

# Capabilities needed to become a Smart Tourism Destination

Use Case: Helsinki and Berne



Bachelor's thesis

Degree programme in Business Information Technology

Hämeenlinna University Center

March 2019

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ABSTRACT

Technology is becoming more and more important in any aspect of life. This also applies to the tourism sector. Therefore, many cities have started to implement Smart City solutions. The Smart Tourism Destination (STD) concept includes Smart City infrastructure (ICT, Leadership, Social and Human Capital as well as Entrepreneurs and Innovation) and tourism elements. This leads to the fact that an STD is built on Smart City infrastructure and includes basic elements of tourism.

The framework Dimensions of the Smart Tourism Destination identifies the smartness of a Tourism Destination. This leads to the purpose of this paper which is to validate the model and to identify improvement areas in the critical success factors. The cities Helsinki and Berne were chosen as they are at a different development stage when it comes to Smart Tourism. Helsinki has already successfully implemented a Smart City solution and was awarded as the European Capital of Smart Tourism in 2019. Berne, on the other hand, is still in the development phase. By interviewing two experts from both cities eleven criteria, relevant to an STD, were evaluated. As the Smart Tourism Concept is young, only limited literature is available. The thesis used expert interview as a data collection method to gain insights into the cities' approaches. The interviews were analyzed by coding, categorizing, and evaluating the responses.

The analysis has shown that functioning headquarters have to be in place where all the processes are managed. Furthermore, stakeholder engagement in the tourism eco-system is fundamental. Coming to the dimensions of the model, it can be said that all the dimensions are necessary to build an STD. However, the focus can vary based on the culture of the city. Nonetheless, a balance between the dimensions is of utmost importance.

**Keywords** Smart Tourism Destination, Helsinki, Berne, Framework, Model

**Pages** 69 pages including appendices 21 pages

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#### LIST OF ABBREVIATIONS

Abbreviation	Term
AI	Artificial Intelligence
API	Application Programming Interface
EU	European Union
ICT	Information and Communication Technology
IoT	Internet of Things
STD	Smart Tourism Destination
VR	Virtual Reality

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## 1 INTRODUCTION

Nowadays the word smart is added to many products and services. In tourism, the new buzz word is Smart Tourism Destination (STD) (Gretzel, Sigala, Xiang & Koo, 2015). The European Commission (n.d.-a, p. 3) put the European Capital of Smart Tourism initiative in practice where all European Union (EU) cities can participate. The goal is to promote the development of Smart Tourism and allow cities to learn from each other. It is one of the Preparatory Actions proposed by the European Parliament.

The award is based on four assessment criteria (European Commission, n.d.-a, pp. 7–8) but does not provide guidance on the critical success factors. Reviewing research papers on STD models, the author has selected the framework from Boes, Buhalis & Inversini (2015, p. 400) to identify critical success factors.

The goal of this thesis is to use the two cities Helsinki and Berne to test the critical success factors for an STD. The City of Helsinki has been developing its Smart City capabilities over many years and, in 2019, won the European Capital of Smart Tourism Award. The City of Berne in Switzerland, on the other hand, is at the beginning of its journey.

The author is interested in seeing what capabilities Helsinki has developed to get there and in how far its strategy correlates with the framework. Likewise, the author wants to apply the model to Berne. By comparing the two cities through the model, the author's objective is to validate the framework and identify improvement areas in the critical success factors.

To learn more about STD and how to implement it, three research questions are answered in this thesis: What is the role of the tourist headquarters in an STD? Which capabilities (dimensions) does a successful city implement in their STD plan and what role does the city have amongst the stakeholders? What capabilities distinguish a successful STD from other destinations? Based on the research questions the strategy of the two cities is compared, their differences and similarities identified, and recommendations made.

The theoretical part introduces research methods, followed by the most important definitions of this field and a description of the introduced models. Following an introduction to STD, an interview framework is presented and a product catalog defined. In the practical part, the two cities are presented, their product catalogs analyzed and the comparison of the interviews assessed. Based on the gathered information and newly adopted knowledge, the discussion will lead to answering the three initial questions. The penultimate and the last chapter provide a recommendation, conclusion and prospect to Helsinki and Berne.

## 2 METHODS AND LIMITATION

Writing a thesis is like leading a project. Hence, several tools are needed to manage this undertaking successfully. The author of this thesis has chosen Trello (2019) as its project management tool, and Mendeley (2018) as its citation support software.

The following subchapters lay its focus on the approaches, techniques, and tools which were applied. Furthermore, it determines which topics will be addressed and excluded in this thesis. By applying the four-step approach by Scribbr (n.d.) the most fitting method for this thesis, the expert interview was selected. Table 1 presents the four steps.

Table 1: Four-step approach by Scribbr (n.d.)

Steps	Description	Applied procedure
Step 1	Get an overview of the different methods	Expert Interview
Step 2	Choose between the quantitative or qualitative research approach	Qualitative Research
Step 3	Decide between inductive or deductive reasoning	Deductive Reasoning
Step 4	Check the validity and reliability of your research	<ul style="list-style-type: none"> <li>✓ Validity</li> <li>✓ Reliability</li> </ul>

### 2.1 Expert Interview

The expert interview method is applied when not much literature is available on the chosen topic. As STD is a young concept and little literature can be found, this method was the most suitable one for the purpose of this thesis (step 1). In order to gain a better insight into the local tourism scenes of Helsinki and Berne, the author collected descriptions of all available products and services the two cities have to offer. The product catalog is based on the Six A's of Tourism and the four categories Accessibility, Sustainability, Digitalization, and Creativity and Cultural Heritage defined by the European Commission (n.d.-a, pp. 7–8). The two product catalogs can be found in Appendix 3 to 10. Moreover, general literature on the topics of STD, Smart City, Smart Tourism was gathered and analyzed. Consequently, literature and practical examples can be combined in the practical part of this thesis. (Pfiffer, 2017)

The type telephone interview was chosen as the two experts were located in different cities, hence, the interview could be arranged at short notice. A subject matter expert from the City of Helsinki and one from the organization Bern Welcome were interviewed. The type semi-structured interview was chosen as the interviewer can thematically guide the

interviewee with some initial questions but leave a certain flexibility throughout the interview. (Pfeiffer, 2017) While creating the questions and conducting the interview the qualitative research method was applied as the interviewer wanted to evaluate the essential reasons, point of view or incentives of the topic STD (Corrieri, 2017; DeFranzo, 2011). Although, there is little literature available on STD, the deductive approach was still chosen as the two interviews were meant to prove the accuracy of the model from Boes et al. (2015, p. 400) and further literature (step 3) (Pfeiffer, 2018a).

For the evaluation and comparison of the interviews, the coding interview response method was applied. With this method, the answers of the interview partners are assigned to a specific category. The procedure is as follows: after all the interviews were conducted, the interviews are transcribed. The assignment of the text fragments to a specific category is based on the transcription. After documenting the interview, the interviewer assigns text-fragments to a specific code. These codes represent the key message of each text passages. Some codes fit into several categories. Consequently, a set of categories are created out of the codes which can be further used for the comparison and the discussion. In this thesis, eleven categories were defined. (Pfeiffer, 2018)

The validity was given by analyzing two cities based on the same criteria such as Accessibility, Sustainability, Digitalization, Creativity and Cultural Heritage. Moreover, two interviews were conducted using similar questions and the same evaluation method. The interview questions had to be adapted for each interview partner as the background of each city is different. Interview questions can be found in Appendix 1 and 2. Influencing factors such as bias, process of data collection or ambiguity were taken into consideration. As the questions were created before conducting the interview, the same questions could be asked to other cities. Furthermore, the eleven categories created out of the interview evaluation can be further applied to any other city. It would even give the cities a good overview of categories which matter to STDs. Hence, a level of reliability was met (step 4). (Pfeiffer, 2018b)

## 2.2 Mind Map

Mind Map is an effective and creative way to write all the authors knowledge about a topic and its relationships on a map. All Mind Maps follow a natural structure with a main topic positioned in the center of the map. From there new relationships or sub-topics are added to let the tree grow. Humans can easily remember the structure and content of Mind Maps as it is similar structured as the human brain functions. It also uses pictures, symbols, colors, and lines. The aim of a Mind Map is to present a monotonous list of information in an easily understandable way. (Mindmapping.com, 2019)



There are several Mind Map software's available. For the purpose of this thesis, the tool MindJetManager 2019 was used. This tool was chosen as the user can add content, connections, relationships between topics, internet links, and pictures in an easy and effective way. (Corel, 2019)

Figure 1 shows how the author of this thesis initially started gathering all the needed information on the City of Helsinki. The Mind Map is structured in the four categories Accessibility, Sustainability, Digitalization, and Creative and Cultural Heritage according to the application of the City of Helsinki for European Capital of Smart Tourism Award (2018b).

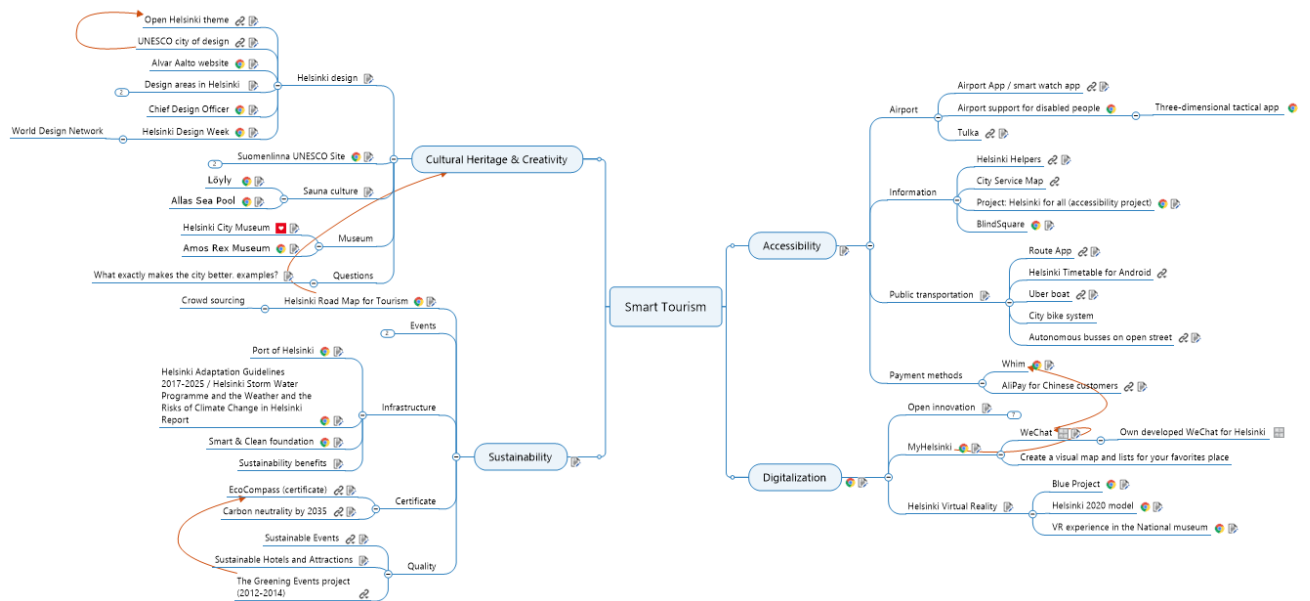


Figure 1: Mind Map of the product catalog of the City of Helsinki

### 2.3 Kanban

Successfully writing a bachelor thesis includes project management. There are many different kinds of methods available to keep track of a project, one being Kanban. It's an easy-to-use method that shows the current status of a project at a glance. Kanban originates in Japan where it was created by Toyota to optimize and make processes more efficient. (Müller, 2018) The term Kanban means visual signal or card in Japanese (Planview, 2019). Nowadays Kanban is mostly used in agile projects. The Kanban-board is set up in three columns where the first column shows the to do tasks, the second column the doing (in process) tasks, and the third column presents the done tasks. (Müller, 2018)

Currently, several productivity apps are available on the market. Trello is one of them and with its simple user-interface the user can easily add, adjust or remove cards from the board (Trello, 2019). Hence, the author of

this thesis has decided to use Trello to maintain a good overview of this thesis project.

#### 2.4 Mendeley

Mendeley is a free reference manager which can be downloaded to the user's desktop. The user can add various articles or webpages to the manager by either adding it via a plugin in the browser or manually. When adding a new file, Mendeley can identify all the needed detail for referencing purposes. The tool has many more advantages such as keeping articles organized, annotate or highlight the words, search while typing, add comments to an article, share papers, create library folders, select the citation style. Hence, for proper citation, the tool Mendeley was used. (Tugizimana, 2015)

#### 2.5 Limitation

The author will exclusively focus on the model from Boes et al. (2015, p. 400) and from the European Commission (n.d.-a, pp. 7–8). After defining the terms Smart City, Smart Tourism there will be no further analysis or research in those two topics. For the practical part, the eleven evaluation criteria from the interview and the framework for the dimensions of the Smart Tourism Destination will be considered only. Funding aspects are out of scope.

### 3 DEFINITION AND SEPARATION

This section introduces the fundamentals of Smart City, Six A's of Tourism Destination, STD, and Smart Tourism. Furthermore, it illustrates the various definitions of these terms and determines which definition is the most suitable one for the purpose of this thesis. It closes this chapter by stating how these terms correlate and where their differences lie.

#### 3.1 Definition of Smart City

As Nam & Pardo (2011, p. 283) mention, the definition of Smart City is quite vague and spread out and also not always consistent. Furthermore, Ramaprasad & Syn (2017, p. 14) state that there can be more than 36 different definitions found on Smart City. Hence, in this subchapter, the author of this thesis is going to illustrate various definition of the Smart City term and in the end determine which definition is the most suitable one for the purpose of this thesis.

According to the European Commission (n.d.-b), a Smart City combines Internet and Information and Communication Technology (ICT) with traditional city services and networks. The goal is to create less emission and optimize resources. This can be done by smartening up urban transportation, generating more efficient ways for lighting and heating buildings, enhancing security, respond to the needs of the aging population, and making red tape processes more effective. All in all, the overall aim is to improve the citizens' daily life. Siepermann (2018) agrees fully with the European Commission (n.d.-b) on that matter. Another aspect of Smart City is brought in by Hall (2000, p. 1). His definition is more about monitoring and integration of critical infrastructure to eventually maximize the services to the citizens.

Caragliu, Del Bo & Nijkamp (2011, p. 6) add two important factors to the EU definition which are called Human and Social Capital. "We believe a city to be smart when investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance." This is supported by Boes et al. (2015, p. 395) who evaluate in their studies that the Smart City concept is built on four fundamental pillars: Leadership, Entrepreneurship and Innovation, Social Capital, and Human Capital.

The Centre of Regional Science Vienna University of Technology (2007, p. 11) adds the human factor called smart people to the whole picture and stating the independence of the citizens. "A Smart City is a city well performing in a forward-looking way in these six characteristics "(smart economy, smart people, smart government, smart mobility, smart environment, smart living)," built on the 'smart' combination of

endowments and activities of self-decisive, independent and aware citizens.”

After analyzing all the definitions, the author of this thesis reaches the conclusion that Human and Social Capital is a fundamental part of Smart City. Consequently, the definition from Caragliu et al. (2011, p. 6) will be used as the foundation for this paper as Boes et al. (2015, p. 395) largely based their model on their definition.

### 3.2 6A's of Tourism Destinations or Six A's of Tourism

Buhalis & Amaranggana (2013, p. 556), Buhalis (2000) define Tourism Destination as a geographical area chosen by the tourist which offers all the necessary amenities such as accommodation, restaurants, and entertainment. Furthermore, the goal of a Tourism Destination is to offer a variety of suitable amalgam products and services which makes the visitor's experience memorable. According to Buhalis & Amaranggana (2013, p. 556), Soteriades (2012) another important factor is the seamless linking between each product and service as every Tourism Destination has several stakeholders on different levels serving the visitor. This way the tourist will receive an overall good impression of the trip.

According to Put-Van Den Beemt & Smith (2016, p. 1), Buhalis (2000), there are six components needed to make a Tourism Destination successful. They are also called 6As of Tourism Destinations or Six A's of Tourism and are defined in Table 2.

Table 2: Six A's of Tourism (Put-van den Beemt & Smith, 2016, p. 1), Buhalis (2000)

Category	Description
<b>“Attractions</b>	Natural (i.e. waterfall), Artificial (i.e. theme park), and/or Cultural (i.e. festival).
<b>Accessibility</b>	Transport systems consisting routes, terminals and public transport.
<b>Amenities</b>	Services facilitating stay, Accommodation, Catering and leisure/activities.
<b>Available Packages</b>	Intermediaries to direct tourist attention', i.e. information center.
<b>Activities</b>	Which motivates tourist visitation to a specific place, and lastly...
<b>Ancillary Services</b>	Which are secondary to tourist needs (i.e. banks, postal, medical, etc.)”

### 3.3 Smart Tourism Destination

“Smart Tourism Destinations can be perceived as places utilizing the available technological tools and techniques to enable demand and supply to co-create value, pleasure, and experiences for the tourist and wealth, profit, and benefits for the organizations and the destination” (Boes et al., 2015, p. 394). In the definition of Buhalis & Amaranggana (2013, p. 557), the focus is more on the technology embedded environments and the engaging stakeholders using the platform dynamically. Furthermore, they are addressing the effectiveness of resource management. Gretzel et al. (2015, p. 180) go more into the state-of-the-art technology and the accessibility of the services.

All the stated definitions aim to improve the destination experience and quality of life for the citizens. Nonetheless, the absence of the term Human Capital is disturbing as without educated and sophisticated people, no STD can be set up.

Fortunately, de Lurdes Calisto & Gonçalves (2017) agree with the author of this thesis. They define STD as follows: “A smart tourism destination is a place that responds to the requirements of the present global and mobile elites by facilitating access to tourism and hospitality products, services, spaces and experiences through ICT-based tools and where a healthy social and cultural environment can be found through a focus on the city’s social and human capital. On the other hand, it also implements innovative and entrepreneurial businesses and fosters the interconnectedness of businesses.” The European Commission (n.d.-a, p. 3) used a similar definition for their European Capital of Smart Tourism Initiative. Moreover, Boes et al. (2015, p. 393), Ritchie & Crouch (2005) also mention human resources in their definition. For the purpose of this thesis, the definition of de Lurdes Calisto & Gonçalves (2017) is considered.

### 3.4 Smart Tourism

According to Gretzel et al. (2015, p. 180), Smart Tourism involves “multiple components and layers of smart that are supported by ICTs. On one hand, it refers to Smart Destinations, which are special cases of smart cities: they apply smart city principles to urban or rural areas and not only consider residents but also tourists in their efforts to support mobility, resource availability and allocation, sustainability, and quality of life/visits.”

A year later Gretzel, Zhong & Koo (2016) extended the definition by adding the Smart Tourism Experience which involves a better way of communication among the stakeholders and the tourist. This results in a new economy with new players and resources. Concerning ICT infrastructures such as cloud computing or open data, the authors mentioned that the cities get new ways to manage customer flows or offer more fitting products and services to the tourists.

To sum up, Smart Tourism is focusing on the tourists need by profiting from the available Smart City infrastructure. Through ICT infrastructure the needs of the visitors can be more efficiently and effectively met.

### 3.5 Separation from Smart City, Smart Tourism and STD

Consequently, Smart Tourism is built on the Smart City principle. Smart Tourism utilizes Smart City functions and extends them with Tourism functions. Hence, it profits from the infrastructure already developed by the city for their citizens. (Gretzel et al., 2015, p. 180) Furthermore, the new definition of STD is built upon the concept of Smart City, ICT, Internet of Things (IoT), and Tourism (Put-van den Beemt & Smith, 2016, p. 2), Buhalis & Amaranggana (2013).

In Smart City, the focus is on the citizens, whereas in STD, the center of importance is the tourist (Caragliu et al., 2011, p. 6; Fyall, 2011, p. 340). As there is no literature on the difference between Smart Tourism and STD, the author of this thesis defines it as follows: In STD, the focus is on the place whereas Smart Tourism has no specific focus as it concentrates on the overall concept of Smartness with regards to tourism.

Figure 2 illustrates the dependencies and connections between the different concepts. To profit from Smart Tourism, a Smart City infrastructure, as well as a Tourism Destination infrastructure, are needed. The Smart City provides the ICT and Concept of Smart while the Tourism Destination offers the 6A's. To become an STD, the overall view needs to be focused on a specific place which would be the STD.

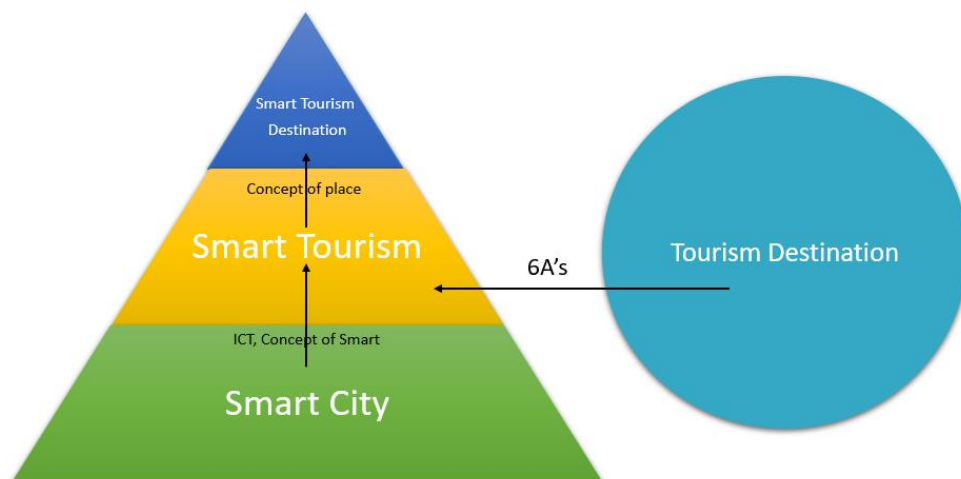


Figure 2: Relationships between the different concepts of Smartness

## 4 MODELS

This chapter introduces two STD models which will be used for the analysis and the comparison of the two cities. The first model is reflected in the four assessment criteria (Accessibility, Sustainability, Digitalization, and Creativity and Cultural Heritage). The second model was developed by Boes et al. (2015, p. 400) and is based on four main dimensions which are Tourism Experience, Tourism Competitiveness, Six A's of Tourism, and Smart City. Furthermore, Smart City dimensions such as Leadership, Human, and Social Capital, Innovation and Entrepreneurs as well as ICT are represented as well. The chapter ends by comparing the two frameworks.

### 4.1 Assessment criteria for the European Capital of Smart Tourism Award

In the following chapter, the four categories or pillars defined by the European Commission (n.d.-a, pp. 7–9): Accessibility, Sustainability, Digitalization, and Creativity and Cultural Heritage are introduced. The committee mentions that the four categories are guidelines and no determined regulations. Hence, they encourage the participants to think out of the box. The evaluation of the four categories are based on four criterions which are “How innovative, and smart are the implemented measures? How sustainable are the implemented measures over time? How inclusive are the implemented measures for different social groups? The degree to which the measures contributed to raising the city's profile as a tourism destination. How effective are these measures? What are the measurable impacts of the implemented programmes?”

#### 4.1.1 Accessibility

Accessibility involves barrier-free usage of transportation (with regards to age, disability, economic situation), tourist offers (e.g. offers available in multiple languages, accessible to all age groups), and booking systems (e.g. websites in multiple languages, user-friendly). Is the Tourist Destination barrier-free? (European Commission, n.d.-a, p. 7)

#### 4.1.2 Sustainability

Sustainability involves the preservation and enhancement of the natural environment and resources while considering economic and socio-cultural development. Furthermore, it covers topics such as tourism seasonality or community involvement in tourism projects. (European Commission, n.d.-a, p. 7)

### 4.1.3 Digitalization

The term digitalization involves the offer of innovative tourism and hospitality information, products, services, spaces and experiences supported by ICT and digital tools which fit to the needs of the consumers (European Commission, n.d.-a, pp. 7–8).

### 4.1.4 Creativity and Cultural Heritage

Creativity and Cultural Heritage involve presenting the cities cultural heritage and creative industries to the tourists to enrich their stay. Furthermore, it contains the utilization of synergetic profits and the implementation of tangible and intangible heritage (such as art, history, culture) to the tourist experience. (European Commission, n.d.-a, p. 8)

## 4.2 Framework for the dimensions of the Smart Tourism Destination

In this chapter, the author explains the framework from Boes et al. (2015, p. 400). For the purpose of this thesis, the author splits the model into three parts called strategical elements, capabilities, and enablers.

Table 3: Three parts of the model

Dimension	Description
<p><b>Strategical Elements</b> (needed to build a successful STD)</p>	<p>Tourism Experience Tourism Competitiveness Six A's of Tourism Smart City</p>
<p><b>Capabilities</b> (important for the strategy and central planning for a city to build their eco-system)</p>	<p>Leadership Human Capital Entrepreneurs and Innovation Social Capital</p>
<p><b>Enablers</b> (Supportive characters that help realizing the end product)</p>	<p>ICT Infrastructure Technology Applications</p>



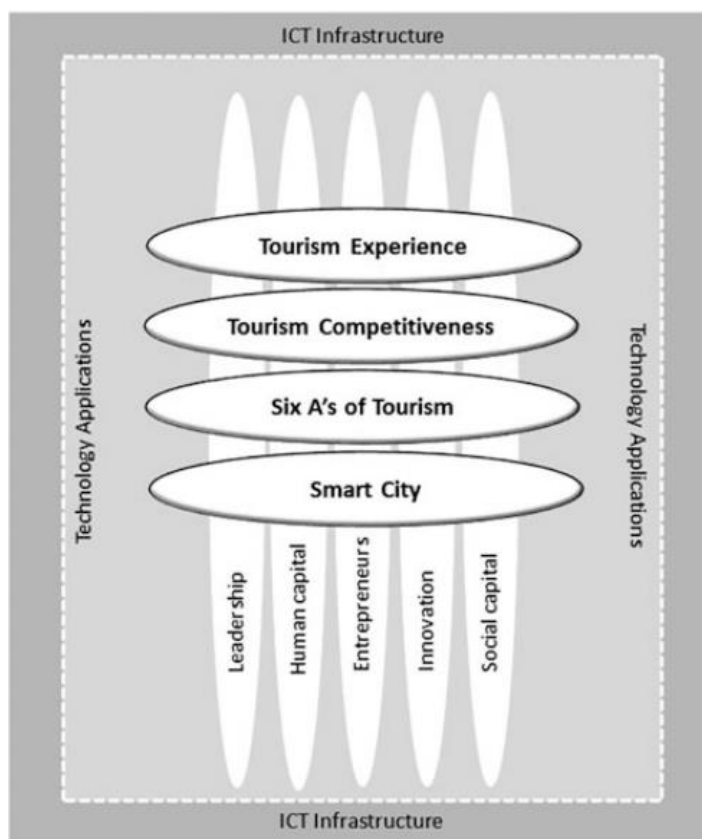


Figure 3: Framework for the Dimensions of the Smart Tourism Destination (Boes et al., 2015, p. 400)

#### 4.2.1 Tourism Experience

How can Tourism Experience be improved by using ICT? Neuhofer, Buhalis & Ladkin (2012) mention that these days tourist destinations have to find a way to differentiate their city from their competition by offering innovative and distinguished products and services to their tourists. In tourism, the experience is created by the provider, its customers but also by its social and physical environment (Buhalis & Amaranggana, 2015, p. 381), Hoarau & Kline (2014). Hence, the cooperation between stakeholders such as service providers, governments and local communities is fundamental in offering the tourist an unforgettable experience (Buhalis & Amaranggana, 2015, p. 381), Wang et al. (2012). In other words, the focus has to lie on the whole tourism experience instead of a service or a supplier (Buhalis & Amaranggana, 2015, p. 381), Zouni & Kouremenos (2008). The authors mention that this goal can be reached by letting the consumers play an active role in co-creating their own experiences and involving technology (ICT) such as mediating experiences (Tussyadiah & Fesenmaier, 2007, p. 2260).

Therefore, these days the Tourism Experience is influenced by the tourist co-creating his or her own experience which is supported and enhanced by technology such as Artificial Intelligence (AI), websites, portable city

guides (Neuhofer et al., 2012), Binkhorst & Den Dekker (2009). Furthermore, Neuhofer et al. (2012) are stating that technology is the key instrument to create and maintain co-creation. They even go further by indicating that “the successful destination of the future will, therefore, be the one that strategically and effectively integrates ICTs in all structures, communications, and interactions to dynamically co-create technology enhanced destination experiences with tourists in all travel stages.” The author of this thesis does not agree with Neuhofer et al. (2012) on the fact that ICT is the main key for co-creation as they forgot to mention the factors Human and Social Capital. If those two factors are available, then the factor ICT comes in place and can be efficient and useful. However, Neuhofer & Buhalis (2012) mention in another paper that there is a gap in understanding the “Technology-Enabled Enhanced Tourist Experience” which could lead to the assumption that Human and Social Capital were not considered yet.

#### 4.2.2 Tourism Competitiveness or Destination Competitiveness

The terms Tourism Competitiveness, Destination Competitiveness, and Tourism Destination Competitiveness have the same meaning for the purpose of this thesis.

The definition of Tourism Competitiveness was mainly characterized by the model from Crouch & Ritchie (1999, p. 147). For the purpose of this thesis, the author will not go into its details about this particular model. The focus is to highlight some points of the model which are necessary to understand the concept of Tourism Competitiveness. The goal of Tourism Competitiveness is “to provide a higher quality travel experience to the visitors than other destinations” (Koo et al., 2016, p. 562), Crouch & Ritchie (1999). To achieve this goal, two factors must be taken into consideration: comparative and competitive advantages.

Comparative advantages are all the available resources (natural and created ones). There are five broad categories: human resources, physical resources, knowledge resources, capital resources, and infrastructure. (Crouch & Ritchie, 1999, p. 142), Porter (1990)

Competitive advantages are how the destination is utilizing and managing the resources in the tourist destination. This involves resources such as human resources, infrastructure, knowledge resources. (Crouch & Ritchie, 1999, p. 143)

The core resources and attractors are the six core components of a tourist destination appeal. They include physiography, culture & history, tourism superstructure, market ties, mix of activities, and special events. (Crouch & Ritchie, 1999, pp. 146–147)

Table 4: The six core resources and attractors (Crouch & Ritchie, 1999, pp. 146–147)

<b>Core resources and attractors</b>	<b>Description</b>
<b>Physiography</b>	Overall environment (such as landscape, climate) of the tourism destination
<b>Culture and history</b>	All the history and culture the destination can offer
<b>Tourism superstructure</b>	Accommodation facilities Food services Transportation options Major attractions
<b>Market ties</b>	Building relationships with the citizens of the tourism destination
<b>Mix of activities</b>	Activities offered at the tourist destination
<b>Special events</b>	International events Big happenings Festivals

Koo et al. (2016, p. 564) argue that the six core resources and attractors are connected to either the comparative or competitive advantage. They are allotted in Table 5.

Table 5: Comparison between comparative and competitive advantages (Koo et al., 2016, p. 564)

	<b>Comparative advantages</b>	<b>Competitive advantages</b>
<b>Notion</b>	Available resources itself	Resources utilization or management
<b>Focus</b>	Resource endowments	Resource deployment
<b>Core resources and attractors</b>	<ul style="list-style-type: none"> <li>• Physiography</li> <li>• Culture and history</li> <li>• Tourism superstructure</li> </ul>	<ul style="list-style-type: none"> <li>• Market ties</li> <li>• Mix of activities</li> <li>• Special events</li> </ul>

Nonetheless, it needs to be mentioned that Crouch & Ritchie (1999) did not take ICT as a factor into consideration as back in 1999 ICT was not relevant yet. Hence, Koo et al. (2016, p. 572) added the factor Smart Technology to their Smart Tourism Competitiveness model. This factor can be applied to all the six core resources and attractions of comparative and

competitive advantages as they require resource endowment such as IoT or cloud services and deployment such as existing infrastructure.

Smart Technology can be assigned to comparative as well as competitive advantages. On the one hand, technological tools or intangible tools such as cloud services, IoT, and end-user internet service systems can be allotted to human resources and knowledge resources; on the other hand, the combination of technology and existing infrastructure lead to Smart Technology product. (Koo et al., 2016, p. 569), Lamsfus et al. (2015), Lopez de Avila (2015)

The most important factor for an STD is the willingness to collaborate (Manville et al., 2014, p. 46). Hence, Boes et al. (2015, p. 399), Ritchie & Crouch (2005) suggest implementing a co-opetition which is a combination of collaboration and competition which leads to greater opportunities.

#### 4.2.3 Technology Applications and ICT infrastructure

Implementing ICT into a Tourism Destination is fundamental in today's tourism eco-system. However, building on ICT alone will not transform a city into a successful STD as the fundamental dimensions Leadership, Human Capital, Entrepreneur and Innovation, and Social Capital are missing. Hence, ICT infrastructure and Technology Applications are enablers in becoming an STD. This can involve cloud computing or IoT. (2015, pp. 400–401)

#### 4.2.4 Leadership

There are two types of leadership used in the STD concept, which are a top-down and a bottom-up approach. According to Lukens (2016) the top-down approach follows a clear structure and line of command. This statement is supported by Deschamps (2017) who declares that it is driven by a strong vision, implemented by senior leaders who are in charge of transforming the vision into reality. Employees support this whole process. On the other hand, there is the bottom-up leadership approach which became famous through the egalitarian ideal in the 20<sup>th</sup> century. It follows the idea of a more flat organization, holocracies, where leaders are more facilitators. (Lukens, 2016) In other words, this way of leading a company supports a can-do mentality which triggers new creativity and entrepreneurial thinking (Deschamps, 2017).

Moreover, Manville et al. (2014, pp. 77, 87) support the definitions of top-down and bottom-up leadership by the statement that “a top-down approach promotes a high degree of coordination whereas a bottom-up approach allows more opportunity for people to participate directly”. Both concepts have proven themselves as beneficiary as there are several examples of well-implemented solutions. It has been proven, that it does

not matter which concept will be chosen as it depends more on the culture of the Tourism Destination than the leadership approach. The more important part is that the city creates a headquarter or a central office where all the projects, ideas, stakeholders are managed to facilitate the coordination. (Boes et al., 2015, pp. 396, 399), The Hofstede Centre (2014), (Manville et al., 2014, p. 87)

#### 4.2.5 Human Capital

One part of Human Capital is offering a high quality of education to give smart people the best option to learn more and develop new capabilities. Human capital is the key in developing collaborations, cross-linking of knowledge, and eventually innovation. (Boes et al., 2015, p. 398; Manville et al., 2014, p. 77)

#### 4.2.6 Entrepreneurs and Innovation

The idea of Entrepreneurs and Innovation is to give the citizens a platform where they can develop new ideas and services and collaborate among each other. The overall goal is to enhance the quality of life. (Boes et al., 2015, pp. 396–397)

#### 4.2.7 Social Capital

Collaboration and cooperation are the keywords of Social Capital. The cities offer a platform where citizens can network and build up new relationships between private and public agencies. (Boes et al., 2015, pp. 397–398)

### 4.3 Comparing the two frameworks

This section evaluates the similarities and differences of the two frameworks. Figure 4 shows the assessment criteria from the European Capital of Smart Tourism Initiative with the four pillars Accessibility, Sustainability, Digitalization, Creativity and Cultural Heritage. Figure 5 presents the framework from Boes et al. (2015, p. 400).

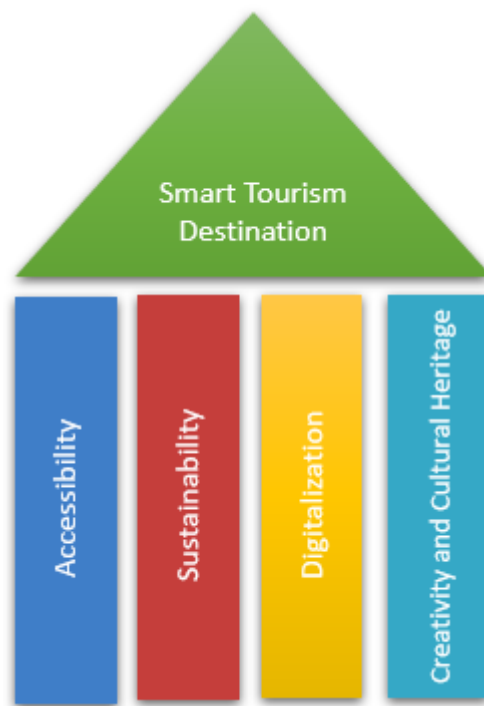


Figure 4: Four pillars from the European Capital of Smart Tourism Award

While comparing the two frameworks, the author of this thesis has concluded that the two models are aiming into the same direction by focusing on the four main dimensions Accessibility, Sustainability, Digitalization, and Creativity and Cultural Heritage. The colored dots in Figure 5 show how the four pillars are mapped in the second model. The colors of the dots in Figure 5 reflect the colors of the pillar in Figure 4.

The model from the European Commission (n.d.-a, pp. 7–8) is not as detailed as the framework from Boes et al. (2015, p. 400) as it is considered more as a guideline and leaving the applicant the option to think beyond the examples. Figure 5 shows that Accessibility, Sustainability, and Creativity and Cultural Heritage is reflected in the Capabilities Dimension of the model. Digitalization is represented in the Enabler Dimension which are ICT Infrastructure and Technology Applications. The author of this thesis is implicating that the Strategical Dimensions such as Tourism Experience, Tourism Competitiveness, Six A's of Tourism, and Smart City integrated already into each of the four assessment categories as for example Accessibility aims to a barrier-free tourism offer which can be reflected in the Strategical Dimension Tourism Competitiveness.

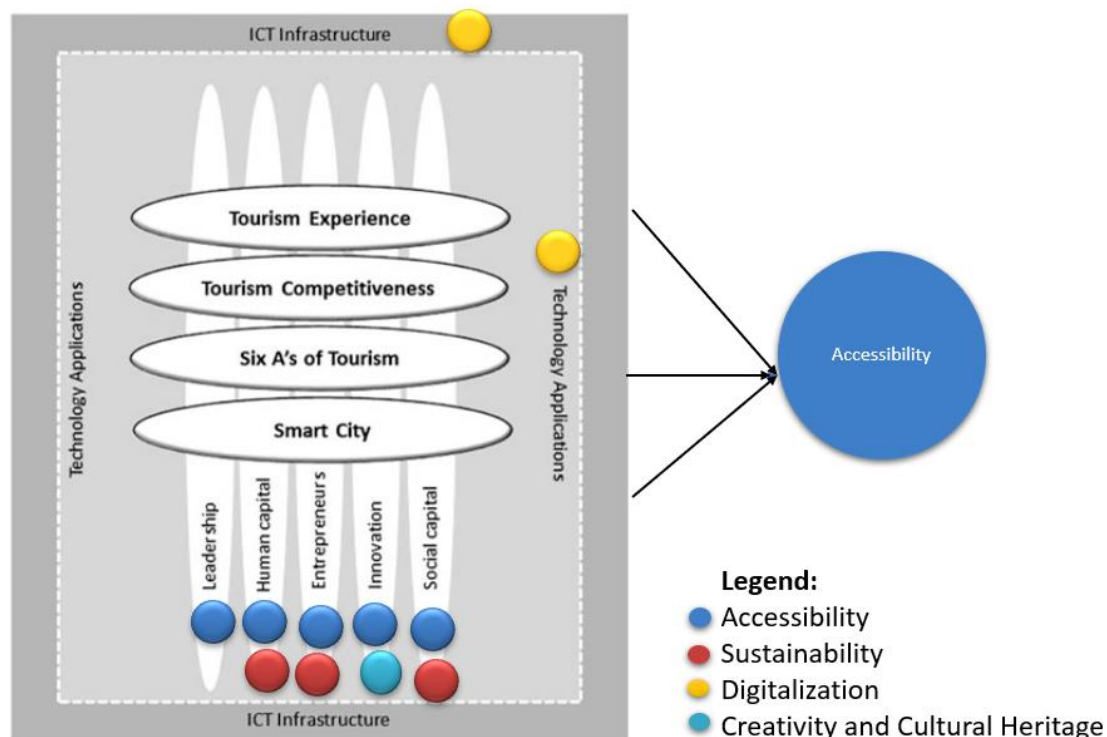


Figure 5: Comparison of the two frameworks (edited from Boes et al., 2015, p. 400)

The European Commission (n.d.-a, pp. 7–8) is expecting a seamless synergic effect of all the three dimensions (Strategical Dimension, Capability, and Enablers) in each pillar. To meet this requirement; the Strategical Dimensions need to be integrated in each of the pillars. Such can be explained as follows:

A company in Helsinki is developing a product called BOAT which follows the same concept as Uber Boat. To reach that goal, all Strategical Dimensions are needed. The aim was to offer a convenient way to visit the archipelagos around Helsinki. The project became a part of the Last Mile project which focuses on making transport more accessible to different age groups. Last Mile works together with residents, businesses, and universities for co-creation of mobility solutions. (Helsinkiä, 2018; Rinne, 2017) This example illustrates how Tourism Experience can be applied.

Moreover, Tourism Competitiveness was encouraging as Helsinki seems to be the first with such a solution. Furthermore, the 6A's of tourism is considered by generating better accessibility. Lastly, a new way of Smart City service was created by connecting a solution with ICT – the app where BOAT can be booked – and all the needed capabilities such as Leadership, Human Capital, Entrepreneurs and Innovation, and Social Capital. The Capability Dimensions were all required to create the project. The Leadership function was necessary to represent the Last Mile project

group, Human Capital was used by involving all the stakeholders, Entrepreneurs and Innovation was indispensable as it considers the idea creation and takes the idea to platforms, and finally the Social Capital which triggered the collaboration between the stakeholders.

One point which needs to be considered is that there is no rule on how to assign a product or a service to a specific pillar as the cities made these allocations. Hence, a part of the pillar Digitalization is also included in the BOAT project as it included the creation of an app.

To sum up, both models have a Digitalization part; both are working on Sustainable ideas, services and solutions; and both are including Creativity and Cultural Heritage which leads then to an end-product = Accessibility. Consequently, all the products, services offered by an STD must be Accessible.



## 5 THE CITY OF HELSINKI AND THE CITY OF BERNE

The City of Helsinki is the capital of Finland and has 3.9 Mio. tourist stays out of a total of 17.3 Mio. (Official Statistics of Finland (OSF): Accommodation statistics, n.d.). The City of Berne is the capital of Switzerland with 0.7 Mio overnight stays out of a country total of 37.4 Mio (Swiss Tourism Federation, 2018).

### 5.1 The City of Helsinki

The Roadmap for Tourism is the main focal point for the tourism development in Helsinki. This Roadmap is based on the city strategy called “The Most Functional City in the World” (Helsinki City Executive Office, 2018, p. 6).

The city is striving to improve day by day. Their main goals are to increase the residence quality of life by offering high-quality public services, support equality, strong social cohesions, safety, support self-fulfillment, high-level education, high-level IT skill such as open source solutions, reduce bureaucracy, and many more. Helsinki wants to become the city with the best use of digitalization. Furthermore, sustainable growth is one of the most important goals for Helsinki. This includes gender equality, preventing segregation, support, finding the people a well-fitted job and encourage entrepreneurship. (City of Helsinki, 2017, pp. 3–4, 6–8)

These goals can be reached by developing suitable services, collaborations, and cooperations. The city is developing services with regards to accessibility as a service, digitalization, AI, and robotization. The residents carry an active role in that endeavor. Furthermore, Helsinki is aiming to be a one-stop-shop solution. Moreover, they are investing in collaboration, partnerships between enterprises, the third sector, institutes of higher education, and various actors to improve education. The objective is to create new ecosystems. Businesswise, Helsinki wants to become Finland’s most lucrative city for companies. Furthermore, Helsinki is opting to make everything more accessible such as maritime areas, public transportation, connections between the city and neighborhoods. Internationally, Helsinki is concentrating on digitalization and fighting climate change. (City of Helsinki, 2017, pp. 8–12, 14)

To sum up, Helsinki aims to make its city more accessible from all aspects presented. Thanks to digitalization and the open data concept they are on a good path, considering sustainability in every aspect.

When comparing the Smart City definition from Caragliu et al. (2011, p. 6) with the Helsinki City Strategy, the author is confident to say that Helsinki is following the Smart City principles. This can be evaluated as followed: involving the residents in all their decisions and projects and offering free

high-level education, the city is investing in Social and Human Capital. Furthermore, it triggers the collaboration and cooperation factors by involving many stakeholders in a venture. By developing Mobility as a Service, transport and ICT are connected sustainably. (City of Helsinki, 2017, pp. 3–14)

## 5.2 Helsinki Marketing Ltd.

Helsinki Marketing Ltd., former Visit Helsinki, is a city-owned company. Since April 2017, they expanded their scope of operations and consequently changed their name into Helsinki Marketing. They are in charge of operative city marketing and business partnerships. Their main focus is on marketing activities concerning e.g. tourism or congresses, application procedures for e.g. congresses and tourist information services. Helsinki Marketing target group are not only international tourists but also locals, decision-makers and experts. There is a close exchange between the departments and units of the City of Helsinki. Their stakeholders are involved in their doings, and together they want to create new things. (Helsinki Marketing, n.d.)

## 5.3 Tourism Roadmap of the City of Helsinki

The Helsinki City Strategy allows the Tourism Roadmap to focus on the following goals: when it comes to attracting business travel and conferences, the city is actively monitoring the incoming business and leisure travelers to get a better insight on which target group they want to attract. Furthermore, they are marketing the city as a conference location by promoting new events and suitable hotel investments. (Helsinki City Executive Office, 2018, p. 15)

To improve and enlarge the digital tourism ecosystem, Helsinki has decided to focus on two main focal points. Firstly, they will closely collaborate with Business Finland, connecting and assisting buyers and investors, to create new business opportunities such as in digitalization, AI, Mobility as a Service (MaaS). Secondly, Helsinki is supporting local companies when it comes to quality assurance and digital solutions. (Helsinki City Executive Office, 2018, p. 17)

By opening up more and more datasets and interfaces, tourism related research can be realized. For that matter, Helsinki is going to collaborate closely with Business Finland and the Urban Research and Statistics Unit of the city. (Helsinki City Executive Office, 2018, p. 19)

Tourism sustainability is divided into three categories which are ecological, socio-cultural and economic sustainability. To become a sustainable Tourism Destination, Helsinki is working on new collaboration and cooperations between actors such as Business Finland, Digital Tourism

Think Tank, European Cities Marketing, schools, Urban Development Division and the tourism industry. (Helsinki City Executive Office, 2018, p. 21) Furthermore, Helsinki is pushing that tourists visit different parts of the city to balance tourism and support of all local business (City of Helsinki, 2018b).

For big events or conferences, Helsinki needs new suitable accommodations. Hence, the Helsinki Business Hub will actively look for new investors. Furthermore, Helsinki is looking for accommodations to house larger events. Moreover, Helsinki wants to prioritize certain events of high interest when it comes to location reservations. The coordination of such events will be realized by one department. (Helsinki City Executive Office, 2018, pp. 23–25)

To sum up, Helsinki is aiming to find the most suitable tourist and business target group for their city. By improving the city's image through digitalization efforts, quality assurance of local companies, investments into new accommodations and event locations, collaboration and cooperation amongst stakeholders and partners the city is steadily becoming an STD.

#### 5.4 The City of Berne

The City of Berne has introduced the Digitalization Strategy 2021 and the Bern Strategy 2020. In this part the author will summarize the two strategies.

The Bern Strategy 2020 was published in 2009 and strives to build an attractive, modern administration and business city. This objective can be reached by building new and affordable housing options for all generations, renovating old buildings, offering affordable and customized daycare options, equal education opportunities to everyone, and focusing on promoting top-class sport. Furthermore, the city is introducing customer-oriented administrative services to set the course towards Smart City. They are aiming to link information-systems from the administrative, economic, health care, energy, and mobility systems together. The cooperation and collaboration between all parties such as media, administration, lobbies, embassies, the private sector is strengthened. Berne wants to become a culture factory for events in culture, society, and sports. Furthermore, Berne wants to secure jobs by connecting research and business. Finally, Berne is promoting green energy by establishing collaborations with Bernese research institutes and implementing new energy standards in new housing projects. (Gemeinderat Stadt Bern, 2009, pp. 1, 5–12, 14)

The Digitalization Strategy of the City of Berne should reach the five following goals by 2021: build a legal basis for the implementation of digital services, realization of mobile applications, expand the basic-

infrastructure for digital services, enable interaction via digital channels, digitalization of public processes (Informatiklenkungsausschuss der Stadt Bern, 2018, p. 7). This would be a first step to digitalize processes which eventually tourists can benefit from. By joining those two strategies Berne is aiming towards a Smart City that will grow to become an STD.

## 5.5 Tourism Strategy of the City of Berne

The Tourism Strategy of the City of Berne is not public. According to Nunes (2019) it is built independently but in sync with the City Strategy.

The holding organization Berne Welcome was founded in summer 2017 and considers itself an organization with a pioneer character. Within this holding are hotel associations, gastronomy, and tourism organizations. The overall goal is to connect these companies to profit from synergies, closer collaboration and cooperation and to present itself as one strong unit. (Persoenlich.com, 2019)

## 6 COMPARISON OF THE TWO CITIES

This chapter introduces the products and services from the City of Helsinki and the City of Berne and shows a correlation between the offered products and their strategies. Furthermore, it introduces the comparison criteria and how they were defined.

### 6.1 Products and Services

Helsinki has 50 projects, services, and products listed on the Internet and the European Capital of Smart Tourism Application from Helsinki (2018b). Berne, on the other hand, shows 49 projects, services, and products publicly available on the Internet. The author has assigned each project, service, or product to one of the four pillars from the European Capital of Smart Tourism Initiative (European Commission, n.d.-a, pp. 7–8). As mentioned in the City Strategy and the Tourism Roadmap, Helsinki is aiming to a barrier-free Tourism Experience supported by digitalization and sustainable tourism. In Appendix 3-6 all gathered products and services are presented. Berne is aiming to be an attractive, modern administration and business city by improving the cooperation and collaboration between all stakeholders and promoting green energy. This way, they are setting a course towards becoming a Smart City. The product catalog from Berne can be found in Appendix 7-10.

Figure 6 shows the distribution of products and services as per the four pillars. Berne is heavily investing in Creativity and Cultural Heritage and less so in the rest of the Smart City. On the other hand, Helsinki is balanced when it comes to the four categories. It seems that they are investing in all the aspects and offer besides Creativity and Cultural Heritage more products than Berne. The content of the two strategies is well reflected in the radar diagram as Helsinki already has a functioning Smart City and is now aiming to be the “Most Functional City in the World” whereas Berne is setting course towards being a Smart City but with a focus on tourism relevant parts (spike on Creativity and Cultural Heritage).

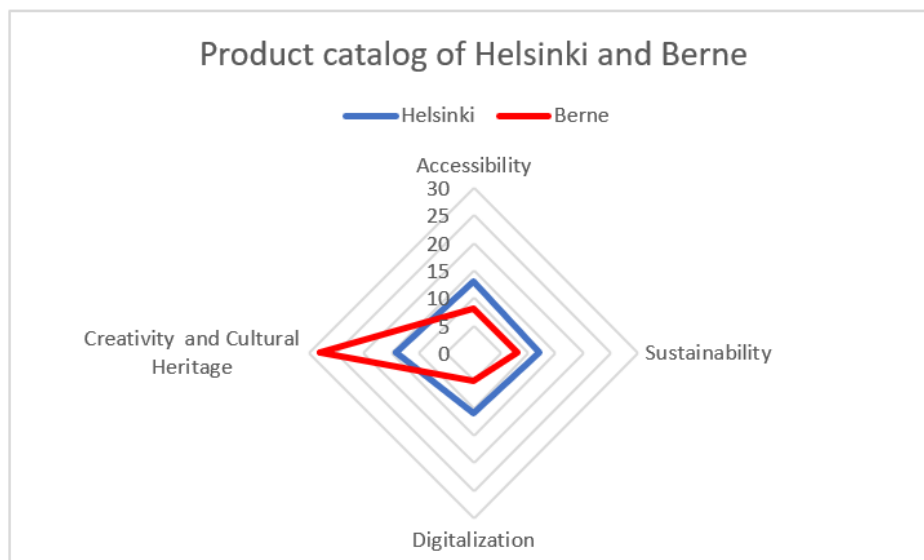


Figure 6: Product catalog of Helsinki and Berne

## 6.2 Smart Tourism Destination Framework

The comparison is built on the following eleven criteria based on the four dimensions of the model from Boes et al. (2015, p. 400) The criteria are stated in Table 6.

Table 6: Eleven comparison criteria

Ellipsis	Criteria
Leadership	Tourism Roadmap and Strategy
	Sustainable Tourism Program
	Role of the city in the context of Tourism
Tourism Competitiveness	Communication between the stakeholders and citizens
	Tools to incentivize or motivate companies to be innovative
	Future plans
Six A's of Tourism	Product Development
	Innovation Process
	Tourism Information
Tourism Experience	Quality Assurance
	Open Data

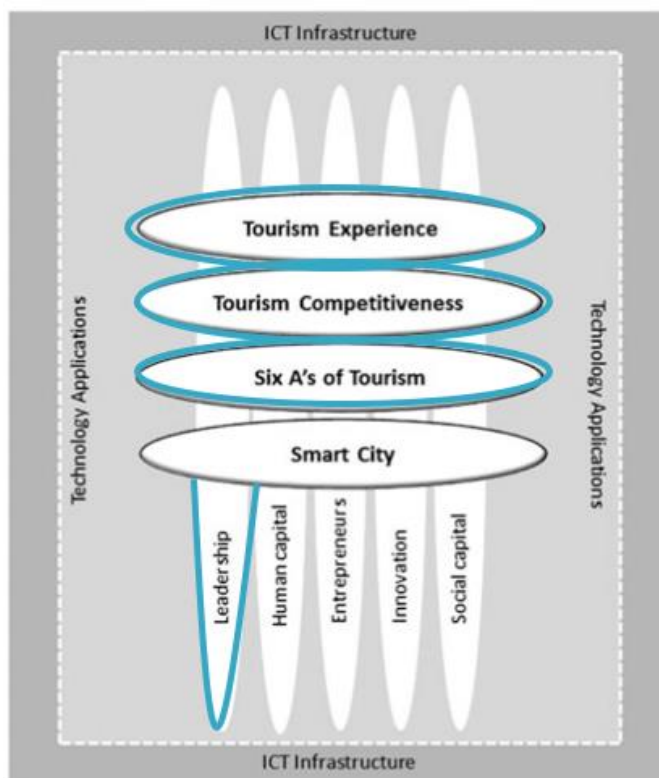


Figure 7: Dimensions addressed in the comparison (edited from Boes et al., 2015, p. 400)

To build up a functioning STD the three elements Tourism Experience, Tourism Competitiveness and the Six A's of Tourism are fundamental. In addition, the capability Leadership is crucial to building functioning headquarters and driving the other three dimensions. Each ellipsis is discussed in a subchapter, a brief comparison is done and a conclusion is drawn. Each topic will be detailed and compared with the model from Boes et al. (2015, p. 400) in the chapter discussion. The other dimensions such as ICT are relevant for all the four ellipses and will be addressed within each subchapter.

### 6.3 Leadership

The subchapter leadership discusses the topics Tourism Roadmap and Strategy, Sustainable Tourism Program, and Role of the city in the context of Tourism. Table 7 to Table 9 presents an overview of the most important facts for the three mentioned criteria.

Table 7: Tourism Roadmap and Strategy

Helsinki	Berne
<ul style="list-style-type: none"> <li>– The Tourism Strategy is built on the City Strategy, well established</li> <li>– Stakeholders are not combined into a central organization</li> </ul>	<ul style="list-style-type: none"> <li>– The Tourism Strategy and City Strategy are independently structured but follow the same goals</li> <li>– The organization was founded 18 months ago</li> <li>– Hotel associations, gastronomy, and tourism organizations are consolidated into a holding organization</li> </ul>
<ul style="list-style-type: none"> <li>– Goal: become the best platform for companies and new innovations and create a sustainable tourism program</li> </ul>	<ul style="list-style-type: none"> <li>– Goal: Better and closer collaboration and cooperation with focus on tourism and leisure time</li> </ul>
<ul style="list-style-type: none"> <li>– Using AI for the analysis of tourism data</li> <li>– Focus on digitalization and online stores</li> </ul>	<ul style="list-style-type: none"> <li>– Profit from win-win situations and synergy effects of the different stakeholders</li> </ul>
<ul style="list-style-type: none"> <li>– The Tourism Strategy is public</li> </ul>	<ul style="list-style-type: none"> <li>– The Tourism Strategy is not public</li> </ul>

By looking at the overnight stay numbers from 2017, it makes sense that Helsinki is aiming to invest more in foreign leisure and business travelers and building new hotels as 38% of the foreign tourists in Finland visited Helsinki. In 2017, Finland recorded 17.3 Mio. overnight stays, 11.7 Mio. were Finnish guests and 5.6 Mio. foreigners. Hence, Helsinki is the most visited city in Finland. 22% of all overnight stays are booked for Helsinki, 55% of which are from international visitors. (Official Statistics of Finland (OSF): Accommodation statistics, n.d.) Consequently, it reflects their targeted goals for their Tourism Roadmap.

Berne is not considered to be the most visited city as only 2% of the overnight stays in 2017 were booked in Berne (Abteilung Aussenbeziehungen und Statistik, 2018). Swiss-wide, the total overnight stays were at 37.4 Mio, 55% from international visitors (Swiss Tourism Federation, 2018, p. 17). When it comes to the city of Berne, 0.7 Mio. overnight stays were recorded in 2017, 56% from abroad (Abteilung Aussenbeziehungen und Statistik, 2018). As Bern Welcome focuses on tourism and leisure time, they are also attracting Swiss tourists from other cantons (Nunes, 2019). Consequently, this can lead to a lower overnight stay rate as these tourists rather do one-day trips to Berne.



Table 8: Sustainable Tourism Program

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Develop together a Sustainable Tourism Program which can be adapted to any city</li> <li>– Goal: benchmark the cities and tourist regions</li> <li>– Cities are aiming at the same goal</li> <li>– Get benefits for everybody</li> </ul>	<ul style="list-style-type: none"> <li>– In Switzerland, every city acts independently as the whole country is decentralized</li> <li>– There are committees or organizations such as BE! Tourismus where collaboration and synergies are introduced</li> </ul>

As presented in the previous paragraph Helsinki is the most visited city in Finland. So, it makes sense to use Helsinki as a pilot area for the VisitFinland sustainable Finland program. While creating together a country-wide Sustainable Tourism Program, many rural areas can profit from each other's knowledge (Punamäki, 2019). On the other hand, Switzerland has a more federalist approach where each canton or municipality works on its own strategy. According to Nunes (2019), Switzerland is too decentralized focused where a Swiss-wide tourism strategy would not fit into the culture. There is a trend, however, towards creating synergies on a regional roadmap level, e.g. mountain valleys. In summary, the Finnish tourism strategy is centrally coordinated whereas the Swiss approach is decentralized.

Table 9: Role of the city in the context of Tourism

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Facilitator role and helps the companies to have a barrier-free way to innovation</li> </ul>	<ul style="list-style-type: none"> <li>– Creating own products and services which are presented in customer journeys</li> <li>– Exchange with stakeholders</li> <li>– Bern Welcome first checks what Berne has to offer, what are the needs of the citizens and guests and take it from there</li> <li>– Make sure that the products suit the citizens and the guests (the citizens and guests needs comes first)</li> <li>– Make a clear differentiation where we push products from 3<sup>rd</sup> parties and where we create own products</li> <li>– The approach to 3<sup>rd</sup> parties comes always from our side</li> <li>– Support local partners in digital matters so that the customer journey goes smoothly</li> </ul>

When it comes to the role of the two cities with regard to tourism, their focus lies in different aspects. Helsinki lets third parties develop their

products as they think the innovation is created by third parties and not by the city. Helsinki's focus is to offer a barrier-free way to innovation by making sure they can support third parties in any matter. (Punamäki, 2019) Berne chooses the opposite approach by managing the whole product development from Bern Welcome and supporting local partners in digital questions if needed (Nunes, 2019).

#### 6.4 Tourism Competitiveness

The subchapter Tourism Competitiveness will discuss the topics Communication between stakeholders and citizens, Tools to incentivize or motivate companies to be innovative, and Future Plans. Table 10 to Table 12 show an overview of the most important facts for the three mentioned criteria.

Table 10: Communication between stakeholders and citizens

Helsinki	Berne
<ul style="list-style-type: none"> <li>- Helsingintekijät network meeting</li> <li>- Annual tourism seminar</li> <li>- Smaller events for stakeholders</li> <li>- Building up relationships with different cities within Finland</li> <li>-</li> </ul>	<ul style="list-style-type: none"> <li>- Meeting the people on the streets</li> <li>- Focus groups</li> <li>- Exchange with stakeholders</li> </ul>
<ul style="list-style-type: none"> <li>- Conduct a survey</li> </ul>	<ul style="list-style-type: none"> <li>- Market research</li> <li>- Christmas market project where all the stakeholders work closely together and have a common appearance</li> <li>- Getting a reaction by releasing the product at once</li> <li>- The political system provides feedback on whether population is satisfied with the work done by Bern Welcome</li> <li>- Social media feedbacks and email feedback</li> <li>- Feedback through the city of Berne as a stakeholder</li> <li>- The acceptance of the locals is of high importance</li> </ul>
	<ul style="list-style-type: none"> <li>- Data-driven: keen on our numbers and feedbacks from customers</li> </ul>
	<ul style="list-style-type: none"> <li>- For the event calendar, the stakeholders can add their events on their own</li> </ul>

When coming to communication between stakeholders and the city, Helsinki has set up several networking meetings, events, and seminars. From citizens, they get their feedback by conducting surveys. (Punamäki,

2019) Berne, on the other hand, is active on social platforms. They continuously analyze their needs and adapt the implementation plan on the go. Furthermore, they are data-driven, and the feedback from locals is their first priority. (Nunes, 2019) Consequently, Helsinki represents the facilitator role by co-organizing events while Berne manages all communication channels through Bern Welcome.

Table 11: Tools to incentivize or motivate companies to be innovative

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Offer the companies a good platform where they can create innovation</li> <li>– Make sure that all the obstacles for start-ups or self-employment are waved</li> <li>– Funding's from the government</li> </ul>	<ul style="list-style-type: none"> <li>– We approach 3<sup>rd</sup> parties if they fit into our customer journeys and have the needed quality, target group, and mindset</li> <li>– We mention suppliers, if they passed our quality check, in our customer journeys</li> </ul>

Helsinki pushes innovation by offering companies suitable platforms to be creative. Furthermore, there are several funding options available to support start-ups and new innovations. (Punamäki, 2019) Berne is giving its partners the option to collaborate if they meet their quality requirements (Nunes, 2019). Consequently, Helsinki lets the market manage quality by itself (self-regulation), whereas Berne motivates third parties to provide high-quality products.

Table 12: Future Plans

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Get high-quality tourism to Helsinki</li> <li>– Focus on digital services to support sales or research and data</li> <li>– Get a better insight into our tourists</li> </ul>	<ul style="list-style-type: none"> <li>– There will be an app and many more things</li> <li>– Working on many innovative products and services</li> <li>– Communication wise there will also be some changes</li> </ul>

Both cities are focusing on digitalization. Berne has its main focus on the app development and Helsinki on understanding their tourists better. (Nunes, 2019; Punamäki, 2019)

## 6.5 Six A's of Tourism

The subchapter Six A's of Tourism will discuss the topics Product Development, and Innovation Process. Table 13 and Table 14 display an overview of the most important facts for the two mentioned criteria.

Table 13: Product Development

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Products are created by 3<sup>rd</sup> parties</li> <li>– We think, innovation gets created elsewhere</li> </ul>	<ul style="list-style-type: none"> <li>– We create our own products</li> <li>– We create our own customer journeys and add suitable products and / or suppliers to it</li> <li>– Our products are built on facts and goals</li> <li>– The product must create added-value, be community-friendly, and customer-focused</li> <li>– We add products from 3<sup>rd</sup> parties into our storylines if they met our requirements</li> <li>– Include offers from the area Berne into the communication (native advertising)</li> </ul>

As already mentioned, Helsinki does not develop any products (Punamäki, 2019). Berne, on the other hand, creates customer journeys where they include third party offers if they meet the requirements or create own products and services. Their products must create added-value, be community-friendly and customer-focused. (Nunes, 2019) Consequently, Helsinki is leaving the product creation to third parties whereas Berne keeps it centralized.

Table 14: Innovation Process

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Helsinki Region Infoshare is opening up as many datasets as possible for companies to be innovative</li> <li>– City projects and systems which support innovation creation</li> <li>– Funds provided by the city</li> <li>– Platforms such as Maria01 or Slush</li> </ul>	<ul style="list-style-type: none"> <li>– Developing own products</li> <li>– Including already existing offers if it fits into our customer journey and meets our quality level</li> <li>– The exchange between other stakeholders where ideas are discussed</li> <li>– The approach comes always from our side and we have to define if we push already existing offer or if we develop own solutions</li> </ul>

Helsinki offers third parties' tools and support to strive for innovation such as open data, funding, platforms (Punamäki, 2019). Berne is creating innovation by developing own products based on market data, checking the current situation on the market and brainstorming and discussing with stakeholders (Nunes, 2019). Consequently, Helsinki leaves the innovation process to the market (self-regulation) whereas Berne is steering the whole process.

## 6.6 Tourism Experience

The subchapter Tourism Experience will discuss the topics Tourism Information, Quality Assurance, and Open Data. Table 15 to Table 17 presents an overview of the most important facts for the three mentioned criteria.

Table 15: Tourism Information

Helsinki	Berne
<p>Tourists on site:</p> <ul style="list-style-type: none"> <li>– Companies promote their products on their own</li> <li>– Marketing channels such as Helsinki Marketing Ltd. (tourist information or MyHelsinki.fi)</li> <li>– Helsinki Helpers during summer time</li> </ul> <p>Tourists planning a trip to Helsinki:</p> <ul style="list-style-type: none"> <li>– No paid advertising (only earned media)</li> <li>– PR campaigns for e.g. Amos Rex opening</li> <li>– Invitation to traditional media, bloggers</li> <li>– Cooperation with international PR agencies worldwide</li> <li>– Digital channels</li> <li>– 3rd party member using the Helsinki APIs to create new products and promote indirectly Helsinki (e.g. WeChat MyHelsinki mini-program)</li> </ul>	<ul style="list-style-type: none"> <li>– Google as the main source</li> <li>– Social Media</li> <li>– Our community is powerful</li> <li>– Web trafficking und Engagement</li> <li>– Brands such as Bern.com and #ilovebern</li> <li>– Being present on platforms such as loisir.ch</li> <li>– Maintain email lists</li> <li>– Word of mouth</li> <li>– Sometimes even YouTube commercials</li> <li>– The tourist information in the city</li> </ul>

In Helsinki, the tourists get the product and service information mainly through marketing channels such as Helsinki Marketing Ltd. Helsinki Marketing Ltd. is in charge of tourist information and MyHelsinki.fi. Furthermore, the tourist receives information through PR campaigns, earned media and from third parties which have created the product or services (Punamäki, 2019). Berne uses Google as the primary source, builds its own brands and is present on various platforms (Nunes, 2019). Consequently, Berne is focusing on building an own brand with many products and services whereas Helsinki is leaving branding to third parties.

Table 16: Quality Assurance

Helsinki	Berne
<ul style="list-style-type: none"> <li>– Quality check on the incoming content of MyHelsinki.fi</li> <li>– Products created by 3<sup>rd</sup> parties there is no quality check by us</li> </ul>	<ul style="list-style-type: none"> <li>– We are very hands-on and very selective if it comes to partners as the quality has to be top-notch</li> <li>– If companies add events to the calendar, there is a quality check</li> </ul>

Helsinki does quality assurance for incoming content through the API of MyHelsinki.fi as it is managed by Helsinki Marketing whereas they leave the quality check for the actual product to the third party (Punamäki, 2019). Berne on the other side, checks and manages the quality from every angle as they want to secure a satisfying customer journey which can only be accomplished by a certain level of quality (Nunes, 2019).

Table 17: Open Data

Helsinki	Berne
<ul style="list-style-type: none"> <li>– MyHelsinki.fi provides an interface for local companies to add content</li> <li>– Helsinki Marketing is responsible for the API of MyHelsinki.fi and promoting it</li> <li>– Helsinki Region Infoshare is in charge of opening new datasets and promoting it</li> </ul>	<ul style="list-style-type: none"> <li>– Our focus is currently elsewhere</li> </ul>

When it comes to digitalization and Open Data, Helsinki is offering a comprehensive platform, while Berne has its current focus elsewhere (Nunes, 2019; Punamäki, 2019).

## 7 DISCUSSION

The comparison has shown that the two cities are focusing on different topics and following different approaches. As mentioned in the previous chapter, the discussion is built on the four ellipses Leadership, Tourism Competitiveness, Six A's of Tourism, and Tourism Experience.

### 7.1 Building tourism headquarters

Helsinki has built its Tourism Strategy on the City Strategy with the Tourism headquarters providing a clear direction for the future. By aiming to become "The Most Functional City in the World", the objectives are set to the facilitation of sustainable accessibility (City of Helsinki, 2017, pp. 1–14). This goal is supported by Digitalization, Human- and Social Capital which leads to great innovation through entrepreneurial assistance. According to Boes et al. (2015, p. 396), Helsinki is following the bottom-up leadership approach. This makes sense as Helsinki is acting as facilitator and leaving the innovation and product creation part to third parties. They are making sure that all stakeholders have a barrier-free way to focus on their products and new innovations. The city has set up different departments which support companies in, e.g. legal matters, giving them a hand in starting a new company or offering them fundings. Furthermore, Helsinki is providing platforms such as Slush and communities such as Maria01 where innovation and partnerships can be created. By opening up new datasets through Helsinki Region Infoshare, transparency is increased and new innovative ideas are triggered. Helsinki aims to become the best platform for innovation and new companies. (Punamäki, 2019) Lukens (2016) and Deschamps (2017) argue that the top-down approach is driven by a strong vision but not the bottom-up approach. This is clearly not the case in the example of Helsinki. This statement gets support by Lukens (2016) as both models have their advantages depending on the city's goal.

Berne is living more a top-down approach with a process-driven matrix organization and strategical decisions made at the top-level. Their organization combines stakeholders with the goal of triggering closer cooperation and collaboration. This leads to better product development as every party is using the same tools and following the same processes. Furthermore, they make sure that the city strategy and the tourism strategy follow the same goals and profit from the synergies and win-win situations generated by all the stakeholders. Moreover, Berne has the lead on every new product or service and the innovative part which will then be presented in customer journeys. The product development is centralized. They select or approach the partners they want to work with and control quality assurance. Furthermore, they offer help to local companies with regards to digital matters. The most important thing for Berne is to satisfy locals and stakeholders as without a supportive

community, they'd lose the goodwill of the public. Their focus is not only on tourism but also on leisure time offers for locals. (Nunes, 2019). By involving citizens and establishing communities important Human and Social Capital is created and coordinated by the Leadership function of the city. While the Berne organization is relatively young and still in forming the holding organization has already created a lot of Human and Social Capital, triggering innovation through closer collaboration and cooperation.

Another aspect of Leadership is the development of a country-wide Sustainable Tourism Program. Helsinki is aiming to be a pilot area for VisitFinland, the sustainable Finland program. They are working on it together with Business Finland. The overall goal of that project is to develop a Sustainable Tourism Program together, which can be adapted to any city or tourism region in Finland. This way benchmarking and measurements can be done and the cities and tourist regions can profit from each other. (Punamäki, 2019) Switzerland is more organized in a decentralized way which is on a cantonal and a municipality level. Aiming for a Swiss-wide strategy would not fit into the Swiss federalistic approach. However, Switzerland has committees such as BE! Tourismus which support collaboration, profiting synergies on a regional level. (Nunes, 2019)

To sum up, both cities have headquarters or several contact points where the coordination is guaranteed. This comparison further supports Boes et al. (2015, p. 396) and Manville et al. (2014, p. 87) research.

## 7.2 Attract visitors

Besides functioning headquarters, there is Tourism Competitiveness and Tourism Experience needed to get the tourist to the cities and to let them depart with a good Tourist Experience. The Tourism Experience is supported by the 6A's of Tourism.

It can be said that both cities have a lot of comparative advantages. Berne is a UNESCO World Heritage City, located in the middle of Europe and easily accessible by plane, train or car. Furthermore, it offers nearby situated skiing resorts, which can be reached within one hour. It would be an ideal day trip. Moreover, Berne also offers many spring, summer, and fall activities. At the same time, we have Helsinki with the Fortress of Suomenlinna which is also a UNESCO World Heritage Centre. Helsinki offers many nature adventures with their thousand islands and archipelagos situated around Helsinki. With the climate strategies of both cities, they are also making sure that the physiography, culture and history is long lasting (City of Helsinki, 2018a, pp. 1–25; Stadt Bern, 2015, pp. 1–65).



Berne offers a free Bern Ticket where tourists staying at a hotel in Berne can use public transportation within the city for free. On their website, they are also introducing other transportation options such as bike-sharing. It gives the tourist the option to choose the transportation choice he fancies the most. (Bern Welcome, n.d.-b) With the Bern Ticket, the city is offering a free option to explore Berne, its historical sites such as the Zytglogge tower or the old part of the town, and its neighborhoods. Berne leaves the tourists the freedom to choose how they want to explore Berne. The Bern Welcome website offers a variety of accommodation and eating and drinking options (Bern Welcome, n.d.-d).

In Helsinki, the tourist only needs one ticket for the whole public transportation system in the city. Furthermore, with the Reittiopas they can tailor the trip to their needs (HSL, 2017). On the MyHelsinki.fi webpage the tourists get the opportunity to put together their own trip, by choosing the perfect accommodation, suitable dining places, and sights they would like to visit (#myhelsinki, n.d.).

Both cities have developed competitive advantages by interacting with the public and letting them decide what tourist attractions or what changes are welcome. Berne is using multiple approaches when engaging with stakeholders. First, they verify what kind of information they need. They can approach stakeholders directly with focus groups, on the street or indirectly by checking social media, trends, and email feedbacks. Furthermore, feedback through the political system provides further insights on whether the population is satisfied with the work done by Bern Welcome. Another approach is by quickly releasing a product and let the public participate in its improvement. One important statement is that citizens always come first. An example of stakeholder engagements was when Bern Welcome conducted market research for the annual Christmas Market. In Berne, there are several small Christmas Markets during the advent season. The idea was to make the stakeholders work closely together by having them create their own label and a joint appearance. In this matter, Bern Welcome conducted citizen street surveys to get an idea of how the residents liked this approach. Berne is proactively making sure that new tourists' attractions are accepted or even appreciated by the public as the goodwill of the public, the community, and the stakeholders is important. (Nunes, 2019) When it comes to getting partners in the same boat, Berne is doing the opposite as Helsinki by approaching the partners if they have a suitable product which meets the quality, target group, and mindset.

Helsinki wants to offer a good platform for new companies or new innovation by helping them remove the barriers as they believe that innovation is not created by the city but by the companies. Helsinki organizes events, seminars and network events such as Helsingintekijät network. Furthermore, they address the citizens, e.g. with surveys on tourism development. Helsinki also offers companies help when they are

facing government-related problems such as legislation issues. Moreover, there is a department making sure that there is enough funding, business development projects and systems so that the companies can create innovation. There is the start-up community called Maria01 where start-ups can network and rent affordable space. Furthermore, there are start-up events such as Slush where investors and entrepreneurs can meet and greet and build up a worldwide community. (Punamäki, 2019)

Berne is heavily investing in getting more congresses, events and incentive travel to Berne by offering the organizers help in finding a location and arranging an all-round experience in Berne (Bern Welcome, n.d.-c; Der Bund, 2017). Helsinki is investing in building new accommodation and location options for events. Furthermore, the city is profoundly looking to get more congresses and events to the city. Helsinki is already hosting some big events such as Slush, Design Week or Flow (City of Helsinki, 2018b).

With regard to ICT, Helsinki is investing in using AI for further tourism data analysis (Punamäki, 2019). As mentioned earlier, the API on MyHelsinki.fi website and the datasets provided by Helsinki Region Infoshare are heavily built on the city's ICT infrastructure. Another example would be the networking events or the innovation start-up communities which also rely on a working ICT infrastructure. The City of Berne does not provide much ICT support but depends on third parties such as the transport companies SBB ([www.sbb.ch](http://www.sbb.ch)) or BLS (lezzgo app).

Berne's future plans are based on an app solution which will also lead to an ICT and digitalization move. Moreover, they are working on many new innovative products and services as well as new communication approaches as the company wants to build its processes in a natural way. (Nunes, 2019) The future journey is leading Helsinki to focus more on high-quality tourism, digital services to support sales, research, and data. They are aiming to get a better insight into their tourists. Furthermore, they want to invest in better hotel options and improve mobility options for tourists. (Punamäki, 2019)

Leaving the product and service development with the stakeholders, Helsinki offers them a great platform to create even better innovations. (Punamäki, 2019) Berne does it the other way around, by being strict when it comes to cooperation with partners, they make sure that they are increasing the level of quality which is resulting in a higher competition. As mentioned by Nunes (2019), many partners are seeking cooperation with Bern Welcome. The Berne approach, however, runs the risk of missing outside-the-box type products by not encouraging new competitors to enter the Berne tourism market and offer innovation.

To sum up, both cities have comparative and competitive advantages. The cities have a good foundation when it comes to resource endowments. It

can be said that Helsinki is more focused on digitalization as they leave the innovation part to the third parties. They have specialized their knowledge on datasets and APIs creating a unique differentiator in today's market. On the other hand, Berne is more focusing on the customer experience which of course includes ICT but not that heavily as in Helsinki.

### 7.3 Unforgettable stay

Once the city won the competition against other cities and the tourist has arrived at the Tourism Destination, it is important to offer them an unforgettable stay. This can be achieved by letting the consumers play an active role in co-creating their own experiences, involving technology and making sure that the cooperation between all the stakeholders is set. Hence, the cooperation between stakeholders such as service providers, governments and local communities is fundamental to offer the tourist an unforgettable experience (Buhalis & Amaranggana, 2015, p. 381), Wang et al. (2012). First of all, this can be reached by telling the tourist how they get the needed tourist information. In Berne, most of the tourists use Google to get the needed information. Bern Welcome is also present with their brand #ilovebern on Social Medias such as Facebook, Twitter, Instagram. Their community is very strong. They measure the web traffic and engagements to see what the tourists are looking for and take feedback very seriously. (Nunes, 2019) Also, there is a local tourist information office, where tourists can seek for help (Bern Welcome, n.d.-e).

In Helsinki, the local companies promote their products for tourists on site. Helsinki Marketing addresses tourist with their MyHelsinki.fi webpage or their tourist information. In summer time the Helsinki Helpers are on the streets supporting the visitors if needed. For tourists planning a trip to Helsinki, Helsinki Marketing is using earned media or PR campaigns. For important upcoming events, Helsinki is also present on digital channels. Thanks to the Open Data approach, third parties promote Helsinki as well such as with the WeChat MyHelsinki mini-program. (Punamäki, 2019)

By letting third parties promote the products in Helsinki, they achieve greater market penetration at the risk of less quality control. The customer journey approach used in Berne requires high data quality and hence a centralized information flow. As a result, the addressed target group is smaller.

An active Tourism Experience combines innovative products, ICT inputs, and an environment open for experience (Neuhofer et al., 2012). In Berne, tourists can participate in a guided tour or explore Berne on their own by choosing the iPod guided tour. Furthermore, the tourist can dive into a theme-based journey such as the river Aare and follow the stories, adventures, and sights which are all introduced on the website. For instance, the tourists can first read up about the history of the river Aare

and why it is so important to the locals, then get insight from locals via videos, read up what can be done in or on the Aare and check out the Aare rafting guide for their rafting trip (Bern Welcome, n.d.-a). The customer journey gives the tourists a perfect option to be a co-creator of their stay. Moreover, if the tourist might not be that adventurous or decisive when it comes to attractions or activities, the visitor can also follow the suggested 24h / 48h / 72h tour through Berne.

How does Bern Welcome approach the innovation process? They bundle the Tourism Experience into a customer journey by adding suitable products and services which fit the addressed topic. They use a pragmatic approach by checking the market for already existing suitable products and services which fit into the customer journey. If they match the requirements, they approach the supplier, otherwise they create own products and services. For Bern Welcome, it is of utmost importance that every solution is accepted by the community, stakeholders and especially by the citizens. Hence, they are hands-on when it comes to quality assurance as their main objective is that the product creates added-value, is community-friendly, and customer focused. Their products are always built on facts and a goal. (Nunes, 2019)

In Helsinki, tourist attractions or sights are not embedded in a customer journey, due to the third-party development approach. Helsinki tourists can profit from a design district with its museums, the new Amos Rex Museum, or even getting to know the city from home via the 3D map and explore archipelagos which would not be physically reachable (Amos Rex, n.d.; Helsinki Regional Infoshare, 2018; Punamäki, 2019). With involving digitalization into the Tourism Experience a new level of customer satisfaction can be reached. Helsinki Region Infoshare, is continuously opening new datasets to third parties so that new innovative products and services can be developed. The Virtual Reality (VR) experience in the National Museum gives the visitor the feeling of being back in 1863 and speaking to the emperor Alexander (Hills-Duty, 2018). MyHelsinki.fi provided by Helsinki Marketing is offering an API for companies to upload content. These are just two examples of how Open Data is used in Helsinki.

In regards to quality assurance, Helsinki Marketing is checking the content coming in through MyHelsinki.fi but none of the products offered by third parties are checked by the city as they know the partners and trust their judgment (Punamäki, 2019).

As per Buhalis & Amaranggana (2015, p. 381), the focus should be on letting the customers create their own experience. Berne guides the customer with a customer journey. In Helsinki, the tourists can create a list on MyHelsinki.fi to plan their whole stay. The Berne approach is closer to the recommendation from Buhalis & Amaranggana (2015, p. 381). With respect to innovative ICT technologies such as the 3D models or VR

experience which supports the Tourism Experience, Helsinki is investing heavily.

The product catalog mapping shows that both cities are using the 6A's of tourism as they offer different kind of attractions and activities, have accessible transportation, accommodation and eating options, provide tourist information options, and several ancillary services.

## 8 RECOMMENDATION

The author's recommendations are based on the gathered literature, the framework, and the evaluation of the interviews.

### 8.1 Recommendation to the City of Helsinki

Literature has proven that Tourism Experience is based on letting the tourists create their own experience. Customer journeys which are used by Berne is one good example of letting the tourist dive into a fascinating adventure. MyHelsinki.fi webpage gives the tourist the option to create their own list, this is one approach which could lead to a customer journey as MyHelsinki.fi can be seen as a product catalog. Another approach is the WeChat MyHelsinki mini-program which offers Chinese customers (a specific target group) support in exploring the city. However, there is the overall story or story line missing as Helsinki is offering many single products to customers but there is no brand development. To improve this situation, it would be interesting to see how certain products can be connected and lead to an overall Tourist Experience and eventually to a new brand.

### 8.2 Recommendation to the City of Berne

The framework has shown that the factor ICT Applications and Technology Infrastructure is important to connect all the areas of the model. Hence, an investment in ICT infrastructure would be a first step into becoming an STD. According to Nunes (2019), Bern Welcome is working on many new products and services as well as an app. So, there is a certain level of investment in ICT.

If Berne wants to become a Smart City, a cooperation between all the stakeholders and the City of Berne is needed. The overview of the product catalog has shown that Bern Welcome is a pioneer when it comes to the topic smart, as they alone are setting up more products and services than the rest of the city. Hence, they could act as starting point to bring Smart functions to other organizations within the city (e.g. Open Data APIs). VR services could be used to enhance the customer journey.

## 9 CONCLUSION AND PROSPECTS

The evaluation has proven that there is not one right way on how to become an STD. The most important factors are to have a tourist headquarters in place where all the projects and processes get managed and channeled. It does not matter if the role of the headquarters is to be a facilitator or a hands-on leader, i.e. if the top-down or bottom-up leadership approach is used.

To become a successful STD all the dimensions presented in the model from Boes et al. (2015, p. 400) have to be applied. However, the city can choose where to lay its focus as it depends on the culture and mentality of the society. Nonetheless, the city has to make sure that there is a balance between Social and Human Capital with regard to Technology Application and ICT Infrastructure as only the connection and collaboration between the dimensions lead to a successful STD. The analysis has shown that the cities can have different relationships with their stakeholders. It is more important that the stakeholders and the citizens are involved in the STD process as it is fundamental that the residents accept the city's plans. Innovation or creativity can be triggered by either offering the innovators a platform where ideas can be developed or by monitoring the current market situation and see what needs must be met.

By applying all the dimensions and connect them with each other there is a potential to become an STD. Furthermore, a good eco-system should be in place. The capability Entrepreneurship was not analyzed in detail as it was not the main scope of the interview evaluation. Hence, this capability could be further examined in a future paper.

The author was able to respond to all three research questions. Both cities, Helsinki and Berne, provide working examples of headquarter functions and each city provides its individual approach to stakeholder management showing that many different ways can lead to the same result. Finally, both cities exhibit similar capabilities to address their critical success factors. However, two examples to validate the model from Boes et al. (2015, p. 400) are not enough. Therefore, the author suggests expanding the research to further cities using both the product model approach as well as the interview questions developed in that thesis. With more proof points it will be possible to qualify the best practices in the IT strategy selection.

As the City of Berne is steadily developing smart services it is difficult to assess the absence of digitalization in Berne as the needed services are mainly basic Smart City infrastructures. Hence, the author of this paper recommends conducting another comparison when Berne has established itself as Smart City. This way, all the needed infrastructure, especially when it comes to digitalization, will have been set up.

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## **INTERVIEWS**

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Nunes, G. (2019). Online Marketing Manager, Bern Welcome. interview 8 February 2019.

## INTERVIEW QUESTIONS FOR HELSINKI

How does the tourist get the information about the offered services (e.g. products, apps, etc.)?

Who is responsible for open data and who drives its development?

What are your thoughts on creating innovation? Is this a role of the city and have you defined a process for it? Alternatively, do you provide a basic infrastructure and let third parties do innovation on their own?

While analyzing the Tourism Roadmap I saw that Helsinki has the following roles:

- Helsinki will actively monitor and attract the right target groups and potential actors
- Helsinki will actively market and sell the city as a conference location
- Helsinki will be an active actor that collaborates closely with Business Finland
- Education, support, and presenting new solutions
- Helsinki will provide distinct resources for statistics and research and collaborate closely between Business Finland and the Urban Research and Statistics Unit of the city
- Creating and projectising a sustainable tourism programme and initiating related collaboration
- The Economic Development Division will lead the coordination project where tourism and events have a central role
- Helsinki will identify the collaboration models that benefit it and work to advance them.

Are those processes already implemented? If so, can you please tell me a bit more about it?

How does Helsinki connect with other stakeholders, entrepreneurs, NPO, citizens for any new idea? How do you involve them?

How is the city involved if it comes to APIs for the open data coming from companies such as HSL etc.?

Does the City of Helsinki do quality assurance of the Smart Tourism/Tourism products to protect its brand? If yes how?

What tools do you provide to incentivize or motivate companies to bring ideas in or do you fund them?

What Smart Tourism products are on your roadmap in the future?

## INTERVIEW QUESTIONS FOR BERNE

Sie erwähnten eine Reorganisation der Unternehmung. Bedeutet dies, dass die Bern Welcome Webseite und ihren Inhalt vor zwei Jahren erstellt wurde?

In Helsinki ist die Smart City Strategie die Auslegung für die Tourismusstrategie. Welcher Strategie folgen Sie in Bern?

Ich sehe zwei mögliche Arten, Innovation aufzubauen. Im ersten Modell wird die Innovation von der Stadt Bern gesteuert. Im zweiten Modell gibt die Stadt Bern Informationen und Dritte entwickeln unabhängig. Wie sind die Prozesse in Bern?

In Helsinki ist die Einbindung der Bürger mittlerweile ein "Selbstläufer", für alle Erneuerungen werden die Bürger zuerst konsultiert. Wie funktioniert dies in Bern bei der Produktentwicklung? Wie binden Sie die Bürger ein?

In Bern ist die Produkteentwicklung sehr zentral bei euch. Wie steht ihr zum Qualitätscheck und der Rückmeldung der Kunden?

Wie nehmen Sie Kontakt mit den Stakeholdern (z.B. App-Lieferanten, Produkteentwickler, Drittanbieter,...) auf und wie kommunizieren Sie mit ihnen?

Wie verläuft die Zusammenarbeit mit den Stakeholdern? Motivieren Sie sie neue Produkte zu entwickeln indem Sie ihnen z.B. ein Budget zur Verfügung stellen oder kommen Drittparteien auf Sie zu?

Arbeitet ihr auch mit anderen Städten zusammen? In Finnland wollen sie ein Finnlandweites Tourismuskonzept entwickeln. Gilt dies auch für die Schweiz?

Benutzen Sie schon Open Government Data für die Entwicklung von Projekten oder wird es von Ihren Partnern benutzt?

Wenn Sie Events auf Ihrer Webseite aufschalten, wie funktioniert die Kommunikation von den Anbietern zu Ihnen über diese Events? Haben Sie dafür einen Prozess?

Wie informieren sich die Gäste über Ihre Produkte?

Was für Zukunftspläne haben Sie?

## Appendix 3/1 (page 1)

## PRODUCT CATALOG CITY OF HELSINKI: ACCESSIBILITY

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist	Accessibility / Available Packages	Helsinki Helper	Helsinki Helpers are locals (mostly students) with profound language knowledge. The helpers are positioned in areas of the city (e.g. attractions) where tourists have the most questions, and they can immediately help them. This is one of the oldest services in Helsinki as it got introduced in 1994.	Free	1994 (annually from June 12 <sup>th</sup> till end of August)	giving young people a work opportunity	Duration of stay, seasonality, image	no	no
Citizen / Tourist	Accessibility	BlindSquare	This app helps blind and visually impaired people in any city by describing the environment, announcing points of interest and street intersections during their travel.	\$39.99	2012	blind and visually impaired people can travel on their own	Accessibility to all	yes	yes
Citizen / Tourist	Accessibility	City Service Map	What every kind of public service (e.g. grocery store, police station, etc.) you are looking for, the app will guide you to the closest one.	free	2008 / 2011	Make Helsinki more accessible	Accessibility for all target groups	yes	no
Citizen / Tourist	Accessibility	Helsinki for all (project)	Sensitize the citizens towards clear signaling	free	2010	Make Helsinki accessible for all	Everyone can move in Helsinki on its own	no	no
Citizen / Tourist	Accessibility	Airport App / Smart Watch app	Airport app which guides you around the airport, pre-book services and shorter line-ups.	Free	2015?	Improving customer experience	Reduce waiting, animate customers to consume more	yes	yes
Tourist	Accessibility	Tulka (Airport support)	Language interpreter via an app. If the airport staff and the tourists do not have a language in common, the app helps by connecting the airport staff with a translator for further support.	Free	Pilot in 2017		Customer satisfaction	yes	yes
Citizen / Tourist	Accessibility	Three-dimensional tactile maps	This map is for visual or hearing-impaired people (airport support). The 3D tactical map guides them through the airport. It also provides sign language.	Free	?	?	Accessibility to all	?	?



## Appendix 3/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / Tourist	Accessibility	Reittiopas (Route App)	With the Reittiopas app, the user can choose his public transport option (e.g. bus, streetcar, train, bicycle) which fits him the most. Furthermore, the user only needs one app for all the systems as it connects all public transportation routes and schedules. The first version of the app was introduced in 2017 but is constantly getting improved by HSL. The source code and interface are open to the public. Hence, any private or public person can develop new Mobility as a Service (MaaS) solutions.	Free	2017	Developed out of customer feedback	Accessibility, User-friendly, One app for all public transportation services	yes	yes
Citizen / Tourist	Accessibility	Helsinki city's route guide app	Helsinki Timetables is an app that provides current timetables for all public transports offered in the Helsinki area.	free	n/a	Easier for commuters, easier for tourists	Accessibility	yes	yes
Citizen / Tourist	Accessibility/ attraction	Uber boat	Uber boat which is called "BOUT" is a more convenient way to book a ride to an island.	Cost per minute	2018	Easier way to reach an island	New tourist attraction	yes	yes
Citizen / Tourist	Accessibility	Autonomous busses on open street	"Autonomous busses on open street" in Helsinki is a sub-project starting in about three. This bus currently operates between a regular Helsinki bus stop and a sports park 3 to 6 times a day during summer.	n/a	pilot 2018 fully operating in 2019	Testbed (platform) for innovation to develop self-driving busses for city traffic	Citizens use the public transport more, reduce carbon dioxide emissions, increase sustainable public transportation	no	no
Citizen / Tourist	Accessibility	Whim	Whim offers an all-in-one solution for tourists using transportation (e.g. public transportation, taxis, etc.) in a city	free for tourists	2017	One app to pay for all kind of transportation	user-friendly, easier and faster to pay	yes	yes
Tourist	Accessibility / Ancillary Services	AliPay	Payment method for Chinese customers which is a 3rd party online payment method	free	2018	Connect local businesses with Chinese customers	Attract more Chinese tourists	yes	yes

## PRODUCT CATALOG CITY OF HELSINKI: SUSTAINABILITY

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist	Attraction; Activities	Helsinki Road Map for Tourism	The goal of the new Roadmap is to make all Helsinki areas or neighborhoods attractive for tourists. This way, tourist streams will be balanced (no over-tourism). Furthermore, it aims to support local businesses and makes sure that locals are satisfied.	free	2018-2021	reduce over-tourism, balances the tourist flow, introduces tourists to new areas.	Balance the tourist flow	no	yes
Citizen / tourist	Attraction	Flow Event	Urban Music and art festival which is eco-friendly (EcoCompass certified)	ticket price	2004	Give the stage to new and emerging artists.	Attract a different target group to Helsinki	yes	?
Citizen / tourist	Attraction	Slush	The event provides a platform where entrepreneurs and investors can meet and get an opportunity to build a worldwide startup community. Slush is eco-certified. By internalizing the Slush event, Helsinki even offers a bigger platform to their startup companies to profit from.	ticket price	2008	Offer a platform where entrepreneurs and investors can meet	Show Helsinki from a different angle, let people create innovation	yes	yes
Citizen / tourist	Ancillary Services	Port of Helsinki	The port had 12.3 million passengers in 2017 and was the most used port worldwide. They want that all the ships release their wastewater at a port and there are several ways to reach that goal.	ticket price	2019	giving the vessels a discount if they are sustainable, being sustainable in regard to nature	Work against global warming	no	yes
Citizen / tourist	Ancillary Services	Smart & Clean Foundation	The Smart&Clean foundation (collaboration between city, citizens, and businesses) wants to solve climate change problems by turning Helsinki into a test bed for technology.	free	2021	Create new solutions for e.g. housing, food, energy production and emission reduction	↓full consumption, ↑ use of eco-labelled chemicals, ↑use of durable containers	no	yes
Citizen / tourist	Ancillary Services	Helsinki Adaptation Guidelines 2017-2025	Change the strategy to adapt to climate change.	n/a	2018	Slow down climate change as much as possible	Climate change adaption	no	no

## Appendix 4/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / tourist	Ancillary Services	EcoCompass	EcoCompass provides the user with tools and models to set up his or her environmental management system by following 10 criteria. This way companies can measure e.g. their waste management or energy management	n/a	2015	The city is motivating companies to be more sustainable by offering them discounts on rents when they run an EcoCompass event.	Sustainability	no	yes
Citizen / tourist	Ancillary Services	Carbon Neutrality by 2035	The Strategy defines Helsinki's climate goals.	n/a	2035	carbon neutral by 2035, reduce greenhouse gas emission by 60% from 1990-2030.	Sustainability	no	no
Citizen / tourist	Ancillary Services	Sustainable Events	The GDS-index measures the environmental, social, supplier and convention bureau performances. Helsinki was on sixth place globally speaking. (European Capital of Smart Tourism Application, 2018).	n/a	2014	Comparing sustainable strategies around the world to improve it	Improve the sustainability strategies of the countries and cities	no	yes
Citizen / tourist	Ancillary Services	The Greening Events project (2012-2014)	The Greening Events project is a joint venture which looks for ways of implementing environmental management at events in the metropolitan area. Furthermore, they introduced the concept of voluntary environmental work between cities and events.	n/a	2014	Sustainability and awareness of nature / climate change	Involving the public more into responsible behavior	?	no
Tourist	Amenities / Ancillary Services	Sustainable Hotels and Attractions	75% of hotels in Helsinki are environmentally friendly (certified), many others have an environmental plan set up in regard to water, food, cleaning.	Hotel room cost	?	Attract the tourists by offering a sustainable over-night solution	Attract more tourists	no	yes
Citizen / tourist	Attraction / Ancillary Services	Sustainable Attractions	Linnanmäki amusement park donates money to the child welfare work annually. 2017 the tourist information office was trained on responsible tourism.	entrance fee	?	Attract more tourists by showing their sustainable mindset	Attract more visitors	no	yes

## PRODUCT CATALOG CITY OF HELSINKI: DIGITALIZATION

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Developers	Ancillary Services	Maria01	The largest start-up community in the Nordics. It offers affordable space for ambitious tech startups.	n/a	2016	"Customers" can profit from the network platform and get in touch with the big players and develop new products and services which can also be used in the tourism sector.	Learn from each other, Grow from each other	no	yes
Developers	Ancillary Services	World's leading testbed for innovation (over 600 datasets)	Helsinki has provided public city data for anyone to use freely.	free	2009	Software developers get the opportunity to come up with new innovative stuff (especially for tourists)	Come up with new products for tourists	no	?
Citizens / Tourists	Attraction	Digital Tourist think tank Event	#DTTGlobal to Helsinki in 2018 is a best practice initiative which helps cities in digital tourism marketing.	Entrance fee	2018	Meet & greet, create ideas, be innovative and network	Develop new ideas	no	yes
Businesses	Ancillary Services	Direct data transmission for taxes	Direct data transmission for taxes (between business, tax administrator and agencies). Simplifying the tax process for companies	n/a	n/a	Make the tax return easier for all parties	Citizens satisfaction	no	no
Citizens / Tourists	Attraction	3D city model: semantic city information model	This 3D model collects all energy-related data so that the user can perform some analysis to see, e.g. how greenhouse gases affect the environment.	Free	2010	The models have been used e.g. in experiments in urban planning, explore destinations, archipelago which are not accessible otherwise	Tourist attraction New ideas	no	no
Citizens / Tourists	Attraction	3D city model: a visually high-quality reality mesh model	With the reality mesh model, you can make a visual trip to Helsinki of Summer 2015 and explore places which might be difficult to reach such as archipelagos, etc.	free	2010	The models have been used e.g. in experiments in urban planning, explore destinations, archipelago which are not accessible otherwise	Tourist attraction New ideas	no	no

## Appendix 5/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourists	Ancillary Services / Available Packages	WeChat MyHelsinki Mini-program	Helsinki developed together with Tencent, and Finnair the Helsinki WeChat mini-program for Chinese traveling independently. The program includes a guidebook with information about the current weather, a list of events, a brief introduction of each museum. Through the mini-program, the Chinese tourists can also do their tax refund or go on a self-guided tour of the city.	n/a	2018	This is a new approach on how to attract a specific target audience to the city, by customizing the products to their specific needs.	More Chinese tourists	yes	yes
Citizens / Tourists	Available Packages	Create a visual map and lists for your favorites place	MyHelsinki is your digital guidebook. You can create lists and share them. Furthermore, you can check out what locals are doing and what places they are recommending.	free	2017	Provide one unique platform where tourists find all the needed information. Make Helsinki more known internationally.	Tourists get the needed information in the same app	no. Website	no
Tourists	Attraction	Blue Project	The purpose of this project is to develop an open data AR / VR technology concept which can be used in any sector. The aim is to offer the tourists a new kind of experience.	free		Create new AR services for tourists by working with the right partners together, Let the Finnish tourism pioneer in AR and VR introduction to tourism.	Attract more tourist and show them things that they would not see with their bare eyes	?	?
Tourists	Attraction	Helsinki 2020 model	Visit Helsinki in the past, present, and future thanks to VR.	?	?	There is no need to travel to Helsinki if you can experience a city trip via VR. See Helsinki in the past, present and future. Give the tourist a better experience.	Experience Helsinki in a different way. E.g. See how Helsinki looked like 100 years ago, in the present or future.	?	?
Citizens / Tourists	Attraction	VR experience in the National museum	Get the feeling that you are in 1863 and speaking to the emperor Alexander.	Entrance fee	2018	Giving the visitor a feeling, they are back in 1863.	Visitor experience	no	no

## Appendix 6/1 (page 1)

## PRODUCT CATALOG CITY OF HELSINKI: CREATIVITY AND CULTURAL HERITAGE

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / Tourist	Attraction	Open Helsinki Theme	Was an annual event with 550 projects and 2,800 events. As an example, would be comfortable metro seats (well-designed metro seats) which were designed with the daily commuters.	n/a	2012 1-year event	The idea was giving the citizens tools/methods to develop their living environment to make it more functional and easier.	Improve social, cultural and economic life, changing the mind-set of the citizens	yes	no
Citizen / Tourist	Ancillary Services	UNSECO city of design	Helsinki wants to implement design-related activities such as design know-how (using design for city service development), design to accelerate corporate growth, utilizing design in international co-operation. Through the cooperation and newly gathered experience by utilizing design methods, open data and digitality, Helsinki creates newly adapted services which meets the needs of their residents and visitors.	n/a	2014	Improve the cooperation between the industries e.g. combine technology and design to create new and more international success stories	Create new services which meets the needs of the citizens and tourists	no	no
Citizen / Tourist	Amenities / Attraction	Alvar Aalto website	Website built around the architect Alvar Aalto where you can book tours, check opening-hours and directions, check out his eight sites in Helsinki and other places.	entrance fee	2018	Bring all the needed information together on one site	Customer satisfaction	no	yes
Citizen / Tourist	Attraction	Design areas in Helsinki	The Design District with boutiques, design shops, galleries, workshops, museums, restaurants etc. is located in the city center.	free	?	Feel the vibe of art and design	Tourist attraction	no	no
Citizen / Tourist	Attraction	Iittala & Arabia Design Center	Iittala & Arabia Design Center where you can interact with working artists and get the feeling of 130 year of brand making history.	entrance fee	?	Participate in a workshop or watch the designers how they create art	Tourist attraction	no	yes

## Appendix 6/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / Tourist	Ancillary Services	Chief Design Officer	As the first capital in the world, Helsinki appointed a Chief Design Officer	n/a	2016	Helsinki wants to utilize design knowledge and support experimentation culture.	New innovation as there is a person in charge	no	no
Citizen / Tourist	Attraction	Helsinki Design Week	Helsinki design week is about design in different fields. The locations are spread over the city and contain around 250 fashion, architecture and urban culture events. The organizers of the Helsinki Design Week work together with international partners	entrance fee	2005	Address locals and international people together to collaborate and offer the citizens a platform to develop new ideas		no	yes
Citizen / Tourist	Activity	Word Design Weeks	This is a network for design weeks around the world. Helsinki is one of the founders.	n/a		Support network for the design field and the fields using design. This way an eco-system in this field can be set up	Collaboration, creating new ideas	no	yes
Tourist	Attraction	Sustainable Tourism Strategy and Action Plan for 2015-2020	The Action Plan is about the preservation of Suomenlinna and sustainable tourism.	n/a	2015	The main idea is to preserve Suomenlinna for the coming decades and to make tourism long lasting		no	no
Tourist	Attraction	UNESCO World Heritage Europe Today 2016	UNESCO World Heritage Europe Today 2016 awarded the Sustainable Tourism Strategy of Suomenlinna as good practice strategy in day-to-day work on site management.	n/a	2016	Look after the nature of the city	Preservation of Suomenlinna for a Sustainable Tourist Experience	no	no
Citizen / Tourist	Activity	Löyly	Sauna at the sea side built out of wood. It is sustainable as its electricity is produced out of wind and water power. Furthermore, do they serve organic food.	entrance fee	2011	As public saunas are decreasing and the sauna culture is really important to Finns, they started with this project.	More saunas in the city to get back the feeling of a community	no	yes

## Appendix 6/3 (page 3)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / Tourist	Activity	Allas Sea Pool	A spa in the heart of Helsinki. It is made out of sustainable material and it collects energy from solar panels and has smart lighting. The public helped developing the program and activities.	entrance fee	?	Create together (all stakeholders) a sustainable and fun place to be.	Collaboration, building up a community, tourist attraction	no	yes
Citizen / Tourist	Attraction	Helsinki City Museum	The museum won the Special Commendation in the international European Museum of the Year as they cooperate seamlessly with citizens to make it a friendly learning environment for everyone.	free	2016	Including the citizens to the development of the exhibition		no	?
Citizen / Tourist	Attraction	Amos Rex Museum	Amos Rex is an art museum which brings old and new art together. There is a new underground exhibition area, the old Lasipalatsi, Bio Rex cinema, and an event forum. The exhibition space offers activities such as workshops for kids. In the movie theatre, the visitors can enjoy cross-disciplinary activities, numerous film festivals, and regular film screening.	entrance fee	2018	A place where art and urban culture fantasts feel at home	New tourist attraction	no	yes



## PRODUCT CATALOG CITY OF BERNE: ACCESSIBILITY

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizens / Tourists	Ancillary Services	Legislaturrichtlinien 2017–2020 (legislative directives 2017-2020)	These legislative directives include ten motions which are talking about strengthening the diversity of the population in all areas of life, ensure equal access to education, follow a sustainable approach when it comes to available resources, offers a diversity of living, creating additional public space for encounters, ensures the security of the public, co-determine, cooperation, and collaboration are important factors for city politicians, a good working network between the regions, cantons, and Swiss-wide, an offering of a suitable entertainment and infrastructure system, sustainable mobility for all	n/a	2020	Improve the life quality of the citizens and eventually offer a better tourism destination for tourists	collaboration between the stakeholders (city, citizens)	no	no
Citizens / Tourists	Accessibility	map.bern (public transportation app)	This is your mobile map of the city of Berne. It gives the citizens or tourists an overview of various topics such as where the attractions are located, where the nearest hotels are, etc. Furthermore, it provides citizens the opportunity to check if their apartment building is e.g. eco-friendly, how the heat supply and district heat supply	free	2001	Digital version of a map	improves accessibility and customer satisfaction	mobile version	?
Citizens / Tourists	Accessibility	ÖV plus	With this app, you can buy short-distance tickets, single tickets, daily tickets, and multi-ride tickets. You can buy several tickets at once on your device. Furthermore, the customer receives more details about transfers, map-based routing in real-time, door2door timetable, etc.	ticket price	2015	get your ticket at any time and any place	improves accessibility and customer satisfaction	yes	yes
Citizens / Tourists	Accessibility	PubliBike (bicycle rent service)	PubliBike is offering bike and e-bike rentals. To rent a bike, the user has to create an account. The bicycle gets unchained by using an RFID-card (e.g. SwissPass) or the app. There are several stations spread over the city of Berne. There is also an app available to facilitate the whole process.	rental costs	2018	Make Berne accessible by bike	A new way to explore the city conveniently and healthily.	yes	yes

## Appendix 7/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementati on date	Idea	Expected Benefits?	App?	3rd party service?
Citizens / Tourists	Accessibility	Smart Parking	They are talking about getting smart parking into the city. We will see when that comes....	n/a	?	n/a	N/a	N/a	N/a
Citizens / Tourists	Accessibility	Autonomous Shuttles	Currently, BernMobil is testing an autonomous shuttlebus. If the testing results positively and the Government (der Bund) accepts the shuttle, it will be introduced between the bear park and the Marzili.	ticket price	2018	better access to certain neighborhoods	More people are using public transportation	no	yes
Citizens	Accessibility	e-Umzug (eMovingCH)	When moving to a new place in Switzerland you have to register at the new municipality of your place of residence. This service is now available online.	ca. 20 CHF	2018	Increase availability of government services	a citizen can register at any time and any place	no	no
Tourist	Accessibility	Bern Ticket - free on public transport	While the visitor is staying in tourist accommodation in the city of Berne, he will receive a free public transportation (LIBERO) ticket for the city zones. This ticket offers a high level of flexibility and accessibility to the tourist.	free	?	Tourist explore Berne more as it is for free, the tourist crowds get balanced as they use public transportation to visit different sights.	Tourism gets spread to different sights, more tourists come to Berne	no	yes

## PRODUCT CATALOG CITY OF BERNE: SUSTAINABILITY

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizen / tourist	Attraction	Stadtgrün (früher Stadtgärtnerei)	To facilitate the management and monitoring of green areas, the employees use iPad where they can get or add new data. Furthermore, a tree cadaster is available online where the tourist or citizen can see the most important trees in the city. This project is one of a kind in Europe. (Brechtbühl, 2019; Stadtgrün Bern, n.d.)	?	n/a	Improve efficiency, a nice, tidy and green city makes a visit to Berne more enjoyable.	Offer the citizens and tourists a nice and green area	no	no
Citizen	Ancillary Services	Wärmeversorgung und Fernwärmenetz (Heat supply and district heating network)	On this site, you find interesting information on heat supply and on the district heating network, which supplies heat from the recycling center (waste incineration) to the city)	?	n/a	Awareness of natural resources	An overview on how the city of Berne is generating energy for heating.	no	no
Citizen	Ancillary Services	Abfall-App (garbage app)	Never forget the waste collection dates of your area. The app reminds you in advanced about an upcoming date.	free	n/a	Help citizens putting their garbage out on time	Reminder for citizens, garbage collection is more balanced	yes	no
Citizen / tourist	Ancillary Services	Smart city position at the Staatskanzlei	The city is talking about introducing a Smart City position	n/a	tbd			no	no
Citizen / tourist	Ancillary Services	mobility lab	Cooperation of Hawa Dawa, City of Berne, and Swiss Post want to connect the already existing environmental data with sensors to measure the air pollution.	free	2018	Measure air pollution more efficiently and precisely	increase efficiency and data accuracy	no	yes

## Appendix 8/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizens / tourists	Ancillary Services	Subers Bärn (clean Berne)	Within this project, they want to replace the public 35l garbage bins with 110l bins. Furthermore, they are sensitizing kids towards littering and resources	free	2013	prevent littering and preserve resources	less garbage on the streets, citizens have more sustainable and sensitive mindset towards resources.	no	no
Citizens / tourists	Ancillary Services	Energy and climate strategy of the City of Berne	Berne wants to reduce the heat consumption by 20% (in relation to 2008), increase renewal energy by 50%, cut fuel for public transportation by 30% (in relation to 2008), reduce CO2 emission by 50% (in relation to 2008), etc.	n/a	2015-2025	Be a part of the 2000-watt-society	increase citizens awareness towards energy consumption, make public transportation more attractive	no	no
Citizens / tourists	Attraction	FairTradeTown	Cities in Switzerland get awarded if they focus on sustainability, fair trade.	entrance fee	2017	If you make the citizens, companies (mainly all the stakeholders in your area) aware of fair trade, a mindset changing process gets provoked.	citizens are more aware of their consumer behavior, companies focus more on sustainability, fair trade and long-lasting solutions, Improve the cooperation/communication between the stakeholders.	no	yes

## PRODUCT CATALOG CITY OF BERNE: DIGITALIZATION

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Citizens	Ancillary Services	E-Government-Strategie der Stadt Bern 2013 bis 2016 (e-government strategy Berne)	Offer a customer-oriented time and place remote service for administrative matters.	depends on the service	2016	The citizen can deal with certain governmental matters at any time	customer satisfaction, facilitation of processes, saving costs	no	?
Citizens / Tourists	Ancillary Services	Open Government Data (OGD)	Provision of digital data for public administration which can be used by anyone. The aim is to develop new products and services which everyone can profit from. The City of Berne wants to support innovative companies and citizens by offering them step by step new datasets.	free	?	Any citizen or company gets access granted to governmental data to create new ideas	new products will be developed, improve transparency	no	?
Citizens / Tourists	Ancillary Services	Digitalstrategie Stadt Bern 2021 (Digitalization strategy City of Berne 2021)	The digitalization strategy is about citizens and efficiency. The main goals are: build a legal basis for the implementation of digital services, realization of mobile applications, expand the basic-infrastructure for digital services, the possibility of interaction via digital channels, digitalization of public processes"	free	2021	Build up a good foundation for future ICT related projects	digitalization of the city, leaner processes	no	?
Citizens	Ancillary Services	Onlineportal Ki-Tax	This is a portal where you can request family benefits.	free	?	The citizen can deal with matter at any time and place	improve user-oriented service	no	?
Citizens	Ancillary Services	Ausbildung (education)	To introduce digitalization in the working environment, the government is going to educate their employees by sending them to leadership and digital HR seminars.	seminar costs	n/a	Prepare the employees for the future	improve human capital	no	yes

## PRODUCT CATALOG CITY OF BERNE: CREATIVITY AND CULTURAL HERITAGE

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist / citizens	Available Packages	Bern Welcome Webpage	Bern Welcome is a website where you can find all the needed information about the City of Berne and its activities	free	?	One webpage where you find all needed information about Berne and its touristy sites	attract more tourists to Berne	no	no
Tourist / citizens	Available Packages	Events	When browsing through Bern Welcome website, the tourist can see at one glance which upcoming events are interesting and which are not. This way, the tourist can profit from a selection of fancy and hit events. Each event is directly connected to the providers' website and gives directions to the event location.	entrance fee	?	See all events at one glance.	attract more tourists to Berne	no	no
Tourist / citizens	Available Packages	Top Events	Bern Welcome defined certain events as Top Events as they might attract and interest more people.	entrance fee	?	See all the top-notch event at one glance.	attract more tourists to Berne	no	no
Tourist / citizens	Available Packages / Attraction	Webcam	On the website, you can find all the Webcams located in Berne.	free	?	See the current weather situation of the area.	attract more tourists to certain areas of Bern, this way the tourist can plan his or her day according to the weather	no	no
Tourist / citizens	Activity	City Tours (Bern Welcome)	Bern Welcome is offering various tours such as Berne's clock tower (Zytglogge) or Spooky Bern) through the city.	entrance fee	?	Presenting Bern from different angles	attract more tourists to certain areas of Bern, show the tourists the diversity in Bern	no	yes
Tourist / citizens	Activity	City Tours (3rd party)	Third parties are also offering various tours such as e-bike tours or city golf through the city	entrance fee	?	Presenting Bern from different angles	attract more tourists to certain areas of Berne, show the tourists the diversity in Berne	no	no

## Appendix 10/2 (page 2)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist / citizens	Activity	City Tours (Audio guide)	The city also offers AudioGuide tours so that the tourist can explore the city on his or her own by listening to the audio guide. The tourist can pick up the guide at specific locations.	entrance fee	?	Presenting Bern from different angles	attract more tourists to certain areas of Berne, show the tourists the diversity in Bern, give the tourists the opportunity to plan their tours on their own	no	?
Tourist / citizens	Activity	Attractions	On the website, you can find attraction and activities in five areas of the canton of Berne.	entrance fee	?	Show all the regions of Berne to the tourists	balance tourism, so that all the areas of the canton of Berne will be (not only the attractions)	no	yes
Tourist / citizens	Activity	Shopping	The website presents the tourist a catalog of possible shopping options depending on their needs.	product price	?	The tourist can see on one glance where the stores are located	Introducing smaller, more unknown stores to tourists, present Berne as a whole picture to the tourists	no	yes
Tourist / citizens	Activity	Activities & Excursions	The website has split their activities and excursions into seven subchapters which are hiking, wellness & spa, cycling & mountain biking, excursions, winter activities, adventure & sport, and aareswimming. There the tourist finds a selection of interesting activities and attractions with some details and links	product price	?	Gathered suggestion for any tourist target group	promote certain activities in the area of Berne	no	yes
Tourist / citizens	Activity	Art & Culture	You can find a list of museums & galleries, stage & theater, and music & concert programs which take place in Berne.	product price	?	Gathered suggestion for any tourist target group	promote certain activities in the area of Berne	no	yes
Tourist / citizens	Activity	Family & Kids	In the family & kids' section, trips and excursions are getting promoted which are family friendly or offer a very family friendly program.	product price	?	Gathered suggestion for any tourist target group	promote certain activities in the area of Berne	no	yes

## Appendix 10/3 (page 3)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist	Accessibility	Getting to know Bern	In this section, the tourist finds useful information about how to get to Berne (transportation options). In the train section, the tourist finds helpful links to sbb.ch and Swiss Travel System.	ticket price	?	One page which offers all the needed detail about traveling to Berne	attract more tourists to Berne as it is easily accessible	no	Yes
Tourist	Accessibility	Getting around Bern	In this section, the tourist gets all the needed information on how to travel around Berne. The options are by bike, by car, by public transportation, by taxi.	ticket price	?	One page which offers all the needed detail about traveling within or around Berne	attract more tourists to Berne as it is easily accessible	no	yes
Tourist	Available Packages	Tourist information	The tourist information can help a tourist with various requests, such as finding a hotel, getting a public transportation ticket or a museum pass, etc.	free	?	A place where the tourist can seek help	Show the tourists what they can see in Berne. This way, the tourists might end-up seeing more and consuming more services.	no	no
Tourist	Ancillary Services	Practical information	In this section, the tourist finds all needed information for a stay in Switzerland or Berne such as plugins, public holidays, etc.	free	?	Get all the needed information on one glance.	The tourists know what they are going to expect when they are traveling to Switzerland	no	no
Tourist	n/a	Why Bern	In this section, Berne is promoting their city.	free	?	Why tourists should visit Berne	Attract more tourists to Berne	no	no
Tourist / citizens	Available Packages	Venuefinder	Helps you find a venue for a congress or another event. It also includes a downloadable PDF file. The user can always seek for help if needed.	location price	?	Give tourists or locals an option to plan an event in Berne while using just one website.	User-friendly and accessible	no	yes
Tourist / citizens	Attraction / Activity	Social Programs	Every congress or event requires certain afternoon/evening activities, which can also get booked over the website. The user can always seek for help if needed.	event price	?	Showing the people, the area of Berne and present them the beauty of Berne	Establish Berne as a congress and event location	no	yes



## Appendix 10/4 (page 4)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist / citizens	Available Packages	Incentives	In this section, Berne is proposing, out of their experience with past events, suitable hotels, and programs.	event price	?	Support undecided organizers the needed support to choose Berne for their next event.	Attract more people to Berne which might not choose Berne as a tourist destination but through the event they get to know the city	no	yes
Tourist / citizens	Available Packages	Current Conventions	A list of the current conventions being held in Berne.	n/a	?	Let the tourists see what is going on in Berne.	More participants for certain events.	no	yes
Tourist / citizens	Amenities	Accommodation options	A list of all the available accommodation options in Berne sorted by category such as hotel, B&B, hostel, apartment, and camping. Sometimes you can directly book it online where you get directed to another page, and sometimes the tourist has to go to the official website of the operator	product price	?	See on one glance all the available accommodation	Tourists might rather choose Berne as their next traveling destination than another one as the website is user-friendly and accessible to book accommodation.	no	yes
Tourist / citizens	Amenities	Eating opportunities	A list of all the available dining options in Berne sorted by category such as restaurant, bar, brunch, café, club. Furthermore, the tourist can find some information about the Grand Casino Berne.	product price	?	See on one glance all the eating and drinking options	Tourists might explore Berne and its eating places as the site is user-friendly designed.	no	yes
Tourist / citizens	Attraction / Activity	Berne in 24h / 48h / 72h	Berne Welcome gives recommendations on daily or several day tours in and around Berne. If the tourist is not sure what to see or only has limited time available, it is a good option to see the most important parts and attractions of the city.	product price	?	Offering undecided tourists an excellent plan to explore Berne	Attracting more tourists to visit Berne	no	yes
Tourist / citizens	Attraction / Activity	All videos	Before coming to Berne, the tourist can check-out what Berne is offering.	free	?	Attracting more tourists to Berne	The tourists get an insight of Berne, its people and attractions	no	no

## Appendix 10/5 (page 5)

Target group	6A category	Product name	Description	Costs (end-customer)	Implementation date	Idea	Expected Benefits?	App?	3rd party service?
Tourist / citizens	Attraction / Activity	Aare campaign	Bern Welcome works a lot with consumer journey. One example is the Aare Campaign. takes the visitor on a consumer journey about the topic Aare. On the website, the tourist finds content about the river Aare such as an Aare rafting guide, citizens stories about their relationship to the river Aare, tips and tricks, and much more news.	free	?	Show tourists the citizens perspective of Berne and why they love living here.	Get the attention of the tourists on specific activities or attractions	no	no
Tourist / citizens	Attraction / Activity	Aare rafting guide	Gives detailed instruction on how to enjoy a trip on the Aare.	free	?	Attract more tourists to do Aare rafting while being aware of certain risks.	More tourists enjoy the time at, on or in the Aare.	no	no