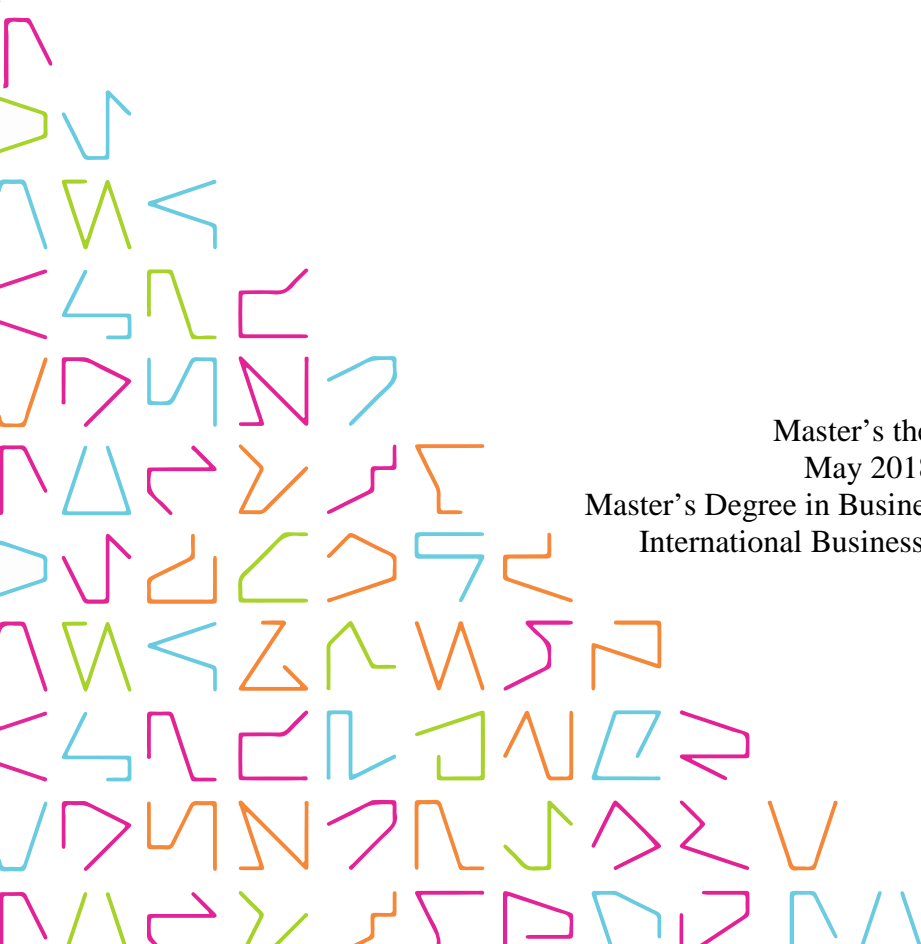


# **BRINGING SINGAPOREANS TO SEE NORTHERN LIGHTS**

How can Virtual Reality be utilized in  
travel marketing?

Nelli Jokelainen



Master's thesis  
May 2018  
Master's Degree in Business Administration  
International Business Management

## **ABSTRACT**

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Bringing Singaporeans to see Northern Lights  
How can Virtual Reality be utilized in travel marketing?

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This thesis is a marketing research conducted as a commission from Iceflake Studios Oy. The objective of this thesis was to develop the usage of Virtual Reality in travel marketing. The thesis commissioner had created a Virtual Reality demonstration of Northern Lights that was presented to the target group in Singapore. The target group consisted of travel-related businesses and Singaporean individual consumers. The purpose of my thesis was to study how the product can be used when marketing Finland to Singaporeans.

The research was conducted by combining the methods of a desk study and a marketing study. The desk study explores the characteristics of Singaporean travelers, Virtual Reality and its current usage in travel marketing. The marketing study was conducted in Singapore on 25.2.-17.3.2018. Data were collected by a qualitative research method: customer surveys and semi-structured interviews. After the target group has tried the product, they answered questions concerning Virtual Reality, the product and its usage opportunities in travel marketing. The data consisted of the total of four interviews and 37 customer surveys.

The data were analyzed using qualitative content analysis. To reach the objective of developing the usage of Virtual Reality in travel marketing, the key findings of the utilization possibilities were presented. Virtual Reality can generate or increase consumer's desire to travel to certain destinations and therefore increase their desire to book a trip. It can be used to present the travel destination in realistic, immersive and comprehensive way. The results showed that the product should include customized contents, interactive and human elements. Companies need to consider the costs and possible competition but the results suggest that interest in marketing with Virtual Reality exists: all four travel businesses interviewed had either already used it or expressed their interest. In conclusion, there is a clear demand for Virtual Reality in travel marketing.

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Key words: marketing, virtual reality, vr, northern lights, travel industry

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**ABBREVIATIONS AND TERMS**

3D	Three-dimensional
AR	Augmented Reality, real world environment with augmented elements
B2B	Business-to-business
HDM	Head-mounted display
MR	Mixed Reality, merging real-world and virtual environment
PC	Personal computer, table computer
PS	Sony PlayStation gaming console
PSVR	Sony PlayStation Virtual Reality device
VR	Virtual Reality

## 1 INTRODUCTION

The background of this Master's thesis is in my personal interests. The success story of Singapore has inspired me since I first visited there in 2014. As a part of Master's degree of International Business Management I wanted to expand my Singapore knowledge to support my future career opportunities. I have always dreamed of combining my expertise in travel industry and Singapore affection in my work life.

So, when I started this thesis project in the early fall of 2017, I was looking for a thesis topic that would enable me to travel to Singapore – that is how I discovered Iceflake Studios. Iceflake Studios is a Tampere-based game development company that has created a VR product in which user can explore Lappish nature and see Northern Lights. I traveled to Singapore to present this product in order to bring international conspicuousness and cooperation opportunities for Iceflake Studios.

The thesis objective is developing the usage of VR in travel marketing. The purpose of thesis describes the conducted methods and actions to achieve this abstract objective. Therefore, the purpose of my thesis was to study how the VR product can be used when marketing Finland to Singaporeans.

In order to frame and direct the research implementation, the key questions for the research are formed. These are the research questions (the bolded main research question followed by sub-questions):

- **How can VR be utilized when marketing Finland to Singaporeans?**
- What are the characteristics of Singaporean travelers and the reasons why they travel to Finland?
- Does VR experience increase the desire to book a trip?
- How can this VR product be developed in order to use it in travel marketing?
- Are travel industry businesses interested in using VR in their marketing?

In order to evoke travel companies' interest to use VR in their travel marketing, the product should engender emotions and 'wow factor' to trigger the will to see Northern Lights in real-life and therefore lead to increased number of bookings. Therefore it was

also essential to understand how this product could be improved. The reasons why Singaporeans travel to Finland can be utilized in product development.

This research combines the methods of a desk and marketing studies. The desk study concerns the characteristics of Singaporean travelers and their traveling habits and reasons. Also the current VR usage in travel marketing was examined as a desk study. In addition, a marketing study was carried out in Singapore. The VR product, called *Aurora*, was presented to the target group to introduce the possibilities of VR in travel marketing. The target group consisted of Singaporean travel agencies, Singaporean travelers and related travel industry companies. After the target group tried the VR experience of Northern Lights, they answered few questions concerning the product and VR in travel marketing. This marketing study was conducted by qualitative research method: interviews and customer surveys. The results were analyzed to get answers to research questions and, thus, fulfill the thesis purpose.

Taking advantage of the possibilities of VR in travel marketing is a relatively novel phenomenon. There are only few researches conducted in this topic, but VR definitely has high potential. The thesis topic is very current and important for Finnish travel industry: in 2017 foreign tourists brought over 2,6 billion Euros to Finland (Visit Finland 2018a). Since most of the Asian tourists come from Japan or China, Singaporean tourism in Finland is not widely studied. However, the number of Singaporean tourists is constantly increasing (Kuittinen 2017).

## **1.1 The structure of the thesis**

In chapter 2, the key characteristics of Singapore and Singaporeans are briefly introduced. Understanding the background of Singaporeans clarifies why they are an ideal target group for this research. The chapter 3 presents Singaporeans as travelers: what are their travel habits and preferences, money spent during travel as well as reasons and statistics of Singaporeans traveling to Finland. Chapter 4 includes Virtual Reality and its use in travel marketing. In this chapter, the definition and principles of VR are explained and different VR devices are introduced. It is also examined how the VR is already used in travel industry. These topics, in chapters 2-4, are researched by a desk study method.

Chapter 5 describes the research case: the commissioner and the phenomenon of Northern Lights. In this chapter the VR product and the goals of the commissioner are described. Chapter 6 presents the research methodology: the chosen study and research method as well as the reasons why they were chosen. In this chapter also the target group, sample size and the questionnaire questions are explained.

The research results are divided into two parts: chapter 7 presents the company representative interview results and chapter 8 the individual customer survey results. Chapter 9 includes the discussion and conclusions followed by references and appendices.

## 2 BACKGROUND OF SINGAPORE AND SINGAPOREANS

Singapore is a small city-state located right above the Equator in the southern tip of Malay peninsula, in South East Asia (Worldatlas 2017). Despite its relatively small land and population size, Singapore is an interesting research target: It has been a significant operator in regional politics and economy since 1819, when a trading post was established there, and Singapore became a regional capital of British India. During World War II, Singapore was occupied by Imperial Japanese Army, but was repossessed by British after Japan's surrender. After war, for a short period of time, Singapore was part of Federation of Malaysia. Due to several political and economic disagreements, Singapore gained independence as the Republic of Singapore in August 1965. (Worldatlas 2017.)

During its relatively short time of independency, Singapore has become nothing but successful: it is one of the most powerful commercial, economic and transportation hubs not only in South East Asia, but in the whole world. It is a major operator in trade, investment and logistics industry. Singapore is one of the world's wealthiest countries: In 2017, it was listed 3<sup>rd</sup> in the Global Financial Centres Index. Rating is based on five factors: human capital, business environment, financial sector development, infrastructure factors and reputation/general factors. Measured by Gross Domestic Product per capita Singapore was world's 3<sup>rd</sup> both in 2016 and 2017. (FocusEconomics 2018.)

Singaporeans are diverse. Population consists of three major ethnic groups: Chinese (75 %), Malays (13 %) and Indians (9 %) as well as other nationalities (3 %) including Eurasians (Statistics Singapore 2017). Singapore has four official languages: Mandarin, English, Malay and Tamil. Since each ethnic group has their own native language, English is commonly used. It is the language of education and business world. Singaporeans are also highly educated (Central Intelligence Agency 2018): in 2012, 40 % of the non-student population (above age 25) had a tertiary-level degree (University, Diploma or Professional qualification). Unemployment rate is very low: 2,2 %, and average monthly salary, converted to Euros, is 3554 € (Trading Economics 2018). Being well-educated, language proficient and wealthy supports Singaporeans' traveling.



Singapore consists of 63 islands (Worldatlas 2017). Its tropical rainforest climate and maritime exposure ensure uniform tropical temperatures, high humidity and sunny days throughout the year. Heavy rain falls appear, but, in the history of independent Singapore, the temperature has never dropped below +19°C. The average temperature is approximately +27°C, depending on the month. So, born and bred Singaporean will never see snow or experience frost unless they travel overseas.

Singapore is the 19<sup>th</sup> smallest country in the world – the largest island, main island Pulau Ujong, is only 50 kilometers long from East to West and 27 kilometers from North to South. Singapore's 5,78 million population (in March 2018) consists of citizens, permanent residents and over 1,6 million non-residents (foreigners with fixed-term visa). The population growth is estimated to be 1,5-2 % a year. Singapore's city-state land area is very urbanized and densely populated: over 8200 inhabitants per km<sup>2</sup>. In fact, Singapore has had to reclaim land by obtaining sand from nearby countries, such as Thailand and Indonesia. Since Singapore gained independency, the land area has increased by over 24 %. Naturally there are environmental issues occurring from these land reclamation projects: Singapore has lost some of its original forests. The government has taken actions to reserve land area for parks and gardens (Lang 2013). However, most of these green areas are rebuilt and therefore man-made and artificial. (Statistics Singapore, Worldatlas 2017; Worldometers 2018.)

Singapore's crucial location enables good accessibility and travel opportunities for both Singaporeans and people living in the nearby countries. Singapore's port is connected to 600 ports in over 120 countries. It is the second-busiest port in the world (after Shanghai) measured by the shipping tonnage handled. It is a vital middleman in regional transport: transferring goods, such as cheap electronics between South East Asia and Western world (Ministry of Transport 2014). Measured by international passenger traffic, Singapore Changi Airport is the 6<sup>th</sup> busiest airport in the world in 2015 (Airports Council International 2016). It serves as a connection hub with direct connections to almost 400 cities (Changi Airport Group 2018). Singapore Changi airport has won hundreds of rewards such as World's Best Airport, Airport Innovation, Best Airport for Frequent Travellers, and Best Airport Dining (Changi Airport Group 2018).

### 3 SINGAPOREANS AS TRAVELERS

In 2006, Global creditor VISA established the VISA Travel Intentions Study and it has been updated regularly since then. In 2015, the study was conducted by interviewing over 13 000 travelers in 25 countries. The study (Brown 2015) provides important information on the trends and changes shaping leisure travel globally. According to the results, Singaporeans are travel enthusiasts.

According to the study (Brown 2015), 95 % of Singaporeans have travelled abroad in the past two years whereas the global average is 76 %. The most popular destinations among Singaporeans were Malaysia (45 % of respondents), Hong Kong (39 %) and Thailand (33 %). They also plan to travel more in the future: at least four leisure trips abroad during the upcoming two years (TTR Weekly 2015). Singaporean travelers value the easiness of booking and they use travel websites such as TripAdvisor to plan their holiday getaways. The amount of trips planned was even higher among the wealthiest Singaporeans (Wee 2015). The wealthiest also travel further: their top three destinations include Hong Kong (60 %), Australia (57 %) and Japan (51 %). In addition to experiences and services, they value shopping and relaxing in resorts. (Brown 2015.)

The VISA study (Brown 2015) also shows the reasons why Singaporeans travel. Spending time with family is the most important reason (57 % of the respondents). Also experiencing new cultures and relaxation opportunities were important reasons for leisure travel. The senior lecturer of tourism, Dr Michael Chiam, states that affordable budget airline flights and strong Singapore currency enable frequent overseas travels. According to VISA's country manager Ms. Ooi Huey Tyng, Singapore's central location and global aviation hub makes it easy to travel to all parts of the world (Singapore Business Review 2015). Traveling has become a habit for Singaporeans (TTR Weekly 2015).

#### 3.1 Singaporean Millennials – travelers of the future

Travel-data and solution provider ADARA conducted a research among 3,000 millennial travelers (18-34-year-olds) in six countries including Singapore (ADARA 2017).

ADARA also compared millennials' and 35+ year olds' travel habits and attitudes. The findings show that Singaporean millennials are travelers of the future.

According to the findings (ADARA 2017), Singaporean millennials are aware of the prices, luxury and experience seekers who also hunt for good offers. They are used to booking trips through intermediaries and disrupt the traditional travel models (TravelDailyNews International 2015). Also, for Singaporean millennials traveling is a big part of their life: 79 % of respondents prioritized traveling above any other expense. Over 90 % loves to travel to new places and says travel involves new experiences. Also in VISA's Global Travel Intentions Study (2015), a notable amount of Singaporeans aged 18-24 mentioned self-rewarding as a key reason to travel.

Compared to the older respondents (aged 35+), Singaporean millennials are more likely to use digital resources when booking their holidays (TravelDailyNews International 2015): they are more likely to book flights straight from airline websites and accommodation from general travel sites instead of hotels' own sites. They prefer price over the airline (82 % of respondents). Also, millennials start planning their trip earlier than their older counterparts. Almost half of the millennial respondents said it is not worth registering to loyalty programs. Instead, Singaporean millennials are willing to pay for favored extra features: 43 % of them would pay for upgrades and amenities during flight. One fourth of respondents also mentioned they have extra funds to spend on desired luxuries. Also, it is notable that the number of Singaporean millennials who has booked an apartment or house accommodation instead of hotel (42 %) is globally the highest.

### **3.2 Money spent during travel**

Due to the strong currency and relatively high price level in Singapore, Singaporeans get much more with the same value of money when traveling abroad (Ho 2016). Many brand products as well as everyday items are cheaper outside Singapore. So, Singaporeans tend to spend more money while traveling – not only because they can afford it, but for various other reasons such as being less cost-conscious, complexity of currency exchange rate and desire to purchase goods they cannot find in Singapore (Ho 2016). Furthermore, according to the MoneySmart questionnaire (Poh 2018), traveling was the first on the list of things Singaporeans are glad to spend money on (followed by hobbies

and parents). The study shows that Singaporeans have regretted some extravagant materialistic purchases such as ostentatious cars later on. Instead, traveling is investing in things that bring more happiness: new experiences, relationships and self-well-being.

In 2015, Singaporeans spent over 22 billion USD to overseas travel. The table below (table 1.) shows travel spending per capita compared to selected nationalities (VISA 2014).

TABLE 1. Total travel spend in 2015 (VISA 2014, modified)

	<b>Total amount spent for travel in 2015 (USD billion)</b>	<b>Average per capita (€)</b>
<b>Singapore</b>	22,5	3398
<b>Hong Kong</b>	26,7	3038
<b>United Kingdom</b>	61,3	787
<b>United States of America</b>	101,0	263

Creditor VISA has forecasted the future money spending on international travel in the report of Mapping the Future of Global Travel and Tourism (VISA 2014). The amount spent on traveling is estimated to increase drastically in ten years – Singaporeans' spending reaching over 40 billion Euros in 2025. This will place Singapore the 7<sup>th</sup> on the list of world's top 10 countries in travel spend (Toh 2016). Remarkably, in 2025, an average amount Singaporean household spends on traveling abroad, is estimated to be 27 800 € (US\$30200). It is almost six times larger than the global average, 4890 € (US\$5200).

### 3.3 Singaporeans traveling to Finland

Pure, peaceful nature and Northern Lights are something unique for Singaporeans and therefore have made Finland an attractive and exotic travel destination. Worldwide travel and guidebook publisher Lonely Planet ranked Finland the 3<sup>rd</sup> on its global Best in Travel 2017 list, being the only European country in top 10 (Visit Finland 2016). The potential of the industry is remarkable: Finland's travel income reached 2,6 billion Euros in 2017 (Visit Finland 2018a). According to Official Statistics of Finland (2017), in 2016, total of 5,8 million foreign tourists' overnight stays was registered. The biggest

increase came from Asian tourists: 17,5 % growth from previous year, reaching over 856 100. For the first time ever, this number exceeded the number of overnight stays by travelers of Nordic countries (Kuittinen 2017). According to Visit Finland, when looking at nationalities, the largest number of Asian tourists comes from China and Japan, but the number of Singaporeans and South Koreans is growing faster (Kuittinen 2017).

Finland has another competitive advantage as a potential travel destination for Singaporean travelers: from Singapore to Nordic countries, Helsinki is the only direct flight option (Changi Airport Group 2018). The route is run by Finnair – and it is operated once every day. With a convenient overnight flight, Singaporeans arrive to Helsinki in less than 12 hours (Finnair 2018). This makes Finland a significant stopover destination among Singaporean travelers. Finland’s northern location brings benefit and increases tourism income.

### 3.3.1 Statistics of Singaporeans traveling to Finland

The statistics provided by Visit Finland (2018b) show the growth of Singaporean tourism in Finland. As inevitably demonstrated, the number of Singaporean arrivals in Finland has grown significantly over the last few years (table 2.). Singaporean share of all foreign arrivals in Finland is relatively small, but it is naturally explained with the small population size. However, the share is constantly increasing. When taking into consideration that Singapore’s population is less than 0,2 % of total population in Asia (World Population Review 2017), Singaporean share of Asian arrivals in Finland is notable.

TABLE 2. Development of Singaporean tourism in Finland (Visit Finland 2018b, modified)

	2013	2014	2015	2016	2017
<b>Arrivals to Finland</b>	8631	10 695	13 931	26 139	32 573
<b>Change from previous year</b>	+28.3 %	+23.9 %	+30.3 %	+87.6 %	+24,60 %
<b>Share of Asian arrivals</b>	2,9 %	3,5 %	3,6 %	5,5 %	5,7 %
<b>Share of all foreign arrivals</b>	0,3 %	0,4 %	0,5 %	0,8 %	0,8 %

Singaporean tourism in Finland is highly seasonal. Singaporeans travel to Finland mostly during winter months. According to Visit Finland’s statistics (2018b), during the last few years, over 60 % of annual registered overnight stays took place in December, Jan-

uary and February. Traveling to Finland especially in December has increased its popularity. Every year since 2015 more than half of annual overnight stays happened in December. Even though Singapore is a “melting pot” of many religions, Christmas is widely celebrated. Another notable factor is that the visits are short – less than two days on average, as shown below (table 3.). Typically, in addition to national public holidays, an employed Singaporean gets only 7–14 days of salaried annual leave (Ministry of Manpower 2018). Christmas Day, 25<sup>th</sup> of December, is one of the national public holidays which partially explain Singaporeans’ will to travel during December.

TABLE 3. Singaporeans’ overnight stays in Finland (Visit Finland 2018b, modified)

	2013	2014	2015	2016	2017
<b>Overnight stays</b>	16 502	21 068	25 293	44 281	54 967
<b>Change from previous year</b>	+26,50 %	+27,70 %	+20,10 %	+75,10 %	+24,10 %
<b>Duration of stay</b>	1,9	2	1,8	1,7	1,7

When Singaporeans arriving to Finland are considered based on the area (table 4.), it is indisputable that Lapland is the most popular area to visit.

TABLE 4. Singaporean arrivals in different areas of Finland (Visit Finland 2018b, modified)

	2013	2014	2015	2016	2017
<b>All Arrivals to Finland</b>	<b>8631</b>	<b>10 695</b>	<b>13 931</b>	<b>26 139</b>	<b>32 573</b>
<b>Arrivals to Helsinki Metropolitan area</b>	<b>5 053</b>	<b>6 438</b>	<b>7 141</b>	<b>10 852</b>	<b>12 697</b>
Change from previous year	14,0 %	27,4 %	10,9 %	52,0 %	17,0 %
Share of all Singaporean arrivals	58,5 %	60,2 %	51,2 %	41,5 %	39,0 %
<b>Arrivals to Archipelago and coast area</b>	<b>558</b>	<b>462</b>	<b>608</b>	<b>959</b>	<b>759</b>
Change from previous year	89,2 %	-17,2 %	31,6 %	57,7 %	-20,9 %
Share of all Singaporean arrivals	6,4 %	4,3 %	4,4 %	3,7 %	2,3 %
<b>Arrivals to Lake Finland (Eastern parts)</b>	<b>222</b>	<b>211</b>	<b>249</b>	<b>225</b>	<b>399</b>
Change from previous year	-18,7 %	-5,0 %	18,0 %	-9,6 %	77,3 %
Share of all Singaporean arrivals	2,6 %	2,0 %	1,8 %	0,9 %	1,2 %
<b>Arrivals to Lapland</b>	<b>2 798</b>	<b>3 584</b>	<b>5 933</b>	<b>14 103</b>	<b>18 718</b>
Change from previous year	61,8 %	28,1 %	65,5 %	137,7 %	32,7 %
Share of all Singaporean arrivals	32,4 %	33,5 %	42,6 %	54,0 %	57,5 %

As shown in the table 4. (Visit Finland 2018b), the number of arrivals to Lapland grows rapidly whereas Lake Finland (Eastern parts of Finland) is the least interesting destina-

tion among Singaporeans. The share of arrivals varies in other areas except Lapland and Helsinki area. In Lapland, the number of Singaporean tourists has increased the most rapidly. Singaporeans come to Finland particularly for Lappish experiences: winter, snow and Northern Lights.

Singaporeans' background makes them an important target group for this research. Briefly, their living habitat is completely opposite to Finland: Singaporeans suffer from occasionally deteriorated air quality as well as lack of unoccupied, natural areas and living space. Tropical climate, high urbanization and central location are essential factors why Singaporeans would choose Finland as a travel destination – quiet, loosely inhabited, faraway Northern country can provide something completely different: clean, untouched nature and beautiful natural landscapes.

## **4 VIRTUAL REALITY AND ITS USE IN TRAVEL MARKETING**

In this chapter the basic principles of VR and different VR devices available are introduced. VR technology is a trendy phenomenon with huge potential – its market value is forecasted to reach \$100 billion in the next few years (Vanhalakka 2018). In this chapter, it is explained how VR can bring more value to the travel industry: the current use, real-life company examples and results of VR travel marketing campaigns.

### **4.1 What is Virtual Reality?**

The simplest explanation of VR is three-dimensional, artificial computer-made world that is experienced with special virtual glasses or headsets (Hellman 2014). The first 3D stereoscopic images for head-mounted display (HMD) were developed in 1968 (The Franklin Institute 2018). However, the development was expensive and technology was not sufficiently advanced until the 2010's. Facebook purchasing Oculus Rift in 2014 and the development of competing platforms ensured the evolvement and development of VR industry. (Arvanaghi & Skytt 2016.)

The contents for virtual glasses include 360-degree videos of real locations recorded with special cameras, entirely computer-programmed artificial environments and Augmented Reality (AR), the combination of those (Arvanaghi & Skytt 2016). The key factor in VR is that the user is “inside” the virtual world, actively moving and participating or at least capable of observing around the environment. The opportunities with VR are unlimited: Game development, architecture, aviation industry, interior design, product manufacturing, town planning and treatment of anxiety as well as different phobias are just few examples of where VR is already used (Vanhalakka 2017). With VR users can explore surroundings that they cannot visit or do not even exist in the real world.

Depending on the VR equipment, it uses either two feeds sent to one display or two separate displays, one for each eye. These lenses focus, reshape and reflect different image for each eye to mimic how our eyes see the world. All VR equipment utilize head tracking, so the image moves as the user moves their head. In addition, the premium VR devices are capable of positional tracking. Positional tracking recognizes user's location



and movements, so they can walk around the virtual environment and the image follows. (Bhattacharya 2017).

The 360-degree videos can be described as “the first version” of VR. In the 360-degree video user is tied to the point where camera was located while recording. The user is passively observing the environment but without positional tracking they cannot move around. In the computer-made VR environment user has an active role, ability to control and change the incidents inside the VR world. (Arvanaghi & Skytt 2016.)

VR equipment with attached hand controllers enable user to participate by using their hands inside the environment (Arvanaghi & Skytt 2016). Controllers’ sensors detect hand movements, so user can actively participate in simulation by doing things such as shoot a gun or grab items (Vanhalakka 2017).

However, VR technology faces some issues and limitations, such as costs, heavy workload, usability and motion sickness, which have an influence to the user experience (Vanhalakka 2018). Motion sickness is caused by mixed sense signals to the brain. User’s eyes register horizon movement but the equilibrioception, balance sense, does not feel it. Being able to physically move around when exploring VR reduces motion sickness. Naturally, the motion sickness symptoms vary among people, but often become stronger if image resolution is low or image is following head movements with a delay (Adams, Mason 2017).

For the VR technology to become more commonly used, it needs to be of quality, but still reasonably-priced. High-quality VR enables positional tracking, sharp image quality and is updating fast – simply matching better with user’s movements. The future of VR gear is in eye tracking – the ability to follow eye movements to make the VR image correspond to user’s direction of looking (Vanhalakka 2017). However, the high-quality VR simulation requires powerful computer with high performance. Different VR equipment available on the market are presented in the next chapter.

## 4.2 VR Devices

In this chapter the different VR equipment on the market are introduced. Wireless VR headsets require only Smartphone whereas more advanced VR technology requires high-performance table PC to ensure the best quality and enjoyable user experience.

### 4.2.1 VR equipment for Smartphones

The cheapest option to get an idea of VR is to use the cardboard VR glasses. The original cardboard glasses are designed by Google (picture 1.) and selling price, in April 2018, was approximately 12 Euros (US\$15) in online stores (Google VR n.d.). Compatible cardboard applications can be downloaded from App stores to Android-based Smartphone or iPhone that is then attached to the cardboard glasses. The application divides phone's display into two different images. With cardboard glasses the different images reflected to each eye create an impression of three-dimensional view (Arvanaghi & Skytt 2016).



PICTURE 1. Google Cardboard VR glasses (Google VR n.d.)

The downside of this technology is that it does not enable positional tracking, so user can only passively look around the environment. Smartphones are not optimized for VR use, so naturally image quality is depending on the phone's performance and therefore not comparable to computer. This Smartphone VR content can be described as a 360-degree video that just shows the environment rather than an actual immersive VR experience. However, this option is wireless which is considerable advantage compared to more advanced equipment. (Pänkäläinen 2017c.)

There are many other wireless VR equipment utilizing the same display-dividing technology, and some of them also include hand controller (Pänkäläinen 2017c). However, these hand controllers are not capable of tracking user's hand movements – they work as a remote controller or gamepad to select and navigate the VR experiences. In April 2018, Google Daydream View VR headset with controller was available for 89,90€ in online store (Verkkokauppa.com n.d.). Samsung Gear VR glasses (picture 2.) are optimized for Samsung Smartphones and have menu buttons on the side for making phone usage more convenient (Robertson 2017). The hand controller includes “trigger” button to initiate an action. The selling price with hand controller, in spring 2018, was less than 150 Euros (Samsung n.d.).



PICTURE 2. Samsung Gear VR headset with hand controller (Samsung n.d.)

#### 4.2.2 PC compatible Oculus Rift and HTC Vive

Premium VR equipment, HTC Vive and Oculus Rift, are used with table PC or powerful laptop. These higher-performance equipment are capable of user's positional tracking and are designed to be used in a room where user is able to physically move around. (Pänkäläinen 2017c.)

The Pioneer of VR industry, Facebook-owned Oculus Rift (picture 3.) is optimized to be used in a small space (2m x 2m). It follows user's movements and location by separate sensors. Facebook's resources and assets enable Oculus to invest in marketing, product portfolio and development. It was originally designed to be used with Xbox but best user experience is reached with high-performance PC and Oculus Touch hand controllers. Some PC manufacturers use specific “Oculus Ready PC” mark to inform con-

sumers which computers' performance meet Oculus Rift's demands. In spring 2018, the retail price for Oculus Rift + Touch set (including two sensors) was 449€ (Oculus VR LLC 2018.)



PICTURE 3. Hand controller, sensor and headset of Oculus Rift (Oculus VR LLC 2018, modified)

HTC Vive (picture 4.) represents the most advanced VR technology. Positional tracking is enabled with a specific laser system called Lighthouse. Two Lighthouse LED stations are placed in the room and VR headset detects the laser beams of those Lighthouses. This technology enables sharp and extremely accurate tracking of user's movements. Also, HTC Vive's usage area (4m x 4m) is the widest compared to other VR equipment. (Buckley 2015.)

The requirements for a PC are quite similar to the Oculus Rift. However, HTC Vive is a little more expensive. Installation process in the beginning is more complicated since HTC Vive requires many different components and cables. For the same reason, the headset is heavier and therefore less comfortable in long-term use (Pänkäläinen 2017a). In April 2018, HTC Vive room-scale VR set with two Lighthouses was available with 699€(Verkkokauppa.com n.d.).



PICTURE 4. HTC Vive VR set with two lighthouses (HTC Corporation n.d.).

### 4.2.3 Other VR devices

Gaming console Sony PlayStation has a VR gear called Sony PSVR (picture 5.). In order to use PSVR, specific hand controllers, camera and PlayStation gaming console are required. The headset is not compatible with any other devices than Sony's PlayStation 4 gaming consoles. In April 2018, the price of PSVR headset and PlayStation Camera was 319€(Verkkokauppa.com n.d.). With PS4 gaming console and PS Move controllers the total price adds up to approximately 800 Euros (Sony Interactive Entertainment 2018). The price is surely cheaper than Oculus Rift or HTC Vive with compatible PC. There are millions of consumers who already have Sony PS4 console. However, there are some challenges: Creating content for PSVR requires a contract with Sony, so providing customized content is complicated. Also PSVR's image quality and the accuracy of PS Move hand controllers do not reach to the same level with rival manufacturers (Pänkäläinen 2017b.)



PICTURE 5. Sony PSVR set (Sony Interactive Entertainment 2018).

In late 2017, Microsoft entered VR markets by publishing Windows Mixed Reality platform and headsets (picture 6.) for different computers. Mixed Reality stands for combining VR with augmented reality (AR): VR experience where computer-made graphics are added into filmed real-world environment (Warren 2017). So far the amount of compatible VR contents available for this platform is limited, but constantly increasing. (Microsoft n.d.)

The main difference between Windows MR headset and other PC compatible VR devices is that Windows MR does not require separate sensors or cameras – those are built into the headset (Warren 2017). The headset is plugged in Acer, Dell, Samsung or other computer that has Windows operating system, and the experience can be supplemented with compatible hand controllers. There are five different headsets available for different computer brands. In early 2018, the price varied between US\$219 and US\$499 depending on the headset. However, since there are no external sensors, Windows Mixed Reality seems to be less functional: it cannot follow user’s movements accurately. (Microsoft n.d.)



PICTURE 6. Windows Mixed Reality headsets for different devices (Microsoft n.d. modified)

### 4.3 Virtual Reality in travel marketing

In this chapter it is explained how VR has already been utilized in travel marketing. First of all, people might wonder VR experience being so realistic that it eliminates the need of real travel. However, even the best-quality VR experience could never replace true traveling: practical examples have proved that VR actually increases people’s desire for the real experience (Ragavan 2017), as explained further on.

There is a major difference between a product and an actual experience, as explained in the chapter 5.1. Instead of just selling a travel product, with VR a full experience can be offered. In travel industry, VR has two major usages: inspiration and demonstration (Krau 2016). Travel industry sells visions: instead of potential customers having to visualize and imagine what it might feel, with VR they can immerse into the experience. Visual experience is a powerful selling tool: this “try before you buy” marketing has led into increased number of travel bookings, as explained in the next chapter.

Here are few examples of the possibilities of VR in travel industry (Krau 2016): Airlines or railway companies can help customers to select seat by demonstrating the cabin in VR. Hotels can show different rooms, amenities and views. Amusement parks can offer a virtual rollercoaster ride. Airports can use VR to guide passengers through check-in, security, gates, boarding, transfers and so on. VR can be utilized to demonstrate popular travel destinations, monuments and natural wonders: Google Maps Street View and 360-degree YouTube videos of famous attractions are good examples. User can take a virtual tour of their favorite places, or explore locations where for them traveling is simply not possible due to physical, financial, religious or other reasons.

The relatively high price of VR equipment has hold potential customers from buying it. However, studies show that awareness and interest in VR already exists. YouGov poll (Howell & Hadwick 2017) surveyed consumers from 21 countries in the Middle East, North Africa and South Asia. The results show that large segment of customers would like to visit travel stores and try VR technology before making travel bookings. According to the results, 51 % of the respondents found VR “very appealing”. When asked about VR and travel, 71 % would use VR when planning their holidays and 64 % would visit a travel agency if there is VR available. 31 % would book a holiday in-store after experiencing the destination in VR. Since traditional brick-and-mortar travel agencies are losing their popularity, VR as a marketing tool can work as bait for potential customers to step into a physical store. It seems that despite the cost of VR as an investment, travel companies can expect Return on Investment. (Howell & Hadwick 2017.)

#### **4.3.1 Travel industry company cases**

Travel industry has always been early to adapt new technologies (Howell & Hadwick 2017). In this chapter it is explained how travel operators have already taken the advantage of VR and offered their customers novel ways to explore their products.

Many airlines have already taken the advantage of VR in their marketing. Lufthansa has several VR products, both on the ground and onboard during flight: VR flight experience by Sony PlayStation and a Travel Compass. In Sony PS flight experience (Howell & Hadwick 2017), the PlayStation Move Motion Controllers are utilized to create more realistic and interactive experience: by holding the controller, it transforms, for exam-

ple, into a glass of wine or salt that can be poured into to the meal served on board in VR. The Travel Compass (picture 7.) is a door-like rotatable outdoor screen that was placed on the streets of German cities (Krau 2016). Through this “door”, the viewer can enjoy a 360-degree view of different travel destinations by rotating the screen.



PICTURE 7. Lufthansa Travel Compass (Hoger 2015)

Delta Airlines’ VR experience presents the cabins of different classes and aircrafts (Krau 2016). Australia's largest airline Qantas has developed VR content that enables users to explore popular Australian destinations such as Hamilton Island and Sydney (Qantas Airways Limited n.d.). The VR content is created for all different platforms, from cardboard glasses to HTC Vive. In 2015, as cooperation with Samsung, the VR experience was brought to the first class cabins and lounges offering passengers a fore-taste of their possible destinations.

Marriot Hotels’ #GetTeleported campaign invites people to its “traveling teleporter” (picture 8.) to Maui, Hawaii (Dua 2014).



PICTURE 8. Marriot Hotels’ traveling teleporter (Framestore 2016)



It is actually a telephone booth-like glass cabinet with Oculus Rift VR headset and headphones. Combining a 360-degree video and computer-generated imagery with 4-dimensional sensory elements such as wind, mist and heat, the experience is almost real. The campaign is a partnership with visual effects studio Framestore and experiential marketing agency Relevent.

VR Production Studio Visualise created immersive 360-degree VR products for Thomas Cook Airline. The products demonstrate popular travel destinations, such as New York, Greece and Singapore (Visualise Creative Limited 2018). Customers of flagship stores in the UK, Belgium and Germany were invited to experience a range of virtual holidays on Samsung Gear VR. This campaign, launched in January 2015, was a great success: travel bookings to New York had a remarkable 180 % increase after people tried the 5-minute VR holiday. According to Thomas Cook's Head of Digital Content, Lynne Slowey, the campaign enabled Thomas Cook to become a pioneer of in-store VR, to be nominated for several innovation awards, and to witness a notable conversion rate for bookings made after VR trial. (Visualise Creative Limited 2018.)

It seems that, when VR is used in travel industry, most of the contents are 360-degree videos presented with Smartphones. The high-end VR products such as HTC Vive are not commonly used. Naturally, the Smartphone VR equipment is useful if it will be used in different locations. However, if the VR equipment is placed in business premises such as travel agencies or airports, the tethered devices are more advantageous. The user experience between these products is very different. According to the head of Sable Labs, Mark McSpadden, the tethered devices enable more immersive and real experience whereas mobile ones provide just a glimpse of a place. (Biesiada 2017).

Another benefit of the computer-made VR contents compared to the 360-degree videos is that it can include personalized and interactive features, whereas videos are just showing around the environment. With interactive features, customer can get more tangible feeling of the potential travel destination.

## 5 CASE DESCRIPTION

In this chapter the research case is described. The thesis commissioner Iceflake Studios is introduced and their goals for this project are discussed. Since this research focuses on the Northern Lights, it is important to understand why it is such an interesting phenomenon that people come to see from all over the world and how that experience is turned into business. This is explained by the experience economy.

This chapter also includes the introduction of the VR product, *Aurora*. The experience of *Aurora* plays an important role in this research. It is aimed to examine whether VR experience can help customers to make the decision of purchasing a trip – may seeing Northern Lights in VR trigger the desire to see them with one's own eyes? This is carried out by presenting *Aurora* to associated parties: both individual Singaporean customers and organizations that are potential customers for Iceflake Studios.

The research was conducted in spring 2018 by traveling to Singapore (26.2.–17.3.2018) to meet the targeted people and collect the data. The aim was to arrange all the meetings beforehand. The research method and the sample are described more detailed in the next chapter.

### 5.1 The experience of Northern Lights

Adventure and experience are widely used terms in travel marketing. However, every travel product or service is not an actual experience. Although travelers have been seeking for experiences throughout the history, the term “Experience economy” was invented by Joseph B. Pine II and James H. Gilmore (1998). According to them, the difference between service product and real experience is that experience is carefully planned and differentiated, premium offering. People, who ‘consume’ this offering, do not only purchase it, but they also *experience* it – they feel it on “emotional, physical, intellectual, or even spiritual level” (Harvard Business Review 1998). As buyers of services and products are customers, the people who ‘consume’ experiences are more than that – they are guests (Tarssanen 2009, 12–16), as they are called in this chapter.

The term *experience* is described as a unique, memorable moment which can only exist in certain occasion (Tarssanen 2009, 8–10). It is always a subjective view of a guest and therefore influenced by one's background – where they come from, previous experiences and what are they used to in their daily lives. The most comprehensive experience is, when guest is actively participating and not only absorbing, but also immersed in it. Choosing to travel to specific countries or places is initiated from individual's desire for certain experiences – to experience Northern Lights is one the most important reasons why foreign travelers come to Lapland (Loukasmäki 2016). Understanding the background and circumstances Singaporeans come from, it is easy to see why Northern Lights is something they want to experience.

In travel business, the experiences are based on the local culture and traditions. In Lapland's travel industry, the experiences are built on Lappish stories and ancient beliefs. Pure, arctic nature plays an important role. In this thesis, the focus is in the experience of Northern Lights. House of Lapland has described the magical story behind it: "According to an old Lappish belief, the Northern Lights, also known as Aurora borealis, are created when a fox runs across the fells while whipping its tail against the snow, sending sparks up into the night sky." However, scientific explanation for Aurora borealis proves their dependency on solar activity. Northern Lights happen when the charged particles of solar wind are in contact with Earth's atmosphere. The closer to the polar region and the darker it is, the more visible they are. (Tarssanen 2009; House of Lapland Oy n.d.)

*"The Northern Lights, dancing across the Lapland sky  
in hues of green, purple and red, are an unforgettable sight.  
This gracefully moving display of colors  
appears to move closer so that you can almost touch it.  
And if you're completely quiet, you may hear  
the faint crackling of the Northern Lights in the freezing night."*

House of Lapland

## 5.2 Iceflake Studios

Iceflake Studios is a Finnish game development enterprise that was founded in 2007. The company is based in Tampere, and it currently employs six people full-time (Liljedahl 2017). The team consists of experienced game developers. The core idea for Iceflake Studios is that their games and entertainment products are always designed to work on many different platforms – they create contents for table PC, mobile devices and gaming consoles. Since the establishment, they have published over 15 games (Iceflake Studios Oy 2018): including popular Premium Pool and the latest one, Ice Lakes (published in 2016). In total, their products have over 25 million users globally. So their team is experienced in game development methods for different platforms and user experience.

In the future, Iceflake Studios is focusing on multiplatform games and Virtual Reality applications (Iceflake Studios Oy 2018). They are constantly researching in order to be aware of the latest trends and developments in the VR industry, and developing their products to run smoothly with all devices and on different platforms. Their game development and visualization are high-quality – none of the users of their VR products have reported motion sickness. Those game products that have VR version, it is always included in the game license, so it is difficult to differentiate the amount of VR users. Approximately 10 % of over 100 000 customers who purchased Ice Lakes have used the VR version as well. (Liljedahl 2017).

Iceflake Studios is also focusing on B2B sales and collaboration, Visit Tampere as one of the most recent partners. Visit Tampere is a sub-organization of Visit Finland, promoting tourism and investment in the city of Tampere. Iceflake Studios created a special game field in the VR version of Ice Lakes. The field features local landscapes and iconic landmarks of Tampere. All Ice Lakes users globally get access to the Tampere contents since it is provided as a free update. After it was released, in December 2017, the popularity of Ice Lakes increased drastically in China, as popular streamers started playing Ice Lakes and it had millions of viewers in YouTube and Chinese stream channels. (Liljedahl 2017).

### 5.2.1 Aurora – the VR application of Northern Lights

This virtual experience of Northern Lights, called Aurora (picture 9.), presents the classic Lappish nature with snow, trees, bonfire and lakeside landscapes. User can walk around the peaceful environment, look to the sky and see vivid Northern Lights in their full colors.



PICTURE 9. Screenshot of the Aurora VR application (Liljedahl 2018)

The product is designed to be used with a powerful computer and either HTC Vive or Oculus Rift. In addition, Iceflake Studios has also created 360-degree video demonstration to be showcased with Smartphone and Samsung Gear VR (Liljedahl 2017). In the short Smartphone demonstration the user is just passively looking around whereas the user of PC product can move around and explore the environment for as long as they feel like (Liljedahl 2017). It is also possible to add interactive features in the experience to offer the user a possibility to change and affect the incidents by using the hand controllers.

Iceflake Studios' entertainment products have reached millions of users globally and they are constantly searching for opportunities to expand to new international markets (Liljedahl 2017). Presenting the Aurora product in Singapore may lead to further B2B cooperation. However, actual sales were not the main goal for this project – Iceflake Studios wanted to find the opportunities VR in travel marketing could offer them as a VR developer. They were interested in user feedback – what users' reactions and opinions of the product are and how it could be developed (Liljedahl 2017). In addition, this project increased the publicity and conspicuousness of Iceflake Studios and their

products. During the meetings, the travel-related businesses were given the contact information of Iceflake Studios for possible inquiries.

The VR product is sold as an all-in package, including a table PC with VR equipment. The costs start from approximately 2500 Euros, depending on the devices. As explained in the chapter 4.2, Oculus Rift and HTC Vive have very similar performance and same requirements for the computer. Both of these globally sold products run on similar platform. If customer already has the devices, only the VR software can be sold. In addition, the contents can be customized. Based on customer's wishes, with customized contents Iceflake Studios can develop the Aurora demonstration into a comprehensive interactive VR experience for marketing, sales or entertainment purposes. The costs start from few thousand Euros, depending on the features customer wants in the VR contents. So, it is notable nonrecurring investment for customer, but does not expire. Powerful computers are, in any case, needed for business operations. And when the device is setup, it is easy to start using the VR product. The program opens by just double-click. (Liljedahl 2017).

In Singapore, the Aurora was presented with a mobile device and Samsung Gear VR headset. This may not enable the full immersive experience of the product, but it provides one example of VR usage and a glimpse of Northern Lights. Since the user experience and feedback is essential part of this research, it cannot be conducted without the ability to show the VR demonstration. Therefore – since this project required physical traveling to Singapore – the product was demonstrated with a wireless mobile device.

## 6 RESEARCH METHOD

In this chapter the chosen study, research methodology and the target group are explained. This research combines the methods of a desk and a marketing study. It is conducted by a qualitative research method: using customer survey and interview. The questions of the survey and the interview are also introduced in this chapter. In addition, it is clarified why these questions were chosen.

Companies must know what their customers want from their products. Marketing research, or marketing study, provides information of the effectiveness of marketing as well as the markets and customers. It provides essential information to create a solution to a desired business-related issue. Marketing research can be described as an organized processing of the marketing information. This study concerns the marketing process: how certain marketing acts influence the target group's behavior. The targeted group or customer segment is pre-defined. Marketing study can be conducted either by quantitative or qualitative research method: it involves systematic and organized data collection or generating, processing and analysis. The key factor of marketing study is that it is a *process*: it begins with defining the concerned issue, and – through data processing and analyzing – it provides a solution or improvement to the chosen issue. (Smith & Albaum 2012, 7–8.)

The main research question “How can VR be utilized when marketing Finland to Singaporeans?” guides the chosen study. Marketing study was chosen since the purpose of this thesis was to study how the VR product can be used when marketing Finland to Singaporeans. So, presenting the Aurora demonstration to the target group is a marketing act. It is aimed to examine what is the target group's response to this marketing act: their reactions and opinions of the product. By analyzing these results, answers to the following defined research questions are provided.

- Does VR experience increase the desire to book a trip?
- How can this VR product be developed in order to use it in travel marketing?
- Are travel industry businesses interested in using VR in their marketing?

Desk study is a necessary first stage of the research, the evaluation and preliminary investigation of the researched issue. It involves collecting and reviewing the existing material (Papez 2012). The desk study method was used (in chapters 2-4) to examine how VR is already utilized in travel industry and analyzing Singaporeans' travel habits and reasons to answer the first sub-question.

- What are the characteristics of Singaporean travelers and the reasons why they travel to Finland?

Answers to these questions provide the company, Iceflake Studios a solution to business-related issue. They learn what customers want from their products and how the product could be improved in order to be used for a certain purpose.

## **6.1 The research and data collecting method**

The objective defines the research and data collecting method. This study is conducted with a qualitative research method. Qualitative research is an exploratory method that provides deeper understanding of research target (Räsänen n.d.). This method is chosen when research aims to examine target's subjective viewpoints, behavior, motives and opinions. The collected data is analyzed and construed to explain and describe the researched phenomenon. The analysis is to provide thorough understanding of the meaning and purpose of that phenomenon. In qualitative research, the target is defined and limited in advance and sample size is relatively small – unlike in quantitative research method which aims to provide objective, generalized information of larger target groups. (William & Trochim 2006, 56; Puustinen 2013.)

The objective and research question “How can VR be utilized when marketing Finland to Singaporeans?” define the chosen method of this research. Instead of just discussing whether VR can or cannot be utilized in travel marketing, answers to ‘How’ and ‘Why’ questions bring deeper understanding of the phenomenon: it was aimed to describe and explain *how* and *why* VR can be used by analyzing the opinions, motives and viewpoints of the pre-defined research target: Singaporean individual consumers and travel-related companies.



In qualitative research, the data can be collected using various methods such as individual or group interviews, observation, online polls and unstructured or semi-structured surveys (Puustinen 2013). In this research, the data is collected using a semi-structured survey and interviews. In semi-structured method, the topics or questions can be defined in advance, but during interviews the discussed topics may vary around chosen themes. The interviewer can participate by asking focused or further questions – but stay neutral and never influence or steer the answers to certain direction. (William & Trochim 2006, 63).

Data were collected by using a semi-structured questionnaire form that has both yes-or-no and open questions. By asking yes-or-no questions, the aim was to receive unambiguous answers that provide clear understanding of respondents' opinions and can be analyzed indisputably. The target group was asked to experience Northern Lights in VR by showcasing short Aurora product demonstration and answer the questions after that. Separate questionnaire was targeted for travel-related company representatives (appendix 1.) and individual consumers (appendix 2.). Whereas individual consumers just answer the questionnaire by themselves, the company representatives were interviewed and the questionnaire was filled out during an interview. This arrangement provides the opportunity for the interviewer to ask further and more focused question during the interview if necessary. These interviews were recorded to ensure that all information available is stored. The questionnaire questions are presented and analyzed in the next chapter.

The results of qualitative research cannot be extrapolated to a census (all the compared elements, such as the whole population). The costs, accuracy and the defined research issue define the sample size (Smith and Albaum 2012, 17). In this research, the desired number of answers was 3-5 business representatives and 15-20 individual consumers. The sample size is discretionary – it is chosen to achieve sufficient amount of relevant data for analysis (Smith and Albaum 2012, 27). All the companies chosen as a research target are travel-related enterprises: either Singaporean travel agencies that sell trips to Finland or Finnish companies promoting travel to Finland. Travel-related companies are practicing travel marketing and therefore potential buyers of the Aurora product whereas individual consumers are the final target for travel marketing. To answer the question how VR can be used in travel marketing, it is essential to understand the end users' opinions of the product. (Smith and Albaum 2012.)

## 6.2 The questionnaire questions

Most of the questionnaire questions regarding VR and the Aurora product are the same for both target groups: travel-related company representatives and individual customers. However, few questions, especially the ones concerning the respondents' background are different for each target group. From individual consumers, the nationality and age group was asked. It is important to know respondents' nationality to ensure they belong to the desired target group – Singaporeans. Age group was asked so that possible differences in the questionnaire answers between different age groups or generations can be recognized.

Individual consumers were also asked whether and why they would visit a travel agency where it is possible to experience travel destinations in VR. This is asked to find out whether Singaporeans are interested in exploring travel destinations in VR and whether it affects their decision to visit certain travel agencies.

The reasons why individual consumers would like to travel (or have already traveled) to Finland were asked. This is asked to collect information of Singaporean travelers' motives and desires: what do they want to see and experience? Are Northern Lights mentioned as one of the reasons?

The last question for individual customers is regarding the Aurora VR product they have just experienced: did the Aurora experience increase their desire to book a trip to Finland and why (or why not)? This is asked to examine whether this product has the desired effect on the customers – how did it influence on their willingness to make a booking?

From the company representatives, company's name and their position were asked. The company was asked to understand its situation in the travel business field: how big operator it is and how it is related to Finland's travel marketing – simply why the company is important for this research. It is also important to understand the respondent's role and their main responsibilities in the company in order to make sure they are the right people to be chosen as a research target. Since these company representatives work closely with Singaporeans travelers, they were also asked to mention reasons why Singaporeans travel to Finland. They can provide the information of travel packages Singa-

poreans are buying: what kind of accommodation and activities Singaporeans want to have while traveling to Finland.

The company representatives were also asked to mention whether their company has used VR in travel marketing before and, if yes, what the results were. This question was chosen to collect examples of how VR has already been utilized in travel marketing. The results of previous VR marketing campaigns can provide information of customers' reactions and opinions. Lastly, the company representatives were asked whether the Aurora product they just experienced could be used in their marketing. This question was asked to understand whether this specific product could meet the needs and demands of travel marketing companies.

The rest of the questions were focused on VR and the Aurora product. These questions were the same for both individual consumers and company representatives. All of the respondents were asked whether they had previous experience of VR and, if yes, in which occasion. This was asked to collect information of how popular and well-known VR is. By collecting this information, the possible differences in the answers between people who had and had not tried VR before could be recognized. Both target groups were also asked whether experiencing travel destination would increase the desire to book a trip. This was asked to learn whether VR actually is a useful marketing tool – does it have a positive influence to the number of bookings?

Then, all the respondents were asked to describe the Aurora VR experience: things that they liked (or did not like), things that drew their attention and whether they would like to have more contents in it. These matters were asked to collect respondents' reactions and opinions of this product. For product development and customizing, it is essential to know what kind of contents people wish to see: what kind of elements should be added to make the experience even more powerful and immersive. Respondents were also asked how Northern Lights fit to VR and whether this experience was different from seeing a video. This was asked to examine whether there is an actual demand for VR in travel marketing – instead of just showing the video, can VR bring something more to the experience?

Respondents were also asked about their possible expectations: what kind of expectations of Northern Lights in VR they had and whether this product met those expecta-

tions. This was asked to find out whether people had some sort of preconceptions or attitudes and whether this product had any influence to them. This information is also helpful for product development. Finally, all respondents were asked to give an overall rating for this experience (from 1 to 5, 1 – poor, 2 – fair, 3 – average, 4 – good, 5 – excellent) and reasons for choosing a certain rating. The rating helped analyzing the results: it provided a numeral overview of the user experience.

## 7 RESULTS OF COMPANY REPRESENTATIVES' INTERVIEWS

The total of four travel-related business representatives was interviewed. All interviewed representatives are involved in selling or marketing Finland as a travel destination to Singaporeans. They were all positioned as a manager or specialist in their companies. When analyzing the results, all companies are briefly introduced and it is explained why these are relevant for the research. However, the answers were analyzed anonymously. The results of the interviews are summarized in the end of this chapter.

### 7.1 Albatross World interview

Albatross World Travel & Tours is the youngest one of three agencies which representatives were interviewed. It was established in 2011. Its mission is to be the leading provider of exotic adventure tours such as trekking, religious tours and sport events (Albatross World Travel & Tours Pte Ltd n.d.). Their travel packages to Finland include sporty activities such as snowmobile safaris, snow shoe hiking and Northern Lights hunting by reindeer sledges. Albatross team consists of over 10 employees.

The meeting with the representative of Albatross World was arranged beforehand by email. They replied right away to my very first email so the interview was very easy to arrange. The company representative, later referred as 'they', had some previous experience of VR and Northern Lights. They had tried VR in events and shows and seen Northern Lights videos in science center. However, they have never been to Finland and therefore have not seen the real Northern Lights.

Albatross World has not used VR in their marketing. However, they stated that VR indeed suits for travel industry since with this kind of technology people get to see more realistic 360-degree view of the scenery: it would "help the customers to get more detailed image of the travel destination before booking the trip" and therefore it would increase their desire to make a booking.

When asked "What are the reasons why Singaporeans travel to Finland?" it was stated that most of the Singaporeans have already traveled many of the places all over the

world, but Finland is something new. Singaporeans have not seen Northern Lights and cannot experience those anywhere in Asia. They want to add it to the list of things they have experienced: “You want to be like ‘oh I have been there. This is how it is.’” It was also stated that Singaporeans’ interest in Finland is increasing.

When discussing how Northern Lights suits to VR and whether it is different from videos, it was stated that VR gives more comprehensive experience: “I can feel, I can hear, I can see, experience everything in 3D.” The interviewee pointed out that in the Aurora demonstration the Northern Lights are computer-made, very colorful and active. They were concerned whether the real ones are as clear and active as the ones in the demonstration. They also pointed out that many people who travel to Finland do not actually manage to see Northern Lights at all. So, the VR experience can provide a sneak-peak: “It’s nice to see before going there so you can expect what you will be seeing – – Lot of people go there and they don’t have a chance to see it. So this is something you see without going there – feeling the same thing, seeing the same things.”

The Aurora demonstration was described as relaxing and calm. However, the interviewee stated that they have never seen the real Northern Lights so they cannot compare this demonstration to actual experience. The importance of actual experience, real Northern Lights was mentioned several times during the interview.

For the Aurora demonstration, as it is now, the overall rating of 4 (good) was given. It was stated that recommendations and reflections from other people would improve the user experience: “It would be nice if it could show people there, looking there and see how they react, how they are happy – – people who see it for the first time and their ‘wow’ reaction, we also feel the reflection from them.” Also adding interactive features – to be able to touch something or do things with hands – would make the VR experience more interesting.

All in all, the interviewee seemed to like the experience and VR was considered very useful for travel marketing. However, it can be used mainly for illustration purposes and is not comparable to actual experience. It was stated that Singaporeans want to travel to Finland to see Northern Lights with their own eyes. Albatross World would be interested in using VR in their travel marketing – but at the moment they do not have the resources: “it depends on the costs now as we have to think about everything, the budget.”

It was stated that VR suits for travel marketing since seeing travel destinations in VR would increase the customers' desire to book a trip.

## **7.2 EU Holidays interview**

EU Holidays, founded in 2010, is focused on long haul tours and travel packages (EU Holidays Pte Ltd n.d.). They are specialists in Europe and United States travel. In eight years, the company has expanded from its two founders to over 100 employees and four offices in Singapore. They have several tour options to Finland: including Santa Claus Village in Rovaniemi, Northern Lights chase, glass igloo accommodation and other Lappish highlights. EU Holidays is also the official partner of Visit Finland in Singapore (Visit Finland 2018c).

This interview was arranged by walk-in-method. I visited EU Holidays premises in Singapore and arranged an interview with the company representative. The interviewee, later referred as 'they', had extremely positive viewpoint of VR in travel marketing. Arranging the interview was very easy – after I explained the reason for my visit they were instantly interested and wanted to discuss further. In the next paragraphs, the key findings of the interview are explained.

The interviewee had previous VR usage experience from gaming in person, but, for the time being, EU Holidays as a company had not utilized VR at all. They mentioned that Northern Lights – since it is unique phenomenon that cannot be seen in Singapore – is the most important reason why Singaporeans travel to Finland: Singaporeans have a high interest to see and experience it at first hand. Finland is also a popular place to enjoy winter for Singaporeans.

The interviewee stated that experiencing travel destinations in VR indeed increases customer's desire to book a trip. According to them, the VR experience can double the impact: it provides more realistic, "actual feeling" of the destination customers would like to travel.

The Aurora product was given a warm reception: it was given the overall rating of 4 (good). The interviewee highlighted the colors and movements of Northern Lights in the

demonstration – it was mentioned that the Northern Lights look very realistic and natural. The Aurora experience was considered a great experience that “gives a feeling like actually in Finland.” It is useful for marketing purposes since it relates to EU Holidays’ Finland tour products. However, it could include other travel destinations as well and be more interactive. They stated that the VR product could show a virtual tour of the actual Finland travel package available: starting from the current outdoor environment, leading the customer through different activities and finally taking them inside to their accommodation, a glass igloo or wooden cabin. To use VR in travel marketing and “convey customer to book tour”, it should highlight and relate to the contents of EU Holidays tour products.

All in all, VR in travel marketing was considered very positive and useful. The interviewee mentioned its positive effects several times during the interview. The clearest sign of their interest was when the interviewee – who is positioned on a management level themselves – asked for their superior to come to try the product and give opinions. Also other EU Holidays employees wanted to try the demonstration.

It was stated that EU Holidays is in fact planning to use VR in their travel marketing in the future. They were interested in showcasing VR products to their customers in travel fairs and other similar events. Therefore, they wanted to get more information of the costs and the delivery schedule of the customized VR software for Samsung Gear VR.

### **7.3 Chan Brothers interview**

Chan Brothers is a well-known long-lived travel agency with a history of over 50 years. The company of over 500 employees has won several awards such as TTG Travel Awards of Best Travel Agency in Singapore and Reader’s Digest Trusted Brand Award (Chan Brothers Pte Ltd n.d.). They offer a wide selection of flights, hotels and holiday packages both inside Asia and in Europe as well as other long haul destinations. Chan Brothers has the largest selection of Finland travel packages, including different options for travel dates, areas and points of interest.

This meeting – the other one of the two interviews arranged by walk-in method – was the most difficult one to arrange. When I first visited the Chan Brothers travel agency



premises, I was given the contact information of the employee who is in charge of marketing. However, that manager was unable to arrange a meeting with me during that time so my issue was transferred to another employee. After exchanging several emails with this another manager, I managed to arrange a meeting with them. Nevertheless, this meeting was the most fruitful – Chan Brothers had clearly been planning on VR marketing already before. The interviewee, later referred as ‘they’, discussed of many prominent viewpoints and new marketing innovations.

Chan Brothers has done VR cooperation with Samsung before, but the details or results of that project were not revealed. The interviewee was very experienced and aware of opportunities and possible limitations of VR. They had also plenty of opinions and ideas of how Chan Brothers could utilize VR in their marketing. In the following paragraphs, the key viewpoints of Chan Brothers representative’s interview are explained.

Multiple reasons why Singaporeans travel to Finland were stated – first of all, to escape the heat. They also stated that Finland’s travel marketing in Singapore – the concept of Santa Claus and the Northern Lights – is successful. It is convenient for Singaporeans to travel to Finland by a direct Finnair flight. Moreover, there are many interesting activities in Lapland. Finland is indeed becoming more popular among Singaporeans and more to expect: “Over the past three or four years we have seen a lot of increase to Finland and to Lapland. – – Basically people have traveled around Central Europe already, and the stability in the Eastern Europe over the past few years – you see a lot of terrorism. So the destinations in Scandinavia are the next opportunity. Singaporeans are always looking for new places to go.”

The interviewee stated that experiencing the destination in VR definitely increases customers’ desire to book a trip. It provides realistic experience of the destination and generates the interest: “it will enthuse people who may not have thought of this destination or this kind of tour, to make a booking“. The interviewee does not think customers would visit travel agency specifically to experience VR. However, if customer is already visiting the agency for other reasons, and for example queuing for their turn, they may give it a try meanwhile waiting.

Northern Lights was considered to fit perfectly in VR. Unlike videos, that are typically edited and modified, in VR the more realistic visual image can be provided. “It is very

hard to explain people how Northern Lights is: how it moves, what shapes it is, how it comes and goes in two seconds, how it suddenly comes very bright. Things like this, it is very hard. So the best way to do is Virtual Reality.”

The interviewee explained different examples of VR in travel industry. Often VR presentations are generic, showcasing travel destinations or the environment in general. However, it does not help travel agencies to sell their products. It has to be customized, linked to the products they are selling. They mentioned South Korean VR marketing product as an example. It shows the user around South Korea with a Korean celebrity: “He is bringing you around Korea, doing different things, like jumping into water. – – So the person is like holding your hands in the Virtual Reality, you get the feeling like it’s your boyfriend. It’s very human.”

The Aurora product was described as an interesting and nice background where “the basic idea is there”. However, “after a while it gets a little bit boring”. Music is also an important part of the user experience: “more mysterious lively music would be more interesting“. The overall rating of 4 (good) was given: “The Northern Lights are changing and moving but of course there are still things that can be improved: more realistic, more elements.” The demonstration could be considered more of a start – a base – from which company could build their own product, full marketing experience.

When the interviewee was asked to mention the desired contents for VR product, they emphasized the importance of different elements, human interaction and changing environment. As an example, the VR experience could start from the same outdoor scenery but showing the change from night to day. Then, there could be company logos and other agency-related features, such as a company guide explaining and showing the customer what they are going to experience if they book the tour: “For example how Northern Lights is formed – – then, you can see Northern Lights from the inside of an igloo. When you go out, how it is like to step on the snow. And the reindeer, the whole experience in Lapland.” When the VR contents are relevant to company’s products, they can expect more revenue for the marketing investment.

The interviewee stated that they would like to use VR product in travel fairs and events. However, they stated that there may be issues with practical matters: “sometimes in the travel fair we really have very limited space. So if it requires very big area with heavy

support, computer and everything, then maybe it's more troublesome." In addition, Chan Brothers has several sales offices so they could consider placing the VR equipment there for permanent usage. It seems that Chan Brothers has already planned VR marketing in very practical level, where to place and use the devices.

Chan Brothers is definitely interested in using this kind of products. In fact, they had already been exploring the options available on the market. They stated that, as a marketing product which can be improved, used forever, and does not have the problem of storing it, VR is indeed interesting. However, the interviewee was very strict about the exclusivity: "Our company is very sensitive when working with our competitors – – if our competitors already have them, then we don't want to have the same one." They want their marketing products and methods to stand out from their competitors. In fact, they had even considered building a 3D-structure of a glass igloo.

In the interview, it was explained that this Aurora demonstration is also presented to other travel agencies in Singapore to collect data for research. After hearing that other agencies are also involved, the interviewee's interest decreased instantly. So, it seemed that they were indeed interested in this specific product of Iceflake Studios but the exclusivity is, as they mentioned, supremely important for Chan Brothers.

#### **7.4 Visit Finland interview**

A unit of Business Finland (Business Finland 2018), Visit Finland is a national travel industry authority that promotes travel to Finland. It cooperates with different regions, travel and transport enterprises to conduct research, develop products and most importantly, promotes Finland as a leisure tourism destination. Their core operations include marketing abroad, productizing and developing the travel brand of Finland. They also collect and offer data of foreign travelers, including Singaporeans, in Finland. For several times, Visit Finland has participated ITB Asia travel fair (Asia's leading travel trade show) which is held annually in Singapore. In addition to their specialists positioned in targeted countries, Visit Finland has over 40 professionals working in the main office in Helsinki. (Renfors 2018.)

The Visit Finland company representative interviewed, later referred as 'they', is working with digital marketing contents and developing digital tools for B2B marketing. They had versatile experience of VR products and using those in marketing campaigns.

Since the interviewee is not directly working with foreign tourists coming to Finland, the question "What are the reasons why Singaporean travels to Finland?" is answered by Visit Finland website analytics. They provided the information of the most visited web pages by Singaporean users. The two most read Visit Finland online publications were "On the hunt for the Northern Lights" and "Doze off under the Northern Lights", both of these had several thousands of readers. Based on these statistics, it clearly seems that Northern Lights is one of Singaporeans' main interests in Finland. Other popular topics by Singaporeans were: Helsinki, winter and how to dress up for it and the article of reasons why to visit Finland. It was notable that – even though the most popular traveling time is during winter months – Singaporeans search information of Finland quite evenly throughout a year. Out of all the people visiting Visit Finland's website, Singaporeans form approximately one per cent. It seems a small percentage but – when considering the whole number of visitors – it adds up to several tens of thousands of Singaporeans annually.

Visit Finland has had several VR and AR marketing campaigns. In spring 2018, they will publish a VR game which is developed as collaboration with many Finnish operators. In the game, the user can complete different tasks in Finnish landscapes: fishing on the Saana fell in Lapland, exploring Helsinki as a giant and draw landscapes in Archipelago. The core idea is, with few interactive features, to present the Finnish scenery and environment. Since the game is not published yet, there is no information of the reception. In addition to this game, Visit Finland has published an application that creates an augmented Santa Claus to the existing surroundings by using Smartphone's camera. They have also used 360-degree videos as part of marketing Finland as a stop-over destination.

The interviewee stated that VR can be used to increase customers' desire to book a trip. They have indeed been planning similar purpose for the VR game they are soon to publish. It will be used as an incentive in travel fairs and events to present Finland to B2B partners, such as foreign travel agencies, to trigger their desire to visit and possibly start operating tours to Finland.

They described Aurora experience as a fine and clear experience that runs smoothly without any errors or bugs. The sounds were complemented as well. It was mentioned that one challenge with VR is maintaining the user's interest. Since this is only a demonstration, it does not include any interactive features. It is fascinating – especially for first-time VR users – to look around the scenery, but only for a short while. After that user often loses motivation to continue watching, if there is nothing else. In this Aurora demonstration there are few changes, and it is not too long, so user's motivation is maintained throughout the experience.

They mentioned that experiencing the full table PC version of this Aurora by using tethered VR device may be more absorbing. They highlighted interactive features – such as being able to grab and throw items or controlling your location – as the desired elements. However, when adding features, the purpose of this product needs to be carefully considered. If it is used for example in travel fairs, where the user wears the headset only for a very short period of time, seeing the scenery and hearing the sounds may be enough. If it is provided in a game store or physical office premises where people come to play, it needs to have more contents.

When the difference of VR and videos was discussed, VR was mentioned to be more immersive and comprehensive experience. Nevertheless, in comparison to filmed videos, there is one significant disadvantage with computer-modeled VR environment, such as this Aurora presentation. It does not look very realistic – after all, it is still artificial, computer-made scenery. For the time being, the computer-programmed environment is still quite far from the 360-degree VR videos of real surroundings. Anyhow, computer-modeling enables interactive game-like features and elements. It is essential to be able to provide as real experience as possible when using VR in marketing purposes. However, they stated that – as a user knowing that you are wearing a VR headset – they do not necessarily expect it to be absolutely genuine.

When discussed whether this product can be used in travel marketing, the answer was a clear yes. This kind of product has a strong influence. With VR, it is possible to show things that are otherwise hard to explain – especially for people from the other side of the world, since they have not experienced anything similar. It is an addition to companies' marketing portfolio but companies cannot just rely on it. In addition to careful

consideration of the usage purpose, the competition needs to be taken into consideration: since VR technology develops fast and becomes more easily available, will all the competitors soon have the same product? Attention needs to be paid to updates, improvements and other new elements. With VR, you need to look into the future.

## 7.5 The summary of interview results

The interview results analysis answers the following pre-defined research questions:

- What are the characteristics of Singaporean travelers and the reasons why they travel to Finland?

It was mentioned that Singaporeans are frequent travelers: they have been to most of the places, so they are constantly looking for new travel destinations. All the interviewees mentioned Northern Lights as the reason why Singaporeans travel to Finland. In addition, Santa Claus, Helsinki and winter weather, the change to escape the heat were mentioned.

- Does VR experience increase the desire to book a trip?

The answers to the sub-second question were unambiguous – all interviewees stated it would increase the customers' desire to make a booking. Interviewees highlighted the realistic and more immersive, full experience VR can provide.

- How can this VR product be developed in order to use it in travel marketing?

The interviews provided many important viewpoints of how can this VR product be developed in order to be used in travel marketing. To begin with, in general the VR product was considered good: three interviewees gave the overall rating of 4 (one interviewee did not state the overall rating). The colors and smooth movements of the Northern Lights in the Aurora product were complemented. Nevertheless, the product can be improved: it could be more realistic, include interactive elements (for example the ability to do something by hands), human elements such as reflections and recommendations from other people or a company guide explaining the contents. It could

show the change from night to day or include game-like features such as small tasks. The challenges of maintaining user's interest were mentioned by two interviewees: the changing environment and interactive features improve the user experience.

Two interviewees mentioned the importance of the customized contents: the VR experience could provide a virtual tour of their actual travel package. This product could be used as a platform to build the full customized marketing experience. However, it was stated that, when developing this product, the possibility of competition and improvements needs to be taken into account.

- Are travel industry businesses interested in using VR in their marketing?

Based on the interview results, travel companies are indeed interested in using VR in their travel marketing. A clear sign of the companies' interest is the previous VR marketing experience: two companies had already tried it. Visit Finland is clearly the most experienced: they described many real-life examples of how they have already utilized it. In addition, they have recently made a notable investment to VR contents. Both Chan Brothers and EU Holidays representatives continued discussions with Iceflake Studios and inquired for an offer. It seems that, despite the expensiveness of the investment, it is considered worth it. However, the competition is one noteworthy factor: the product cannot be similar to what competitors have. It needs to be related to the products the company is selling. Albatross World Travel & Tour representative also stated that they would like to use it, but the costs needs to be considered. These findings show that even though financial reasons may prevent them from utilizing VR in travel marketing, its advantages are acknowledged.

- **How can VR be utilized when marketing Finland to Singaporeans?**

The main research question is analyzed by summarizing the results. According to the interviews, it can be used as an incentive in travel fairs and other related events. However, the contents and devices may vary depending on the usage purpose – the physical space for tethered device may be difficult to arrange in a fair environment. In events where the user does not visit the premises for a long period of time, just a quick sneak-peak could be enough. Tethered devices would fit better in more permanent location, such as travel agency premises. However, it was stated that the opportunity to try VR

may not attract the customers to the agency, but when they are already there, they may want to try it.

VR can be used to present the Northern Lights as very clear and active, since sometimes people traveling to Finland do not have the chance to see them at all, as one interviewee stated. With VR things that are otherwise hard to explain, can be demonstrated. Also, VR can be used engender the interest: to get people, who have not considered that specific tour before, to make a trip booking.

VR can trigger customer's will to see the destination with their own eyes – even the best-quality VR experience would not replace the actual experience. This is in line with the findings that – no matter how high-quality it is – VR experience does not eliminate the need of true travel, as explained in chapter 4.3.

The interviews of the travel-related business representatives are the most valuable data for this research, since businesses are the potential customers for Iceflake studios. Most of the data (three interviews) were collected in Singapore and one interview was conducted in Helsinki, in Business Finland premises. It was surprisingly difficult to pre-arrange meeting with travel agency representatives – over 25 Singaporean travel-related businesses were contacted, but, before traveling to Singapore, only one meeting was arranged. Two others were arranged by walk-in method: I visited travel agency premises in Singapore to find people to interview. However, despite the difficulties of arranging the interviews, the results were promising. It seemed that companies are indeed interested in using VR in travel marketing.



## 8 RESULTS OF CUSTOMER SURVEY

Data from individual consumers were collected in a two-day road show travel event, held 3<sup>rd</sup> to 4<sup>th</sup> of March in Marina Square Mall, Singapore. In the road show event different travel agencies had a pop-up stand where customers could visit to book trips and find out more information about travel deals and destinations. During this event customers had a chance to try out Northern Lights in VR and after answering the customer survey they were rewarded with a Finnish berry snack bar.

In the travel event the total of 37 survey results were collected. There were also numerous other people who watched the Aurora demonstration but did not want to fill out the customer survey. Their comments and reactions were not included in the results. In addition, two people who were not able to watch the demonstration (the VR application had not started) had filled out the customer survey. These answers were not taken into consideration when analyzing the results. Also, these two customer survey answers were not included in the total number of 37 survey results.

Since the answers were collected in a fair environment and respondents were just passing-by, they were not prepared for the questionnaire. By this method, it is possible to get the most genuine reactions and comments – respondents' answers are spontaneous. Some people took more time to answer the survey whereas others did not write verbal answers to all open questions. Therefore the yes-or-no questions played important role in analyzing the results: the yes-or-no answers produce an unambiguous perception of respondents' opinions. In addition, the most relevant comments are brought along. The verbal comments were essential to achieve a deeper understanding of the target group. Due to the small sample size (37 respondents), the results cannot be extrapolated to the general Singaporean population. However, the results provided information of target group's reactions and opinions of VR in travel marketing. In the next chapter the customer survey results are analyzed question by question. The summary of results is provided in the end of this chapter.

## 8.1 Analysis of consumer survey results

All 37 respondents were Singaporean nationals. The age distribution is following (table 5.): four respondents belong to the age group of 18-25 years, seven respondents in the group of 26-34 years, five in the group of 35-44, eight respondents in 45-54 and 13 respondents in the group of 55 years or older. So, as the table shows, millennials (18-34 years) are represented by 11 respondents whereas 21 – over half – of the respondents are 45 years or older.

TABLE 5. The age distribution of respondents

Age group	Number of respondents	
18–25	4	11 %
26–34	7	19 %
35–44	5	14 %
45–54	8	22 %
55+	13	35 %
	<b>37</b>	<b>100 %</b>

14 respondents stated that they have tried VR before (figure 1.): in occasions as gaming, exhibitions or theme parks to mention few examples. One respondent stated they have own VR set at home. 21 respondents had no previous experience of VR. There was an evident age difference: most of the respondents (more than two out of three) who did not have any previous experience of VR belong to the age group of 45 years or older, as shown in the figure below. Two respondents did not state their answer clearly. The answers are categorized as “unclear” if they were either left blank or the verbal answers did not clearly indicate either aspect.

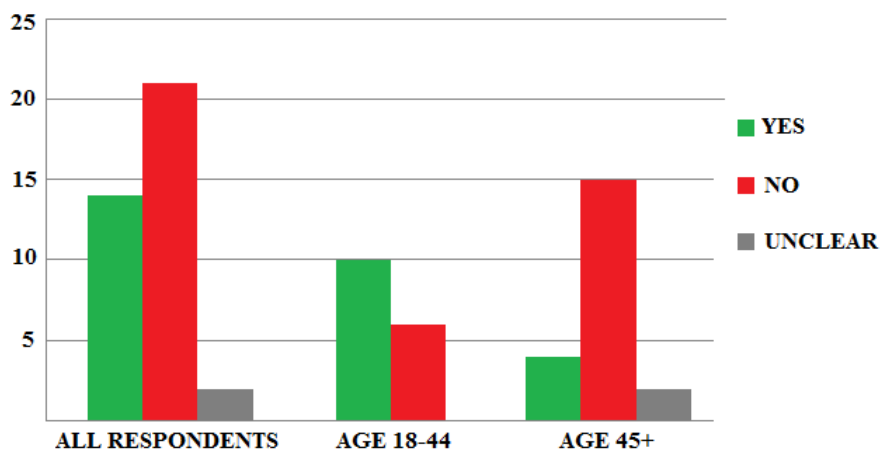


FIGURE 1. Previous VR experience in different age groups

When asked “Why would you like to travel (or have traveled) to Finland?” 23 respondents mentioned Aurora or Northern Lights. So, regardless the age, it is the main reason to travel to Finland for more than half of the respondents. Other reasons mentioned by several respondents were Santa Claus, glass igloos and to experience the cold/winter weather and snow.

More than half – 25 respondents out of 37 – would visit a travel agency if they could experience travel destinations in VR there (figure 2.). There was no notable difference in the answers between different age groups.

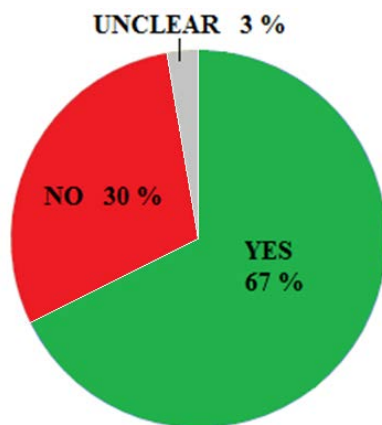


FIGURE 2. Would you visit travel agency if you could experience travel destinations in VR there?

People who answered “NO” stated that “demo is not exciting”, “would rather experience the real thing” and “real experience is different”. Respondents who said “YES” stated that it “could give a virtual image of what to expect” and “better idea of the experience you are going to have if you book the tour”. One respondent stated that instead of just reading about travel destination, seeing it may intrigue more: “A picture speaks a thousand words”.

Three quarters – 27 respondents out of 37 – stated that experiencing the destination in VR would increase their desire to book a trip (figure 3.). It is notable that the number of unclear answers was higher than the number of people who said VR experience would not increase their booking desire. Respondents stated that it depends on the quality and contents of the VR demonstration.

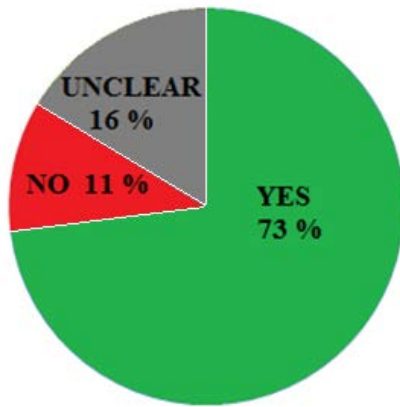


FIGURE 3. Experiencing the destination in VR would increase my desire to book a trip

People who answered “NO” mentioned that pictures are already appealing enough or they want to have more information, such as the trip brochure, before making a decision to book.

Northern Lights in VR was in overall considered great, awesome and beautiful experience. There were only five respondents who were not so impressed: stated it was “acceptable”, “artificial” or “not so real”. The most-stated difference between VR and video was that VR is more realistic or more “full experience”. However, many of the respondents highlighted that neither one can substitute the real experience: “you cannot experience the weather”, “it is still not a right environment”.

When respondents were asked to describe the Aurora demonstration and the things that they liked or drew their attention, their attention was clearly directed to the moving and colorful Northern Lights on the sky. Other things mentioned were the surroundings (snow, bonfire) and “the surreal experience” of 360-degree view: “It feels unreal and is a step towards seeing the real thing”, “beyond just YouTube videos”. Since the respondents were just passing-by, they were not prepared for the trial and therefore most of them did not have any expectations of the experience beforehand. Experiences in overall were positive: “was not expecting much but it amazed me with the 'feel'”, “I thought it would be like watching a video. It's more immersive”, “I had no expectations. Blown my perception”, “exceeds my expectations”.

There were only five respondents who clearly stated they would not like to have more contents, so a clear majority of people were interested in seeing more. Few examples of the desired contents mentioned: more coverage of the Finnish nature and environment,

animals (reindeer, huskies), showcasing the accommodation (glass igloos) and sport activities. It was mentioned that “will be helpful to have teasers of places of interest that may be visited in a travel itinerary”. Few respondents would like the experience to be more interactive, like playing a game. Couple of respondents also stated that they would like to see other destinations such as Antarctic, Iceland or Africa in VR as well.

Clear majority, 26 respondents stated that the Aurora experience increased their desire to book a trip to Finland (figure 4.).

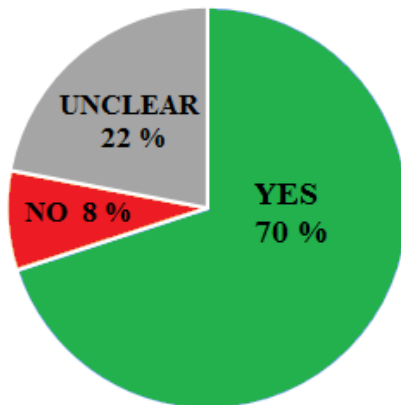


FIGURE 4. The Aurora experience increased my desire to book a trip to Finland

Many respondents emphasized the importance of the real experience – they stated that the Aurora demonstration increases the desire to see it with their own eyes: “it draws me to want to go to Finland to experience their culture and see the Northern Lights in reality”, “it already looks very nice in VR, would expect it to be even better in real life”. Few respondents also mentioned that they had already been planning a trip to Finland: “on my bucket list already”, “I have been planning to go this year or 2019”.

It was noteworthy that the number of unclear answers was higher than the number of respondents who clearly stated it did not increase their desire (figure 4, table 6.). Also, this question had the most unclear answers among all questions. In the unclear answers it was stated that “partly because I'm currently not having the capacity to consider a trip there” and “maybe or not, nice experience”. So it seems that the unclear answers did not necessarily occur from the Aurora demonstration itself, but due to other reasons.

In addition to previous VR experience, there was another notable difference between different age groups in these answers (table 6.). Whereas 10 out of 11 millennials (18-34 years) stated that the Aurora experience did increase their desire to book a trip to

Finland (including all respondents from the age group of 18-25 years), the older respondents were more indecisive: all unclear answers were given by respondents of the age 35 or older. In the oldest age group (55 years or older) only 7 out of 13 said their desire to book a trip to Finland was increased by this Aurora experience.

TABLE 6. The age distribution of answers

	YES		NO		UNCLEAR		TOTAL
<b>18–25 years</b>	4	100%		0%		0%	<b>4</b>
<b>26–34</b>	6	86%	1	14%		0%	<b>7</b>
<b>35–44</b>	3	60%		0%	2	40%	<b>5</b>
<b>45–54</b>	6	75%		0%	2	25%	<b>8</b>
<b>55+</b>	7	54%	2	15%	4	31%	<b>13</b>
	<b>26</b>	<b>70%</b>	<b>3</b>	<b>8%</b>	<b>8</b>	<b>22%</b>	<b>37</b>

The unclear answers are partially explained by the overall rating. All respondents were asked to give overall rating from 1 to 5 (1 – poor, 2 – fair, 3 – average, 4 – good, 5 – excellent). 27 respondents gave the overall rating of 4 or 5 which means that approximately three quarters of respondents thought the Aurora experience was either good or excellent: “colorful and sharp pictures”, “it’s my 1st time & it felt so real”, “provided overall 360 visual experience”. However, there was a clear difference in overall rating between the oldest age group and other groups, as shown below (table 7.).

TABLE 7. The average of overall rating

Age group	Average overall rating
<b>18–25</b>	4,5
<b>26–34</b>	4
<b>35–44</b>	4
<b>45–54</b>	4,14
<b>55+</b>	3,46
	<b>3,88</b>

The average of all overall ratings was 3,88. The oldest respondents (age 55 or older) were the least satisfied with the Aurora experience: the average of their overall ratings was 3,46. Unfortunately most of them did not verbally explain why certain rating was given.

## 8.2 The summary of customer survey results

The most interesting findings of the customer surveys were the differences between age groups. Based on the age distribution of the participants, it seemed that particularly people who are middle-aged or older visited that travel event. This perception supports that millennials are more likely to book their trip from digital resources instead of going to physical travel agent premises, as stated in chapter 3.1. Also majority of the respondents middle-aged or older (45+) have not tried VR before. This supports the presumption that they are not as familiar with the new technology as younger ones. It was interesting that, based on the results, the oldest respondents – who are not so familiar with the technology either – were not as impressed by the Aurora demonstration as others. It seems that some of them still prefer the more traditional marketing methods, such as brochures and having a face-to-face discussion with a travel agent.

- What are the characteristics of Singaporean travelers and the reasons why they travel to Finland?

The most-stated reason to travel to Finland was Northern Lights. Several respondents mentioned also Santa Claus, glass igloos and the opportunity to experience the cold/winter weather and snow. Over 70 % of the respondents stated that experiencing the destination in VR would increase their desire to book a trip. Very few of the other respondents stated “NO” clearly, whereas many stated VR may increase their desire depending on the VR experience. Also 70 % of the respondents stated that this Aurora experience increased their desire to book a trip to Finland. Based on the results it seems that VR indeed increases the desire for booking.

- How can this VR product be developed in order to use it in travel marketing?

The average of all overall ratings given was 3,88 (on a scale from 1 to 5). The colors and the active movement of the Aurora experience were the main things complemented. Clear majority of the respondents would develop the product with more contents, such as more coverage of the Finnish nature and environment, animals (reindeer, huskies), accommodation and activities. Some respondents also wanted to see other destinations in VR such as Antarctic, Iceland or Africa in VR as well. It seems that the development

suggestions are related to the travel destinations: the VR experience of the destination before booking was considered helpful.

- Are travel industry businesses interested in using VR in their marketing?

By analyzing customer survey results, the answer to this sub-question cannot be provided directly. However, it was useful information that 67 % of the respondents would visit a travel agency if they could experience travel destinations in VR there. For a travel company to be interested in using VR in travel marketing, it needs to bring advantage. Based on the results, VR can bring competitive advantage since it influences customers' decisions to visit certain travel agency and make a booking.

Numerous answers highlighted the importance of seeing the “real deal”, the destination in own eyes. These findings support that VR experience does not eliminate the desire of actual travel – no one mentioned that the demonstration decreased their interest. Even the respondents who do not want to go to travel agency to try destinations in VR prefer the real travel experience. Therefore, it seems that these respondents would still want to book a trip.

- **How can VR be utilized when marketing Finland to Singaporeans?**

It seems that most of the respondents find the VR experience very attractive: it can be used to provide full, immersive experience that is beyond just videos. However, it cannot be the only marketing tool. Based on the results, some – especially older – customers still prefer the more traditional marketing methods.



## 9 DISCUSSION

The trip to Singapore was a great success – it did not only provide the data for this research, but also useful experience of the travel industry and business culture in Singapore. Despite the difficulties in pre-arranging the meetings, I managed to collect a sufficient amount of valuable data and participate in a travel fair. The total of 37 customer survey answers and four travel-related professional interviews were collected, processed and analyzed. Therefore, the originally targeted amount of research data (3-5 business representative interviews and 15-20 individual customer surveys) were reached or even exceeded. In this chapter, both the customer survey and interview results are summarized together to answer the research questions.

- What are the characteristics of Singaporean travelers and the reasons why they travel to Finland?

The characteristics of Singaporean travelers were examined as a desk study (in chapter 3). Singaporean travelers value easy booking-process and carefree traveling. They are wealthy and can speak English comprehensively. In addition, they are experienced travelers who seek for new destinations, as both desk study and interview results indicated. Singaporean travelers have very limited holidays so they do not hesitate to spend money during those days. They like to invest on luxury brands, experiences and activities as well as relaxation and spending time with family.

Finland offers peaceful nature, self-wellbeing services, luxury design and exotic experiences – exactly the things Singaporeans seek for from their travels. The results show that main reasons why Singaporeans travel to Finland are Northern Lights, Santa Claus, glass igloos and the opportunity to experience winter/cold weather and snow. These findings support the statistics presented in chapter 3.3.1: Singaporeans come to Finland especially for Lappish experiences. In addition, many Singaporean travel agencies provide guided tour packages to Finland. It helps Singaporeans to use their holidays effectively and makes both booking process and travel simple and relaxing – it is easy for Singaporeans to travel to Finland.

- Does VR experience increase the desire to book a trip?

According to both interview and customer survey results, VR provides a comprehensive and realistic image of the travel destination. It does not eliminate the need of actual travel, but vice versa – when the VR experience is high-quality and has interesting elements, it can generate or increase customers' interest to travel. To maximize the effect, VR experience needs to maintain the user's interest and connect to company's travel products. None of the people who experienced Aurora reported motion sickness, lagging, errors or any other issues regarding the quality of the demonstration. All in all, the answer to this second sub-question is highly positive. Based on the results, Aurora increased the desire to book a trip to Finland especially among millennial respondents.

- How can this VR product be developed in order to use it in travel marketing?

The results provided essential information of how this VR product can be developed. Based on the overall ratings (3,88 from customer survey respondents and 4 from travel agency representatives) the Aurora product is considered satisfactory or even good in its current state. The most attractive thing in the demonstration was the colorful Northern Lights with its movements.

However, in order to utilize the full potential of VR in travel marketing, the product could include following features: interactive, human elements and more compressive coverage of Lapland as a travel destination. This could be carried out by customized contents: changes of the environment and accommodation or creating a virtual tour of the travel package showcasing the activities. In its current state, Aurora was considered more of a platform on which companies can build their full marketing experience.

- Are travel industry businesses interested in using VR in their marketing?

The answer to this sub-question is positive: Based on the results, it seems that travel agencies could use VR as 'bait' to attract customers to visit their agency, as most of the customer survey respondents stated they would visit an agency to try VR there. One interviewee stated it may not influence the customer's decision to visit specific travel agency, but once they are there, they would most likely try VR if it was available. Those respondents who would not visit travel agency specifically to try VR still expressed

their interest to travel – so if they visit travel agencies for other reasons, they may still try it and it may have a positive influence to their desire of booking.

Two companies has already utilized VR in travel marketing, Visit Finland, with several VR marketing campaigns, being the most motivated. Also the two other travel agencies, that have not utilized VR at all so far, expressed their interest. So, all four companies had either already used VR or are interested in it. These findings show that VR in travel marketing definitely has potential.

The issues preventing companies to use VR in travel marketing were mostly concerning the possibility of competition and the costs – not the effectiveness of it. In fact, there is a possibility that this thesis project will bring customers for Iceflake Studios. The sales negotiations with companies were not finished by the time this thesis was submitted.

- **How can VR be utilized when marketing Finland to Singaporeans?**

According to both research results and travel-industry company cases of successfully implemented VR campaigns, it is simply obvious that VR can be used in travel marketing. It seems that there is a demand for VR products when marketing Finland to Singaporeans. Instead of just indicating that VR *can* be used, in the following it is explained *how* it can be used.

The purpose of my thesis was to study how the VR product can be used when marketing Finland to Singaporeans. In conclusion, VR can be used to showcase the Finnish environment, nature and Northern Lights in a more immersive, comprehensive and realistic way compared to other marketing methods such as videos and brochures. The companies can customize the product to reflect their Finland tour packages. For Singaporeans, who have never experienced anything similar, VR can be used to demonstrate things which are otherwise hard to explain.

By tailoring the VR product to suit different usage purposes and devices, it can be used in different travel events as well as agency premises. There are few challenges that needs to be taken into account, such as the costs and competition. With customized contents VR product is nothing similar to competitors' marketing tools. The VR device and compatible table PC, along with customized software, are an expensive investment, but

return on investment can be foreseen. With updates and improvements it is a long-lasting investment that suits to different travel products and never expires. Consequently, many travel industry businesses have already acknowledged the advantages and are, at least considering, to bring VR into their marketing portfolio. There is a clear demand for Virtual Reality in travel marketing.

## **9.1 Self-assessment**

The size and the quality of the data was satisfactory considering that this research focused on respondents' opinions and reactions instead of producing extrapolated information: All interviewed company representatives were from relevant companies and the key persons for this topic. In addition, an adequate number of 37 customer survey answers were collected. In retrospect, the survey questions should have been formulated differently in order to fit the circumstances: in a fair environment all respondents did not have time to answer questions thoroughly. The survey should have been relatively short with compact and understandable questions to maintain respondents' interest and, thus, provide more useful data.

This thesis project was extremely interesting and challenging for me. Since it originated from my personal interests, the target group was strictly limited to Singaporeans. It enabled me to pursue my personal goals and travel to Singapore. However, due to the limited target group, this thesis does not provide a general view of the potential of VR in travel marketing. Since this topic concerns Finland as a travel destination, the research could have been expanded to major targeted countries (such as Japan or China) to provide more comprehensive information of the topic.

In 2018, when the research was conducted, this topic was very fresh, novel and current. Therefore, this research produced new information of both topic and target group that have not been widely examined. The thesis commissioner, Iceflake Studios, aimed to get more information of the reception of the VR product, Aurora, and how it could be developed. Those goals were achieved. In addition, two companies expressed their interest and requested for an offer. Sales were not the main goal, but it seems that this project turned out to bring more than initially expected.

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APPENDICES

Appendix 1. Questionnaire for company representatives

1(2)

TRY OUT NORTHERN LIGHTS  
IN VIRTUAL REALITY



YOUR ORGANISATION

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YOUR POSITION

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HAVE YOU TRIED VIRTUAL REALITY BEFORE?

YES  
 NO

IF YES, IN WHAT OCCASION?

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WHAT ARE THE REASONS WHY SINGAPOREAN TRAVELS TO FINLAND?

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HAS YOUR COMPANY USED VIRTUAL REALITY IN MARKETING BEFORE?

YES  NO

IF YES, HOW? WHAT WERE THE RESULTS?

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DO YOU THINK EXPERIENCING THE DESTINATION IN VR WOULD INCREASE CUSTOMER'S DESIRE TO BOOK A TRIP? WHY/WHY NOT?

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WE WOULD LIKE YOU TO DESCRIBE THIS AURORA EXPERIENCE. WHAT DID YOU LIKE? WHICH THINGS DREW YOUR ATTENTION?

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WHAT DID YOU THINK OF NORTHERN LIGHTS IN VIRTUAL REALITY?

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CONTINUE ON THE OTHER SIDE, THANK YOU!

# TRY OUT NORTHERN LIGHTS IN VIRTUAL REALITY



OVERALL RATING OF THIS VR EXPERIENCE

- 1 - POOR
- 2 - FAIR
- 3 - AVERAGE
- 4 - GOOD
- 5 - EXCELLENT

WHY DID YOU CHOOSE THIS RATING?

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HOW IS THIS VR EXPERIENCE DIFFERENT FROM SEEING NORTHERN LIGHTS ON VIDEO?

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WOULD YOU LIKE TO HAVE MORE CONTENTS IN THE EXPERIENCE? WHAT WOULD THAT BE?

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WHAT KIND OF EXPECTATIONS OF THIS VR EXPERIENCE DID YOU HAVE?  
HOW DID THIS AURORA EXPERIENCE MEET THOSE EXPECTATIONS?

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DO YOU THINK YOUR COMPANY COULD USE THIS PRODUCT IN MARKETING?  
WHY/WHY NOT?

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WE SINCERELY THANK YOU FOR PARTICIPATION!

# TRY OUT NORTHERN LIGHTS IN VIRTUAL REALITY



NATIONALITY

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AGE GROUP

- 18-25 YEARS
- 26-34 YEARS
- 35-44 YEARS
- 45-54 YEARS
- 55+ YEARS

HAVE YOU TRIED VIRTUAL REALITY BEFORE?

- YES
- NO

IF YES, IN WHAT OCCASION?

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WHY WOULD YOU LIKE TO TRAVEL (OR HAVE TRAVELED) TO FINLAND?

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WOULD YOU VISIT TRAVEL AGENCY IF YOU COULD EXPERIENCE TRAVEL DESTINATIONS IN VIRTUAL REALITY (VR) THERE? WHY/WHY NOT?

- YES
- NO

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WOULD EXPERIENCING THE DESTINATION IN VR INCREASE YOUR DESIRE TO BOOK A TRIP? WHY/WHY NOT?

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PLEASE DESCRIBE THIS AURORA EXPERIENCE. WHAT DID YOU LIKE? WHICH THINGS DREW YOUR ATTENTION?

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WHAT DID YOU THINK OF NORTHERN LIGHTS IN VIRTUAL REALITY?

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CONTINUE ON THE OTHER SIDE, THANK YOU!

# TRY OUT NORTHERN LIGHTS IN VIRTUAL REALITY



OVERALL RATING OF THIS VR EXPERIENCE

- 1 - POOR
- 2 - FAIR
- 3 - AVERAGE
- 4 - GOOD
- 5 - EXCELLENT

WHY DID YOU CHOOSE THIS RATING?

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HOW IS THIS VR EXPERIENCE DIFFERENT FROM SEEING NORTHERN LIGHTS ON VIDEO?

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WOULD YOU LIKE TO HAVE MORE CONTENTS IN THE EXPERIENCE? WHAT WOULD THAT BE?

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WHAT KIND OF EXPECTATIONS OF THIS VR EXPERIENCE DID YOU HAVE?  
HOW DID THIS AURORA EXPERIENCE MEET THOSE EXPECTATIONS?

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DID THIS AURORA EXPERIENCE INCREASE YOUR DESIRE TO BOOK A TRIP TO FINLAND?  
WHY/WHY NOT?

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WE SINCERELY THANK YOU FOR PARTICIPATION!