

## **Developed Foresight for Borders Model Predicts the Amount of Borders Traffic in Finland**

*By Laura Tarkkanen\**

*This paper describes the factors which have an influence on travelling and presents the forecast model to Finnish-Russian land border. The number of border traffic between Finland and the Russian Federation's border stations has been an upward trend through the 2000s. A significant part of growth is due to increased travelling of the Russian Federation's citizens to the European Union. Forecasting of cross-border traffic and tourism in Finnish-Russian land border has been based on the official statistics. Laurea University of Applied Sciences carried out a study which generates information on the factors that influence on border traffic. The research study is based on qualitative methods and co-creation tools. As a finding, the key structural factors are tourist's motivations, service and infrastructure in border station, and travelling documents. Foresight for Borders model predicts the amount of border traffic which are based on the key structural factors. Foresight for Borders model will improve service at the border stations by providing information of the traffic amounts that are anticipated to cross the border during specified time periods. As a conclusion, the study can be stated to be necessary in terms of creating new approaches to border service, security and tourism studies.*

**Keywords:** *forecast model, cross-border traffic, key structural factors, travelling*

### **Introduction**

The border-crossing and planning its infrastructure nearby border-crossing points have based on the official statistics and however, some perceptions have based on the tourists' interviews. The statistics describe the past events. However, the infrastructure planning proceedings will be done during several years regarding the significance of the decision-making of Finnish Government. In addition, the importance of the development projects reach considerably beyond in time. To forecast futures traffic volumes and routes via border crossing points, there is a need to provide the innovative tools due to the major economic impact of the development projects. This paper presents a study carried out by Laurea University of Applied Sciences (UAS) in 2015 and it is the primary reference of this paper. The study generates information on the factors that influence on travelling and border traffic in Finnish-Russian border. The study provides information of the reasons to travel to Finland which enables the tourism companies to develop their businesses. Moreover, the study helps Finnish authorities to predict the number of tourists and improve the operations based on the research interviews. The study enables

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Finnish Government to emphasize the significance of Russian tourists to the economic in Finland.

This paper presents the foresight model based on the identified key factors. The viewpoint of this paper is the traveller's. The study describes the Russian tourists' key factors to travel in Finland and their experiences of the functions of the Finnish border stations.

The Russians are identified to be the tourists or same-day visitors. Tutkimus- ja Analysointikeskus TAK Ltd does a yearly research in the Finnish-Russian border stations. In 2013, they presented that nearly 69 percent of interviewed Russian travellers are spending a maximum one day in Finland. In that same year, the 49 percent of interviewed Russian travellers were in shopping trip and nearly 29 percent announced the purpose of the trip to be a holiday. Statistics Finland defines (2016): A tourist (overnight visitor) is a visitor who stays at least one night in a collective or private accommodation in the place visited. An international tourist is an international visitor who stays at least one night in the country visited. Statistics Finland defines (2016): An international same-day visitor is an international visitor who does not spend the night in the country visited. A same-day visitor stays less than 24 hours in the place/country visited, the arrival and the departure takes place within the same calendar day.

### **The Russians Travelling to Finland in the 2000's**

The development of the volumes of the border traffic between Finland and the Russian Federation on the land-border crossing points have been an upward trend through the 2000s. A significant part of the growth in border traffic have been caused the increased travelling of Russian citizens to the European Union. The growth of the traffic on the Eastern border can be measured by the number of border checks carried out at the border crossing points. The movement of people across borders in the European Union is controlled by Regulation (EC) no 562/2006 of the European Parliament and of the Council (Schengen Borders Code). The border checks ensure that the people and their mean of transportation and the object in their possession may enter the territory of the Member State or out of there. The border check at is carried out to the person who is arriving or leaving at the external border of the Schengen area (Schengen Borders Code 2006/562).

The Finnish Border Guard keeps the statistics of the number of the border check. The number includes the both entry and exit checks which has to be considered. The land border between Finland and Russia is the external border of the Schengen area and therefore is used for the transit purposes to enter to the other Schengen countries.

In addition, the growth of the border traffic can be measured by following the number of Schengen visas issued to the Russian citizens. Schengen visa allows stays throughout the Schengen area for its period of existence. Hence, the prior use of visa should be at the Schengen country where the applicant's

visa is granted (Ministry for Foreign Affairs of Finland, 2015). Therefore, the person who applies for a visa from Finnish consulate should have Finland as a final destination.

The next paragraph examines the growth in the number of border checks and issued visas from the 2000s till 2010s. The numbers based on the information given by Finnish Border Guard (2015). The paper reviews the number of issued visas which based on the statistics given by the Ministry of Foreign Affairs (2015). The number of the declined and redundant visa applications is not included into the review.

The statistics (Finnish Border Guard, 2015) shows that the total number of cross-border traffic at the Finnish-Russian land border was approximately 5.5 million people in 2000. The half of the number of travellers consisted of the citizen of the Russian Federation. During the year 2000, there were issued over 313 000 visas, of which nearly two-thirds were issued by the General Consulate in St. Petersburg. The statistics (Finnish Border Guard, 2015) shows that in 2001 the number of border crossings had risen to 6.03 million, and the growth from the previous year consisted of nearly 10 percentage. Hence, the Russian citizens were the majority of the border crossings with 53 percentage and 3.2 million border crossings. However, during 2002, 2003 and 2004, there were no major changes in the number of border crossings and the total amounts remained at the 2001 level.

In 2005, the number of border checks turned to growth and continued on the next three years till 2008. During 2005 and 2006 the total number of border checks growth over 6.4 million, and the Russians had grown significantly to be the major group of the border-crossers.

The expected tourism potential was realized in 2007 and 2008. In 2008, there were made 7.7 million of border checks and the Russians were the biggest group with 74 percentage.

In 2009, the slowdown of the growth pace happened. The main reason for the reduction can be considered as the global economic recession in 2008 and 2009 which reflected in Russia's gross domestic product (GDP) with -7.8 percentage in Fall 2009 (The Bank of Finland, 2015). In 2010, Russian's GDP began to increase and that reflected to the number of border checks positively. There was made 8.4 million border checks of which 74 percentage were carried to the Russian citizens.

In 2011, there were made 10.6 million of border checks. According to Statistics Finland (2013) the Russian tourists have been the largest group of foreign visitors since 2006, and 1.5 million overnight stays were recorded for Russian tourists in 2012, which 17 percent more than in 2011. The number of border checks increased in 2012 nearly 12 million and the Russians were the major group with 78 percentage and 9.2 million of border crossings.

The year 2013 was the peak in the number of border checks throughout the 2000s. There were 13 million of border checks in the Eastern border of Finland. The Russian citizens remained the major group with 10 million of checks and 78 percentage of total amount. The Finnish consulates issued totally

1.5 million visas of which St. Petersburg's consulate issued almost 1.2 million visas.

The number of border checks began to decline in 2014. The total amount of border checks remained in 11.4 million and the Russian citizens were the major group with 73 percentage. However, the number of issued visas decreased from 2013 and the change from the previous year was -24. The reasons for the decrease can be found from the similar economic situation as in 2009.

During the 2000s, the increased number of Russian tourists has been congested the border stations in the Eastern border of Finland. The travelling peaks have been when the Russians have arrived to the borders to celebrate the New Year in Finland. Hence, the congestions have been continued till the Russians have travelled back to Russia. During the busiest years, over 50 000 Russians have been daily exceeding the Eastern border. (YLE, 2012). Due to the previous congestions, the study is necessary to enable the anticipation for future.

### **Tourism from Russia to Finland, Service and the Security**

As mentioned, the economic situation in Russian reflects to the Russian citizen's tourism to Finland. In addition, the numbers show that the economic effects firstly to the border checks at the land border in Finland. Russia's economic situation and the weak ruble against the euro reduced the amount of the Russian tourists. (Findicator, 2016). Moreover, the economic of Russia have an impact on travelling in Finland. Ministry of Finance (2015) describes that economic situation has a significant impact on the food industry and the stores in the Eastern Border of Finland.

In addition, the social environment significantly has a role in the tourism in the Finnish-Russian land border. The social environment includes the age distribution, residential areas, the purpose of travelling and the objects of consumption.

To understand the Russians tourism, have to overlook at the overall situation of tourism to Finland. Visit Finland has made tourism research to describe the tourism to Finland and in addition, presents the total amount of the Russians share. These results are discussed below.

In 2015, the Russian tourism decreased by almost a third (30 %) while arrivals from the other countries increased. However, the journeys of the Russians are one-third (32%) of the all number of journeys to Finland. The Russians' money consumption in Finland was equivalent to nearly one-fifth, however, their share of the journeys to Finland was one-third. Moreover, the money consumption of Russians was quantitatively reduced and it was two-fifths of the high-season in 2013. (Visit Finland, 2015).

Overall, the Russians have done the major part of the shopping trips to Finland with the 94 percentage. The numbers present that the Russian same-day visitors have mainly done the shopping trips, however, the main reason of

the overnight tourists have been a holiday in 2015. (Visit Finland, 2015). Overall, the Russians did nearly two-fifth of the all product purchased by the international tourists. The numbers present that the Russian tourists were more interested in welfare services than other nationalities. In addition, the Russians were interested in summer activities, hence, it is not reflected in the statistics.

Moreover, the numbers show that the Russians travel destinations are directed to the Eastern Finland while other international tourists travel to the southern and the western Finland. In addition, the interviewed Russians visit in Finland more than four times a year.

Hence, the numbers do not present the experiences of the Russians from the border stations. As presented, the Russians visits several times in a year. The numbers do not show the value of the service in the border stations. The following chapters discuss the service and the service-logic.

Vargo & Lusch (2004) and Vargo & Lusch (2006) define that service is the application of competences (knowledge and skills) by one entity for the benefit of another. In addition, while defining the value, two general meanings of value, “value-in-exchange” and “value-in-use”, reflect different ways of thinking about value and value creation. In the field of border security, the security is prioritized. The procedures at the border station based on the laws and regulations. Hence, the service and the value of the procedures have not been measured anyhow. Vargo & Lusch (2008a) present the service-dominant logic, where the roles of producers and consumers are not distinct, meaning that value is always co-created, jointly and reciprocally, in interactions among providers and beneficiaries through the integration of resources and application of competences. The idea of service-dominant logic fits to the field of border security. The third-country nationals are obliged to cooperate and answer to the questions represented by the border guard. The third country national has to present the required documentation. The border guards cannot be presented as a service providers, furthermore aspired to the smooth border crossing and avoid the occurrence of the queues.

Lusch and Vargo (2006) define a service as an application of specialized competences, where the know-how is an essential component of differentiation. Lusch and Vargo (2006) explain that service is exchanged for service and goods are just a distribution mechanism for service. They further propose that, all economies are service economies, and the service process is customer-centric and interactive.

### **The Determinants of Tourism Performance in the Context of Finnish-Russian Border**

The economic situation in Russia is influencing on travelling of the Russians to Finland. It makes the tourism companies to improve their business and the performance of the travelling. Assaf and Josiassen (2011) states that to improve the tourism industry, the determinants that affect tourism performance are of key interest to the stakeholders. A key obstacle toward improving

performance is multitude of determinants that can affect tourism performance. The present literature study addresses the gap between the determinants of tourism performance and their relative importance. (Assaf and Josiassen, 2011.) They started with developing a list of determinants which potentially affect tourism performance. The list was created by literature review and expert opinions from the industry. Srnka and Koeszegi (2007) argue to start with categories which identified in the literature. Assif and Josiansen (2011) developed the initial classification on the basis of an interdisciplinary literature review (e.g. Crouch and Richie, 1999). The classification was the basis of an interdisciplinary literature review where the broader drivers of tourism performance. Each driver includes a set of determinants that are potential sources of tourism performance. This determinants are discussed in this section as well as reflected to the study in Finnish-Russian border.

Firstly, Assaf and Josiassen define tourism and related infrastructure as a driver. They continue that a number of authors have cited that the infrastructure of a country as a source of tourism attractiveness (Khadaroo and Seetanah, 2007). Assaf and Josiassen continue that there is a link between the size and quality of tourism transportation recourses which includes roads. Briassoulis (2002) continues that areas with poor infrastructure frequently have low-quality tourism and might be unable to meet the demand in high seasons. Assaf and Josiassen continue that in their study the interviewees argued that related infrastructure is an important determinant of tourism performance as the ease of tourist movement within the country is affected by the quality of roads, railroads, ports and airports. The study which carried out by Laurea UAS pointed out that the Russians travelled by a car prefer to use the border stations where the roads are good-quality. In addition, the infrastructure does not affect to decision-making of the destination, however, it is beneficial. Moreover, the study stated the infrastructure as a determinant of one of the key structural factor. The study pointed out that infrastructure influence on the key factors as an internal affecting factor based on the need of the traveller. (Tarkkanen and Leppänen, 2015.)

Secondly, economic conditions such as employment and income levels have been found to be strong determinants of performance across several industries (Li 1997; Sun, Hone and Doucouliago 2003). Assaf and Josiassen (2011) describe that several interviewees stressed the importance of basic economic conditions to the success of the tourism industry and its actors. According to Harper (2001) and George (2003), the security and safety levels influence on tourism demand. Therefore they can be defined as third driver. Tourists want to feel safe and comfortable when they are at a destination (Assaf and Josiassen, 2011). In the study carried out by Laurea UAS, the Russians did not point out economic conditions or security and safety issues.

Assaf and Josiassen state that the price competitiveness affect strongly to tourism of a particular destination. They continue that it has been widely discussed in the economic literature. When selecting destination, tourists consider the price to get to the destination and the cost of living at the origin relative to substitute destinations (Dwyer, Forsyth and Rao, 2000). The

intention to return to a destination can also be affected by the prices experienced by tourists in their previous visits (Barros and Machado 2010). Assaf and Josiassen state that fuel price, ticket price and hotel price are also important determinants of tourism expenditures and can affect to the tourist's choices of a particular destination. During the interviewing time, the price competitiveness had an impact on the Russians' travelling. In 2013, the interviews carried out by TAK Ltd, presented that nearly 69 percent of interviewed Russian travellers are spending a maximum one day in Finland. In that same year, the 49 percent of Russians were in shopping trip. The numbers conclude that due to the large amount of the same-day visitors, they consider the costs and the destination due to the estimated price. In addition, the study presented that the Russians preferred to travel to Finland for the discount sales (Tarkkanen and Leppänen, 2015).

Assaf and Josiassen define that the fifth driver would be government policies. The literature support the argument that government policies may drive tourism development and provide a general setting that actively encourages growth and at the same time removes unnecessary restrictions or burdens (Jenkins and Henry 1982; Holden 2003). The government policies may be defined the major driver, especially the visa related determinant, which influence on the Russians' travelling to Finland. The selection of the visa application place were described as a first decision to start the travelling preparations. For example the challenges in booking the appointment to the General Consulate could be the determinant factor which is why the person did not intend to travel to Finland (Tarkkanen and Leppänen, 2015). However, Assaf and Josiassen highlight that some other field of studies outside of tourism found a positive link between effective government policies and industry performance (Jacobsson 1991; Das and Ghosh 2006). The sixth driver is defined to be environmental sustainability. Assaf and Josiassen describes that the most of interviewees agree that sustainable tourism has become a strategic goal. In addition, sustainable tourism can also help improving the image of a particular destination (Hassan 2000). The Russians did not point out the determinants of the environment sustainability. However, the Russians pointed out the need of the car insurance when entering to the Schengen area.

The seventh driver has been defined as labor skills and training. Assaf and Josiassen point out that during the interviews that the service level that tourists perceive is an important determinant. Some tourists simply would not even consider visiting a country that they perceive as having a poor level of service mindedness (Assaf and Josiassen, 2011). Baum (2002) state that although technology has replaced labor skills in some industries, it has not eliminated demand for higher order skills within the tourism industry. Alegre and Cladera (2006) continue that recent studies have shown that tourists are more likely to return to those destinations that provide a higher level of service. The seventh driver and its determinants can be discussed in the study carried out by Laurea UAS. The study stated that the border control is experienced as a sensitive experience and the ambiguities have resulted in the negative experience of the border crossing to the traveller. The interviews stated that in overall the

Russians are satisfied to the service given by Finnish border authorities (Tarkkanen and Leppänen, 2015).

The eight driver has described as natural and cultural resources. It is possible to argue that the success of tourism destinations is affected by natural and cultural or heritage resources to form their attractions bases (Hassan 2000; Deng, King and Bauer 2002). One of the key factors which is presented in the paper is traveller's motivations. They include the reason of travelling. The research presents that the interviewees primary reason to traveling to Finland relate to the environment, such as Finnish climate and the nature were appreciated.

## **Methodology**

The research method was a theme interview (Eriksson and Kovalainen, 2010). The purpose of the interview was to find out the interviewee's tourism experiences in Finland. Interviews were made in Russian. Interviews were conducted in individual, pair or group interviews, they were conducted anonymously, and no sensitive information were collected. The interviewers confirmed that the interviewee was a citizen of Russian Federation and do not resident permanently in Finland. Due to the characteristics of the study, the themes related to border control, applying the visa, and the expectations for future travelling.

The interviewees were entitled to refuse to be interviewed. Due to the qualitative research method, the interviewers worked as a pair in order to focus on the quality of the interview and to build on discussion-based and strong interaction with the interviewee. The interviews were carried out by the students of Laurea UAS who spoke Russian as their native-language. Thus, the interviewers were familiar with Russian culture and able to interview in a pleasant way. The interviewees were interested to participate in the interview and felt themselves important due to their experiences were collected and answered in quite openly.

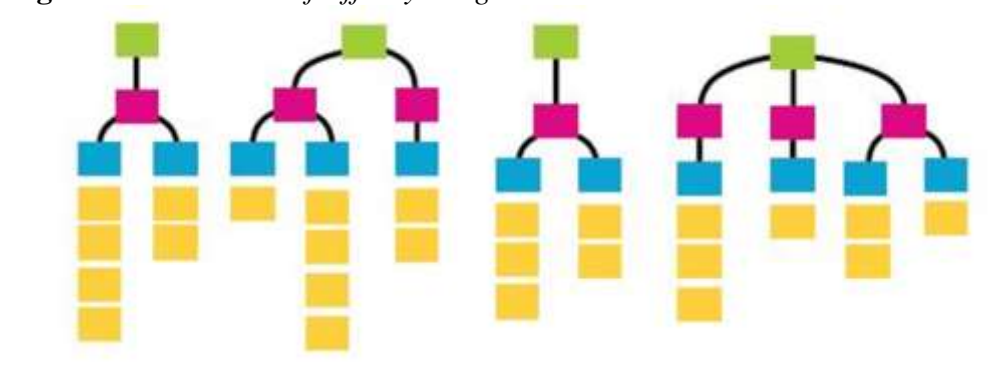
The interviews conducted in total of 149 interviews during ten (10) days from August 2015 till October 2015. Interviews were carried out in the cities Imatra and Lappeenranta located in the Eastern Finland. The interviews were done in public places in Finland due to the security reasons not allowed to interview in Finnish border stations. The interviewers conducted 60 interviews in Imatra and 24 interviews in Lappeenranta. In addition, Torfyanovka's border crossing station in Russia where conducted 65 interviews.

The research data were analysed and classified with affinity diagram. An Affinity Diagram (or KJ method after its author, Kawakita Jiro) is a tool to generate groupings of data based on their natural relationship through brainstorming or by analyzing verbal data gathered through survey, interviews or feedback results (Foster, 2010). Affinity diagram is a visual way to analyse and work on qualitative research data. Affinity diagram classifications help to understand the insights, observations and demands of classifying. Therefore affinity diagram was chosen as an analysis method due to it is possible to



create an inductive analysis of individual observations and considerations to be formed to the general categories and themes. (Laurea University of Applied Sciences, 2015). The figure 1 below illustrates the nature of affinity diagram tool.

**Figure 1.** *The Nature of Affinity Diagram Tool*



Affinity diagram is a specific classification tool since it enables to process the data “by hand” and if necessary, the answers can be moved between the categories. To this research the affinity diagram found to be suitable. In addition, the research data was able to classify as larger entireties compiled with sub-questions and its answers. Therefore it was able to diverse into smaller entities due to the interviewers’ answers.

Affinity diagram has been used in the paper “A hybrid approach integrating Affinity diagram, AHP and fuzzy TOPSIS for sustainable city logistics planning” which has published in Applied Mathematical Modelling publication in 2012. Awasthi and Chauhan (2011) discuss how city logistic initiatives are steps to reduce the negative impacts of good transport to the city residents and environment. They have used Affinity diagram to generate criteria for evaluating city logistics initiatives. In their paper, the results are four categories of criteria namely technical, social, economical and environmental (Awasthi and Chauhan, 2011).

Affinity diagram has also been used to define the definitions of business model. Shafer, Smith and Linder (2005) review the extant literature and identify and classify the components of business models cited therein. Shafer et al. (2005) used an affinity diagram to categorize the business model components that were cited twice or more. In that paper affinity diagram were chosen due to its benefit of identifying patterns and establishing related groups that exist in qualitative datasets. The resulting affinity diagram identified four major categories: strategic choices, creating value, capturing value and the value network. (Shafer et al., 2005). It can be stated that affinity diagram is usable in different studies. The above mentioned examples present that affinity diagram is a beneficial method in order to identify and categorize a large number of qualitative data.

Considering the research question, the classification of the affinity diagram was divided into three main entirety. The first entirety discussed the questions

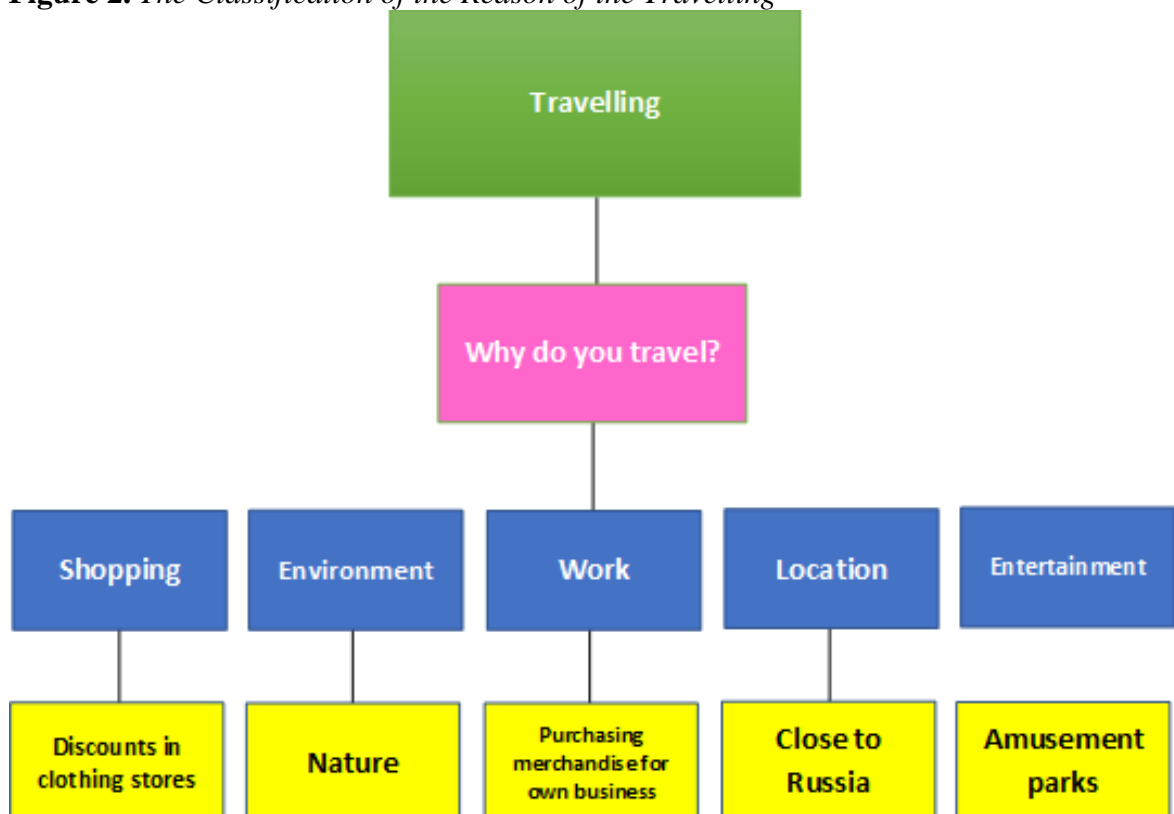
related to the visas, the second entirety contained the questions related to the border checks and border crossing experiences. Hence, the third entirety discussed the future-related questions, including the development proposals for the future. The personal experiences of travelling to Finland were separated to the own section. In addition, the affinity diagram classifications were specified as the research progressed due to the research data refined further the classification of the data.

### The Border Crossing Experiences

This chapter introduces how the research was conducted. It explains the theme interview, shows the examples of the data and its classification. Hence, the chapter represents the factors which have impact on the border crossing.

The interview started with an open question “Why do you travel to Finland?” The classification of the first question is presented in figure 2. Due to the nature of the theme interview, the interviewee answered the question in his/her own words. Thus, the classification is also been made by applying. For example, if the interviewee answered that “there is many discount in clothing stores in Finland”, the answer has been classified to the shopping category.

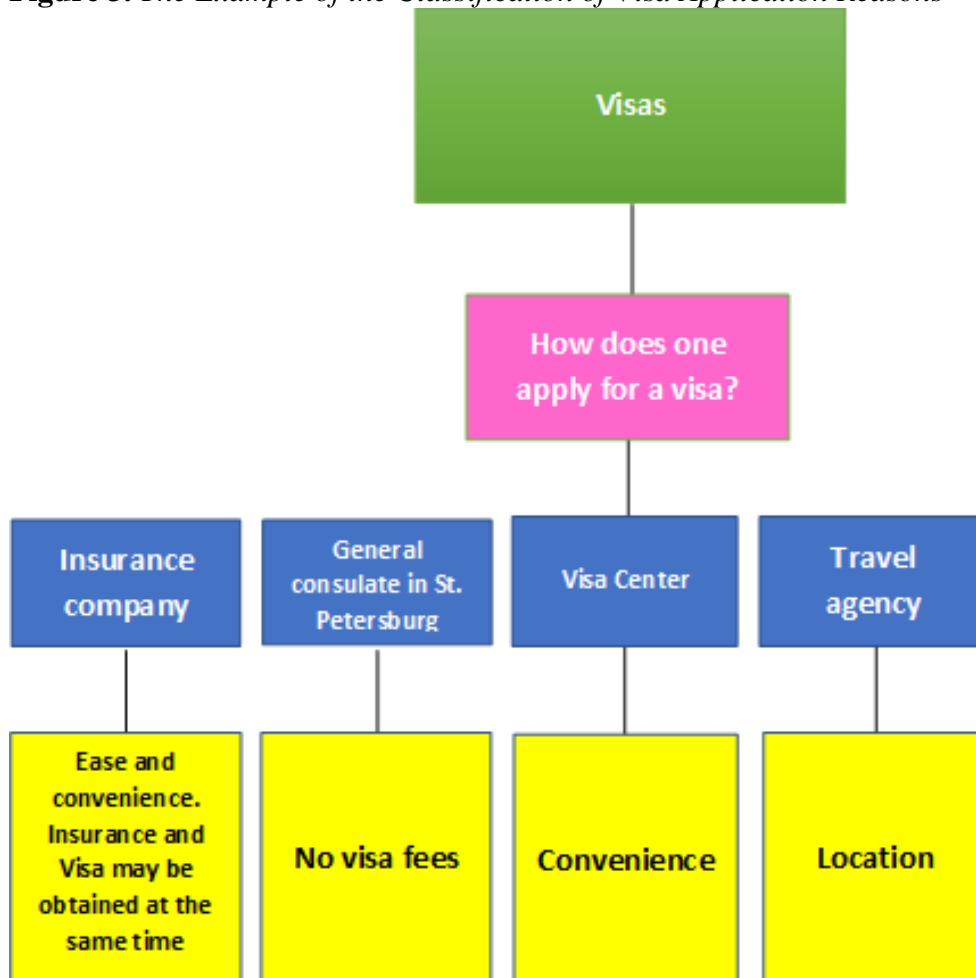
**Figure 2.** *The Classification of the Reason of the Travelling*



The research presents that the interviewees primary reason to traveling to Finland relate to the environment, such as Finnish climate and the nature were appreciated.

The questions related to visa considered about where and how the tourist has applied for a visa. The classification was created on the basis of typical sub-categories of visa application locations and the reasons of choosing of location. Thus, the research showed that the interviewees had always a reason to apply visa from a specific place (Figure 3).

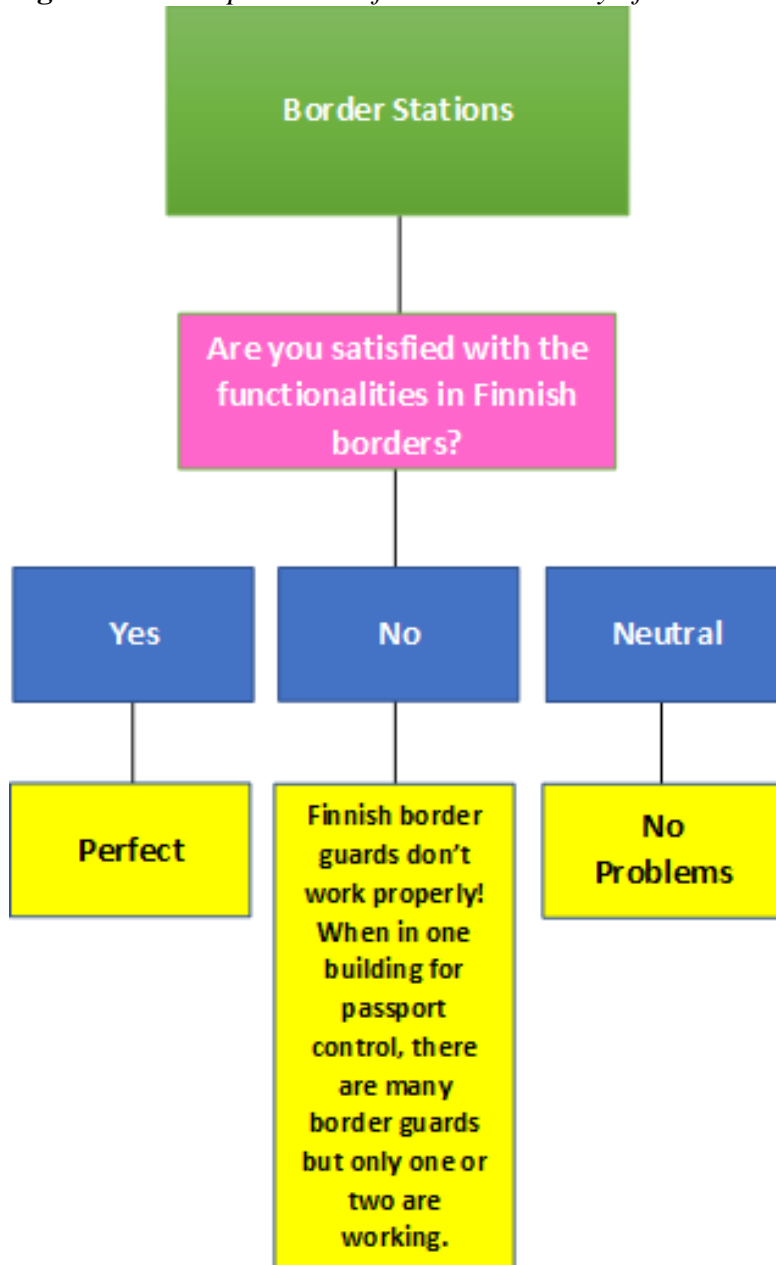
**Figure 3.** *The Example of the Classification of Visa Application Reasons*



Classification of border check related questions turned out to be more challenging. The interviewees' answers were divided into two categories. In addition, the interviews were conducted nearby the Eastern border crossing stations, so the most frequently used border crossing stations were Vaalimaa, Nuijamaa, Imatra and Vainikkala. According to the interviewees, they chose the border station mainly due to the destination and the place of origin. The interviewees mostly travelled once or twice in a month.

The interviewees were asked about their satisfaction with the functioning in the Finnish border stations. Due to the number of the interviewees, the answers varied, however, the majority were satisfied with the border stations and Finnish border guards. In the most cases, the interviewees answered that everything is working, the procedures in the stations are organized as well as the Finnish Border Guards worked dedicated. Below is an example of the figure which shows a few answers to the question (Figure 4).

**Figure 4.** *The Experiences of the Functionality of Finnish Border Stations*



Due to the qualitative research method as well as the theme interview helped to the interviewers bring out their negative feelings. Below the figure 6 presents an example of the negative feelings.

The data highlighted that the negative experiences were targeted to the customer service as well as to infrastructure in lane controls. The research presents that the most of the negative experiences were based on inadequate communication. The research shows that the tourists did not understand why they did not received their desired service at the border. In addition, the research presents that one unhappy experience may change the interviewees' experience on the function of the border station to the negative direction. The analysis shows that the border check is a sensitive experience to the interviewee. Therefore, the experience of the service has to be emphasized, particularly in the context of the negative emotions. It can be concluded that the customer service have a great importance for the successful external communication.

The questions related to the future proved to be the most difficult to the interviewees. Hence, the most of the interviewees stated that they have not thought about future and development proposals for future. In addition, the most of the interviewees thought that the Finnish border stations work well so they do not need to be developed. Some of the interviewees did not want to answer the question because they did not feel to predict future.

#### *The Factors that Influence on Travelling in Finnish-Russian Border*

This chapter presents the factors which influence on the travelling in Finnish-Russian border. The factors are based on the interviews.

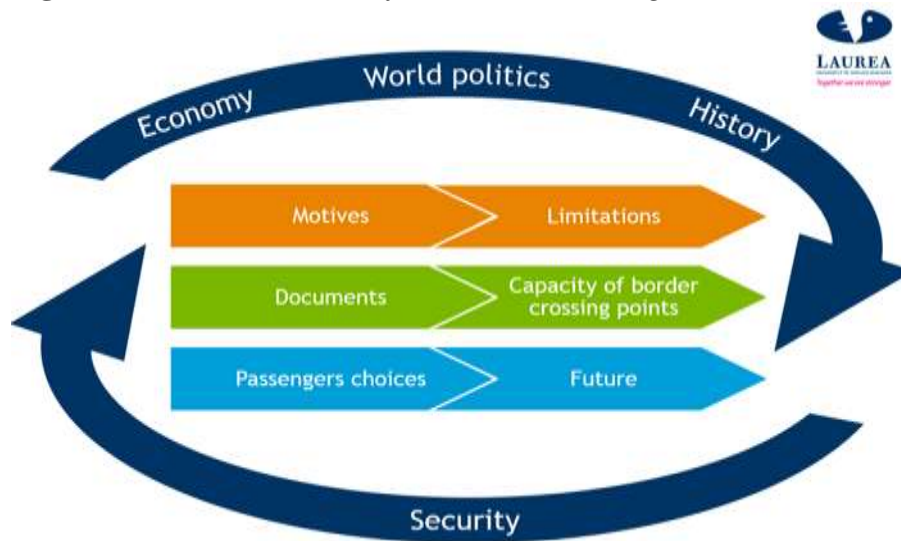
The selected factors were tourists' travel motives, the limitations of the travelling, travel documents, the capacity of border crossing points, passengers' choices and future impact. The structural factors are divided into six ad-hoc affecting factors. In addition, around the factors were identified the external influencing factors. The external factors were economy, world politics, history and the security. Hence, the communication is included in all of the influencing structural factors.

Based on the research, the outlined figure visualizes the theoretical framework of the influencing factors. The structural factors are presented in the following figure 5 (Figure 5).

#### **Foresight for Borders Model**

As mentioned, the qualitative research is the base when drafting the foresight model for border traffic, where the qualitative data has been applied to the foresight model. The qualitative research methods were applied to passenger traffic, and the data was then formulated into visual interpretation, charts and diagrams, on the factors influencing the traffic.

The Foresight for Borders model delivers a clear visual presentation. As the research was conducted to foresee the indicators affecting the Finnish-Russian border, the presentation is placed on a map of Finland where the border crossing points are presented. Figure 6 presents the visualization of the map of Finland and the Eastern border stations (Figure 6).

**Figure 5.** *The Factors that Influence on Travelling in Finnish-Russian Border***Figure 6.** *The Visualization of the Map of Finland and the Eastern Border Stations*

The visualization is based on the traffic-light related arrows which reflects to the number of border crossings. In this model the colours are divided into red, yellow and green. The colours reflects the reduction and growth of the traffic. Figure 7 visualizes the traffic light-related arrows in the Eastern Finland's border crossing stations.

**Figure 7.** *The Visualization of the Traffic-light related Arrows*

The model itself is simple, yet the executions requires details. The use of the model brings additional value to cross-border traffic by giving a foresight to the indicators, which have been defined in the research. By using traffic light-related arrows the numbers of people crossing the border can be seen against the capacity of the border crossing point, tied to a specific indicator. Each indicator has an index value, and by adding those up an overall situation can be seen. As the indicators or their index values change, it reflects to the amount of cross-border traffic in an increase or decrease in the volume. Therefore, by changing these indicators the model is usable in any given time and place. This paper presents the influencing factors in the Finnish-Russian border stations, however, the functionality of the model can be tested with any other factors.

Figure 8 shows an example which can reflect the change of index values and forecasts on a monthly-basis in a specific border station.



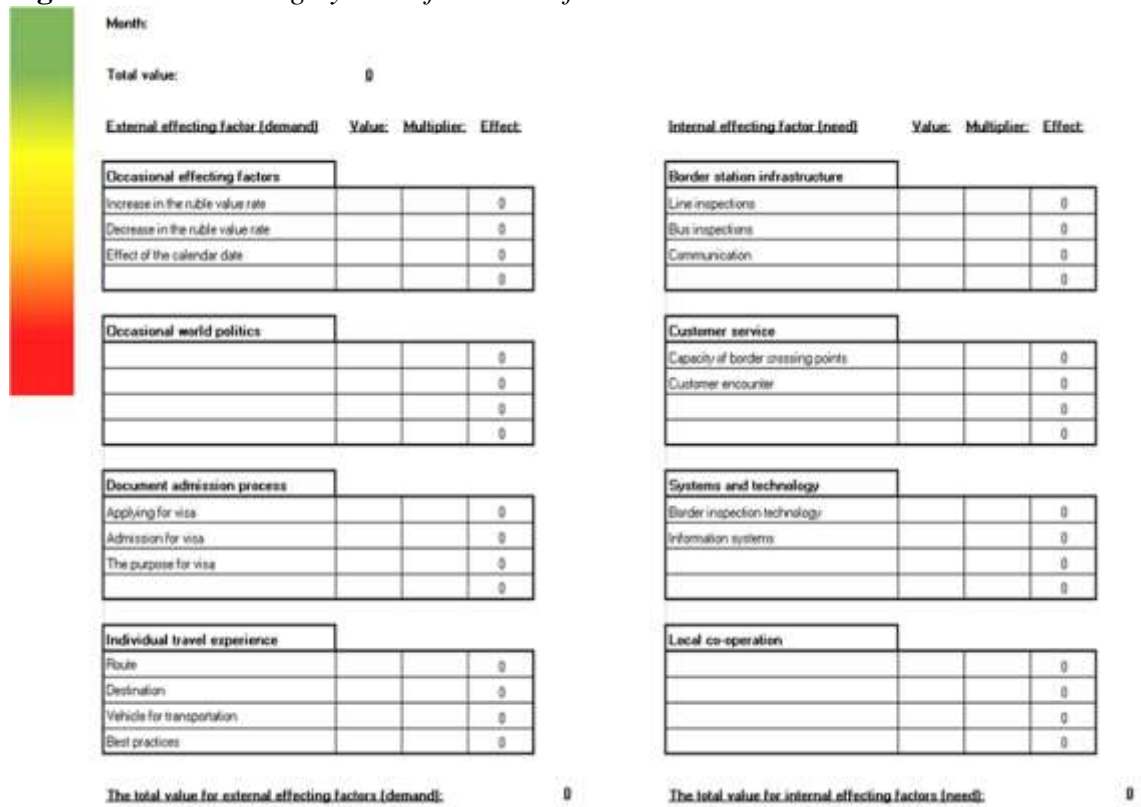
**Figure 8.** *The Change of Index Values on a Monthly-basis***Vaalimaa**

Monthly expectance	J2016	F2016	M2016	A2016	M2016	J2016
Total value	0	0	0	0	0	0
Demand	0	0	0	0	0	0
Need	0	0	0	0	0	0

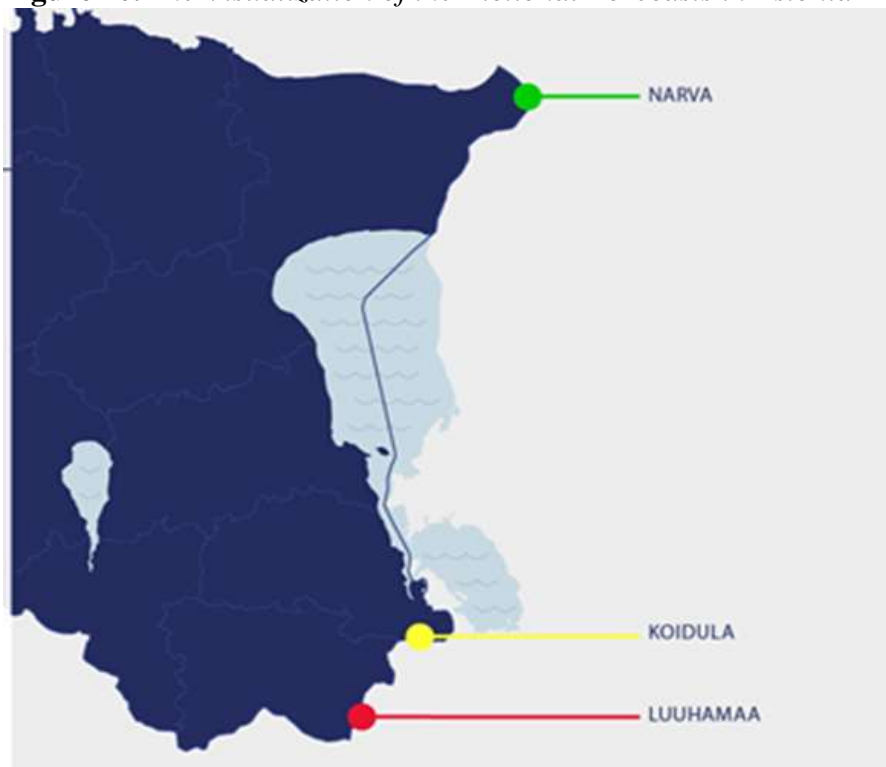
The model helps to evaluate the capacities of different border crossing points, indicating a change in any indicator and its effect on the human or other resources. This is based on the ratio between supply and demand. The example of the supply and demand-based indexing system is shown in following figure 9 (Figure 9).

The user-friendliness and adaptability of the forecast model provides the opportunity to design interactive and automatically updatable solution. The model can be designed to update automatically based on the certain calendar dates which are known as traffic-peaks. In addition, the flexibility of the model allows the determination of case by case to the each border station. Hence, the model can be used internationally in other countries due to the influencing factors are defined occasionally. Following figure 10 illustrates the visualization of the application of the model for the Estonian eastern border.

**Figure 9.** The Indexing System of Forecast for Border Model



**Figure 10.** The Visualization of the Fictional Forecasts in Estonia



In addition, the Foresight for Borders model is applicable to all border traffic. The model can be applied to the ports and airports as well. Based on the index values of the influencing factors, the indicators can be applied to the land, sea and air traffic. The development of the model should be focused on the interactive application. The application would allow the wider and real-time use of the model, regardless of the target site. It also enables the wider consideration of the ratio of the supply and demand.

## **Conclusions**

The data presents the issues affecting an individual traveller which is additionally emphasized due to the congruence in the research data, indicating the need for the study. There were no significant differences in between the interviews conducted in Finland or in Russia, and in general the interviewees felt the study to be important. The interviewers managed to create a confidence-inspiring atmosphere, which resulted into also receiving the negative experiences from the interviewees.

The general opinion was that the border crossing in the Finnish border is carried out fine. The majority of the interviewees felt satisfied about the functioning of the border stations and the border guards. As a conclusion, the operations of the border stations were perceived organized, and as well as the border guards' actions as professional.

The majority of the negative experiences were related to lack of available information, and in addition, the unfamiliarity of the authorities' regulatory functions. Also, it was evident that the related legislation and limitations were not familiar which resulted into negative experiences. The interviews revealed that the border crossing itself is felt as a sensitive experience, where the experiences and perceptions were linked closely with ethics and human rights.

The Foresight for Borders model can be utilized in a field of tourism. As the statistics presented, the Russians travel more than once in a year to Finland, moreover, tourism and travelling are mainly directed to the Eastern Finland. Utilizing the Foresight for Border Model, there is an opportunity to offer better and faster service to the tourists in the Eastern border in order to smoothen the travelling to Finland. The Foresight for Borders model can be modified to be used in the determinants of the tourism performance. As discussed, the determinants have similarities with the key factors of the forecast model. In addition, the determinants can be changed and modified if necessary, so every tourism industry and organization can create it suitable for themselves. Moreover, the similarities in the determinants of the tourism and the border security could be discussed and researched further.

To conclude further, it must be noted that the structure of the Foresight for Borders model is possible to maintain as it is planned. Thus the prospective changes in the political or economic situation do not require to redesign the model. The mentioned key factors can be changed even on a daily basis if necessary.

As a conclusion, the study can be stated to be necessary in terms of creating new, innovative approaches as well as multiform information regarding the factors and the model what influence in tourism. The Foresight for Borders model brings additional value to predicting the traffic flows, and the initial qualitative research resulted into a wide data.

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