MASTEROPPGAVE

Emnekode: BE309E   Navn på kandidat: Julie Simonette Lian

A study of smart destination and its influence on innovation and sustainable development processes

En studie av smart destinasjon og dens innvirkning på innovasjonsprosesser og bærekraftige utviklingsprosesser

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Sammendrag

I kombinasjon med teknologi og et ønske om å møte de mer opplyste turistene har smart turist destinasjoner vokst frem. Formålet med denne forskningen er å undersøke hvordan en smart destinasjonstilnærming påvirker innovasjons- og bærekrafts utviklingsprosesser. Studien ser på hvordan smart destinasjoner kan implementeres i en by, hvordan det kan skape bærekraft og hvordan det påvirker innovasjonen av konsepter, gjennom følgende problemstilling:

How can a smart destination approach influence the innovation and sustainable development processes of cities?

For å besvare problemstillingen er det utført en eksplorerende kvalitativ hermeneutisk strategisk metode basert på semi-strukturerte dybdeintervju med nøkkelinformanter innenfor turisme og byutvikling, og som primært er lokalisert i Bodø. Det anvendte teoretiske rammeverket består av relevant litteratur innenfor smarttilnærmingen, bærekraft, turistprodukter og innovasjon.

Resultatene avslører at smarte destinasjoner fortsatt er et nytt konsept og at det er lite anvendt i praksis. Derav er det flere muligheter som bør utforskes, spesielt i praksis. Flere funn ble avdekke i studien. Funnene viser at smarte destinasjoner legger større vekt på åpen innovasjon gjennom samarbeid og samskapning, da organisasjoner ikke kan utvikle byen isolert. Turistene får en aktiv rolle som samskapere gjennom hele innovasjonsprosessen, og innovasjonsprosessen blir en kombinasjon av STI- og DUI-modellen. Videre anslås det at bærekraft må vektlegges i større grad og at bærekraft må sees i forhold til problemløsning, før løsninger kan implementeres gjennom besøksforvaltning. Innen bærekraft vektlegges samarbeid og samskapning med lokalbefolkningen i stor grad. Turistinvolvering gjennom samarbeid og samskapning vektlegges høyt, og skyldes delvis av teknologiens rolle innenfor smarte destinasjoner. Teknologien muliggjør bruken av Big Data, som kan benyttes for å innhente informasjon om turisten, og således matche turisten opp mot aktiviteter basert på interesser og verdier. Teknologi blir med andre viktig for å opprettholde et sterkt samarbeid, likevel er det mennesket og menneskeligkapital som er midtpunktet ved smarte destinasjoner.

Preface

This master thesis is the final paper of my Master of Science in Business at Bodø Graduate School of Business, Nord University. The paper constitutes 30 ETCS, and the research question is compiled in conjunction with the majoring in *International Business and Marketing*.

The purpose of the thesis is to examine how a smart destination approach might influence the innovation and sustainable development processes of cities in the northern part of Norway, more precisely in the Salten region. The tourism industry as well as the smart phenomenon is something that I find highly interesting. In addition, I find the topic to be of relevance in the society of today. These two factors are the main reasons why this topic of research was initiated.

Working on this thesis has been very educational, but also a demanding process – there has been both ups and downs throughout the process. I would like to give a big thanks to my supervisor Dorthe Eide for constructive feedback and valuable advice in the process. Her continuation and commitment has been a driver and motivation throughout the writing process. Furthermore, I would like to thank my informants Odd Emil Ingebrigtsen, Ann-Kristin Rønning Nilsen, Roger Johansen, Bård Jervan, Jarle Løvland and Ann Heidi Hansen, for dedicating their valuable time to be interviewees, and thus making this thesis possible.

Bodø, 22nd of May 2018

Julie Simonette Lian

Abstract

In a combination of technology and the desire to better understand the more enlightened tourist, smart tourism destination has emerged. The purpose of this research is to investigate how a smart destination approach influences innovation and sustainable development processes, and thus fill the research gap where literature is missing. The research looks at how smart destination can be implemented in a city, how it can create sustainability and how it affects the innovation of concepts, through the following research question:

How can a smart destination approach influence the innovation and sustainable development processes of cities?

In order to answer the research question, an exploratory qualitative hermeneutic strategy method has been conducted, based on semi-structured in-depth interviews with key informants mainly located in Bodø, and whom are associated with tourism and urban development. The applied theoretical framework consists of relevant literature in the field of smartness, sustainability, tourism product and innovation.

The findings reveal that smart tourism destination is still a very new concept and there is little implementation in practice. Thus, there are more potentials and assumptions to be explored, particularly in practice. However, based on the research's findings three scenarios has been created, related to what smart tourism destination can become in the nearest future. Moreover, several interesting findings were revealed. In terms of the innovation process there are many similarities to traditional tourism, but smart destination tends to have a greater emphasize on open innovation through cooperation and co-creation, as organizations cannot develop the city independently. Additionally, the tourists become active co-creators throughout the entire innovation process. Subsequently, the innovation process within smart destination consist of a combination of the STI and DUI model.

Moreover, the findings reveal that sustainability must be emphasized more within smart destinations, and that one cannot exclusively look towards sustainability in terms of developing environmental solutions. One need to look towards a complete "problem

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identification process" and analyze the overall destination, before initiating solutions, preferably through visitor management, in order to control and manage the destination. Within the sustainability aspect of smart destination, collaboration and co-creation is greatly highlighted, and particularly the collaboration with local residents within the destination.

Furthermore, the findings emphasize heavily on tourist involvement, through cooperation and co-creation, in all aspects of smart destination. This is partially due to technology being strongly embedded in smart destinations. Subsequently, the tourist is both an input tool, as well as part of the end result. Moreover, the use of ICT allows for the creation of better experiences through the application of Big Data. The tourist's movements can be traced, and their values, beliefs and interests can be registered, which subsequently allows the destination to match the tourist to activities and attractions that coincides with the individual tourist's preferences. In terms of both innovation and sustainable development, ICT becomes crucial for communication, and to obtain a strong cooperation. However, human capital and people should be the center of attention, and thus the critical success factor for smart tourism destination.

The research has also identified several implications. The findings imply that there are several barriers related to the implementation of smart destination. Further, overlapping ideas and similarities between smart destination and smart specialization has been identified. In terms of sustainability there is a need for greater emphasize on the importance of evaluating sustainability in terms of economic, social and environmental sustainability, instead of only looking for solutions to environmental problems. Moreover, it is important to acknowledge and involve the local residents in the cooperation and co-creation and recognize that they are equally as important as the tourist.

For further research it is suggested to look at smart tourism destination from a tourist and local citizen perspective, through user involvement, contribution and engagement. It is also suggested to conduct a research on an area that has implemented smart destination into their strategy.

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1 Introduction

The purpose of the master thesis' first part is to introduce the topic of smartness. Smartness, or smart, is a term representing all things that has its foundation in or is fostered by technology (Boes, Buhalis & Inversini, 2015). First there will be given an elaborate explanation to why the topic is of relevance today – through background for choice of topic and actualization of the topic. Additionally, the research question and the guiding questions will be presented and delimitations of the scope of the study.

1.1 Background for choice of topic

Tourism is one of the fastest growing industries in the world and is progressively acknowledged as an important contributor to economic growth, environmental protection and poverty alleviation (UNWTO, 2018). With continuous growth comes responsibility and this responsibility was enforced for full in 2017. In 2015 the United Nations 70th General Assembly embarked on a commitment of ending extreme poverty, fight inequality and injustice, and fix climate changes (ibid.). Through partnerships among different stakeholders the commitment is supposed to be the foundation for improvement of people, the planet, prosperity and peace by 2030 (ibid.). In light of the 2030 Agenda, the 2017 International Year of Sustainable Tourism for development was initiated – challenging the tourism industry's policies, business practices and consumers to contribute to the Sustainable Development goals (SDGs).

As of today, boarders are crossed each year by 1,2 billion tourists, hence tourism has a vast impact on society, the environment and the economy (UNWTO, 2018). Overall the industry represents 10% of the world GDP, 1 in 10 jobs and 7% of the global exports, thus the industry obtains a significant role in achieving the 2030 Agenda (ibid.). There is a great potential for the industry to stimulate progress across the SDGs, and with the possibility to create quality jobs for sturdy growth, reduced poverty and incentives for environmental preservations, it can generate synergies that helps the society transition towards more inclusive and robust economies (ibid.). However, it should be brought to attention that it is challenging to measure the overall economic gain, both direct and indirect, from the tourism industry as for instance the tourists' experiences cannot be measured and the purpose of the travel (UNESCO, 2016).
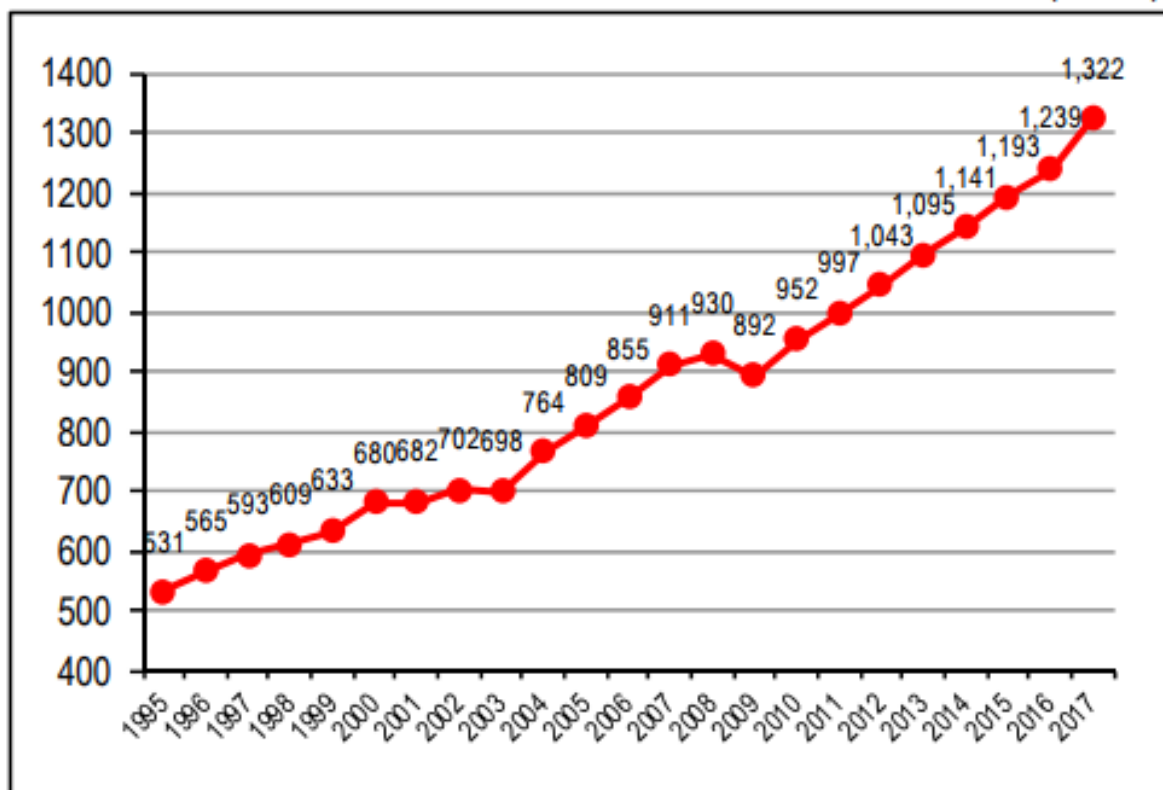
Table 1: Growth in International Tourist Arrivals (UNWTO, 2018, p. 1)

Despite 2017 being the International Year of Sustainable Tourism for development, it was also the year with the strongest result, in seven years in terms of tourism – as presented in table 1 above (UNWTO, 2018). From the previous year the international tourist arrivals, overnight visitors, had a worldwide growth of 7% (ibid.). It is expected to continue growing in 2018 by 4-5% - a rate considered to be more sustainable compared to previous years' growth, that was influenced by the financial crisis of 2009 (ibid.). However, it is a rate that is higher than what has been anticipated for the period 2010-2020 in the 2030 Agenda (ibid.). As the number of people travelling internationally continue to increase, a pressure towards not only the world, but tourist destinations arise (UNWTO, 2018). Increased tourism means more people travelling by airplane, more people attending different attractions and more people that eagerly use the environment at the destinations they are visiting, and thus influence the natural and cultural environment of the destination. The repercussions are increased greenhouse gas emission and general pollution, increased traffic congestion and noise. As Plog once pointed out "Destination areas carry with them the potential seed of their own

destruction, as they allow themselves to become more commercialized and lose their qualities which originally attracted tourist" (Plog referred in Butler, 1980, p. 6). This insinuates that tourism should be cautiously managed and controlled by management to ensure a sustainable development of destinations and avoid destruction of them.
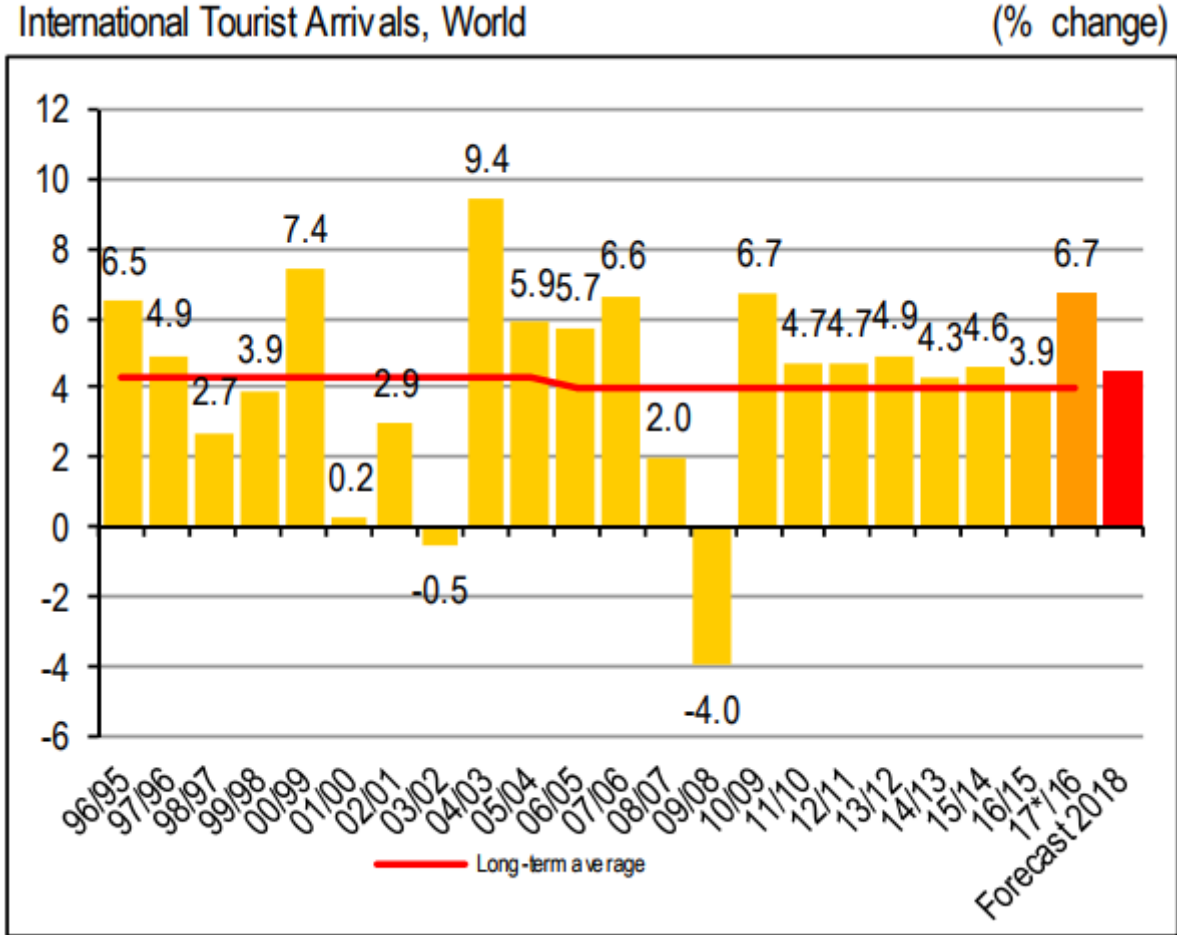
Table 2: 2018 Forecast of International Tourist Arrivals, World (UNWTO, 2018, p. 4)

As the world is more accessible today, competition increases between destinations (UNESCO, 2016). To obtain a competitive advantage sustainability becomes crucial (ibid.). Competitiveness and sustainability go hand in hand as tourist destinations are influenced by their natural and cultural environment. However, the world and society need to find a good sustainable solution to the challenges related to tourism. Innovation is the key response to tackle the social and ecological challenges, and by responding to these challenges, the tourism industry can transform towards sustainable tourism (Boes et al., 2015)

The smart concept is a new trend gaining popularity among different stakeholders, across different sectors. Within the tourism industry smart technology can be applied as an innovative tool to realize resource optimization, sustainability and quality of life (Gretzel, Sigala, Xiang & Koo, 2015). It can help achieve new forms of collaboration and value creation with the ripple effects of increased innovation and competitiveness (ibid.). The goal is enriched tourism experiences, through technology that develops end-user applications, that are supported by the experiences (ibid.), and without going on the expenses of the sustainability of destinations. It is therefore crucial that businesses operating in the tourism sector is continuously working on their technological development, to stay innovative and competitive, while being sustainable. Thus, adapt to the smart tourism phenomenon.

However, with the emerging use of technology in city infrastructure and the implementation of smartness, tourism destinations are facing several challenges (Soteriades referred in Buhalis & Amaranggana, 2014). Smartness is a relatively new phenomenon and it can be challenging for destinations to know how to respond to the phenomenon. Since smartness in tourism is a concept in progress there is an increasing need to conceptualize and define the topic (Del Chiappa & Baggio, 2015). To develop the scientific debate around the topic this research focuses on how smart destination can influence the innovation and sustainable development process of cities.

1.2 Actualization

People will always seek new adventures and thrills and will therefore continue to travel around the world to see and experience new things. This is verified by Innovation Norway's report of key figures for Norwegian travel and tourism, which claims that despite political and economic turmoil, terror and natural disasters, people are still interested in seeking new places and cultures for new experiences (Innovasjon Norge, 2016). In fact, reports indicate that 2017 was a new record year for the tourism industry (UNWTO, 2018). The increased interest for travel is an outcome closely linked to the progression in the technological development – showing that technology plays a vital role for the travel and tourism sector (ibid.).

In contrast to the concept of smart cities, literature on smart tourism destinations (also referred to as smart destinations) is difficult to find. The research on smart tourism destinations is very limited, both conceptually and empirically, and is largely focused on the consumer-perspective of the phenomenon (Gretzel, et al., 2015). Buhalis & Amaranggana (2015) claims that few scholars have covered issues related to smart tourism destinations, and most of the research tend to emphasize on the development of smart cities. In addition, the studies tend to be characterized by being optimistic and taking an uncritical stance (Gretzel et al., 2015). There is thus a great need for further research on the topic of smart destination to expand and continue the development of theoretical contributions, but also to validate previous research (Buhalis & Amaranggana, 2014).

Prior studies of smart tourism destinations have mainly focused on the importance of ICTs in destinations (Boes et al., 2015), while relatively few studies have been dedicated to sustainability and innovation from a management perspective (Errichiello & Marasco, 2017). Consequently, the purpose of this study is to fill these gaps by studying the influence of the smart destination approach on innovation and sustainable development processes of cities. The aim is to grasp the essential of smart destination and to investigate how the smartness concept affects the sustainability development and innovation of cities. And in this way, contribute to the theoretical development of smart tourism destination.

1.3 Research question

Based on the discussion above, the following research question will be studied:

> *How can a smart destination approach influence the innovation and sustainable development processes of cities?*

To help structure the thesis three guiding questions has been created:

1. *How can smart tourism destination be applied to cities?*
2. *How can smart tourism destination enhance concept innovation?*
3. *How can smart tourism destination encourage sustainable development?*

The research question consists of four important elements: smartness, sustainability, innovation and tourist destinations, and focuses on the relationship between smartness and sustainability and smartness and innovation. Thus, in this study the smartness concept is a crucial key factor. According to Boes, Buhalis & Inversini (2016) smartness is fostered by open innovation, supported by investments in human and social capital and sustained by partaking governance, to develop the competitiveness of tourism destinations. Due to the increased tourist traffic, the competitiveness of tourism destinations is dependent on sustainability, as natural and cultural environment influence destinations.

This study will highlight the current research gap in the literature regarding innovation and sustainable development processes of smart destinations from a knowledge-based perspective. And later, it will enrich the literature of innovation and sustainable development processes by discovering a change in the strategic approach towards the development of sustainable and innovative tourist destinations, due to the smartness approach. Nevertheless, the theoretical contribution will be in terms of developing a theoretical framework on innovation and sustainable development processes in smart tourism destination, and its influence on managerial strategies. For the managerial contribution it will suggest that managers emphasize on the importance of co-creation processes and experiential knowledge for innovative and sustainable tourist destinations. The findings from this study will provide managerial guidance and contribute to deepen the scientific debate around the topic of smart tourism destination.

1.4 Delimitations

As previous research on smart destinations primarily has been focused on the consumer-perspective of the phenomenon (Gretzel et al., 2015) this study is limited by focusing exclusively on the management perspective of smart tourism destinations. Smart tourism destination can be applied in both rural regions and areas, as well as cities. However, this research emphasizes on cities, and is limited to the city of Bodø and the region around, as this is a region undergoing major changes regarding both settlement and tourism, in addition the municipality of Bodø is in the process of implementing smart city to their strategy. On the other hand, this limitation is also a consequence of the scope of the study and limitations regarding time.

1.5 Reading guidance

This thesis consists of four main parts: 1) Introduction, 2) Theory and method, 3) Empirical findings and discussion, and 4) Conclusion. The first part; Introduction, consists of Chapter 1, where the background for choice of topic is presented, actualization of the topic, the study's research question and delimitations.

Part two; Theory and method consists of Chapters 2 and 3, where Chapter 2 is a literature study of central theory in terms of the research question, which further forms the basis for the empirical work. The theory on which the research is based on is as followed:

- Smartness
- Sustainable Development
- Tourism Product
- Innovation Processes

Moreover, in Chapter 3, the scientific approach will be discussed, and the study's research methodology will be elaborated. Here, the emphasize will be on method selection, selection strategy, and chosen method for collecting and analyzing data.

The third part; Empirical findings and discussion, consist of Chapter 4, where the empirical findings of the research study are discussed in light of the theory presented in Chapter 2. The purpose and intention are to answer the three guiding questions, as well as simplifying the discussion of the conclusion in part four.

Part four, which is the final part and conclusion of the research study, presents three scenarios based on the findings in part three. Furthermore, the findings from part three are discussed in light of the research's research question, and the final conclusion of the smartness approach's impact on the innovation processes of tourist destinations is presented. To sum up this section, suggestions for further research is presented.

2 Theory

The purpose of the theory chapter is to define and elaborate around the study's theoretical framework, and by doing so explore the research question through literature. First a thorough explanation of the term smartness will be given – where the focus will be addressed towards smart city and smart tourism destinations. Further, the terms sustainability, tourist product and innovation processes will be accounted for, with a focus on conceptual understanding and discussion of the research question.

2.1 The Smartness Approach

For the past two decades the concept of smart has been applied to our society, but with different approaches. In the early 2000 the concept of smart growth was introduced with focus on restraining sprawl through a variety of land-use control and other regional and local policy mechanisms (Jepson Jr. & Edwards, 2010). Then smart greening was presented to the world with the aim of improving the environment of a city, through several control and management aspects. Later smart specialization was presented as an innovative approach aimed at boosting growth and jobs in Europe, by empowering regions to identify and develop own competitive advantages (European Commission, Undated), and lastly the phenomenon of smart city and smart tourism destination. So far it is clear that smartness is quite a broad concept and can refer to many things, however, in this research the focus will be on smartness in terms of technology. A term that represents all things that are embedded or enhanced by technology (Boes, Buhalis & Inversini, 2015).

With the technological development smartness has been introduced to several aspects of our society (Buhalis & Amaranggana, 2015; Boes, 2015). The smartness approach is used to describe technological, economic and social developments that are driven by smart technologies relying on sensors, Big Data, open data and networking, also known as information and communication technology (ICT) (Gretzel, Zhong & Koo, 2016). The aim of the approach is to develop new policies and strategies to target sustainable and economic growth (Caragliu, Del Bo & Nijkamp, 2011). Does this indicate that there is a link between smart growth, smart greening and smart specialization through the approach of smart city and smart tourism destination?

Information and communication technology, ICT, creates the essential infrastructure for developing a smart city or smart destination, and is known as hard smartness (Boes et al., 2016). However, when applying a smartness approach the hard smartness is insufficient on its own. To give meaning to hard smartness four fundamental concepts are required. The four fundamental concepts are known as soft smartness and include leadership, innovation, social capital and human capital (ibid.). By incorporating soft smartness and hard smartness, one is able to create a system aimed at improving the infrastructure of an area, as illustrated in figure 1.
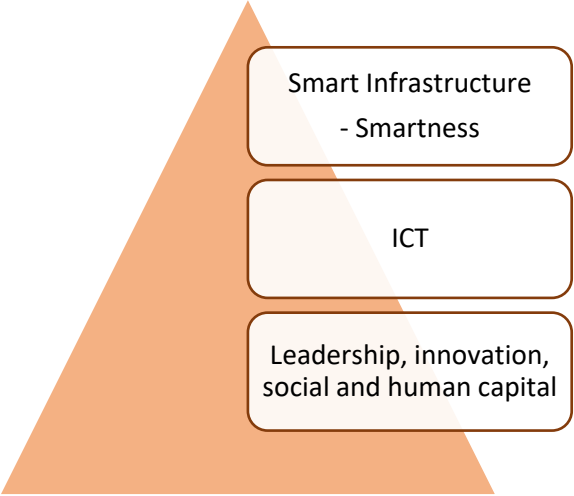
Figure 1: Enablers for Smartness (model inspired by the theory of Boes et al., 2016)

Hard smartness is the critical enabler, ensuring that everyone is interconnected (Boes et al., 2016). It enables the transfer and collection of data, giving a real-time insight of the world – both physically and digitally (ibid.). By combining hard and soft smartness one can increase the sustained competitiveness, achieve resource optimization, sustainability and improve the quality of life of the world population (Buhalis & Amaranggana, 2014; Gretzel et al., 2016; Caragliu et al., 2011). The outcome of hard and soft smartness is smart economy, smart mobility, smart environment, smart people, smart living and smart governance (Caragliu et al., 2011), and when combined constitutes a smart city or destination.

Technology in the form of ICT is a key tool in the creation of smartness (Nam & Pardo, 2011), and can be considered as the backbone of development projects. ICT is a tool that ensures that the human actors are interconnected to one another, but also to confirm control

and automation (Boes et al., 2016). It can consist of Big Data, Internet of Things, Cloud computing, artificial intelligence, virtual reality and much more. The world of ICT is undoubtedly a universe of its own with a portfolio consisting of a broad aspect of different tools. By implementing ICT, one can for instance enable new ways of traffic control, environmental pollution monitoring and it can strengthen the development of important services such as health and security (Hernández-Muñoz et al., 2011). Subsequently, it can be said that the technology of ICT need to be designed for a certain context in order to be effective (Robinson, 2012). For instance, the municipality of Bodø has developed a new and better welfare technology solution, allowing the older residents to live by themselves longer, rather than moving to a home for elderly. The solution consists amongst other of a safety alarm with GPS tracking and sensors that register fall, and the system is connected to health care professionals who can react if an emergency were to occur (Ramberg, 2017, 08. September). However, it is important to understand that the implementation of ICT brings challenges with it as well. One of the main concerns is that the implementation might lead to an uncontrollable amount of data since sensors can be used to register all types of information (Boes et al., 2016). Regardless, ICT cannot exclusively be implemented with the belief that it will create a smart infrastructure.

Leadership, innovation, social capital and human capital are the key components in the development of an infrastructure (Boes et al., 2016), and are developed to address how communities and individuals might interact with smartness (Robinson, 2012). Combined, these four components of smartness strongly intertwine with the hard smartness of ICT (ibid.). Leadership is the component that shapes the value of co-creation (Wieland, Polese, Vargo & Lusch, 2012), and ensures that the infrastructure is sustained - through a participatory governance system (Buhalis, 2015). The leadership style, whether it is top-down or bottom-up, will determine the adaptation of technology (Boes et al., 2016). Regardless, a combination of the bottom-up and top-down approach is viewed as the most feasible solution when implementing a smartness infrastructure (Caragliu et al., 2011). An example of such go-between could be the smart initiative of Amsterdam where a variety of governmental agencies such as the Amsterdam Economic Board, research institutes and universities initiates smartness to the city (Boes et al., 2016). However, the prominent role of the residents is increasing, and they are taking a greater part in the city development, despite participatory governance being promoted (ibid.). Consequently, a challenge with leadership may be the

ensuring of a cooperation among the different stakeholders, where all stakeholders are part of the decision-making process.

Innovation is vital for the existence and competitiveness of smart infrastructures and can be perceived as both a critical input and outcome of smartness (Boes et al., 2016). It is often understood as the foster of smartness (Buhalis, 2015). To promote innovation within smart infrastructures initiatives such as "user-centric innovation milieus" should be established (Bergvall-Kåreborn & Ståhlbröst, 2009). The aim is to develop creative arenas for real-life experiments with representatives from all levels of the community (Boes et al., 2016). An example could be "Nieuw-Wesr" and "IJburg" where public, private and academic organizations, as well as citizens collaborate on the development of urban innovations (ibid.). These types of cooperation for innovation is crucial as previous studies has indicated that communities have developed smart innovation solutions through collaborations (ibid.). Thus, it may help identifying needs and challenges, and opportunities that can be solved through the implementation of ICT. Innovation is crucial for the implementation of a smart infrastructure, however, there are challenges related to innovation in terms of smartness, and it is often linked to the cocreation between public-private companies and people. How can people be involved and how can one ensure that people actively take part in the creation process?

Social capital can be perceived as the component that facilitates cooperation through networks of shared norms, values and understanding (Keeley, 2007 referred in Boes et al., 2016). To enhance collaboration between the different stakeholders a "triple helix" model or a "quadriple helix" model can be implemented (Bakici, Almirall & Wareham, 2013; Lombardi, Giordano, Farouh & Yousef, 2012). The two models refer to the multiple relationships between the different stakeholders; whether it involves government, universities, industries or residents. Social capital is vital for the creation of communities that constitutes the ecosystem of the smart infrastructure (Robinson, 2012). A good structured community will provide support through shared interest and capabilities (ibid.) and can work as a tool for supporting innovation (Buhalis, 2015). However, one challenge with social capital in terms of smartness can be said to be the prevention of competition between stakeholders with shared visions, and rather promote cooperation. How do one prevent commercialized businesses from competing in a market that is perceived as competitive?

Human capital refers to resource-related elements such as knowledge, skills and attributes, and is often perceived as being intertwined with social capital (Keeley, 2007 referred in Boes et al., 2016). A strong human capital usually constitutes of multiple people, a group of different people, which combined make out a community. People, education and high-skilled workforce are of importance for the smartness infrastructure (Nam & Pardo, 2011), particularly since a creative and diverse culture has the potential to influence the innovation of a smart infrastructure. The purpose of a strong human capital is to support the abilities to innovate (Buhalis, 2015). By for example initiating a smart city campus such as a knowledge hub that promotes collective knowledge and cooperation across different organizations and professionals a robust human capital can be achieved (Boes et al., 2016). However, there may be challenges in terms of acquiring a collective knowledge and how such a collective knowledge is achieved.

By combining the four elements of leadership, innovation, social capital and human capital, with the tools made available from ICT, a smart infrastructure can be created. A smart infrastructure is an infrastructure that is seemingly user-friendly, rather than intelligent, meaning that it should build on an infrastructure that is adaptable according to the users' needs (Nam & Pardo, 2011). This can for instance be a smart hotel, smart airport, smart house, smart hospitals and smart universities. An example can be the Scarlet Hotel in Cornwall, United Kingdom where they have installed a Philips Dynalite control system to improve service, in addition to be more energy efficient (Philips, Undated). The system allows the guests to have more control over their room by being able to control, among others, the lighting, security and temperatures. Additionally, the lighting and temperature is automatically adjusted according to whether there is someone in the room or not, and thus energy can be saved.

Bringing smartness into a city infrastructure involves a leadership that is ensuring an innovation-fostering environment and where access to important data for the development of competitiveness is available for all stakeholders (Boes et al., 2016). It's a technological platform for information exchange (Buhalis & Amaranggana, 2015). By applying advanced technology, such as ICT, one has the possibility to provide the required infostructure for

developing digital ecosystems (Gretzel et al., 2015). However, it is the interconnectivity between human actors that populate the ecosystem (Boes et al., 2016), and thus structure and develop the ecosystem created by ICT. By initiating a bottom-up approach people may be empowered to pledge smart ideas and co-create through dynamic innovation (ibid.). Instantaneously, the top-down approach will ensure that an environment fostering innovation and new ideas is being developed (ibid.). The inter-connection between human capital and ICT becomes critical resources for the co-creation and competitiveness of the infrastructure, and both components will be supported and facilitated by the social capital (Buhalis, 2015; Meijer & Bolivar, 2015; Boes et al., 2016).

2.1.1 Smart City

The rapid growth in population in the urban areas has prompted challenges for cities around the world (Buhalis & Amaranggana, 2014). With more people settling down in the urban areas the cities become more complex and competitive, and the need for better tools to target sustainable development and economic growth increases (Buhalis & Amaranggana, 2014; Boes et al., 2016). On a global scale the phenomenon of smart city is being developed, and most cities around the globe have ongoing smart city initiatives and projects, either implemented or in the process of being implemented (Innovasjon Norge, 2017). Despite the rise in popularity there is no definite definition to the concept of smart city (Boes, Buhalis & Inversini, 2016), and different scholars tend to define the concept differently. However, the definitions tend to have one thing in common and that is the application of ICT to increase the quality of life of the citizens (Boes et al., 2015).

Smart city is a community combining technology and social developments to solve challenges faced – locally, nationally and globally (Musa, 2016). By implementing ICT to cities, citizens will be more connected, better informed and engaged – making the city more accessible and enjoyable (Buhalis & Amaranggana, 2014). The overall aim of the smart city-concept is to improve city infrastructure by increasing the city's competitiveness and efficiency, as well as improving the standard of living in the urban areas (Musa, 2016). Successful implementation is achieved by constantly focusing on open-innovation and co-creation at all levels (ibid.). The innovation will usually be driven by the human capital, while businesses drives the technology, and the overall infrastructure of the city will be determined by the technology

implemented (Musa, 2016; Buhalis & Amaranggana, 2014). This could for instance be through sensors and control systems which collects information about the movement of the residents. The information and knowledge made available from the data can be used as a tool to overcome inefficiencies present in the city infrastructure.

Caragliu et al. (2011) argues that the success factors of smart cities do not merely consist of ICTs, and that innovation, creativity, social capital and human capital should equally be included. According to Nam and Pardo (2011) a city is perceived as smart when ICT infrastructures and investments in human and social capital fuel sustainable growth as well as enhance the quality of life of people. The subsystems within the smart city should be regarded as a network, a linked system, where people, citizens and visitors are the most important tool to turn the subsystem from a bundle of infrastructure elements to a community (Kanter & Litow, 2009). A well-functioning infrastructure is vital for the smart city; however, innovation and creativity will not exist by implementing ICT into the subsystems and combining it into a community (Nam & Pardo, 2011). It is engagement and cooperation that allows the smart city to exist, and through engagement and cooperation creativity can occur (ibid.). Thus, it is the creativity that allows for innovation to grow.

2.1.2 Smart Tourism Destination

A tourism destination can be defined as an area chosen by visitors which comprise of all necessary facilities such as accommodation, restaurants and entertainment (Baggio & Del Chiappa referred in Del Chiappa & Baggio, 2015). Traditionally successful destinations are structured according to the 6A's of tourism destinations; amenities, attractions, activities, accessibility, ancillary services and available packages (Buhalis & Inversini, 2015). Amenities refers to all the services, accommodation, restaurants and activities, which combined provide a convenient stay for the tourist; attractions referring to natural, artificial or cultural sites such as mountains and fjords, amusements parks and festivals; activities can be multiple events such a kayaking at Mjelle or rib safari in Saltstraumen; accessibility characterizes the whole transportation system within the destination; ancillary services being services making the overall travel experience comfortable, secure and enjoyable; and lastly available packages is the availability of the experiences required at the destination. Hence, a destination can be viewed as a combination of all products, services and experiences made

available to the tourist. It is crucial for the destination to maintain all the 6A's as it is these components that determines the competitiveness of the destination (Buhalis & Amaranggana, 2014). However, a tourism destination's success is determined by accessible human resources and innovation combined with cooperation and collaboration on both local and regional levels (Ritchie and Crouch, 2003)

With the smartness being introduced to cities, the notion of smart tourism destination has emerged from the concept of smart cities. Gretzel, Koo, Sigala & Xiang (2015, p. 3) defines smart destination as "a tourism system that takes advantage of smart technology in creating, managing and delivering intelligent touristic services or experiences and is characterized by intensive information sharing and value co-creation". Successful implementation is, as with smart city, achieved by constantly focusing on open-innovation and co-creation at all levels (Musa, 2016). Moreover, smart tourism destination, like smart cities, emphasizes on ICT tools. In other words, smart tourism destination applies the practices of smart city to the infrastructure of urban and rural areas (ibid.). However, instead of exclusively collecting and exploiting data from residents, smart tourism destinations collects information from tourists. Hence, the overall goal of smart tourism destination is to support resource availability and allocation, mobility, sustainability and quality of life of the residents, as well as the quality of visits of the tourists (ibid.). Thus, the implementation of smartness into the destination structure becomes a tool to enhance the value of the tourist. An example could be a project initiated by Telenor Norge where anonymized Big Data is used to track the movement of tourists to better understand how they use the natural environment (Telenor, Undated). Consequently, the information can be applied to facilitate a more sustainable tourism. Additionally, it will enable the possibility to track down how many tourists are travelling in the different regions of Norway and what country the tourists are from.

The integration of smartness has led to a digital construction of the social reality of tourism by making information exchange faster and more abundant (Hunter, Chung, Gretzel & Koo, 2015). Destination image formation is no longer dependent on travel agencies and travel brochures but relies more on the user created content found on social media (ibid.). The importance of co-creation of experiences arises, meaning that the companies cannot simply act autonomously anymore (Prahalad & Ramaswamy, 2004). Consumers desire more control

over their own experiences, and thus desire to interact with the companies and hence co-create value (ibid.). This can for instance be done by allowing the tourist to take part in the construction and personalization of an experience package. Tourists become more independent through smartness and is no longer in need for a travel guide at the destination, instead they have an application that can guide them directly to the desired attraction. The tourist might not be as dependent on the company as before, leading to a change of focus from the company to the user (Boswijk, Peelen & Olthof, 2013). Consequently, there is less focus on the company and their staging of experiences and more focus on how the individual tourist give meaning to experiences. However, this requires a good intelligent platform that can distribute and collect information within destinations in order to enhance the tourist experience (Buhalis & Amaranggana, 2014).

Taaffe (2014, 22. September) claims that the infrastructure of smart cities are helping the cities of Europe to better understand and serve tourists. Thus, it can be argued that smart destinations are created through tourism products and initiated through smart cities (Boes, Buhalis & Inversini, 2015). As with smart cities whom enhance the quality of life, smart tourism destinations enhance the tourist experience (Neuhofer et al., 2012) through the implementation of ICT to the destination. However, components such as innovation, leadership, human capital and socail capital should be initiated as well, in order to create a successful smart tourism destination. The destination will need a strong leadership with determined authorities, in order to become smart (Boes et al., 2015). Regardless, cooperation between different stakeholders at the destination is perceived as one of the core competences of a smart destination, thus competition between the stakeholders should be prevented as social capital is important for the competitiveness (Caragliu et al., 2011; Neuhofer et al., 2012). Likewise innovation is of importance as it can increase the competitiveness of destinations (Boes et al., 2015). For example a research conducted by Boes et al. (2015) insinuates that human capital is the key factor of success for smart destinations, as knowledgable people cooperates and co-create innovative solutions that has the potential to increase the competitiveness of the destination. ICT will in this case work as an infostructure facilitaing co-creation of value for the tourists while obtaining competitivness (Ritchie & Crouch, 2003).

Despite the fact that technology appears to be the midpoint of smart tourism destinations, as well as smart cities, this is not the case. It is important to remember that it is not the technology that creates the smart deatination, it is the people. The fundamental paradigm of smart tourism destinations is the human capital, which can create the foundation for leadership, entrepreneurship and innovation, and social capital constructs (Boes et al., 2015). It is the people who pocess the power to co-create innovations through stable leadership and thus increase the competitiveness of a destination. Subsequently, the key dimensions of smart tourism destination can be said to consist of leadership, social capital, innovation and human capital – the soft smartness (ibid.). In other word, ICT can be regareded as a tool, an infrastructure, used to connect the physical world with the digital realm, and to facilitie the co-creation of values and experiences that creates the smart destinaton (Neuhofer et al., 2012; Ritchie & Crouch, 2003; Boes et al., 2015).

2.2 Sustainable Development

The focus on sustainability raised awareness after the Brundtland Commission report was introduced in 1983, and today it is anticipated that everyone – people, as well as businesses think in terms of sustainability. Sustainability, according to the Brundtland report, refers to a "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, Undated, p. 2). Subsequently, sustainable development is something that should be implemented in an overall strategy and taken in consideration when evaluating new projects. Moreover, the sustainability measures should be embedded in economic efficiency, social inclusion and environmental responsibility, and thus focus on economic sustainability, social sustainability and environmental sustainability (European Commission, Undated).

As a reaction to the constant emphasize on sustainable development and the greater awareness of climate changes, sustainable tourism has emerged, and today it obtains a dominant paradigm in the development of tourism (Ruhanen, Weiler, Moyle & McLennan, 2015). Sustainable tourism aims at developing destinations and experiences that meet the needs of the present without compromising the future generations' ability to meet their needs (ibid.). However, sustainable tourism has been criticized for having an exclusive focus on eco and environmentally friendly tourism (Weaver, 2014). Obtaining a sustainable tourism is

particularly regarded as important today, as the number of yearly travelers are higher than ever and is expected to continue to grow in the years ahead (UNWTO, 2018). As an outcome, destinations competitiveness is determined by its ability to implement sustainability to activities and attractions within the destination, as the quality of a destination is partially determined by its natural and cultural environment (Ruhanen et al., 2015). Subsequently, it can be argued that a destinations competitiveness and sustainability go hand-in-hand (ibid.).

2.2.1 Smart Tourism Destination and Sustainability

Destinations are exploring sustainable development strategies to preserve the destination for future generations (UNWTO, referred in Girard & Nocca, 2017). The focus on the green and sustainable approach has increased as the world population has become more aware of the ongoing climate changes (Viitanen & Kingston, 2014). Implementing sustainability to a smart tourism destination involves being greener in terms of production, through the adoption of innovation that is environmental (Viitanen & Kongston, 2014; Wang, Xiang & Yunpeng, 2013). This means a more efficient and optimal allocation of resources and can be done through the use of Big Data (Wang et al., 2013). By using Big Data in the process of resource allocation one can better identify how markets, organizations and relationships are affected by the tourism. Thus, one may be able to better recognize what measures that should be implemented in order to create a more sustainable destination, while still meeting the needs and demands of the tourists. An example of the use of Big Data for a more sustainable destination can be the Hilton Hotels who are beta testing the first ever mobile-centric hotel room (Puorto, 2018, 3. January). Here guest will be able to control temperature, lightning, blinds, thermostat and TVs directly from their own phone (ibid.). By doing this, each room can be optimized to the individual guest's needs and be adjusted according to whether or not the guest is in the room, making the stay more environmental friendly. Another good example is the use of ICT to enhance the tourism experience at the destination, as well as ensuring a more sustainable use of the areas. Here, technological tools through visitor management, can be applied to acknowledge the tourists about peak times at different attractions, and when it is recommended to go to the different attractions to avoid peaks.

However, a Smart Tourism Destinations is not merely about applying ICT, in terms of sustainability, to the destination, it is also about creating a sustainable destination which

"satisfy the need of tourists and hosting regions and, at the same time, preserves and improves future opportunities" (UNWTO, referred in Girard & Nocca, 2017, p. 54), through sustainability. According to UNWTO (2018) smart tourism destinations are the main keys to achieve a sustainable development, that do not only contribute to improvements for the tourism industry but for societies at large. Consequently, smart destination can be perceived as the tool of the sustainable tourism of the future. For instance, Barcelona have fostered environmentally friendly infrastructure throughout their city by making bicycles available throughout the city, in addition they have a smartphone app which allows the tourist to check their locations (Neuhofer et al., 2012). Subsequently, ICTs can be applied as a tool to improve the tourist experience, while obtaining sustainability – which in fact can enhance the tourist experience additionally.

Visitor Management

Traditionally visitor management has been applied to national parks for conservation of the nature and resources in the area (Spenceley et al., 2015). However, in recent years visitor management has been applied to other areas as well, and particularly within tourism to conserve environmental and cultural site assets and to improve visitor safety and the quality of the tourism experience (Scherrer, Smith & Dowling, 2011). It is a tool applied to an attraction or destination and is a reaction to the increased interest for travelling. The number of arriving tourists has had a steady growth the past decade and according to UNWTO's long-term forecast report; Tourism Towards 2030, the number is expected to reach 1,8 billion by 2030 (UNWTO, 2018). Subsequently, actions such as visitor management need to be initiated in order to obtain and maintain a sustainable destination.

Visitor management is used to manage and control traffic to a specific attraction or destination, to facilitate balance in the use of the attraction or destination, in order to generate better tourist experiences, while maintaining a sustainable conservation of nature, ecosystem services and cultural values (Spenceley et al., 2015). Many tourism destinations are facing a significant growth in the number of tourists due to reduced travel costs and the easy access to information (ibid.). A consequence of the latter is that the tourists tend to be more aware of what attractions to see and not see at the destination. Usually visitors tend to go to the same attractions when visiting a destination, which is not sustainable in the long run. The massive

influx of tourists can have significant impact on the destination, such as overcrowding and people congestion at peak times, litter, vandalism and traffic congestion (ibid.). These impacts do not exclusively affect the destination, but the individual tourist's experience as well. Subsequently, the destination areas can become the root to its own destruction (Plog referred in Butler, 1980). As tourism and travelling grows, destinations will become more crowded and potentially more commercialized. What once attracted the tourists to a particular destination, for example the natural resources, might get lost in an industry that is focusing more on profit rather than the genuine experience, and possibly leading to a reduction in travelers and the destruction of the destination. Consequently, destinations are dependent on a sturdy development to find solutions to the problems and challenges. To ensure better sustainability for a destination and improved tourist experience, visitor management systems embedded in technology should be applied.

Buhalis and Amaranggana (2014) has been focusing on the smartness concept and how bringing smartness into destinations changes the destinations' dynamic. But how can a smart visitor management system affect the dynamic? What challenges can it solve? By creating a good visitor management system, the quality of the tourist experience can be enhanced, the destinations' competitiveness can increase, and the sustainability improve (Scherrer et al., 2011). If we for instance look towards Lofoten, it is a destination that attracts many tourists all year around. However, the high traffic rates offer little solitary contemplation. By using tools from the virtual and intelligent world of the internet, traffic can be managed through applications. For instance, companies can use it as a management tool to better spread the tourism traffic throughout the region, it can be used to identify which segments to focus on and identify new ways of allocating the natural resources. Additionally, traffic management applications can help visitors plan their visit around destinations by allowing them to see real-time traffic on an application and choose attraction or destination based on crowd density. Smartness can thus be used as a management and development tool for tourism by taking advantage of the digital traces left behind by travelers. Consequently, the destination can experience an improved city infrastructure by implementing smartness and thus attract visitors, which may enhance the overall tourism industry in a region (ibid.).

2.3 Tourism product

The tourism product is the key component which attracts the tourist to a particular destination (Benur & Bramwell, 2015). It is usually not a physical product, but an experience achieved through several combinations of tourism facilities and services (Scott, Parfitt & Laws referred in Soteriades & Avgeli, 2007; Murphy, Pritchard & Smith, 2000). Hence, the tourism product is an outcome of the total experience, from all aspects and components of the product, including the attitudes and expectations of the consumer (Soteriades & Avgeli, 2007). Subsequently, the product can be said to be a complete package, consisting of destination attractions, destination facilities and services, accessibility of the destination, images, brands and perceptions, and price to the visitor (ibid.).

2.3.1 The Experience Economy

The experience economy is a business movement that has derived from the service economy which focuses merely on delivering intangible and customized services (Pine & Gilmore, 1998). It is a reaction to the standardization of services, where the goal is to create a personalized relationship to the individual consumer (Lindberg, Jensen & Østergaard, 2015). Sundbo and Hagedorn-Rasmussen (2008, p. 83) defines experiences as "a mental journey that leaves the customer with memories of having performed something special, having learned something or just having fun". This mental journey can be created in several ways, but within tourism the journey will usually be formed through purchased experience products such as a hiking trip, guided tour or other activities that provide impressions that are new to or different from the impressions the tourist is familiar with. The experience economy is distinguished from the service economy by the way revenue can be achieved (Chang, 2017). Within the experience economy the industry revenue increases with consumers satisfaction of experiences (ibid.). Thus, the experience economy is viewed as a fourth economic offering and is a reaction to time (Pine & Gilmore, 1998). The basic needs of consumers are satisfied, and they are now seeking self-realizing and personal growth (ibid.). Consequently, consumers are willing to pay more for a product that incorporates a unique theme into its products and services in order to gain personal growth (Chang, 2017). Consumers are desiring more experiences, and businesses are responding to it by designing and promoting experiences (Pine & Gilmore, 1998), the experience economy emerges.

The experience economy has derived from a shift in social values (Mehmetoglu & Engen, 2011; Pine & Gilmore, 1998). Consumers have shifted their focus from materialistic goods and services towards genuine experiences and feelings, there has been a case of dematerialization (Mehmetoglu & Engen 2011). Businesses try to influence the visitor to stay longer, experience more pleasure and spend more money by staging the experience space (Boswijk, Peelen & Olthof, 2013). Pine & Gilmore (1998, p. 98) claims that "an experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event". For instance, within tourism the destination can be regarded as a service – the stage and attractions such as mountain climbing, dog sledding and boat trips can be viewed as goods or props. It will be all these props combined that make up the scene and engages the tourist emotionally and physically. Thus, an experience is something that occurs in the mind of the individual when being engaged, on an emotional, physical, intellectual or spiritual level, and is something extraordinary and memorable for the individual (Pine & Gilmore, 1998; Lindberg et al., 2015). The experience becomes the reason to go, despite the experience's first occurrence takes place at the destination.

However, it is important to point out that the experience economy is about much more than offering an experience based on a staged setting (Boswijk, Thijssen & Peelen, 2006). A new perspective of the experience economy has arisen from the suppliers' desire to distinguish oneself from one another, in order to gain the customers' attention (Binkhorst & Dekker, 2009). The consumers are gaining more control and have a desire to be included in the process of creating experiences (Binkhorst & Dekker, 2009; Prahalad & Ramaswamy, 2004). The co-creation of experiences is gaining a foothold, and where the intangible assets and stories surrounding the products gets a stronger meaning (Mehmetoglu & Engen, 2011). The consumers become co-creators, participating actors, in the production of the experience value (Prebensen, 2015; Lindberg et al, 2015). Resulting in experiences that are no longer passively staged, but rather actively created in a partnership between the companies and the consumers (Prahalad & Ramaswamy, 2004). In other words, the consumers become active participants and important contributors, in defining, producing and consuming the experiences and values. Prahalad and Ramaswamy (2004) acknowledges the co-creation of experiences to be an important basis for value, as well as being the innovation of the future. Subsequently, the co-creation of experiences may be perceived as a second generation of the experience economy

(Boswijk et al., 2013) – the experience economy 2.0. However, it should be noted that the second generation experience economy does not replace the staging from the first generation (ibid.). They simply build upon one another, enabling mutual advantages to be at the center-stage, rather than just one (ibid.).

Regardless, as technology is enhanced a new approach derives, based on an individual-centered co-creation of values (Prahalad & Ramaswamy, 2004). Boswijk et al. (2006) argues for the need to create meaningful values for the individual consumer through interactions on a personal level. The consumers are desiring co-creation that involves the whole communities of professionals, service providers and other consumers, and not just exclusively one firm (Prahalad & Ramaswamy, 2004). Additionally, it is the consumer who is giving the directions and the businesses obtains a supporting role – creating the platform where the transformation can occur (Boswijk et al., 2013). In other words, the companies are in the background and the consumers are at the forefront. Subsequently, companies need to focus on the quality of the co-creation experience, not just the quality of the firm's products and processes (ibid.), in order to create meaningful experiences with a high emotional impact and that are personalized to the individual consumer's values, beliefs and reasons to go. This approach of self-direction can be perceived as the third generation of experiences, despite discussions and uncertainties to whether or not it can be referred to as an economy (ibid.).

2.3.2 The Total Experience Product

Sundbo and Hagedorn-Rasmussen (2008) has presented a model of the total experience product, consisting of three layers; the peripheral experience, the core experience and the core. In this model they focus on generation one of experiences, where experiences linked to a product is perceived as a generic business activity with staging (Pine & Gilmore, referred in Sundbo & Hagedorn-Rasmussen, 2008). Within this approach businesses try to customize experiences to comply with certain segments (Sundbo & Hagedorn-Rasmussen, 2008). The experience product, as presented by Sundbo and Hegedorn-Rasmussen (2008) is illustrated in figure 2 below:
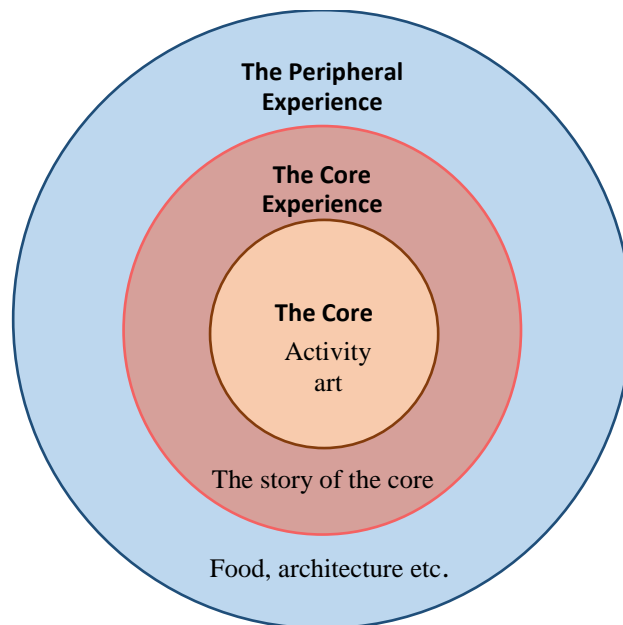
Figure 2: The total experience product (Sundbo & Hagedorn-Rasmussen, 2008, p. 98)

When explaining the total experience product, Sundbo and Hagedorn-Rasmussen (2008) focuses on the core – also known as the art of the activity, the core experience or what they describe as the story of the core and lastly the peripheral experience which is referred to as side-activities. The core can be perceived as the pure performance or type of performance, such as a hiking trip. It will be closely linked to the core experience as the participants' experience may be influenced by the story being told. The story behind the performance may add "the little extra" to the experience and provide a framework to better understand the performance (Sundbo & Hagedorn-Rasmussen, 2008). Subsequently, one can say that the core experience is a result of the performance or core and the story being told. However, the overall perceived value of an experience will not just be influenced by the core and the core experience, additional services – the peripheral experience, that is added to the setting may play an important role. This can for instance be a tour guide, local food and snacks and entertainment. This component is an important part of the destination, but is purchased for its functional reasons (Prebesen, 2015). It is an instrument for experiences, where the functional value can, but not necessarily, increase the experience value (ibid.). However, if the quality of the services is poor it can contribute to a reduction in the overall experience value (ibid.).

The combination of all of these components constitute the total experience and works as a value creator. However, the core is the most vital aspect of the experience as it ensures that an experience occurs (Sundbo & Hagedorn-Rasmussen, 2008) and can be perceived as the component that draws the tourist to a specific destination. The core experience is the main value creating aspect and the component that gives meaning to the core. The peripheral experience consists of supporting components which can help give the experience extra-value. The total experience product can consist of a standalone product or several integrated products (Lindberg et al., 2015), such as a tourist destination where different products and services are implemented through for instance a specific theme or story.

The model of Sundbo & Hagedorn-Rasmussen (2008) focuses on staging and storytelling and do not take in consideration the role of co-creation. There has been a lot of research indicating that there are several other tools than storytelling that are of relevance (Lindberg et al., 2015; Prebesen, 2015; Neuhofer et al., 2012,) and thus the model can be perceived as old and not applicable for a smart tourism destination. As previously mentioned, experiences have been further developed and can be categorized both in generation two and, what we can call, generation three. Since smart tourism destination is known for cooperation and co-creation of values with the implementation of technology, it will be more suitable to look at generation three of experiences – focusing on an individual-centered co-creation of values. Based on this decision the total experience product-model of Sundbo & Hagedorn-Rasmussen (2008) has been further developed to suit generation three of experiences, as presented in figure 3 below:
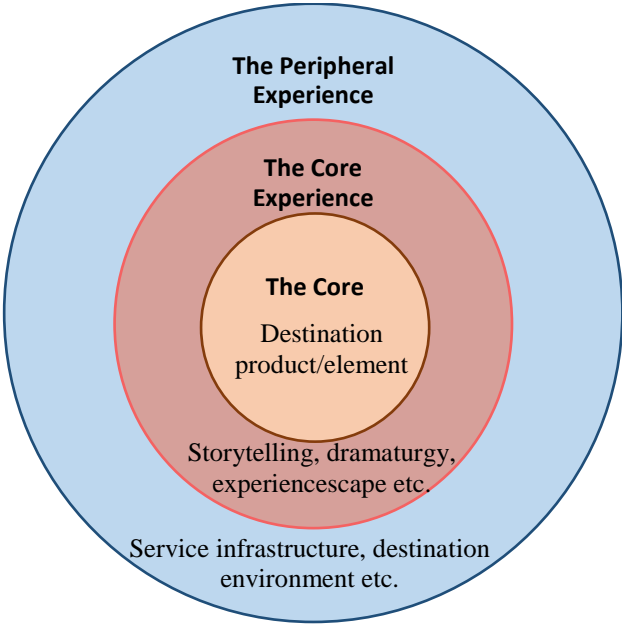
Figure 3: The total experience product (Modification of model by Sundbo & Hagedron-Rasmussen, 2008, developed by me)

The modified model of the total experience product is altered in order to be applied to a smart tourism destination. Smart tourism destinations aim at developing information and communication infrastructure of all kinds of tourism information, such as tourist resources and tourism activities (Gou, Liu & Chai, 2014). The better informed, engaged and interconnected tourist makes the application of smartness to destination structure crucial as the tourist is interacting more dynamically with the destination – adding value and co-creating tourism packages and experiences (Neuhofer et al., 2012). Consequently, the interconnected tourism industry provides better real-time and personal services (Gretzel et al., 2015). Ultimately the smart tourism destination "aims at revolutionizing tourist experience creation, as well as tourism business and destination marketing practices" (Wang et al., 2013, p. 61). This can be done by applying ICT to several aspects of the total experience product. For instance, ICT can be used to screen tourists' interests and values and match the tourist with a destination that comply with the individual tourist's interest and values. Moreover, it can be used to create certain routes and activities at an attraction that coincide with the tourist.

The core, also known as the primary tourism product, can be enhanced as ICT is introduced to the total experience product. In this study the core product is a combination of different products that constitutes a package. By introducing ICT to the core and the core experience the tourist's experience can be enhanced. Communication and information exchange can for instance be improved through technological tools such as virtual reality (VR), augmented reality (AR) and destination image formation (Hunter et al., 2015). The tools can for example be applied to an attraction, such as a city museum, to get a virtual image of what the city looked like 200 years ago. Virtual tours can be combined with the real world to indirectly experience the city 200 years ago through vivid images while walking through the city. Moreover, one can use virtual tour guides to guide the tourist around the destination and create a storytelling that is adapted to the individual tourist and their interests. Subsequently, each tourist has the potential to experience a greater experiencescape and immersion at the destination. In other words, by implementing ICT the core experience can be conveyed more efficiently and thus enhance the core. Additionally, ICT may create a better destination

environment, that may enhance the peripheral experience, as technology will allow the tourist to purchase products or services through applications instead of face-to-face purchase, which again may have an impact on the peripheral experience.

Within smart tourism destinations, ICT becomes a crucial part of the experience because the destination, as well as the tourist, can use different technological tools to enhance the experience and the immersion. Chen and Zhou (referred in Gou et al., 2014) confirms this in their research where they prove that smart technology enhances the convenience of tourism. Tourists can, to a greater extent, choose a destination based on own personal interest and activities, and thus, narrow down destinations to a package that is customized to the individual tourist (Kah, Vogt & MacKay, 2011). The tourist becomes a co-creator of the experience through technology (Benur & Bramwell, 2015), where products can be personalized. An example of this is the explorer quotient toolkit that Canada applies to their destinations. The toolkit provides businesses within the tourism industry insight to why and how tourists like to travel by looking at the individual's personal beliefs, social values and views on the world (Destination Canada, 2013). The purpose is to get a better understanding of what kind of experiences the different tourist is seeking (ibid.). Consequently, the process of selecting tourist destination, tourist activities, hotel bookings and managements integration of tourist attractions should be comprised in the smartness information system, as a result of the application of ICT (Gou et al., 2014).

The increased importance of cooperation and co-creation between the stakeholders within the destination, but also with the individual tourists, makes it more important to think in terms of concept - conceptualization of experiences. Subsequently, the actors that are providers of experiences need to combine their resources with each other in order to develop a concept (Pedersen, 2012). However, this requires input from tourists, to be able to create an experience that coincides with the individual tourists' values, beliefs and reasons to go. Regardless, it can be argued that due to the constant focus on cooperation and co-creation between all actors and stakeholders within smart destination, the process of conceptualization is simplified, as the grouping of experience products and resources will fall more natural to all partners. Subsequently, the experience products within the destination will be more seamless and overlapping, making the products more complex. The experience product is turned into a

complete package with a defined content, tailor-made to the individual tourist based on interests, values, reasons to go and such (ibid.).

2.4 Innovation Process

Innovation is often defined as a new product, service or production process applied in a market or in a production to create economic value (Alsos & Andreassen, 2015). It is understood as a process where new products or technologies are being developed through the sharing of ideas, and where the process is regarded as an interactive process, involving several people, as well as changing actors over time (Fuglsang, 2008). The different stakeholders engage in the process by sharing ideas and opinions, but for an innovation to actually occur the ideas and opinions must be accepted by other people (Fuglsang, 2008; Sundbo, Sørensen & Fuglsang, 2013). As innovation may consists of involvement of several actors across different sectors, it can be challenging to integrate ideas and opinions, that meet a common goal and create frameworks based on mutual communication, collaboration and understanding (Fuglsang, 2008). However, innovation is not only about developing new products and technologies through ideas and opinions, it is also about challenging existing assumptions and ways of thinking (Boes et al., 2016). Consequently, innovation can be defined, in a broadly context, as the realization of ideas (Sundbo et al., 2013).

Fuglsang (2008) claims that innovation need both diversity and collectivity at the same time, and that having a good balance between the two components is crucial for the innovation activities. There are four organizational and social mechanisms of diversity and collectivity that are perceived as especially important for innovation: involvement, importance, positioning and sensemaking (Fuglsang, 2008). The modern term of innovation has its origin from Schumpeter's theory about entrepreneurship and economic development (ibid.). From Schumpeter's theory innovation has been perceived as an outcome of innovative performance which can occur in numerous forms: product, process, organizational and market innovation (Camisón & Monfort-Mir, 2012). Additionally, Schumpeter divided innovation into two different approaches, known as Schumpeter I and Schumpeter II, and after his death a third approach, known as Schumpeter III, was developed. Each of these approaches represents different frameworks (Fuglsang, 2008). Schumpeter I is known for having a closed approach towards innovation by exclusively focusing on R&D, Schumpter II is reckoned for having a

collective focus on innovation, including internal co-operation and in-house R&D, and Schumpter III is identified for having an open approach towards innovation, involving both internal and external partners (Fuglsang 2008; Eide & Fuglsang, 2015). Experience products are reckoned for its open product and/or process innovation – by focusing on developing new or improved characteristics or delivery methods of services and goods. Thus, in this thesis the approach of Schumpeter III with focus on open product and process innovation is viewed as relevant, as the research question aims at evaluating innovation processes in terms of tourist destinations.

When evaluating the innovation outputs and the effectiveness of innovation processes there are two different models that can be applied – the STI (science, technology and innovation) and DUI (doing, using and interacting) model (Parrilli & Heras, 2016). The STI model believes that technological and scientifically changes occur in a linear order; research/invention, product innovation and marketing of finished product (Nordin & Hjalager, 2017). Thus, the focus is on a short innovation process where there is a rapid development from idea to market. The DUI model believes that knowledge is not only scientifically bound, and that experiences are just as important, or even more, and focuses on the learning-by-doing, by-using and by-interacting (Nordin & Hjalager, 2017; Parrilli & Heras, 2016). Thus, the model gives greater meaning to teamwork and network; including management, personnel, suppliers and customers (Nordin & Hjalager, 2017). See table 3 below for a thorough summary of the characteristics of STI and DUI. The two models can be applied separately or collectively. However, the most successful businesses are those who are able to somehow successfully combine the two approaches, and consequently, making the impact on the innovation output stronger (Parrilli & Heras, 2016).

	The STI model	The DUI model
Characteristics of the organization	Rigid division of labor	Flexibility of work functions, networks
Staff composition	Highly educated, a high proportion of scientific staff	Mixed, experience-driven
Choice of innovation projects	Strategic choice, long-term perspective	Responding to opportunities and constraints

Main drivers	Technology	Demand
Planning of innovation processes	Linear, step-by-step forward moving process	Circular, taking in experiences where needed, accepting failures
Visibility	Closed processes, a level of secrecy until introduced	Open, relational processes, inviting customers and collaborators to follow the process
Knowledge input	Scientific knowledge, disciplinary subgroups	Practical knowledge, interdisciplinary subgroups
Verification	Test, prototypes, patents	Real life implementation
Management style	Coordinative	Integrative
Main advantage	Efficiency	Creativity

Table 3: Comparison of the STI and DUI innovation perspectives (Nordin & Hjalager, 2017, p. 8)

2.4.1 Innovation of Smart Destinations

Within the tourism industry innovation will usually evolve around achieving a higher tourist satisfaction as well as more effective managerial strategies (Pirnar, Bulut & Eris, 2012). This is done through the creation and development of creative ideas or by improving tourist services (ibid.). Consequently, innovation in the tourism industry can be linked to creative ideas concerning problem solving, value-adding activities and efficient ways to produce and deliver tourism products (ibid.). Since the tourism industry is known for being a less knowledge-intensive service, where the competition between actors are intense and the industry is experiencing transformations continuously, the survival of companies is dependent on their ability to innovate (Sørensen, 2011). Usually, innovation within the experience sector, such as the tourism industry, can be characterized according to technology, enterprise size and type of experience. Traditionally the tourism industry has not been perceived as a technological industry (Sundbo et al., 2013). However, as the industry is gradually introduced to smartness, technology gets a more distinct role in the innovation process.

Boes et al. (2016; p. 114) claim that "smartness is driven by innovation and innovation drives smartness". Innovation is a significant concept for growth, business improvement and differential advantage in competition and is crucial for the competitiveness of both smart cities and tourism destinations (Pirnar, Bulut & Eris, 2012). Smart tourism, as well as smart cities, require an environment based on open and user-driven innovation to experiment with, and validate future services to develop the concept (Schaffers, et al., 2011). And thus, the main drivers for innovation ca be said to be customer-oriented. Subsequently, the tourists become co-producers in the production of goods and services, which is particularly applicable for tourism concepts and experiences as production and consumption occur at the same time. As technology becomes more important for the development of the urban areas, cities and destinations are increasingly gaining a role as innovation drivers (Neuhofer et al., 2012). However, there are several issues regarding how cities and destinations develop towards a sustainable open and user-driven innovation (ibid.). Schaffers et al. (2011) states that through the establishment of Living Labs, open and user-driven innovation can be encouraged.

Living Labs

The concept of Living Labs denotes a prevailing view of how user-driven open innovation can be organized (Schaffers et al., 2016). It inhibits a user-centric approach to innovation which builds on every-day practice and research, engaging relevant partners in real-life settings for testing of new ideas, technologies, products and services (Bergvall-Kåreborn & Ståhlbröst, 2009; Cosgrave, Arbuthnot & Tryfonas, 2013). Living Labs are viewed as drivers for innovation (Cosgrave et al., 2013), and the implementation of Living Labs to smart cities has been greatly emphasized (Bakici et al., 2013). Consequently, it is reason to believe that Living Labs should be emphasized within smart destinations. When applied to a city or destination it embodies to push for innovation as well as the quality of services through collaboration between different stakeholders (ibid.). Subsequently, Living Labs can be perceived as a tool for conducting specific innovation initiatives and experiments, and by involving several actors instead of solely including private actors it will flourish (Boes et al., 2016; Cosgrave et al., 2013).
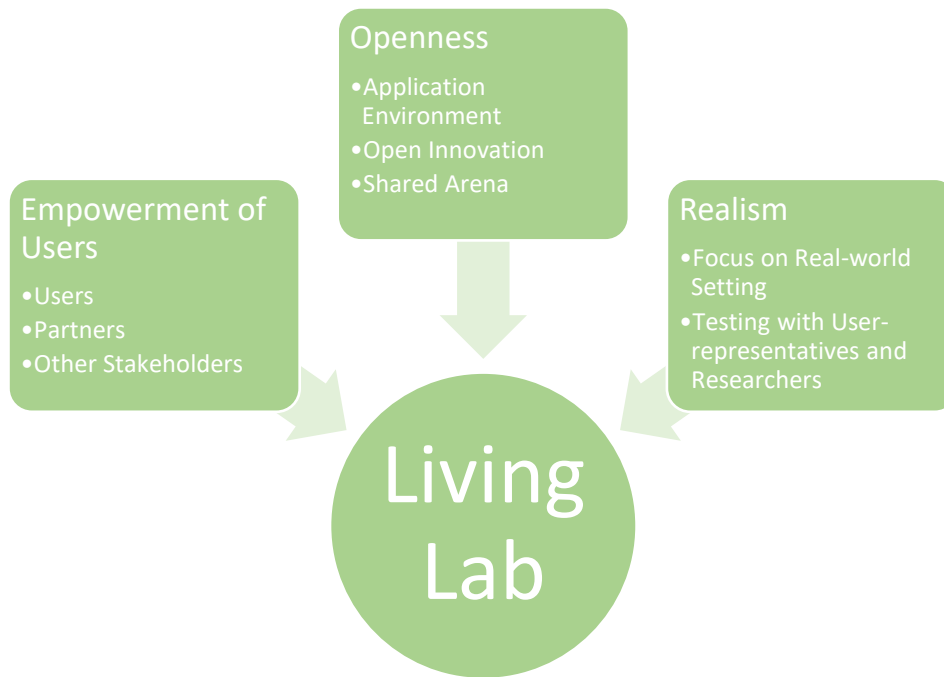
Figure 4: The Core Components of Living Labs (illustration inspired by Bergvall-Kåreborn & Ståhlbröst, 2009)

The Living Lab environment can be illustrated according to figure 4. Empowerment of users represents the partners, users and other stakeholders on whom the innovation and sustainable development should be based on – the different stakeholders' needs and desires. In a Living Lab the aim will be to create a user community, for fostering of creativity and idea generating, where all the different stakeholders can interact. In this community the users will typically be the end-users, in this case the tourists, and they will be the co-creators and valuators of innovation and sustainable development (Bergvall-Kåreborn & Ståhlbröst, 2009; Cosgrave et al., 2013). Partners include a network of both public and private companies whom holds valuable knowledge and expertise (Bergvall-Kåreborn & Ståhlbröst, 2009). Other stakeholders refer to other individuals of interest, such as academics from universities, whom might possess knowledge of relevance for the development of a sustainable smart tourism destination. This point is one of the aspects that distinguish smart tourism destination from traditional tourism. In traditional tourism it is rare that the enterprises cooperate with FoU, educational and other knowledge intensive institutions (Eide & Fuglsang, 2015). Through the empowerment of users all the stakeholders are seen as partners in the innovation process and crucial for the destinations ability to innovative good total experience products (Bergvall-Kåreborn & Ståhlbröst, 2009).

Openness supports innovation processes that are open and include a multiple perspective. Application environments relates to the context where users, as well as partners interact with each other, usually in a shared arena, and reflect on scenarios that may take place in near future (Bergvall-Kåreborn & Ståhlbröst, 2009). The openness components emphasize on user-driven innovation (ibid.). Realism is what distinguishes Living Labs from the traditional development systems and is about facilitating realistic user situations and behaviors (ibid.). Technology and infrastructure refers to new ways of cooperating and co-creating innovations among stakeholders through new and existing ICT (ibid.). The intention is that the Living Labs will keep the users continuously involved in the process of developing a product or service at the same time as their expectations are continuously monitored and reflected upon in a systematic process (Paskaleva, 2011). An example of such Living Lab can Bodø ByLab which was launched earlier this year, with the aim of involving the local residents in the development of the city through different activities and events, in cooperation with public and private companies in the city.

2.4.2 How May the Innovation Processes Change with Smart?

According to Paskaleva (2011) a new approach towards open innovation is emerging with the application of smart to cities and destinations. This is an open innovation linking technology with people, urban areas and other cities (Paskaleva, 2011). Subsequently, there is an open innovation involving multiple partners and stakeholders, both internally and externally of a city and destination, private as well a public, and individually as in groups. However, there is reason to believe that with smart tourism destination, the tourists become more directly involved throughout the entire innovation process, rather than indirectly or parts of the innovation process as with traditional tourism. This may be an outcome of technology being introduced to the experience economy, leading to a shift from the experience economy generation two to generation three (Prahalad & Ramaswamy, 2004). Regardless, this change is highly important as the total experience product – the concept becomes more digitalized, since the need for user-driven open innovation increases with technology (Buhalis et al., 2015). Within the smart destination innovation process, cooperation through networks may become more important. This is partially due to the need for co-creation at the destination, and partially because the tourist industry tends to consist of several small and medium-sized

enterprises (Nordin & Hjalager, 2017). Cooperation in networks will enable a higher generating of new ideas, knowledge and other resources necessary in order for innovation and learning to arise (Eide & Fuglsang, 2015), as well as creating attractive and seamless total experience products or concepts (Sundbo & Hagedorn-Rasmussen, 2008).

Moreover, there are assumptions suggesting that the innovation process changes from focusing on the DUI model to a combination of the STI and DUI model, meaning that the innovation of a tourism destination has the potential to achieve a stronger innovation (Nordin & Hjalager, 2017). By for instance implementing Living Labs, such as experience innovation labs and hackatons, to the innovation process of smart destinations, the process of innovation becomes more efficient, as human capital is being involved and contribute to co-creation of ideas, solutions and testing in real-world situations (Cosgrave et al., 2013). In addition, the innovation is believed to become more effective, as the lab opens up for more rapid development from idea to market through testing concept within the lab, together with the end-users.

The STI model will allow for interaction with universities and research centers, which traditionally have been rare within tourism (Eide & Fuglsang, 2015). While the DUI model will open for interaction through networks, and with tourists and other collaborators. Subsequently, throughout the innovation process a greater emphasize will be given to the "know-who" and the "know-how", in combination with the "know-why" and the "know-what", which can, although informal, lead to the development of social bonds (Nordin & Hjalager, 2017). This is an outcome of the construction of the tourism destination; usually the destination will be built upon a relation to different companies and actors at the destination. The DUI model can measure the degree of interaction and cooperation with the tourists, the integration of functions, systems for collecting feedback and proposals and inter-firm cooperation at the destination (ibid.). While the STI model measures how the innovation is carried out in practice, in addition to evaluating the types of knowledge that has been used and how learning took place (ibid.).

2.5 Theoretical Summary

Throughout the theory chapter different theory that highlights the research question has been presented. Thus, the theory chapter has emphasized on literature on smartness; including smart city and smart tourism destination, sustainability, the tourism product and the innovation process. Smartness is a quite broad concept, consisting of different approaches and tools. However, this chapter has defined the term by focusing exclusively on technology as a tool and the concepts of smart city and smart destination. Further, sustainability within smart destination and visitor management has been elaborated. Then the tourism product was presented, with emphasize on the experience economy and the total experience product. Lastly, innovation was presented, focusing on how the innovation process might change with the implementation of smart.

The table below provides an overview over the literature chapter in relation to the research question and the guiding questions.

Smartness	- Broad concept consisting of several approaches - Smart growth, smart greening, smart specialization, smart city and smart tourism destination - Hard smartness and soft smartness required to develop a smart city and destination - Soft: human capital, social capital, leadership and innovation - Gives meaning to the hard smartness - Collaboration and co-creation in networks - Hard: technology of ICT - Critical enabler - Big Data, IoT, VR, AR - Smart city and smart tourism destination - Improve quality of life and experiences - Sustainable infrastructure - Technological solutions
Sustainability	Ensure that experiences can be enjoyed in the present, as well as in the future

	- Green infrastructure
	- Technology bound
	- Visitor Management
	    o Management and control system
	    o Enhance tourism experience
	    o Local resident involvement

Tourism Products	- Experience Economy
	    o Staging; generation 1
	    o Co-creation; generation 2
	    o Individual co-creation; generation 3
	        ▪ Reaction to the enlightened user
	            • The emphasize within smart
	    o The total experience product → Concept
	        ▪ Generation 3 of experience economy
	        ▪ Technological solutions to enhance experiences

Innovation Process	- User-driven and open innovation
	    o Emphasize on tourist involvement
	- Potential combination of the STI and the DUI model
	- Living Labs
	    o User-driven and open
	        ▪ Public-private, universities and research institutions and users
	    o Idea generating and testing

Table 4: Summary of literature

3 Methodology

The purpose of the methodology chapter is to clarify the research's scientifically and methodologically approach. In order to explore the smart destination approach's influence on innovation and sustainable development processes of cities, this paper is conducting an exploratory research based on hermeneutic. A hermeneutic design with in-depth interviews has been utilized to get a thorough insight into the phenomenon being studied, from the perspective of different key informants who are familiar with the tourism industry in Bodø and the Salten region.

3.1 Scientific Approach

The aim of this research is to explore the phenomenon of smart destination and how it can influence the innovation and sustainable development processes of cities. The relationship between data and theory is a well-debated topic of philosophers (Easterby-Smith, Thorpe & Jackson, 2015). When conducting a research study, it is essential to reflect on philosophical issues and own knowledge, and how this might affect the quality of the research (Easterby-Smith et al., 2015; Johannessen, Kristoffersen & Tufte, 2011). Having an understanding of the philosophical issues, that might arise, are significant for several reasons. First, as a researcher one should have a clear understanding of own reflexive role in research methods, and thus understand basic issues related to epistemology (Easterby-Smith et al., 2015). Second, it can help identify which research designs that will work and not work, and which one is suitable to provide a good answer to the research question (ibid.). Consequently, it is important to discuss the research scientific approach in terms of ontology and epistemology.

Ontology as a philosophical approach is concerned about the nature of reality and existence (Easterby-Smith et al., 2015). Within social sciences the approach distinguishes between realism, relativism and nominalism (ibid.). However, this research takes on the approach of nominalism ontology – meaning that there is no truth and that facts is the creation of humans. For this research several informants have been contacted, all with different background knowledge, meaning that they might have different approaches towards the phenomenon being studied. Consequently, there is not necessarily a truth to the research question. Epistemology is concerned about knowledge; "how we know what we know" and differentiates between positivism and social constructionism (ibid.). Regardless, this study

follows the approach of social constructionism, meaning that there is no objective reality. Social constructionism believes that the human perception of reality is a process that is continually changed by the experiences and situations one is facing, thus, one should seek a deeper understanding by immerging into the meaning dimensions (Kvale & Brinkmann, 2015). This is relevant for this research for several reasons; first of all, this approach neglects the ideal of one objective reality, second of all this research is immerging into the social constructed phenomenon of smart tourism destination and innovation and sustainable development processes which is based on manmade technology and experiences, thirdly and last the understanding of reality is created through my own understanding as well as the understanding of the informants recruited for this study.

3.2 Hermeneutic

According to Yin (2014; p. 28) a research design is "a logical plan for getting from *here* to *there*". "*Here*" will consist of a set of questions that are to be answered, "*there*" consist of a set of answers related to the questions and between these two aspects a number of steps can be identified; such a data collection and analysis of data (Yin, 2014). The assumptions made in the scientific discussion lay the fundamental background for choice of research design. The aim of this research is to explore and get a better understanding of smart destination and its effect on innovation and sustainable development processes of cities, as there is limited existing research on the topic. Consequently, based on the nominalism ontology and social constructionism approach, I found it essential to use a qualitative exploratory hermeneutic design, as it emphasizes on developing an understanding and interpretation of the meaning dimensions in human interaction and social phenomena (Johannessen et al., 2011; Tanggaard & Brinkmann, 2012).

Hermeneutic can be perceived as both a methodology and a philosophy (Easterby-Smith et al., 2015). However, in this study hermeneutics is applied as a research design, which emphasizes greatly on understanding and interpretation. The purpose is to search for a deeper meaning to the phenomenon being studied, rather than looking at the obvious facts (Thagaard, 2009). Hermeneutics claims that there is no real truth and that a phenomenon can be interpreted in three different levels (ibid.). This research will interpret smart tourism destination and its influence on innovation and sustainable development processes through the

second level of interpretation, which emphasizes on interpretation of the informant's own interpretation of the phenomenon, i.e. double hermeneutic (ibid.). This is particularly relevant for this research as the phenomenon of smart destination is a topic that can be regarded as rather new and where existing research and even practical experiences, are quite limited. Subsequently, there is need for understanding how people comprehend and perceive this concept. Hermeneutic as a research design can enable me, as a researcher, to explore and gain knowledge on how a new, early-stage, phenomenon like smart tourism destination, influences the innovation and sustainable development processes of cities, through my own interpretation of the key informants' interpretation of the concept.

Within hermeneutics it is important to have pre-knowledge about the phenomenon being studied, in order to be able to understand the data material being analyzed and interpreted (Easterby-Smith et al., 2015). Hence, a theoretical framework has been developed. Technical literature, such as academic papers, has been in focus throughout the entire research process, and has particularly been applied to expand my own knowledge and understanding, as a researcher, of the phenomenon being studied. Existing research that has been regarded as relevant is presented in Chapter 2. Moreover, the theory has been applied as an inspiration and idea development in the process of designing the interview guide and as a tool to create selection criteria for the recruitment process. Additionally, is has been used as an equipment to interpret the information provided by the informants, and to compare the findings with the existing theory, in order to confirm or deny the research findings.

3.4 Data Collection

When conducting a research, it is not sufficient to do evaluations based on personal experiences. Thus, the research will be dependent on a data collection, reflecting the reality desired to research (Johannessen et al., 2011). Based on the scientific discussion and the chosen research approach of qualitative research, data collection and analysis will be conducted as an in-depth interview. Initially the research was intended to consist of a two-step data collection, using in-depth interviews and a focus group. The initial step was intended to be an in-dept interview with informants whom meet the pre-made criteria. Followed up by a focus group consisting of the informants from the first step. In the focus group different scenarios regarding smart destination was intended to be presented with the aim of creating

discussion and reflection within the focus group. However, as the majority of the informants has a very hectic schedule this time of year, few informants were able to meet. Subsequently, the focus group was canceled, and data was only collected through in-depth interviews.

3.4.1 Literature Search

Before conducting and collecting primary data it is essential to do a literature review on the existing data on the phenomena being researched (Easterby-Smith et al., 2015). The purpose is to identify what has previously been researched and were there are research gaps (ibid.). The sources that has been applied when searching for existing literature is primarily Google Scholar, Oria and Emerald Insight databases. Additionally, the school library was used to find needed literature for the review. Several search terms have been applied, such as; smartness, smart city, smart tourism destination, sustainability, innovation, innovation processes and a combination of all. See figure below for an overview over hits on a selection of the search terms in respectively Google Scholar, Oria and Emerald Insight. In order to avoid missing articles relevant for answering the research question, a comparatively broad search has been conducted.

Hits

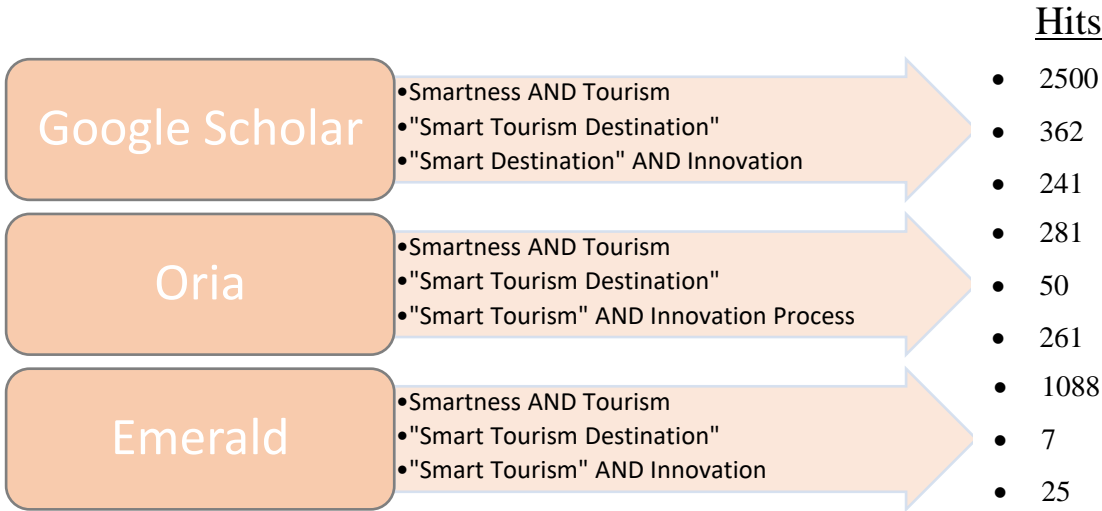| Google Scholar	Oria	Emerald
•Smartness AND Tourism	•Smartness AND Tourism	•Smartness AND Tourism
•"Smart Tourism Destination"	•"Smart Tourism Destination"	•"Smart Tourism Destination"
•"Smart Destination" AND Innovation	•"Smart Tourism" AND Innovation Process	•"Smart Tourism" AND Innovation

- 2500
- 362
- 241
- 281
- 50
- 261
- 1088
- 7
- 25

Figure 5: Overview of a selection of search words and hits

Smart destination is a fairly new term, and the number of hits when searching with the different search terms vary greatly. However, some words got relatively many hits, so in order to refine the number of articles, and to ensure that the most relevant articles were read, I tried

emphasizing on the articles with the most citations. Moreover, when I found good and relevant articles I used the sources from the article's literature list to identify new relevant articles. I also tried searching for the respective author in an attempt to explore other articles by the same author.

3.4.2 In-depth Interview

Within qualitative research in-depth interview is the most applied approach to collect data (Mehmetoglu, 2004). In-depth interview is commonly used as a tool to access information and produce knowledge, through the interaction between an interviewer and an interviewee, in order to learn about a phenomenon that is difficult or impossible to observe (Easterby-Smith et al. 2015; Kvale & Brinkmann, 2015). The approach is particularly known for being a guided conversation (Yin, 2014), with inter-change of views between the participating parties (Kvale & Brinkmann, 2015). In this research in-depth interview was chosen as method for data collection as it allows the informants to express themselves more freely (Johannessen et al., 2011), without for instance being influenced by social pressure, which is common for focus groups (Easterby-Smith et al., 2015)

Interviews can be structured differently, and it is common to distinguish between structured, semi-structured and unstructured interviews. The type of interview structure should be selected according to the research question and its requirements (Tanggaard & Brinkmann, 2012). In this research a semi-structured interview has been applied. A semi-structured interview is commonly used when a topic is to be understood from the interviewees own perspective, in terms of for instance interpretations of the phenomenon (Kvale & Brinkmann, 2015). By using a semi-structured interview, I was able to outline a number of topics that needed to be covered, while at the same time being able to ask follow-up questions and unveil relevant events or clarify uncertainties. When conducting the interviews, I constantly focused on maintaining an exploratory conversation with the interviewee in order to make the informant think and reflect more upon the topic, and to encourage idea development and exploration of opportunities. Consequently, the semi-structured interview allowed me to keep more of an open conversation with the informants (Johannessen et al., 2011; Kvale & Brinkmann, 2015).

An interview guide was developed in order to create a loose structure and ensuring that the most relevant topics and questions were presented, while still allowing other questions to be asked throughout the interview. The interview guide was created as a main template, but adjustments were made in accordance to the informant being interviewed. See appendix for complete interview guide. The questions presented in the interview guide were based on the relevant topics presented in the theory chapter; smartness, sustainable development, tourism products and innovation process. The interviews were conducted over phone, Skype and face-to-face. Using phone and Skype was preferred by some of the informants as they were located far away or had a busy schedule. The use of different medium for conducting the interviews worked out great. However, a consequence of conducting interviews by phone was that it was challenging to obtain the same flow in the conversation, as with interviews conducted face-to-face and Skype. Subsequently, extra emphasize was put on asking shorter and more thorough questions. Regardless, the interviews had a duration between 30 and 70 minutes. To ensure that important information didn't get lost, a recording device was used, in addition to taking notes. Additionally, the use of a recording device allowed for a more accurate rendition of the interview, compared to solely taking notes (Yin 2014).

3.4.3 Transcription

After conducting the interviews, the recorded data was transcribed. Transcribing involves the transformation of data in the form of oral language to written language (Kvale & Brinkmann, 2015). Throughout the interviews a recording device was applied. Subsequently, the data from the recording device had to be transformed into text in order to be analyzed – it had to be transcribed. Transcribing the interviews was a time-consuming process, but in return it allowed me to better understand the material preserved from the interviews, as well as identifying new ideas and thoughts in the analyzation process, making it a preliminary form of data analysis (Ezzy, 2002).

It is a well-known fact that a lot of valuable information gets lost when the oral language is transcribed into written language (Tanggaard & Brinkmann, 2012). This is one of the main reasons why a recording device was used during the interviews – to prevent that too much information got lost. Additionally, the interviews were transcribed shortly after the interviews were conducted, in order to remember important details and thus, get a transcription that was

as correct as possible. Most of the oral language was retained, but some interjections were removed, and some sentences were reworded into a language that is easier to read. The transcription resulted in multiple pages of text which formed the basis and structure of the analysis (Kvale & Brinkmann, 2015).

3.3 Sampling Unit

3.3.1 Sampling Strategy

Deciding on sampling strategy and criteria for recruiting informants is crucial, as the decision can lead to potential implications in the analysis of the collected data (Mehmetoglu, 2004). For better insight into the phenomenon being studied an intensive sampling unit consisting of key informants has been used as sampling strategy. An intensive sampling unit involves choosing people from the population in whom one believes can give as much in-depth information on the topic as possible (Johannessen et al., 2011). Since the sampling strategy is a dependent part of the research process it is necessary that the selection process is concise and coherent, not arbitrary, according to the research question (ibid.).

To obtain a concise and coherent sampling unit some pre-made criteria were applied in the recruiting process. The criteria for recruitment of informants were: 1) the informant must be involved with tourism and development, 2) the informant must be familiar with smart city or smart tourism, and 3) the informant must be located in Salten. However, after trying to recruit numerous of people in Salten, but being turned down due to the lack of knowledge I was seeking, the third recruitment criteria was changed to "must be familiar with the tourism industry in the northern region of Norway". In the recruiting process google.com was used to identify informants that operated within tourism and development. For the recruitment of informants whom met the pre-made criteria, the snowball method was applied. This method involves selected participants recommending other participants from their acquaintances (Easterby-Smith et al., 2015). A strategy that is particularly useful for this research as there is limited access to the topic being studied, and subsequently challenging to identify potential key informants.

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Potential informants were primarily contacted by e-mail – this was mainly key people and can be regarded as experts in the field. In the e-mail I presented myself and the purpose of the research. Some representatives responded quickly, while others had to be followed up through a phone call. The informants that did not respond to the e-mail were dialed approximately a week after the e-mail was sent. Additionally, I got some calls from potential informants who were questioning what kind of pre-knowledge that was required in order to take part in the interview. Overall, I found it quite challenging to recruit informants, as the phenomenon being studied is quite new and the knowledge around the topic is limited.

3.3.2 Sampling Size

The number of informants that should be recruited for a research is dependent on the research question and the method applied for data collection (Johannesen et al., 2011). Due to the scope of study and time perspective, in addition to challenges regarding recruitment, the sampling size consist of seven informants – key people, within tourism, research, development and municipal. Originally nine different informants were supposed to take part in the interview process, but due to resignation, I ended up with seven informants. Regardless, a greater number of potential candidates were contacted, but there was a high number of rejections due to the lack of knowledge on the topic being studied. Subsequently, due to the scope of the study it was decided to start analyzing data after completing the seven interviews.

3.3.3 Informants

The informants work in organizations that are operating or familiar with the tourism industry in the northern part of Norway, and more precisely in Bodø. However, in this study they are represented as individuals, independently of the organization. All the informants had the opportunity for full confidentiality and anonymity, but none of the informants had the desire to be anonymous, and thus, all informants are presented with full name, company and position.

Name	Company	Position	Interview date
Odd Emil Ingebrigtsen	BRUS	Director	22nd of March
Ann-Kristin Rønning Nilsen	Visit Bodø	Managing Director	4th of April

Marianne Bahr Simonsen	Bodø Kommune	Projectleader Smart Bodø	9th of April
Roger Johansen	NordNorsk Reiseliv	Insight Manager	12th of April
Bård Jervan	Mimir	Founder and senior partner	18th of April
Jarle Løvland	Nordlandsforskning	Researcher	23th of April
Ann Heidi Hansen	Nordland Fylkeskommune (Previously worked at NordNorsk Reiseliv)	Projectleader Visitor Management	27th of April

Table 5: Overview of informants

3.4 Analysis

Analyzing data literally means to divide data into smaller groups of categories (Tanggaard & Brinkmann, 2012). The overall purpose of the analysis is to develop categories, identify a theoretical meaning condensation and, if possible, identify new contexts and contradictions that has not yet been recognized (ibid.). The analytical approach for this thesis follows a hermeneutically grounded interpretive framework. When conducting such a method it can be useful to interpret the findings in relation to the hermeneutical circle, additionally the research should have some theoretical assumptions that has been developed before the process of collection data is initiated (Tanggaard & Brinkmann, 2012; Johannessen et al., 2011).

3.4.1 Method of Analysis

The data was analyzed according to the hermeneutic framework, through the hermeneutical circle of parts and whole logic of preunderstanding, interpreting and understanding, with the aim of identifying meaning condensation (Kvale and Brinkmann, 2015). The data analysis began as soon as the data collection process was initiated. Subsequently, the analyzation process has been a continuous process throughout the data collection process. Nevertheless, the analyzation process intensified when the data collection process ended, as the focus turned solely to the analyzation exclusively (Mehmetoglu, 2004).

Each interview was read and reread several times in order to gain an in-depth understanding of the entirety, and thus get a deeper understanding of the meaning. Subsequently, as the interviews were reread I went from a rather vague and intuitive understanding of the data as a whole, to identifying and interpreting parts of the data, and then to understanding the parts in relation to the totality (Kvale and Brinkmann, 2015). In the initial stage of analysis categories and patterns were identified within each interview. Later on, categories and patterns were identified and connected between the different interviews. Throughout the whole process of analysis, there has been a great emphasize on keeping an open mind by suppressing my own knowledge and pre-understanding of the topic, in order to get the uttermost out of the collected data. The same process has been used to compare literature with the empirical data.

3.5 Research Quality

When conducting a research, it is crucial to evaluate the credibility of own research. This is commonly measured through trustworthiness, strength and transferability, through three main concepts of measures; validity, reliability and generalization (Kvale & Brinkmann, 2015). Some researchers following a more liberate qualitative research tend to neglect these concepts, as the concepts are perceived to follow a more positivistic tradition (ibid.). However, despite this research following a social constructionism approach, where exploring and interpreting is vital, the research quality is measured according to validity, reliability and generalization.

3.5.1 Construct Validity

Construct validity refers to the extent the research reflects upon the phenomenon as initially intended (Kvale & Brinkmann, 2015). Subsequently, the construct validity can be said to be anchored in the credibility of the researcher (ibid.). To strengthen the credibility of the research, a recording device has been applied to record the interviews. Additionally, the recorded interviews were transcribed immediately after conducting the interviews. Both approaches were initiated to reduce information impairment. In order to enhance the credibility, it was asked for permission to contact each informant in case any questions regarding the collected data arose during the analyzation process. Furthermore, the informants had the option to read through the thesis before it was finalized. This was done to allow the

informants to confirm that the collected data was interpreted correctly, and to correct potential misinterpretations.

3.5.2 External Validity

External validity refers to the extent the findings of the study can be generalized to another phenomenon (Kvale & Brinkmann, 2015). Within qualitative methods generalization is referred to as analytical generalization, rather than statistical which is common for the quantitative methods. Analytical generalization consists of thorough theory assumptions and theoretical statements, and the generalization occurs at a conceptual level (ibid.). However, the main purpose of this research is not to generalize, but rather to explore and deepen the understanding of a relatively new phenomenon. Subsequently, through the detailed descriptions of the research process it is desirable that the reader takes the decision of whether the conclusion can be applied in other contexts or not.

3.5.3 Communicative Validity

Communicative validity is about exploring the context of own interpretations (Kvale & Brinkmann, 2015) and can be seen as a criterion for the achievement of truth (Sandberg, 2005). It emphasizes on a common understanding between I, as a researcher, and the research participants (ibid.). To ensure communicative validity, the research's scientific approach has been elaborated. Furthermore, the communicative validity has attempted to be strengthened through the data collection process by: 1) establish a common understanding, with the informants, of essential terms in order to ensure a common in-depth understanding of the research's topic, 2) asking questions that encourage the informants to interpret concept and reflect about the phenomenon, 3) trying after best ability to ensure a coherent interpretation of data material, and 4) following up informants in relation to uncertainties in the data material. In addition, clear descriptions of procedures and statements about decisions that has been made, throughout the entire research process, has been elaborated and presented.

3.5.4 Reliability

Reliability is supposed to give an indication on whether or not the operations of a study, such as data collection, will give the same results if repeated (Kvale & Brinkmann, 2015). In other

words, reliability can be said to be a test of the research's conclusion, to identify the consistency of the researcher (Johannessen et al., 2011). If for instance another researcher did the same interpretations or with similar results, based on the same set of data, then the research would be perceived as reliable (Mehmetoglu, 2004). To strengthen the reliability of the study the procedures applied during the research process has been described. In addition, the informants who were interviewed in the process has been identified. This allows the reader to assess the research process, as well as understanding how I, as the researcher, was able to make a conclusion to the research question. However, it should be mentioned that since this research applies a hermeneutic method, which evolves around interpretations, it will per definition be impossible to guarantee reliability in terms of objectivity, as the method refers to interpretations which will always be influenced by the researcher's own pre-understanding and knowledge.

3.6 Ethics

Throughout the research process several measures has been made in order to ensure good research ethics. Before conducting the interviews all the informants were informed about the purpose of the research and confidentiality. Furthermore, it was asked for permission to record the interviews, and inform that the recording file would not be used for other purposes than to transcribe the interview. The recording files and the transcriptions of the interviews were stored in a closed and encrypted file to ensure safe storage and were deleted as soon as the research process was done. Additionally, information regarding full anonymity was conveyed. However, since none of the informants desired to be anonymous, they are presented in the thesis with full name. Regardless, to ensure that the data was interpreted correctly the informants had the opportunity to read through the thesis before it was handed in. This was an opportunity that several of the informants took advantage of.

4 Findings and Discussion

In this chapter essential findings will be presented, and the collected data will be interpreted and discussed. Since the research do not follow a positivistic approach I have found it reasonable to go straight to the discussion of the findings, instead of presenting the findings in one chapter and conducting the discussion in another chapter, but also in order to avoid unnecessary repetition of the data material. Subsequently, in this chapter similarities and indifferences will be interpreted and discussed in relation to the theory presented in Chapter 2 – the same goes for coherences. The overall purpose is to discuss the empirical findings in relation to the guiding questions and thus be able identify a conclusion to the research question:

> *How can a smart destination approach influence the innovation process and sustainability development of cities?*

4.1 How can smart tourism destination be applied to cities?

4.1.1 Experiences with the Smartness Approach

All the informants appear to be familiar with the term smartness. However, to what extent the different informants have been directly involved in the application of smartness to a city, destination or region, varies. All the informants acknowledge that they are aware of the term, but several of the informants recognizes that their familiarization is based on second-hand knowledge through other actors or from the media, and rather few of them have been directly involved in a smart initiative. Several of the informants are familiar with other approaches towards the smart concept, and especially the approach of smart specialization, which is an approach that is well established within Nordland Fylkeskommune. Regardless of this, workshops and conferences are mentioned by several informants to be a platform that have made them aware of the smart concept:

> *I haven't really worked with the smart concept, but I am familiar with the term, despite not being 100% aware about what it involves (…) by being part of discussions, through idealabs, about the future of the tourism industry, an idea called smart villages was launched – involving not just smart cities, but smart villages [suburbs].*

Moreover, I am familiar with smart specialization through Nordland Fylkeskommune, and their approach towards the smart concept.

Roger Johansen

Subsequently, this can be interpreted as the lack of foothold the smartness concept has, still today, despite being presented as early as in the beginning of the 2000 era. This might be a reflection of the broadness of the term, as it can refer to smart growth, smart greening, smart specialization and smart city and destination. It might be challenging for the companies to identify which approach to apply, or they might find it challenging to apply the smart concept as it can appear quite fuzzy. However, it is obvious that smart specialization has become part of the repertoire discourse in certain communities, with its aim at empowering regions to identify their strong resources to build upon and create a competitive advantage (European Commission, Undated), this might especially be the case for Nordland Fylkeskommune as they have implemented the approach into their innovation strategy.

4.1.2 The Essence of Smart Tourism Destination
When asked about the meaning and essence of smart tourism destination, the informants emphasize on the same input tools. All the informants more or less agree that important inputs tools within a smart tourism destination consist of technology, people or human capital and sustainability. However, they weigh the inputs tools differently. Some informants stress about the importance of human capital, while other focuses more on sustainability. Regardless, all informants acknowledge the need for technology and recognizes that it should be present as a strategic tool within a smart destination. However, some informants focus more exclusively on technology, while other emphasizes more on the application of technology as a tool to enhance the quality of life or the quality of an experience, while obtaining a sustainable infrastructure. Nonetheless, technology is exclusively perceived as the tool that helps the destination move forward and up – achieving goals such as being a more sustainable destination, improving communication at the destination or simplifying processes for the tourists:

Technology is an important tool (…). It attracts people [tourists] and simplifies communication.

Marianne Bahr Simonsen

I don't believe that technology should be the focus, I think it is the user experience that should be in focus. (…) that one uses technology to help strengthen tourist experiences or simplifying or making smarter. So that type of technology which also helps creating new types of experiences that are more fascinating for the users. What I think is, everything smart in terms of having a value. That it has a value either by removing some annoyances or that it creates some additional dimensions.

Bård Jervan

Interpretations of these findings suggest that technology is a tool that is perceived as important to attract people – in this case the tourists, it simplifies communication between tourists and the destination, and not to mention it improves and enhances tourist experiences. The customer is the focal point of smart tourism destination, and technology may be used as a tool to strengthen the senses and impressions, and thus enhance the tourist experience. The constant focus on the user coincides with the research of Musa (2016) who claims that the overall goal of smart tourism destination is to support resource availability and allocation, mobility, sustainability and quality of life and experiences.

Additionally, several of the informants emphasize on the technology's ability to make tourists more connected to one another, but also better connected at the destination. Technology can for instance make communication with the tourist easier by communicating at a level that the tourist understands. One informant uses the example of the app; Bædi and Børdi, a travel guide application, where two cartoons guide children throughout museums and other attractions. To make the guiding more fun for the children, different games are implemented into the application, which additionally may be perceived as a tool to generate higher value and thus enhance the overall experience. Subsequently, the enhanced value generating might be the reason why the emphasize on technology appear to be anchored rather strongly within most of the informants. It may also be a reflection of the definition of smart destination,

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claiming that smart tourism destination enhances the tourist experience through the implementation of technology (Neuhofer et al., 2012).

Moreover, several informants believe that technology opens up for easier access and retrieval of information, both to and from the tourist, and thus enable the destination to ensure that the tourist has the necessary information when needed. But also, to identify what information is needed in terms of the individuals' values, interests and desires:

> *It [technology] kind of changes the need for coordination and facilitation. So, technology is an important part of smart. Secondly it means that you can both orient and retrieve information – book and pay, do everything on your own. (…) technology in terms of being able to know a lot more about what people actually do – geographically, that you for instance can track people's movement,*
>
> Jarle Løvland

These data materials implicate that technology is essential for the coordination and facilitation of the destination infrastructure – a tool that simplify and improve the overall infrastructure of a destination, and thus make it easier for tourists to move around at the destination. This is supported by previous research conducted by Boes et al. (2016), who acknowledges that technology such as ICT is essential for creating a smart destination infrastructure. Moreover, the findings suggest that with the implementation of technology, the tourist can take more control over own activities and attractions without using a middleman at the destination, and subsequently move around more freely. In other words, the tourist becomes the co-creator of his/her own experiences at the destination.

Additionally, the data material emphasizes on the use of Big Data to facilitate easier information sharing to the tourist, but also to easier retrieve information from the tourist, in order to enable better experiences for the tourists. Big Data may for instance be applied as a tool to simplify and facilitate services at the tourist's request, regardless of where they may be located within the destination. Moreover, Big Data can be applied to manage visitor flow,

ensuring that attractions do not get overcrowded. Subsequently, technology of ICT can be applied to simplify processes at the destination, while opening up for more cooperation and co-creation among the different stakeholders within the destination. This is supported by the research of Buhalis & Amaranggana (2014) who claims that the technology of ICT makes the destination more accessible and enjoyable since the tourist will be more connected, better informed and engaged. Moreover, Hunter et al. (2015) believes that the integration of smartness to tourism makes information exchange faster and more abundant. In other words, the technology may enhance the overall infrastructure of the destination.

Despite a lot of the focus in terms of smart destination tend to be on the implementation of technology to the destination, in order to enhance the total infrastructure and the experiences of the tourists, several of the informants acknowledges the need for a strong human capital. It is evident that technology offers a broad aspect of opportunities. However, the opportunities that are made possible through technology are no good without a strong human capital, implementing and controlling it. Regardless, the respective informants emphasize on how a strong and diverse human capital may enhance the cooperation and co-creation at the destination, ensuring a smart tourism destination that is sustainable in the long run, while still meeting the needs and desires of the present. Cooperation is particularly emphasized as a strong human capital and is perceived, by several of the informants, to be vital for the overall infrastructure:

> *We don't become smart by just being sustainable or by focusing on technology, there is a need for people [human capital].*

<div align="right">

Marianne Bahr Simonsen

</div>

> *Technology is not a goal itself (...) and there is so much going on, so it is an amazing opportunity to use it, but the whole goal and value thinking is something that the people [human capital] have to do. So, if one hurdle over that step, then I think one will let loose (...) and I understand that technology is exiting, but one must use it with a purpose (...)*

<div align="right">

Ann Heidi Hansen

</div>

It is important to understand that the goal of a smart tourism destination is not to simply implement as much technology as possible, but to use technological tools to enrichen and simplify actions for the tourists. To be able to do this one need insight, insight about the tourists and their values. Boswijk et al. (2006) argues that meaningful values are created though interactions with tourists on a personal level. Subsequently, the findings imply that there is a need for consumer involvement in order to create value for the individual tourist. This indicates that the tourist becomes both an important input tool for creating smart tourism destination, but also a vital part of the result – as smart tourism destination is created for the tourist. Moreover, the findings imply that human capital and cooperation are crucial for the implementation of a smart tourism destination that enhances the quality of tourists' experiences, through the application of technology. It is important that businesses operating within the tourism industry are able to cooperate with each other, but also other actors that might be relevant for the overall tourist experience, in order to meet the tourists' expectations. Subsequently, the cooperation should not just consist of an exclusive number of human capital within one specific business. There is need for a great variety of human capital in order to get a broad spectrum of knowledge:

> *The [smart tourism destination] approach requires many people [human capital], competent people [human capital], a competence that we are dependent on in order to spread our message.*

> Ann-Kristin Rønning Nilsen

Competence is in other words an important tool within human capital. Especially since the degree of smartness will be determined by the people, in terms of how they implement and use the technological tools made available at the destination. These findings correspond with Keeley's (referred in Boes et al., 2016) statement about human capital being anchored in resource-related elements such as knowledge, skills and attributes. Multiple informants claim that in order to strengthen the human capital, a great number of individuals should be involved, and preferably a diverse group of human capital in terms of competence. This being businesses within the tourism industry, businesses from other industries – but of relevance for

the overall experience of the destination or tourists. This correspond with Nam & Pardo (2011) whom believe that a strong human capital consists of a group of different people, with different educational backgrounds and whom constitutes a high-skilled workforce. Subsequently, the creation of a smart tourism destination will depend on the degree of cooperation and co-creation between the participating stakeholders – their ability to operate in networks.

Moreover, when implementing smart tourism destination, it is highly important that the communication flow and interaction between different actors are intact, as a lot of the concepts within smart destination is founded on a strong communication and cooperation. This is particularly perceived as important due to the strong present of cooperation across different actors and stakeholder. The following dialogue with one of the informants (I) illustrates the changes and opportunities that arises through relationship building across departments and between different actors and stakeholders across industries:

> R: *How, are there any changes in terms of cooperation, both internal and external?*
>
> I: *Especially with the internal processes; we see that through projects there is more cooperation between the departments. We work more across departments and we cooperate on projects, regardless of department. I think it will be the same for the private businesses too.*
>
> R: *But how about cooperation with other actors? For instance, private actors, is there any changes?*
>
> I: *Yes, we hope so – that they feel like we [the municipality] are more available, and we desire a much greater focus on co-creation. That we are going to create this [city/destination] together, and we feel like we have started it now through the ByLab. (…) and they already say that it is so much more open and much easier to get in touch. People are starting to understand what the ongoing processes are about, and they are showing us that it is interesting.*

> Marianne Bahr Simonsen

These are indicators showing the importance of strong communication and cooperation, and it is apparent that it is a big focal point for several of the informants. Regardless, it is not just exclusively within each business, but just as important, if not more, across different businesses and sectors. The fundament of communication and cooperation can be said to be laid internally by communication across departments. This lays the foundation for the communication and cooperation across different business and sectors, which in turn will be determinant for the strength of leadership, innovation, human capital and social capital within the smart tourism destination. These findings coincide greatly with the research of Prahalad & Ramaswamy (2004) who emphasizes on the rise of importance of co-creation of experiences and that companies cannot act autonomously. Further, it corresponds with Boswijk et al. (2013) who expresses the importance of focusing on the quality of the co-creation, rather than just focusing on the internal quality of products and processes. Operating in networks across disciplines, and more preferably across municipalities within a region, is an approach that is perceived as the creator of destinations:

> *We work with a focus on co-creation, but we [the municipality] cannot do it alone, because then we're not able to create the environment we're desiring. We work with the inclusion of students, researchers, public businesses etc., and that is how we achieve good results.*
>
> <div align="right">Marianne Bahr Simonsen</div>

> *(…) build smart solutions based on the resources one has available and look at new links and get a new standpoint just by using the [available] resources [at the destination], including local and regional collaboration, to get to a desired vision.*
>
> <div align="right">Roger Johansen</div>

The findings demonstrate that several of the informants profoundly believe in a strong commitment among multiple and diverse actors and stakeholders. The data material suggests that there is a need for this sort of cooperation and co-creation in order to develop the desired environment at the destination. This is also something that is supported by previous literature such as Caragliu et al. (2011) and Neuhofer et al. (2012) who claims that cooperation between

different stakeholders at the destination is one of the core competences of a smart destination. However, while previous literature mentions cooperation and co-creation across departments and businesses, cooperation and co-creation across municipalities within a given region is not mentioned. Nevertheless, there is reason to believe that this type of cooperation and co-creation should be central for smart tourism destination. Especially since smart destination is about improving user experiences. User experiences within tourism may be perceived as being rooted in a whole region, as tourists often – particularly in Northern Norway, travel around within regions. They do not simply stay at one specific area in the region, and subsequently cooperation and co-creation of products within regions are crucial in order to provide seamlessness in terms of concepts, across municipalities.

Moreover, the findings above provides indicators of the interlinkage between smart tourism destination and smart specialization, in terms of local and regional resources, and taking advantage of these resources through cooperation. In fact, several of the informants mentions a linkage between smart tourism destination and smart specialization with focus on resources. The emphasize is in this case on taking advantage of the resources available within a destination, and that one through cooperation can help municipalities to identify new resources that has not yet been discovered. One informant for instance takes this perception to the next level by insinuating that smart tourism destination is more or less anchored in smart specialization:

> *I believe that creating a smart destination to a great extent is about taking advantage of resources and cooperation through smart specialization*

> Jarle Løvland

These are findings that suggests a new approach towards smart destination, as the linkage between smart tourism destination and smart specialization is an approach that has not been emphasized by previous researchers within the field. However, when presenting the literature in Chapter 2, questions were raised whether there was a connection between smart tourism destination and other concepts, such as smart specialization and smart greening. Subsequently, based on the arguments and information provided by the informants it can be

said that there is, if not a strong connection, there is a weak connection between the concept of smart tourism destination and smart specialization. However, it should be emphasized that this might be an outcome of the smart specialization being quite strongly embedded in the overall strategy of Nordland Fylkeskommune, in which the respective informants are located within, and thus might influence the informants' perception of smart destination.

4.1.3 Precautions When Implementing Smart Tourism Destination

Many of the informants believes that the implementation of smart tourism destination can be challenging and that potential pitfalls may occur. Most of the informants emphasizes on the use of technology as a tool, but they also express concerns regarding the implementation of technology. That, despite the fact that several of the informants feel strongly about the application of technology at the destination. They fear that technology might hold a too strong position and thus neglect who the destination actually is for, focusing exclusively on being the most "technology oriented" destination, instead of the most "tourist oriented". And subsequently end up with a too narrow perception of the phenomenon of smart destination:

> *I think that a weakness might be that one focus too much on technology, and sort of forget the people, or in this case the tourists.*

> Roger Johansen

There is no doubt that the focus on technology tends to be weighted heavily, and numerous of the informants' stresses about their concerns related to the tourists. In the process of implementing technology, actors tend to get blindfolded by technology. They exclusively focus on the greater good of technology and forget to take the actual user in consideration. As one informant put it, one can easily be charmed by all the technological solutions. In Chapter 2.1 the concept of smartness was presented, and hard and soft smartness were elaborated. Hard smartness in the shape of technology is the critical enabler of smart, ensuring that everyone is interconnected (Boes et al., 2016). However, it was also emphasized that one need soft smartness to give meaning to the hard smartness (ibid.). Regardless, the challenges related to the implementation of hard and soft smartness is not really emphasized in the existing literature. Neglection of the tourist is indirectly mentioned in the existing literature by

underlining the importance of being aware of technology merely being a tool, and that smart actually is created by the people, whom in addition allows for the use of technology. Nevertheless, to ensure that technology does not outnumber the people at the destination there is a need for a strong leadership, as well as a well-structured social capital, to manage and control the data and to ensure that the technology does not become superficial:

> *(…) one need to be careful so that it [technology] doesn't end up being "nice to have, not need to have"*

> Bård Jervan

The implementation of technology is a good tool as it enables the transfer and collection of data, giving a real-time insight of the world – both physically and digitally (Boes et al., 2016). However, implementing technology just because it is technology is not an essential way to go. Doing this may cause the tourist to feel overwhelmed and frustrated at the destination due to an immense number of technological tools. In their research Boes et al. (2016) addresses their concerns regarding technology – that it may lead to an uncontrollable amount of data since sensors can be used to register all types of information. Subsequently, technology may work opposite of what is desired – instead of working for the tourist, it might work against the tourist. In other words, technology, as previously elaborated by one of the informants, is not a goal in itself

4.2 How can smart tourism destination *enhance* concept *innovation?*

4.2.1 Smart Tourism Destination and Innovation

All the informants appear to agree that innovation is just as crucial for a smart tourism destination, as it is for the overall tourism industry and for other industries as well. The informants acknowledge that innovation within the destination is one of the most important sources for competitiveness and value creation. Subsequently, they express great emphasize on creativity among different actors at the destination, as it is believed to be an important source of innovation. However, in terms of what the innovation should be grounded in, the informants elaborate differently. Some emphasizes on an exclusive focus on the growth of a destination, and thus look towards new segments and tourists. While others, stress about the

need to focus on existing segments and tourists, in terms of the quality of the destination. Regardless, the necessity to anchor the innovation into an identified need is perceived as crucial by all the respective informants:

> *To be innovative is very important. If one want to survive and grow, then one has to innovate.*
>
> Odd Emil Ingebrigtsen

> *So, in terms of being innovative, I believe it must be anchored in something, a need, an identified need.*
>
> Bård Jervan

These data materials indicate that innovation is vital for the survival of the smart destination, but also in order to ensure its growth. Innovation becomes the nurturer of smart tourism destinations. Without innovation and creative people whom ensures innovation, smart tourism destinations will not be able to exist. Subsequently, innovation can be perceived as an input tool for smart destination, but also as an outcome. This coincides with Boes et al. (2016) who claims that innovation is vital for the existence and competitiveness of smart infrastructure. Moreover, the findings suggest that one cannot merely innovate a product or destination simply because that is what one desires. The innovation must be anchored in something, and most preferably anchored in an identified need. This coincides with Pirnar, Bulut & Eris (2012) who believes that innovation is linked to creative ideas concerning problem solving, value-adding activities and efficient ways to produce and deliver tourism products. Ensuring that the innovation is initiated in terms of an actual need is particularly important within smart tourism destination as one easily can get charmed by all the possibilities that arises with smart tourism destination and technology. And thus, may forget that it should be substantiated in something greater at the destination, in order to achieve a greater tourist value generation and satisfaction.

When asked about cooperation and innovation, all the informants acknowledge the importance of interactions when introducing smart to tourism, and particularly in order to stay innovative within the destination. Several informants emphasize on how the tourists become more centralized with the initiative – making them the focal point and an active participator in the process of innovating. A lot of this is thought to be anchored in the implementation of technology, which changes the communication process between businesses and tourist:

> *Within tourism and communication everything is turned upside-down, within marketing everything is turned upside-down, so one can say that the pyramids have turned, and now there is a bottom-up focus (…). However, in terms of destination development, it will be most efficient in a combination with adopted public plans, initiatives and innovation investments from businesses, in combination with willpower and capacity.*
>
> Ann-Kristin Rønning Nilsen

> *You get a different kind of involvement in the decision-making process and the innovation process (…). Additionally, I believe that the whole innovation process is, in a way, turned upside-down.*
>
> Marianne Bahr Simonsen

These findings show indicators of the importance of an open customer-oriented community and user involved innovation – following the Schumpeter III, where the tourists are essential for the creation of concepts and experiences. This is supported by Boes et al. (2016) who claims that by initiating a bottom-up approach people may be empowered to pledge smart ideas and co-create through dynamic innovation. However, Caragliu et al. (2011) underlines that the bottom-up approach should be combined with a top-down approach to ensure the development of an environment that fosters innovation and ensures the development of new ideas. This is an approach that has not directly been mentioned by any of the informants. However, several of the informants' stress about the obstacles that may occur as a consequence of the implementation of technology into the innovation of concepts and

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experiences, as well as the constant digitalization. The emphasize is mainly on the change of roles, that the roles have turned giving more power and control to the tourists:

> *It is sort of anchored in the recognition that we no longer, in a way, control where the tourists go and what they wish to experience (...).*

<div align="right">Roger Johansen</div>

The data material suggests that the implementation of technology and the constant digitalization of everyday activities has made people more demanding, and they are desiring to take action in own value and experience creating. They do not settle down with a generalized experience that partly matches their interests, there is a need for experiences that meets the values and beliefs of the individual tourist. Subsequently, the need for co-creation arises, the generation 3 of experience economy. Prahalad & Ramaswamy (2004) claims that with the introduction of technology the consumers desire more control over own experiences and consequently, desire to co-create values through interaction with companies. Further, these findings are supported by Boswijk et al. (2006) who argues for interaction on a personal level in order to create meaningful values for the individual consumer. Consequently, it is the consumer who is giving the directions and the businesses obtains a supporting role – creating the platform where the transformation can occur (Boswijk et al., 2013).

Moreover, the informants acknowledge the importance of idea generating among the different stakeholders operating within the destination as well, in order to contribute to improvements at the destination. Subsequently, cooperation among the different stakeholders within the destination is something that is emphasized greatly by all the informants. This acknowledgment is founded in the belief that two heads are better than one. Indicating that a good innovation is dependent on a strong group of people with a broad knowledge spectrum:

> *(...) it is to build collaboration across industries and municipal boarders and sectors. The idea is that if one is to work with innovation and development, then it is better to*

involve both R&D, public, private and try to include the population [tourists] as well – opening up for a quadruple helix thinking, instead of triple helix.

<div align="right">Ann-Kristin Rønning Nilsen</div>

This means that you include both public agencies, research and knowledge environments with their knowledge, and in this way, you get a more robust foundation for finding the right areas and conducting experiments that enables the development. So, it is perhaps the most important contribution to stimulating innovation.

<div align="right">Jarle Løvland</div>

Interpretations of these findings insinuates the importance of cooperation among different actors within the destination, to better identify new possibilities, as well as reaching the destinations full potential. This overlaps with the research of Eide & Fuglsang (2015), claiming that when actors from different sectors or different parts of the value chain meet, new ways of creation can occur – creations that would most likely not occur if they were operating independently. Moreover, some of the informants believes in moving from the triple helix model to the quadruple helix model which involves inclusion of academia, industry, government and voluntary organizations and people, instead of just academia, industry and government. These findings can, to a certain extent, be said to coincide with Bakici et al. (2013) and Lombardi et al. (2012) who emphasize on the implementation of a triple helix model or a quadruple helix model to enhance the collaboration between the different stakeholder. However, some of the informants emphasizes more exclusively on the quadruple helix model. This focus can be defended by the research of Bergvall-Kåreborn & Ståhlbröst (2009) which claims that in order to innovate it is necessary to involve a diverse group of stakeholders, including volunteers, tourists, public and private companies and academics from universities.

Moreover, the acknowledgment of relationships based on cooperation is vital for the creation of smart tourism destination, but also to obtain and develop a destination – made by the people for the people. The informants recognize the importance of a strong leadership that shapes the value of co-creation, while ensuring participatory governance systems that

safeguards the sustainability of the infrastructure, which is corresponding to the research of Wieland et al. (2012) and Buhalis (2015). Further the findings acknowledge the need for communities based on a variety of competences to enable innovation. This complies with Robinson (2012) and Buhalis (2015) statement about social capital being crucial for communities in which can work as a tool for supporting innovation. Additionally, it gives an evident image of the relation between the human capital and the social capital by insinuating that one cannot simply have human capital that acts individually. There is a need for a bigger group of human capital that together constitutes the social capital. This finding intertwines with Keeley (referred in Boes et al., 2006) whom believes that human capital and social capital are interlinked through networks of shared norms, values and understanding.

Additionally, several of the informants elaborates further by addressing the possibilities that arises from a strong cooperation and co-creation between the different actors. Here they focus on resources available at the destination. The actors within a destination need to identify own resources – their strengths, and thus their weaknesses, and try to implement the resources to other actors' resources at the destination, through a common set of values. Subsequently, by working in a team the destination has the opportunity to offer a greater variety of products and activities which may create a greater attractivity. In other words, it refers to a reduction in competition as the actors cooperates in teams, towards a common goal by offering a seamless package, instead of separate products that may lead to rivalry. These data materials coincide with Eide & Fuglsang (2015) who underlines the importance of cooperation in networks and how this may enable new ideas, knowledge and other resources necessary for innovation and learning to arise. Since the tourism industry usually consists of several small and medium-sized enterprises, Nordin & Hjalager (2017) stresses about the importance of cooperation to enhance the strength and competitiveness and Sundbo and Hagedorn-Ramussen (2008) highlights the opportunities of creating attractive and seamless total experience products through cooperation among different stakeholders. Caragliu et al. (2011) and Neuhofer (2012) elaborates further by insinuating that cooperation between different stakeholders at the destination is perceived as one of the core competences of a smart destination, and thus competition between the stakeholders should be prevented.

When asked about how innovation should be initiated at a smart tourism destination and how one should involve tourists, local residents, and other important stakeholders, the answers are quite different between the informants. Some informants emphasize on the traditional public meetings and suggests that new technological tools can be applied to make the threshold to participate at the meeting lower. Insinuating that tools such as VR and digital streaming may enhance the involvement of tourists and local residents. However, other informants address the challenges related to actually encouraging the people to participate, in the decision being made, and insinuates that the traditional public meetings do not capture peoples' interests, and thus participation through these meetings are low. Subsequently, there is a need for other options and solutions:

> *We have, from the municipality's side, worked with involvement through public meetings and other similar initiatives. However, I think that that is an approach that does not really engage people that much - or, it has not done anything for me, as a resident. So, now we are starting up with Bylaben, both the physical and the digital, and then, we'll see. It all will depend on whether or not people will bother to respond to it.*

<div align="right">Marianne Bahr Simonsen</div>

> *It is important to create a meeting place, it is important that people meet up, discuss and talk. This can for instance be done through Bylab.*

<div align="right">Odd Emil Ingebrigtsen</div>

The findings suggest that the actors within the destination, the public-private businesses, should and must identify a meeting place for themselves, but which also includes universities and research institutions, as well as people – both local residents and tourists. Subsequently, there is a need to develop a competence center were the different actors can meetup and engage themselves in the process of innovating the destination. These findings coincide with Schaffers et al. (2016) who claims that meeting places, such as competence centers and labs, are a great driver and organizer for user-driven open innovation. Moreover, the findings further suggest that this does not necessarily have to be done through a physical meeting

place, it might as well be a digital meeting place. This enhances the opportunity for the tourists to take part in the process of innovation and enables the tourist to give feedback while at an attraction. In terms of the stakeholders at the destination, the digital labs allow the stakeholders to identify needs and preferences, and not just before and after an attraction. Subsequently, technology and the digitalization of communication tools, allows the destination to reach out to the people in which they desire to involve, and vice versa – the tourists can use it as a tool to get in touch with the destination.

4.2.2 Changing the Innovation Process

All informants believe that with the opportunities made available through smart tourism destination, the innovation process will be enhanced. However, not all informants express how they believe it will change or in which direction it might change. The ones who elaborates on the potential changes in the innovation process, emphasizes on the simplification of the innovation process in terms of the STI model – focusing on testing and prototyping of concepts:

> *I do not think you replace the need for insight and knowledge in innovation processes with smart thinking, but I think it opens up for more effective ways to try out things, at least on some aspects. That you may be able to make the actual test aspects of innovation more efficient, that it simplifies and make it easier, at least when it comes to technology – that one for instance uses prototyping to test new solutions.*

Bård Jervan

The findings imply that with smart tourism destination there will be a greater emphasize on the circular innovation process, the STI model, which highlights the use of test and prototypes before implementing products into real life. However, the findings also insinuate that insight and knowledge into the world is still important, and thus emphasizes on the circular innovation process, the DUI model, which highlights the importance of taking previous knowledge and experience in consideration when implementing concepts. Subsequently, the findings suggest that with smart tourism destination, the innovation process will consist of a combination of a circular, DUI, and linear, STI, process. These findings comply with the

assumption that was made in Chapter 2, as well as the research conducted by Paskaleva (2011) who claims that a new approach towards open innovation emerges when one implement smartness. And can be interpreted as one of the reasons why an open innovation with stakeholder involvement in networks are emphasized so greatly within smart tourism destination, as there will be a different need of customer insight when combining the circular, DUI model, and the linear, STI model, in the innovation process. The informants express an openness for Living Labs as a tool to allow involvement both horizontally and vertically in the innovation process. Several emphasize on the opportunities made available through Living Labs and other types of tools, such as the simplification of interaction between actors and stakeholders, but more importantly simplify the threshold to innovate:

> *So, it [Living Labs and other types of co-creation tools with tourist] can help to reduce the risk of implementing a concept that is unsuitable for the market/destination. If one knows the target group (…) by testing innovation of a new experience product or concept, then you can test it directly on the user through a pilot and that is much less risky than doing it live, as most people do today – making people a little cautious in their innovation in terms of making small changes to existing products because one does not dare to change products that are working. But if you have such a project or pilot or something similar, one might have the guts to be a little bolder in terms of innovation.*

<div align="right">Roger Johansen</div>

Subsequently, the findings suggest that Living Labs and other communication tools can help initiating innovation, but also as previously mentioned – organizing a more user-driven and open innovation. The data material highlights how innovation of concepts can be pushed and initiated through collaboration between different stakeholders, and how it opens up for an easier involvement of the user. This implies that Living Labs can help engage the relevant partners in real-life settings, and thus simplify and make the innovation process more efficient. The key here is that several partners are being involved and not just private actors. Traditionally Living Labs has been implemented to smart cities, however, based on the findings there are indicators of Living Labs being just as important within smart tourism destination. This is also something that was elaborated in the theory chapter. Moreover, these

findings comply with Cosgrave et al. (2013) who believes that Living Labs are the drivers for innovation. Consequently, there is a need for a Living Lab within smart tourism destination, in order to stay innovative and competitive.

4.3 How can smart tourism destination encourage sustainable development?

4.3.1 Sustainable Smart Tourism Destination

A lot of the focus when implementing smart to tourism is the use of technology to improve the quality of the tourism experience. However, another important aspect, and which in fact may improve the tourism experience as well, is sustainability. All informants acknowledge the need to focus on the implementation of a sustainable destination when initiating a smart tourism destination approach. They all agree that sustainability is about meeting the needs of the present tourists, without spoiling the future tourists' ability to enjoy the destination. Nevertheless, the need to be aware of more than just the environmental aspect of sustainability is mentioned by several of the informants to be crucial for the implementation of sustainability to destinations. Subsequently, indicating that the concept of sustainability is built up of several "layers", and not merely solutions that spares the environment in terms of nature:

The concept of sustainability is important, but the concept of sustainability as we work, we work with it through a model that has both the economy, the social and the environment in terms of nature.

Ann-Kristin Rønning Nilsen

(…) when it comes to practicality, sustainability is often measured against profitability, and profitability is of course (…) economic sustainability is important as well, but it is often the reason why one evaluates the measures, first and foremost in relation to profitability. If it's not profitable, it will not be implemented. So, I'm excited to see if one will be able to facilitate the sustainability aspects into smart tourism destination.

Roger Johansen

Consequently, this may be interpreted as the need to view sustainability in relation to business and business development. That one cannot simply implement a sustainable approach and strategy because it eases the environmental pressure on a destination. It is evident that there are several precautions that need to be made, such as whether or not the projects being initiated are economically sustainable and what effects it may have on the social aspect of a destination. There are several dimensions to sustainability, and they are all as equally important for smart tourism destinations. These are findings that has not been mentioned in previous research on smart tourism destination which mainly focuses on the need to create a destination that satisfy the needs of the tourists and hosting regions of the present, while preserving and improving the opportunities of the future (UNWTO, referred in Girard & Nocca, 2017). Subsequently, per definition smart tourism destination gives little to no attention to how for instance technology can be applied to obtain economic and social sustainability.

The theory elaborated in Chapter 2 focuses on the application of technology for sustainability, in creating a destination that meets the needs of today's tourists without compromising it on the needs of the tourists of the future. This confirms the narrow perception existing literature on sustainability in smart tourism destination has. The informants add on to this by emphasizing on the importance of among others using technology to enhance the existing resources at the destination. This to maintain a sustainable economy, as well as obtaining social sustainability, rather than building and developing new resources that might become a competitor of the existing resources, and subsequently becoming a destruction for both parties. However, when taking all three dimensions of sustainability in consideration, it will be important that the networks operating at the destination are aware of not exclusively weighing one of the dimensions more than the others. If one for instance focuses exclusively on determining sustainability in terms of profitability, by having a singular focus on economic sustainability, it might lead to implementation of sustainable solutions that might not comply with the desired quality of life and experience of the tourists. Subsequently, there should be a fine balance between social, economic and environmental sustainability.

4.3.2 Developing A Sustainable Smart Tourism Destination

When asked about the sustainability aspects of smart tourism destination, the informants emphasize on the more general aspects of sustainability – that the tourism industry need to be more aware and gain more knowledge about the practical implementation of sustainability. All the informants more or less agree that one, to a certain extent, can achieve a more sustainable destination by initiating a smartness approach. However, the emphasize on how it can be achieved varies. Almost all informants acknowledge the need to combine sustainable strategical thinking with technological tools to implement sustainability to a destination. Yet, some informants focus more solely on initiating technology, such as ICT, Big Data and sensors to achieve sustainability, while other focuses more on the need to address other underlying foundations related to sustainability before initiating technology. Regardless, they all agree that sustainability should be implemented into an overall strategy at the destination in order to be successfully initiated:

> *Yes, I believe that one can achieve a more sustainable destination by applying a smart approach, as long as it is well-implemented in the overall strategy. (…) it is clear that if one has the opportunity to create many types of green solutions it will weigh positive for the tourist. It will be positive for a tourist to come to a city [smart tourism destination] with less pollution and exhaust emission (…) that is very positive for the tourist too.*

> Roger Johansen

> *I believe that technology can be applied to improve the work of sustainability. (…) but it's a change, and there are many new ways to think, so it's very exciting in terms of new technology and new opportunities,*

> Odd Emil Ingebrigtsen

The findings suggest that through smart tourism destination and the help from technological tools one might achieve a more sustainable infrastructure and destination. This is a statement that coincides with UNWTO (2017) who claims that smart tourism destination is the main key to achieve a sustainable development, that do not merely contribute to improvements for the

tourism industry but for societies at large. Resources can for instance be better allocated through the application of technology (Wang et al., 2013) and a more eco-efficient infrastructure may be created, with focus on reducing the environmental pressure and creating an energy ecosystem that reduces CO_2 emissions. And thus, ensuring a sustainable development of tourist areas that are accessible to all. Consequently, smart tourism can be perceived as the tool of the sustainable tourism of the future. Nevertheless, the data suggests that the implementation of sustainable solutions should involve being greener in terms of production while still being economically beneficial for the businesses, as well as obtaining cultural competence, social capital and diversity, in terms of social sustainability.

Furthermore, technology as a management tool for sustainability is emphasized greatly by some of the informants. They particularly highlight how it can be used to control tourists' decisions and guide them in the direction of experiences that are perceived as more sustainable. That one for instance through technology in terms of defaults and beacons can manage what type of information is accessible for the different tourists and segments, almost like an online tour guide providing information about navigation at the destination, although the information in this case will be embedded in sustainability based on the individuals interest, values and beliefs. Moreover, the emphasize is on how default must be applied within networks at the destination, in order to manage and measure the sustainability of the entire destination. Consequently, technology becomes a way of indirectly controlling and managing peoples' decisions, through networks of stakeholders within the destination, to ensure that they act more sustainable and environmental friendly:

> One need to understand smart in relation to, both how one can simplify the decision-making process, but also how one can facilitate so that the decisions being made [by the tourists] are, for instance, more sustainable. (...) then it is the use of default – what is the first choice (...) You [stakeholders] help people [tourists] making a decision, and this you can also control, that you for instance manage default so that all the sustainable options are ranked first, in order to make people [tourists] choose more sustainable solutions.
>
> Bård Jervan

Subsequently, the findings imply that the businesses and stakeholders operating within a smart destination can act like a united guide with greater impact in the decision-making process, through the implementation of default. Instead of being the provider of a singular attraction or activity, which offers less impact on the tourists' decision-making. Moreover, the stakeholders can indirectly manage and control the choices made by the tourists, as the stakeholders within the destination can control the information made available at the destination. Consequently, if a destination desire to be more sustainable they can use defaults to make sustainable attractions and activities the standard option, and if someone desire a different option which is not sustainable, they have to specifically ask for it – meaning that one indirectly encourage the tourists to choose the sustainable alternatives.

Moreover, the use of beacons is presented by multiple informants to be a useful management tool to encourage sustainability, as it can provide the tourist with more sustainable alternatives. For instance, beacons with information about how tourists can be responsible travelers and how high traffic density impacts the location, can be communicated through push notifications when the tourists arrive at a new attraction or activity. Nevertheless, it is important that the stakeholders within the destination applies these tools cautiously and do not restrict the tourist at the destination but encourage them to exploit larger areas through the use of default and beacons. In the long run this will be more sustainable for all parties, leading to a stronger value generating. This approach towards sustainable solutions is something that has not been directly presented in the theory chapter. Neuhofer et al. (2012) mention the use of beacons but not in terms of encouraging to be more sustainable, they emphasize more on the usage of beacons to help guide the tourists throughout the destination. Regardless, it seems like a tool that several of the informants have considered and personally believes will help a destination to act more sustainable.

Despite technology such as ICT, Big Data and sensors can offer great solutions to the challenges related to tourism, there are some informants who emphasize more on the need to address underlying challenges before initiating sustainable solutions through technology. The focus is primarily on the need to identify and define problems and challenges that requires a sustainable solution, in order to obtain quality at the destination today and in the future,

before implementing a sustainable solution – regardless of this solution being embedded in technology or not:

> *(...) I think technology is part of a solution, but one must begin by defining the problem well and making some choices before initiating technology.*

<div align="right">Ann Heidi Hansen</div>

The findings imply that one should not simply emphasize on implementing technology because one assumes it will lead to sustainable solutions at the destination. One need to identify the problems, challenges, that are present at the destination, such as overcrowding of tourists – leading to unnecessary damage and destruction of the destination infrastructure. Once the problems are identified and one has been able to identify a solution to that problem, then one can start thinking about technology and how it can be applied to the destination, to ease the environmental footprint. Subsequently, a strongly anchored sustainability strategy that is implemented in the overall destination strategy, accompanied by technology, can be used as a tool to regulate the number of people that visits a destination, and thus create a better value generating for the people visiting the destination, and thus improve the overall quality of the city and destination. Existing literature on smart tourism destination emphasizes on being green in terms of production, through the adoption of innovation that is environmental friendly (Viitanen & Kongston, 2014; Wang, Xiang & Yunpeng, 2013). However, the literature focuses more exclusively on how solutions to environmental problems can be applied to a destination, and there is little, to no emphasize on the "problem identification process". Though, this is a process that should be perceived as important in the creation of the destination, as smart destinations are closely linked to sustainability. Additionally, it should be emphasized in order to prevent the implementation of sustainable technological solutions that might not solve the problem as intended, and subsequently does nothing for the tourism destination and experience.

Visitor Management as a Tool and Solution

When asked about how problems can be identified and solved and how sustainability can be achieved within smart destination, some of the informants express that visitor management

can be applied as a strategical tool. The emphasize is particularly on how it can be used to control and regulate the tourist traffic at a destination and to get a better perception of how tourists move around. However, it is a surprisingly low number of informants who express their awareness of this phenomenon, and the ones who do tend to have low knowledge on the topic, despite one informant who is working up-close with visitor management. Regardless, Nordland Fylkeskommune just recently started a pilot project where visitor management will be applied to communities to see how it can improve problems such as overcrowding, littering and damages to areas, and thus develop more sustainable regions:

But what creates challenges is that you know very little about the destination – what is going to happen and who is coming to the destination. So, then the aspect of visitor management becomes relevant - strategies for developing destinations that think in volume of damages, in addition to the infrastructure one actually need to offer experiences with quality.

<div align="right">Jarle Løvland</div>

So, I think that visitor management becomes important for developing a region (...) especially because it provides such a holistic and complete perspective on development.

<div align="right">Ann Heidi Hansen</div>

The findings indicate that visitor management is a tool applied to better control the tourist flow and is an important strategy to manage the development of a region. Through visitor management one can evaluate the resources available at the destination and how these might be allocated, and thus regulate the tourist traffic accordingly. Subsequently, leading to a reduction in damage incurred on the natural environment. This comply with Scherrer, Smith & Dowling (2011) who claims that visitor management is applied to destinations to conserve environmental and cultural site assets and to improve visitor safety and the quality of the tourism experience. Moreover, the informants emphasize on the importance of user involvement in the process of developing and implementing the strategy, as visitor management allows for a more decentralized decision-making process. However, it is the

residents, the local citizens, whom are emphasized by the informants. Subsequently, the local citizens become part of the decision, regarding the allocation of resources and which tourists to focus on:

> *I think that a lot of the smart initiatives are sustainable in the way that a majority of decisions regarding the use of resources and infrastructure are decentralized (...). This allows for a collection of better solutions.*
>
> Jarle Løvland

The findings acknowledge the importance of involving the local residents in the development of sustainability within smart tourism destination. Subsequently, it can be argued that the local residents are equally as important as the inclusion of tourists in the process of co-creating a destination. This can be a result of the residents having more knowledge about the challenges and opportunities that are present within a destination, as they are present at the destination in an everyday context. Moreover, the great emphasize on involving the local population may as well be perceived as a consequence of the technological development, which has allowed the residents to become "marketers" for the destination, for example through image sharing on Instagram. Regardless, the informants believe that the local residents should have a saying in terms of what type of tourists they want at the destination and what they wish to achieve from tourism. The engagement of the population for sustainability has the potential to generate more value for all parties, as everyone becomes equally as important in the decision-making process. Previous research on smart tourism destination has not mentioned the use of visitor management to regulate a sustainable development. However, this might be anchored in the fact that visitor management traditionally has been applied to national parks to preserve the nature of protected areas, and that there have been few initiatives that has been testing and implementing visitor management beyond the borders of national parks. Nevertheless, it is a tool that should be embedded in the smart destination strategy, as it focuses on sustainability from a cooperative perspective.

Non-technological Tool and Solution

In addition to the practical solutions made possible through technology, the informants acknowledge that smart destination in terms of sustainability does not have to be about applying technology to the solutions. Smart tourism destination is about finding new and better ways to provide the tourist with the experience they desire, and this is something that not necessarily is anchored in technology. Several informants emphasize on how tourists no longer are searching for entertainment, or at least not exclusively. They are desiring something more, something meaningful that they can immerse into through engagement. This is partially due to increased knowledge among the travelers, but also a consequence of increased awareness from the constant digitalization. Subsequently, the need to engage the tourists in something more than just entertainment and fun is highlighted by several informants:

> *(…) people do not only want entertainment today (…) or there may be entertainment elements, but you'd rather learn something. You'd rather understand the world better through good and transformative experiences. So, one is looking for something more than just being entertained (…). I think our destination [Bodø/Salten] has an opportunity to deliver meaningful experiences on a completely different level. For example, Meløy with Svartisen as a visiting point - it's a glacier, but it is withdrawing and disappearing. You have an opportunity to talk about global warming that might make you understand it in a way that is relevant to you.*

> Ann Heidi Hansen

The findings suggest that one can achieve a more sustainable destination through engaging the tourists on a more intellectual level. This is an approach that can be regarded as central for a smart destination, as the phenomenon focuses on engaging the tourist through co-creation of experiences. The involvement of tourists becomes particularly important in the creation process of the experience. But to do this one need to better understand the tourist; how they are in terms of sustainability and the impact they have on the environment. If this experience is something that is close to his/her heart, values and interests, the whole experience will become more personal. By creating meaningful experiences such as litter picking of plastic and combining it with sharing of knowledge and information about how currents work and

how plastic is being spread from one part of the world to another, a new type of value can be generated at the destination. A value that is rooted in the feeling of being part of something meaningful, that one is doing something important for society. This is also an approach that may help the tourist to better immerse at the destination and get closer to the people and culture at the destination. By doing something meaningful for the local society they become a part of the local life, a short term local. Engagement of the tourists through co-creating experiences is something that is mentioned in the existing literature. However, engaging the tourist by co-creating sustainable experiences is not mentioned in existing literature, as the literature on the sustainability aspect of smart destinations focuses more exclusively on engagement in the creation of experiences that are embedded in technology.

4.4 Summary of Findings and Discussion

Overall the informants have provided relatively equal information, however, there are some differences. Few of the informants express that they have been directly involved or worked up-close with smart initiatives. Regardless, they all express their awareness of the concept. In terms of how smart destinations should be applied to destinations, the informants emphasize on the same tools. However, some informants weigh the use technology more, while other emphasize more on human capital. Regardless, they all believe that cooperation and co-creation with a diverse group of stakeholders within the destination is crucial.

When it comes to innovation, all the informants highlight the importance of being innovative in order for the destination to survive and grow. Open innovation which is oriented towards a user-driven innovation, is emphasized by all. Subsequently, everyone believes strongly in innovation that is anchored in a big network, consisting of people from all aspects of the value chain, and also outside the industry's own value chain.

In terms of sustainability, the informants emphasize on the importance of embedding sustainability into the overall destination strategy. Many of the informants believe that sustainability can be encouraged through technology. However, several informants believe that sustainable solutions must derive from an actual problem, which has been identified, before initiating solutions through visitor management.

5 Scenarios, Conclusion and Implications

In this chapter, the main findings from Chapter 4 will be used to answer the overall research question:

How can a smart destination approach influence the innovation process and sustainable development of cities?

The chapter consists of five sub-chapters; where Chapter 5.1 elaborates on three different scenarios that we potentially may be confronted with in the near future and is based on the presented theory and the empirical findings. Chapter 5.2 explains the findings presented in Chapter 4 in light of the research question and will clarify research contributions. Based on this, implications, more precisely theoretical and practical implications, of the findings of the research study, will be presented in Chapters 5.3 and 5.4. To sum it up, Chapter 5.5 will reflect upon suggestions for further research

5.1 Scenarios

The purpose of this section is to engage the readers by imagining, thinking and reflecting on the opportunities that one can achieve in near future and what this might be, as well as the challenges that can occur. This is done through the development of scenarios that explore future opportunities and challenges within smart tourism destination, and where one goes from here. The scenarios are constructed according to the findings identified through the review of the theory and the empirical data, however, others might have identified and looked at similar approaches.

Scenario 1: Implementation and Usage of Technology

The number of tourists is higher than ever, smart tourism destination is implemented to most destinations and consequently several of the tools that regulates the destinations has been digitalized. An outcome of the digitalization is that technology has been implemented into the aspects of the destination that influences the tourism experiences. The technological tools help the tourists to be more present at the destination, it helps them maneuver more easily around the destination and it brings them closer together. Moreover, with the implementation

of technology tourists can be matched to a destination, attraction or activity, based on their values, beliefs and reasons to go. However, to be able to do this, data about the tourist is required. Subsequently, it will lead to the collection of a huge amount of data – close to an uncontrollable amount, particularly if one is going to meet every tourists' values, beliefs and reasons to go, and challenges related to this will occur. One challenge in particular is how to sort and store the data. This brings up another problem which is related to personal data. In order to personalize the experience at the destination one is, as previously mentioned, dependent on personal data such as values, beliefs and reasons to go, then challenges related to privacy becomes a topic and how one is going to regulate and monitor the data.

Scenario 2: Cooperation and Co-creation in Innovation Processes

With the implementation of smart tourism destination there will be a great focus on innovation, and particularly innovation through cooperation and co-creation, with the inclusion of public-private companies, universities and research institutions, and tourists. Most of the innovation takes place in different innovation labs with different tools for different tasks. The labs exist both physically and digitally, which allows all the stakeholders to take part in the innovation process, as well as interact with each other, regardless of where they might be at. Through the cooperation within the destination and regions, better concepts and experiences are created, concepts and experiences that are more complete and seamless. However, challenge in terms of innovating in networks might occur, as some stakeholders might struggle to put behind the old mindset about competition, and thus working for own gain, instead of focusing on the collective good. Moreover, the inclusion of tourists on an individual level, throughout the entire innovation process, might be challenging, as it involves a lot of resources. Subsequently, one need to identify good solutions to involve the tourists, and thus make the tourists engage in the innovation labs, on their own initiative.

Scenario 3: Working for Sustainability

Smart tourism destination is implemented to most destinations, and subsequently, makes the infrastructure greener and more sustainable. In order to obtain the green infrastructure, visitor management is applied as a management and control system. With the use of visitor management as a strategical tool to manage the tourists, user involvement is greatly emphasized. However, the focus is on user involvement in terms of the local citizens, and thus

the local residents are part of the decision process related to which tourists to focus on and what they desire to gain from the tourism. Consequently, the infrastructure is strongly anchored in co-creation and cooperation between public-private companies and local residents, in ensuring that the social sustainability of the destination is obtained. Sustainable technological tools are applied to avoid overcrowding of tourists at activities, attractions and destinations; aiming at spreading the traffic around the region, instead of clogging up certain areas. Nevertheless, the tools are applied to ensure that the resources within regions are fully taken advantage of, and thus the economy is more sustainable as the resources are better utilized. However, in order to enable these possibilities, one need to, first of all identify which segments and tourists to emphasize on, and secondly, one need to have technology that can track the tourists' movements, and thus challenges will occur. In terms of which tourists to emphasize, there will be challenges related to how one selects tourists, on which foundations one is supposed to selectively select some segments and disregard others. In terms of tracking the movements of the tourists, challenges related to scenario 1 may occur.

5.2 Conclusion

In this study, the smartness approach in terms of smart tourism destination is studied in relation to how it might influence innovation and sustainable development processes of cities. The purpose of the research has been to investigate how experts perceive the phenomenon and how they believe it changes the innovation and sustainable development processes of cities. Subsequently, three guiding questions were developed in order to structure the discussion of findings, and thus support the research question. The questions are related to the practical implementation of smart tourism destination, smart tourism destination's impact on sustainable development and smart tourism destination's impact on innovation processes.

The findings suggest that there are several aspects of the innovation process that is similar between traditional tourism and smart tourism destination. All the fundamental approaches are the same and is based on an open innovation. Subsequently, smart tourism destination uses an open innovation strategy involving multiple partners and stakeholders, both internally and externally, private as well a public, and individually as groups. However, with smart tourism destination there is a greater emphasize on cooperation and co-creation within the destination, or more preferably, an entire region, as innovation of smart destinations cannot be

done individually by each organization. The cooperation within the destination and across municipalities, is perceived as crucial to better identify new possibilities, as well as reaching the destinations full potential. Subsequently, a good innovation may be perceived to be dependent on a strong group of people with broad knowledge.

Moreover, the findings imply that smart tourism destination emphasizes heavily on tourism involvement, implicating that the tourists becomes active co-creators of the destination. Subsequently, the tourists are directly involved in the innovation process, rather than more indirectly involved, which is more common for the traditional tourism. This insinuates that the tourists are active participants throughout the entire innovation process, from beginning to end, instead of only being part of just a few steps of the innovation process. This is thought to be an outcome of smart tourism destination consisting of several technological tools which raises a need for more user-driven open innovation, and as a consequence the tourists becomes both an input tool for the destination, as well as part of the end result of smart destinations.

Furthermore, the findings suggest that the innovation process of smart destination consist of a combination of the STI and DUI model, meaning that the process emphasizes on both scientifically and technological knowledge, as well as experience-based knowledge. Including both public and private businesses, people; tourists and residents, and universities and research centers. The latter of this being new to smart tourism destination, as universities and research centers traditionally have been involved quite rarely. Subsequently, smart tourism destination combines the circular and linear innovation process, and thus has the ability to achieve a more robust innovation. The major consequence of this is that instead of testing out products through real life implementation as traditional tourism does, one has the ability to test products through parts and prototypes. Innovation labs such as Living Labs are perceived to be highly efficient as it enhances the innovation process, through the involvement of human capital. This is assumed to have a ripple effect on the destination's ability to innovate, and the innovation may be perceived as less risky, as one can test new products on a smaller group of people. Subsequently, smart destination is believed to improve destinations willingness to innovate.

The technological aspect of smart tourism destination is emphasized as a vital aspect of the innovation process as technology of ICT becomes a tool to ensure social-inclusion, foster good leadership and sustainability, as well as creating better services, which enhances the quality of the experience. Moreover, ICT is emphasized as being a tool to ensure sustainability by implement technological solutions through visitor management, in order to control and manage activity at the destination. Subsequently, the findings suggest that ICT is important for the overall smart destination. However, the greater emphasize is on human capital and people and how they should be the center of attention, as technology cannot simply influence a destination by itself. Consequently, effective collaboration and co-creation between stakeholders, through technology becomes a critical enabler for smart tourism destination - both in terms of creating and developing the destination. The people, as human capital, and the way they interact with each other will thus be the critical success factor for the innovation of experiences and the sustainable development at the destination. Nevertheless, the tourists' role in the innovation and sustainable development process will be as an activator and encourager for change.

In terms of sustainability the findings suggest that there is a need for greater emphasize on sustainability, despite the goals of smart destination being embedded in the creation of sustainable infrastructure. Regardless, the findings imply that there is a need for highlighting the different component of sustainability; social, economic and environmental, instead of simply looking exclusively towards sustainable solutions. Subsequently, one must identify the problem behind the sustainability issues and how potential solutions might influence the economic, social and environmental sustainability, before initiating solutions. The emphasize is greatly on visitor management as a solution. Visitor management can be regarded as a new approach to the sustainable development process of smart destinations, aiming at controlling and managing the destination through collaboration, among the local stakeholders at the destination and the tourists. In terms of the sustainability aspect the collaboration and co-creation with the local residents becomes particularly of relevance, as they are everyday participants at the destination.

5.3 Theoretical Implications

Smart tourism destination emphasizes on how one need both hard smartness and soft smartness to create a destination that is smart. Hard smartness in the shape of technology is the critical enabler of smart, ensuring that everyone is interconnected (Boes et al., 2016). However, soft smartness is necessary in order to give meaning to the hard smartness (ibid.). This research has identified that there are challenges related to the implementation of hard and soft smartness. This implies that the practical applications of smart tourism destination shy away from the smart destination theory, as it not really mentioned theoretically. The research indicates that the barriers related to the implementation of smart tourism destination, is something that destinations should take in consideration before initiating the strategy.

Throughout the research smart tourism destination has showed signs of overlapping ideas and similarities with phenomenon such as smart greening and sustainability, smart growth and smart specialization. None of the existing literature mentions that there is an interlinkage between the different approaches. However, several of the informants emphasizes on the importance of understanding smart tourism destination in relation to smart specialization. Subsequently, this research has identified that there are similarities between smart tourism destination and smart specialization, as they both focus on existing resources within a destination and how they can be ideally allocated.

The idea behind smart tourism destination is to create a destination that enhances the tourists' experiences, while obtaining a sustainable infrastructure. Previous research highlights environmental sustainability by emphasizing more exclusively on the need to create a destination that satisfy the needs of the tourists and hosting regions of the present, while preserving and improving the opportunities of the future (UNWTO, referred in Girard & Nocca, 2017). Despite several of the informants believe that environmental sustainability is crucial, all the informants emphasizes on the importance of taking both economic and social sustainability into consideration when implementing for instance technological tools into the destination. Findings imply that implementation of a technological tool that is environmentally sustainable, but not economic and social sustainable, may lead to the destruction of the destination. Moreover, the existing literature focuses more exclusively on

how solutions to environmental problems can be applied to a destination. Emphasizing little identifying the problem behind a sustainable challenge.

Within smart tourism destination there is dedicated a lot of attention to co-creation of experiences with the users – the tourists. Existing literature emphasizes on co-creation of smart tourism destination with tourists to pledge smart ideas and co-create through dynamic innovation (Boet et al., 2016). However, several of the informants believe that it is as equally important to include the local residents in the process of innovation, as they are more aware of the challenges present at the destination. These findings provide indicators of the importance of an open community of innovation where the tourist and the local residents are essential for the creation of products and experiences that meets the requirements of sustainability. Moreover, there is great emphasize on cooperation and co-creation across municipalities, which is an approach that has not been emphasized in particular in previous literature. However, this type of cooperation should be important for smart destination, and particularly when linking smart destination with smart specialization.

5.4 Practical Implications

The research demonstrates several practical implications. Firstly, it will be important for businesses within a smart tourism destination to understand that to successfully implement the concept there is a great need for emphasize on human capital. Cooperation among the different stakeholders; public-private businesses and research institutions, within the destination will be determinant for the overall experience of the destination, as they are the creators of the experiences. However, it will be particularly important to communicate with the tourists, regardless of this being in person or digitally, as the tourists will be an important creator of the destination. Nevertheless, it is just as important to involve the local residents to ensure that the destination infrastructure is developed in a direction that is perceived as sustainable by the long-term residents. Subsequently, by involving the tourists and the local residents with the businesses and the research institutions within the destination, it will be easier to identify what is needed to develop a destination that enhances the quality of life, while improving the overall experience.

Another implication is that it may be appropriate to obtain a more strategic approach towards smart tourism destination, and it is crucial that the strategy is consistent with the destination or region's overall strategy. If the strategies are in contrast with each other, one will not be able to provide strong and seamless products and experiences to the tourists. Subsequently, the destination should emphasize on implementing smart tourism destination into the overall city strategy plan. Moreover, it is vital that the destination implements a smart tourism destination strategy that emphasizes on the foundational elements of smart tourism destination; meaning that it must emphasize on the use of technological tools to enhance the quality of life and experiences, while obtaining a durable and robust cultural and natural environment. Thus, it is important to have an overall understanding of the destination in order to identify what resources are scarce, what resources one should use and how and what technology can help with the challenges.

5.5 Limitations and Further Research

This research has investigated how smart tourism destination influences the innovation and sustainable development processes of cities. The study has exclusively used a sample unit consisting of informants within one smart region. Through the research a lack of foothold of the smartness concept among the informants was identified, few informants have worked with the concept and they obtain more of a second-hand knowledge. Subsequently, the knowledge and experience on the topic has been quite limited. If informants were not limited to one region one might have had more knowledge and experience on the topic. Consequently, there is reason to believe that the research would benefit from looking at several smart city projects, for a better collective understanding of the research question. Regardless, due to the limitations it will be incorrect to assume that these findings hold for all smart tourism regions and thus the findings cannot be generalized.

Furthermore, the research is conducted over a limited time period, which affects the quality of the research. If the research had been conducted over a longer period of time, the involvement of residents, both local and tourists within a smart region, could for instance have been studied. Moreover, it is worth mentioning that this research has applied rather untraditional approach towards qualitative research, by emphasizing on beliefs and assumptions.

Additionally, theory has had a substantial role throughout the research, which can be considered untraditional for a hermeneutical approach.

Throughout this research study, several areas have been highlighted, and which can form the basis for relevant research questions for further work. As this research has consisted of qualitative interviews from a managerial perspective. It would be interesting to conduct a research on smart tourism destination from a tourist and local citizen perspective. For instance, by conducting a research on user involvement in innovation and development of a destination – how are they involved, what can they contribute with and what is needed for engaging the tourists. Subsequently, to look at what factors affects the user to take action and participate in the innovation process, as several of the informants' points to this as a challenge that they do not have an answer to. Moreover, it would be highly interesting to conduct a research on an area that actually have implemented smart tourism destination into their overall strategy. Nevertheless, several assumptions have been raised throughout the research and there are findings suggesting that there should be more research conducted on smart tourism destination and the sustainability aspect.

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Appendices

Appendix 1 – Interview Guide

Part 1: Introduction

- Present myself and the task

- Ensure confidentiality and anonymity if desired.

- Request permission to record the interview

Part 2: The informant and the smart approach

1. Can you tell me a bit about yourself and your work/knowledge experience?

2. As previously mentioned, the research looks at the smart approach, can you briefly outline in what context you have been working with the phenomenon?

3. How would you define or explain the essence of the smart concept?

    a. E.g. how do you define smart city/destination?

4. What is needed in order to create a smart city/destination?

5. Which approach do you believe in applying for the smart concept?

    a. Are any areas weighted more than others? Technology, environment, population, mobility etc.?

    b. Why exactly this or these approach(es)?

    c. Considered combining several of these approaches? Why not?

6. Which approach do you think is most relevant when working with:

    a. Smart city? Why?

    b. Smart destination? Why?

    c. Smart concept innovation within tourism? Why?

Part 3: The smart concept and tourism

7. How can the smart concept contribute to an attractive city/region for the tourists?

8. How can the smart concept contribute to a more innovative city/region for the tourists?

9. How do you think Smart Bodø/region should adapt to reach out to the tourists?

    a. With the same resources as for the population?

10. How can Smart Bodø/region change the travel patterns of the tourists?

    a. What kind of tools can be applied?

11. How should existing experience products be implemented to the smart concept?

Part 4: Smart Tourism for Sustainability

12. How do you think the smart approach can be used to reduce the negative and improve the positive aspects that tourism?
    a. Visitor management (to avoid noise, traffic chaos and congestion)?
13. How do you think the smart approach differs from the traditional approach in terms of sustainability?
14. How do you think sustainability is created through the smart approach?
15. What tools are used to achieve sustainability?
    a. Technology, visitor management etc.? Combinations?

Part 5: Concept Innovation Within Smart Destination

16. How do you think the work with innovation changes with the smart approach?
    a. Different ways to cooperate? How?
    b. Cooperation across disciplines? How?
    c. How does the focus on innovation change? E.g. open innovation
17. How do you think the population and the tourists, and possibly others can be involved in the innovation processes?
    a. User-driven innovation? Living Labs? Mobile LivingLabs? Other types?
    b. How to make them participate?
    c. How should such open innovation be applied in practice?
18. How can one take user patterns in consideration when innovating concepts?
    a. Should technology be applied? Information from the tourists?
19. How is technology used? IoT, Big Data as a tool in the innovation process?
20. How is the innovation process changed in terms of efficiency?
    a. Is the focus on science-based knowledge or knowledge based on previous experience and knowledge? A combination?
    b. How does this differ from the traditional perspective?
21. Which opportunities and challenges can derive from the smart approach in terms of design of tourist experiences/concepts?
    a. Are there any potential pitfalls?

Part 6: Ending

- Ask if the informant has something more he/she wants to include.
- Ask for permission to follow up by e-mail, if necessary
- Inform the informant that he/she can get a copy of the thesis to read through, to ensure that what he/she has said has not been misinterpreted.
- Thank the informant for taking the time to be interviewed.