expectations on travelling in general:

- Gender, Age, Origin
- How do you feel today?
- What value does travelling have for you in general?
- Have you been travelling a lot with your family during your childhood?
    - o How did that influence your opinion/thinking about travelling?
- When travelling, what interests you most?
- Why did you decide to come to Norway?
- How do you like Volda and surrounding so far?
- Have you been travelling around Volda?
    - o Where did you go?
    - o How did you like it?
- Which media/platforms/devices do you normally use to research destinations?
    - o Do you find text-, video- or picture-based information most relevant (or a combination of those)?
- What does a place need to offer in order to be chosen as a destination by you?
- Where do you usually get inspiration/ideas from where to travel to/what to see next?

Questions to ask after testing the map to figure out the effect on motivation, intention and to figure out effectiveness of the application and its purpose:

- Can you describe the application in your own words?
- Have you heard of/been to these places before?
    - ▪ If yes, does the information fulfil your expectations?
    - ▪ …, was it satisfying to see the video in relation to the actual visit?
    - ▪ …after seeing the video, would you visit the place again? (if no, why)
- To which extend would you say, does the map and the videos make you feel that you are already travelling although you are still sitting in this room?
- How much do you feel have you already seen/visited of the place through the map/videos?
    - o Do you think there's more to be seen if you actually go there?
        - ▪ If yes, do you feel encouraged to visit the place after seeing the video?
        - ▪ If no, why do you think so? (e.g. Did the video anticipate too much?)
- When would you use the map (before, during, after travel)? Would you prefer using it on desktop or Mobile?
- **Would you like to visit the place(s) now? How likely is it now that you will visit one of the places this semester? Why not?**
- How much do you like/enjoy the map? Why?
    - o Would you like to find more interactive applications like this during your research?
- How do you interpret the video (specifying the video, same for everyone)?
    - o What does it make you think about the place?

- o Which impression did you get about the place from the video?
- Are you satisfied with the information you got from the map?
  - o If yes, why?
  - o If no, what is missing/too much?
- Do you think the map and its information are reliable?

Code book

Category	Answers to Question(s)
Concept of Value	- What value does travelling have for you in general?
Theory of Flow experience	- How much do you like/enjoy the map? Why? - Would you like to find more interactive applications like this during your research?

Theory of Attitude	- Have you been travelling a lot with your family during your childhood?
	  o How did that influence your opinion/thinking about travelling?
	- Why did you decide to come to Norway?
	- How do you like Volda and surrounding so far?
	- Have you been travelling around Volda?
	  o Where did you go?
	  o How did you like it?

Concept of expectation	- When travelling, what interests you most? - What does a place need to offer in order to be chosen as a destination by you?
User Habits	- Which media/platforms/devices do you normally use to research destinations? o Do you find text-, video- or picture-based information most relevant (or a combination of those)? - Where do you usually get inspiration/ideas from where to travel to/what to see next?
Usability	- Can you describe the application in your own words?

Imaginative Concept	- Have you heard of/been to these places before?
	    ▪ If yes, does the information fulfil your expectations?
	    ▪ …, was it satisfying to see the video in relation to the actual visit?
	    ▪ …after seeing the video, would you visit the place again? (if no, why)

Concept of Virtual Mobility	- To which extend would you say, does the map and the videos make you feel that you are already travelling although you are still sitting in this room?
	- How much do you feel have you already seen/visited of the place through the map/videos?
	    o Do you think there's more to be seen if you actually go there?
	        ▪ If yes, do you feel encouraged to visit the place after seeing the video?
	        ▪ If no, why do you think so? (e.g. Did the video anticipate too much?)

Phase of Use	- When would you use the map (before, during, after travel)? Would you prefer using it on desktop or Mobile?
Motivation/Intention	- **Would you like to visit the place(s) now? How likely is it now that you will visit one of the places this semester? Why not?**
Concept of Trust & Loyalty	- Do you think the map and its information are reliable? - Do you think the map and its information are reliable? - …after seeing the video, would you visit the place again? (if no, why)

Concept of Perception	- How do you interpret the video (specifying the video, same for everyone)?
	    o What does it make you think about the place?
	    o Which impression did you get about the place from the video?

Concept of Satisfaction	- Have you heard of/been to these places before? ▪ If yes, does the information fulfil your expectations?

	• …, was it satisfying to see the video in relation to the actual visit?
	• …after seeing the video, would you visit the place again? (if no, why)
	- Are you satisfied with the information you got from the map?
	    o If yes, why?
	    o If no, what is missing/too much?