



# Charting the Market Potential of Box Ambulances in Latin America

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BACHELOR'S THESIS  
December 2019

Degree Programme in International Business

## **ABSTRACT**

Tampereen ammattikorkeakoulu  
Tampere University of Applied Sciences  
Degree Programme in International Business

OKSANEN, ELINA & SILLANPÄÄ, SALLA:  
Charting the Market Potential of Box Ambulances in Latin America

Bachelor's thesis 90 pages, of which appendices 10 pages  
December 2019

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This thesis studies the possible export markets in Latin America for a Finnish vehicle conversion company, Tamlans Oy Ab. The five following target countries are researched in this thesis: Mexico, Chile, Brazil, Peru and Colombia. The target countries were determined by the commissioner.

The purpose of this research is to assist the commissioner to enhance their knowledge of the chosen Latin American markets, as well as to provide valuable insights on which markets could be the most potential to expand their business to in the future. This thesis is conducted as an exploratory research, since the business expansion to the continent is still in a planning phase.

The five Latin American markets were researched through a PESTLE analysis and Hofstede's Cultural Dimensions theory. The country specific ambulance regulations of the target countries were researched. In addition, the ambulance industry, company and product were carefully studied. Tamlans's Sales Director as well as the Production Manager were interviewed and trainings were held at the production plant.

It was found out that the healthcare industry is constantly developing in the Latin American countries, which creates an increasing demand for healthcare and medical services. Tamlans's light-weight yet strong product matches Latin America's demanding topographical features. When expanding business operations to Latin America, it is a great asset to have a good command of local languages and cultures as well as have a local staff.

Within this research, the target countries were ranked in a decision matrix according to their performance in certain political and economical aspects. According to the decision matrix created, the most potential export country of the five determined markets is Chile regardless of the generally high corruption rates in Latin America. As a future research topic, a more in-depth research on the studied markets and their possible business partners could be conducted.

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Key words: market analysis, conversion vehicle, ambulance, Latin America, Mexico, Chile, Brazil, Peru, Colombia

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## 1 INTRODUCTION

This thesis is commissioned by Tamlans Oy Ab (from now on called Tamlans), a vehicle conversion and module manufacturing company based in Tampere, Finland. The company provides tailor designed products such as rescue, service and defense vehicles according to its customers' needs. Currently, Tamlans operates in various European countries and plans to enter new markets within Latin America. For this reason, a market analysis of five given Latin American countries will be conducted, and competition as well as local operators will be researched. The company's strengths and weaknesses will be measured in relation to its opportunities and threats regarding the internationalization to Latin America. The focus of this research is specifically on ambulances and determining the market potential of Latin America for Tamlans.

Tamlans is a trendsetter in the rescue vehicle industry in Finland and the Nordic countries, and thus the company aims to bring its innovative and excellent-quality solutions to new target markets worldwide (Ammattiautot 2016). Tamlans manufactures high-standard ambulance modules on the chassis of Volkswagen Amarok, which they wish to enter the Latin American markets with. As Tamlans's vehicles are built to perform in various weather conditions and geographically challenging terrains, Latin America could offer a good market niche for the company.

The other author is working for the commissioner as a Sales Assistant at the time of writing this thesis. This supports the authors in acquiring valuable, real-time information and reliable insights of the company. In order to gain a thorough understanding of Tamlans's ambulance product and operations, the commissioner provided comprehensive training sessions for the authors. Furthermore, two of the commissioner's experts were interviewed in this research. Throughout the process of writing this research, the authors and the commissioner have had continuous collaboration in order to sustain a smooth information flow.

## **2 RESEARCH DESIGN AND METHODOLOGY**

### **2.1 Thesis topic**

The commissioner of this thesis is Tamlans, a vehicle body manufacturer, which provides customized vehicles for multiple purposes. Tamlans manufactures various types of modules for rescue, service and defense purposes. The company converts custom vehicles, for instance, taxis and minibuses according to their customers' needs. In addition, Tamlans provides maintenance services effortlessly through their comprehensive network. This research, however, focuses on the company's potential export product for the Latin American markets: Tamlans's Volkswagen Amarok ambulance.

This research focuses on the following five Latin American markets: Mexico, Chile, Brazil, Peru and Colombia. The topic is essential because Tamlans is interested in expanding its business to Latin America and is, thus, in the need of a market research of the given export markets. This research will provide valuable information of the target markets as well as determine current opportunities and threats. Tamlans will take part in an exposition held in Mexico City in the beginning of December 2019, where they wish to broaden their network.

The research will promote the learning of the authors regarding internationalization of a medium-sized company in the rescue vehicle industry. The authors will familiarize themselves with the company and its ambulance module product, as well as study the market situation of the target countries regarding emergency vehicles.

### **2.2 Purpose, objectives and research questions**

The purpose of this research is to assist the commissioner to attain better understanding of the five given markets in Latin America. The topic of this thesis is relevant since it will broaden the knowledge of Tamlans regarding the desired

Latin American export countries. Thus, the conducted research acts as an initialization for Tamlans and studies the possibilities of expanding the company's operations to Latin America.

The research question to be answered in this thesis is:

- What potential business opportunities could the target countries in Latin America offer to Tamlans?

The subquestions to be answered in this thesis are:

- What are the regulations for ambulances in the target countries?
- What is the market situation regarding external factors in the target countries?
- Who are the possible business partners and competitors of Tamlans in the target countries?
- What are Tamlans's strengths, weaknesses, opportunities and threats regarding the internationalization to Latin America?

The objective of this thesis is to conduct an exploratory research of the target countries, so that the commissioner becomes more aware of the business opportunities and challenges in Latin America. In addition, Tamlans has requested the authors to research the local operators within the Latin American markets.

The hoped outcome of this thesis is to provide a directive analysis of the five Latin American markets for Tamlans. Ideally, this exploratory research will be exploited by the commissioner when planning which country to research further or possibly expand the business to.

### **2.3 Applied theories and frameworks**

The theories and frameworks of this thesis are presented and explained in this chapter. The following theories and frameworks are applicable when researching a new market and a company's potential for internationalization.

## PESTLE analysis

The framework of a PESTLE analysis is used to analyze the external factors or the macro-environmental forces that have an impact on an organization (Figure 1). The framework consists of the six following factors: Political, Economic, Sociological, Technological, Legal and Environmental. The PESTLE approach anticipates business threats and identifies business opportunities. This framework also challenges the company to develop a more strategic thinking in order to avoid and minimize possible external risks. (Hopkin 2018, 137–138.)

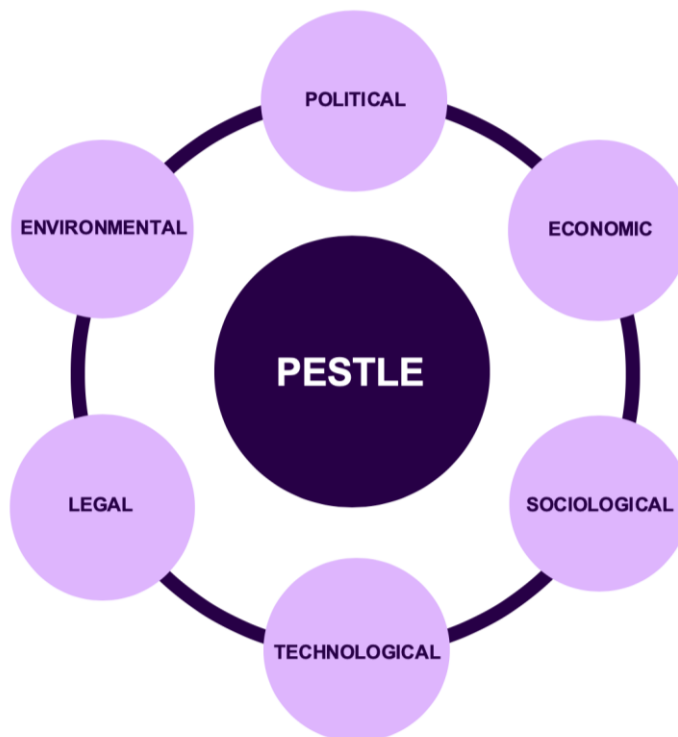


FIGURE 1. PESTLE analysis

The PESTLE analysis is applicable to the thesis topic, since it is essential to know the external forces in the target countries that can have an impact on the commissioner when entering new markets. The PESTLE approach gives an overview of the planned export countries and assists in determining which of the given countries would be the most potential ones for Tamlans to expand its business to. The legal part of PESTLE analysis provides an introduction regarding the country-specific legislation of ambulances in the Latin American target countries.

## Hofstede's Cultural Dimensions

In this research, the cultural differences between Finland and the chosen five Latin American countries will be discussed with the help of Hofstede's Cultural Dimensions theory (Figure 2) and the Country Comparison Tool by Hofstede Insights. This country comparison will help the commissioner to better understand the cultural characteristics of the target countries, which is valuable when planning to enter a new market abroad.

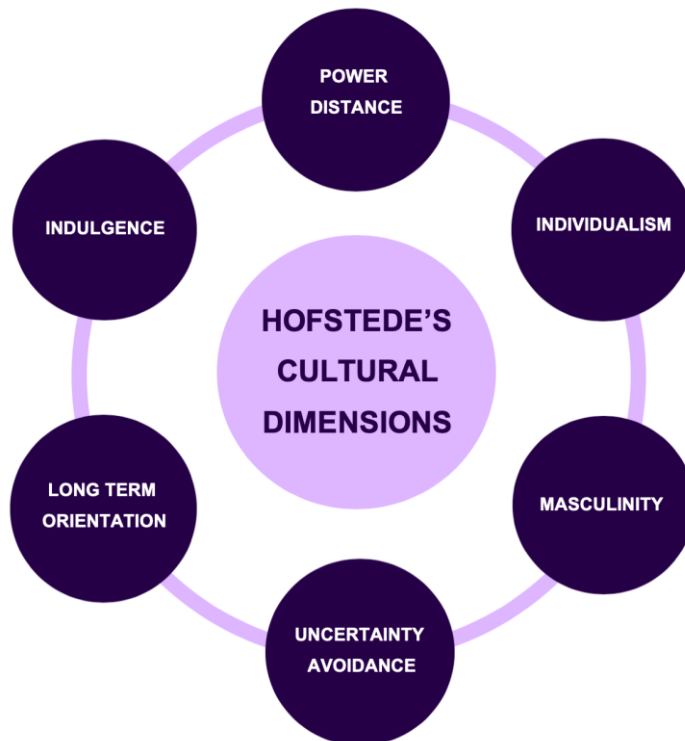


FIGURE 2. Hofstede's Cultural Dimensions

The Power Distance dimension expresses the mindset of a culture towards the inequalities within a society. This dimension measures the extent to which the less powerful individuals of society within a country accept unequally distributed power. The Individualism dimension expresses the interrelation maintained within a society between its members. This means, that people in an individualist society take care of themselves and their immediate family only. In a collectivist society, on the other hand, people take care of the individuals who belong in their group in return for loyalty. (Hofstede, Hofstede & Minkov 2010, 61, 92.)

Masculine societies with a high score on the Masculinity dimension are driven by success, achievement and competition. This value system continues throughout



educational and organizational life. A low score on this dimension indicates that the society is Feminine, and values such as quality of life and caring for others are dominant. This dimension indicates whether emotional gender roles are either distinct or overlapping within a society. The Uncertainty Avoidance dimension indicates the society's ability to handle uncertainty and unknown future. This dimension measures the extent to which the members of a society feel threatened by uncertainty and the need to avoid unknown situations. (Hofstede, Hofstede & Minkov 2010, 139–140, 191.)

The Long Term Orientation dimension handles how a society deals with present and future challenges while preserving a connection with its past. A low score on this dimension indicates that the society is normative, and maintaining traditions and norms is of high value. Societal change is viewed with suspicion within these cultures. Countries with a high score are more pragmatic and diligent, as thrift is encouraged. The Indulgence dimension indicates whether a culture is described as indulgent or restraint. In indulgent societies, gratification is allowed more freely, as people are encouraged to follow their natural human desires regarding enjoyment of life. In restraint countries, on the other hand, gratification is restricted as norms are strictly followed in these societies. (Hofstede, Hofstede & Minkov 2010, 239, 281.)

### **SWOT analysis**

The framework of SWOT analysis is commonly used to determine a company's competitiveness and to develop processes. SWOT is an acronym that stands for strengths, weaknesses, opportunities and threats. This framework is designed to evaluate a company's both internal and external factors, as well as to analyze the present and future capabilities. SWOT analysis considers positive internal attributes and internal weaknesses, as well as positive external factors and external risk factors which could influence the organization. (Cordell & Thompson 2018, 67–68.)

SWOT analysis is often recommended to use in conjunction with PESTLE analysis, as a combination of these frameworks will provide a more in-depth understanding of the internal and external forces (Cordell & Thompson 2018, 68). Based on the results obtained from the PESTLE analysis of the five specific Latin

American countries, a SWOT analysis of Tamlans's strengths, weaknesses, opportunities and threats will be conducted in this research. With the help of this framework, a valuable analysis will be provided of Tamlans's readiness to expand to the desired export countries.

### **Decision matrix**

Schooley has stated the following: "A decision matrix is a series of values in columns and rows that allows you to visually compare possible solutions by weighing their variables based on importance." (Schooley 2019). The framework of decision matrix assists to evaluate a situation logically by ranking the comparable variables with different values. A decision matrix is applicable when solving problems, deciding the best course of action for a company, prioritizing tasks or defending a decision that has been already made. (Schooley 2019.)

The decision matrix will be utilized in this thesis in order to provide a ranking of the target countries based on selected external aspects. These external factors consist of certain political and economical data gathered of the following target countries: Mexico, Chile, Brazil, Peru and Colombia. The results acquired from the PESTLE analysis will be exploited when creating the decision matrix. The criteria used within the decision matrix will be defined and ranked by the authors according to the importance of the factors.

## **2.4 Methodology**

The primary data of this research will be collected through interviews with Tamlans's experts (appendix 1; appendix 2). Tuomo Sertti, Emergency Vehicles' Sales Director, and Mikael Kortessuoma, Production Manager and Sales Support, will be interviewed regarding the company and its emergency vehicle module. This will enable the authors to gain valuable insights of the company and the competitive advantages of the product. Furthermore, the authors will attain an in-depth understanding of the strengths and weaknesses of Tamlans and its ambulance product regarding internationalization to Latin America.

Interviewing as a research method allows the interviewer to gain more profound information and to rephrase the questions. Thus, possible misunderstandings will be avoided and clarifying questions can be presented at any point. In addition, interview samples can be effectively controlled due to generally high response volumes and real-time answers from interviewees. (Kothari 2004, 97–99.)

Interviewing was perceived as the most effective method for data collection, as the experts of the commissioner can provide reliable company, product and industry related insights. However, the methodology of this research is focused on qualitative data collection, which can cause limitations regarding research results.

Tamlans will organize two training sessions at its production plant in Tampere for the authors. The training includes studying the export product, Volkswagen Amarok ambulance module's features, competitiveness and customer demands. The training sessions will educate the authors thoroughly about the commissioner's business as well as give a hands-on experience of the product. The knowledge gained through the trainings will provide the authors a solid conception of the product, which is essential when researching new market opportunities for Tamlans.

The secondary data of this research will be collected through a variety of sources, such as research reports and other data provided by different organizations. For instance, a legislation compilation by the Pan American Health Organization will be utilized in order to determine the ambulance regulations of the Latin American target countries. The country-specific regulations of the target countries were translated from Spanish to English by a fluent Spanish speaker in this research. Determining these regulations provides valuable information for the commissioner, as the standards of manufacturing ambulances vary between continents and countries.

Factors affecting the reliability of this research could be the language barriers while gathering data. The authors' own perspectives and interpretations while analyzing data could also affect the research outcomes. The factors affecting the validity of this research could be the utilization of older references, when the most recent information is not available.

## 2.5 Thesis process

The thesis process begins with a research plan created by the authors in order to clarify the steps and timeline for the research. Figure 3 illustrates the phases of the research process for this thesis.



FIGURE 3. Thesis process

The thesis process starts with planning the phases of the research. The authors study the ambulance industry and company with the help of interviews, training and data gathering. After gaining an understanding of the industry and commissioner, the target markets are researched. Furthermore, the collected data is carefully analyzed and as a conclusion, the research outcome is evaluated.

The thesis is structured as follows: the thesis starts with Introduction (Chapter 1) and Research Design and Methodology (Chapter 2), which are followed by the chapters Overview Of The Ambulance Industry and Company And Product Analysis (Chapter 3; Chapter 4). After introducing the thesis topic, ambulance industry and the company, the markets' external factors of the five target countries are analyzed. PESTLE Analysis (Chapter 5) consists of an overview of the healthcare in the target countries as well as discusses the external factors.

After the market analysis, cultures of the Latin American countries will be compared to the Finnish culture in Hofstede's Cultural Dimensions (Chapter 6). In addition, SWOT Analysis (Chapter 7) will analyze the commissioner's readiness regarding internationalization to Latin America. Decision Matrix (Chapter 8) discusses some economical and political factors of the target countries and furthermore, ranks the countries according to the results of the decision matrix. Local Operators (Chapter 9) handles the possible business partners and competitors of Tamlans within the Latin American target markets. The results, validity and reliability as well as future research topics are discussed in the Conclusion (Chapter 10).

### 3 OVERVIEW OF THE AMBULANCE INDUSTRY

CAAS, The Commission on Accreditation of Ambulance Services (2016), defines a ground ambulance to be an emergency medical care vehicle that consists of the following:

1. A driver's cab compartment.
2. A patient compartment to accommodate an emergency medical services provider (EMSP) and a minimum of one patient located on the primary cot so positioned that the patient(s) can receive appropriate medical care during transit.
3. Accommodation for storage of equipment and supplies for emergency care at the scene as well as during transport.
4. Accommodation for installation of communication systems.
5. Audible and Visual Traffic warning devices.

(CAAS 2016.)

The list above names the main features of an ambulance. The main features consist of many smaller details, which are always carefully designed to meet customer's needs in accordance with all safety requirements and regulations. When planning to enter a new market in the ambulance industry, it is crucial to be aware of all variable regulations to be followed in the target country.

#### 3.1 Ambulance types

Ambulances can be divided roughly into three different categories depending on the vehicle type, which are the following: car ambulances, van ambulances and box ambulances. A car ambulance is simply built on a regular passenger car chassis, whereas a van ambulance is built on a regular van chassis (Picture 1; Picture 2). Box ambulances, for their part, are built on a chassis without the original vehicle body (Picture 3). Thus, it is replaced with a box module customized according to the customer's needs. (Kortesluoma 2019.)



PICTURE 1. Car ambulance, ŠKODA (ŠKODA 2019)



PICTURE 2. Van ambulance, Mercedes-Benz Sprinter (J5L 2019)



PICTURE 3. Box ambulance, Volkswagen Amarok (Tamlans 2019)

Tamlans manufactures both box and van ambulance types with the main focus on box ambulances. The reason behind this lies in the demand of ambulances in the Finnish market. According to Sertti (2019), the ambulance market in Finland mainly consists of van ambulances, and therefore Tamlans did not see it profitable to focus on the van ambulance competition. Thus, the company saw an opportunity in focusing their business on manufacturing box ambulances especially for export. (Sertti 2019.)

Tamlans has many years of experience in manufacturing both van and box ambulances, and therefore they have the knowhow to build high-quality emergency vehicles that perform excellently in both on and off road conditions (Tamlans 2019). Depending on the country and market demand, there are differences in which ambulance types are the most successful ones (Sertti 2019). The potentiality of Tamlans's box ambulance product in Latin America will be further discussed in Chapter 4, Company And Product Analysis.

In Europe, ambulances are categorized into three different groups depending on the equipment. Type A, patient transport ambulances, are designed for the transportation of one or more patients with low expectancy of becoming emergency patients. Type B, emergency ambulances, are designed and equipped for the transportation of patients in need of basic treatment and monitoring. Type C, mobile intensive care units, are designed for the transportation of patients in need of advanced treatment and monitoring. (EN 1789:2007+A2:2014.)

### **3.2 Regulations**

When it comes to manufacturing ambulances, there are plenty of different regulations worldwide to be taken into consideration. For instance, European Commission established a standard for road medical transport vehicles in 2007. This standard, EN 1789:2007 Medical Vehicles and their Equipment - Road Ambulances, sets a framework for the manufacturing of ambulances in the European countries. EN 1789:2007 sets minimum requirements of various and indispensable technical characteristics to ensure the safe transportation of patients under satisfactory conditions. According to Sertti (2019), the differences in ambulance

equipping in Europe are small due to the common standardized regulations. (European Commission 2014; Sertti 2019.)

According to the legislation compilation by the Pan American Health Organization (2010), countries have their own country-specific regulations for manufacturing ambulances in Latin America. Furthermore, the archived regulations are written in the target countries' mother tongue, which might cause challenges regarding interpretation. It can be concluded that it is beneficial to have adequate language skills in Spanish and Portuguese when researching the ambulance regulations in Latin America.

When manufacturing vehicles for export, it is essential to know the emission standards of the target countries. The emission standards differ between continents and countries, and different standards are followed for instance in Europe and Latin America. The map below provides an overview of the emission standards worldwide in 2017 (Figure 4).

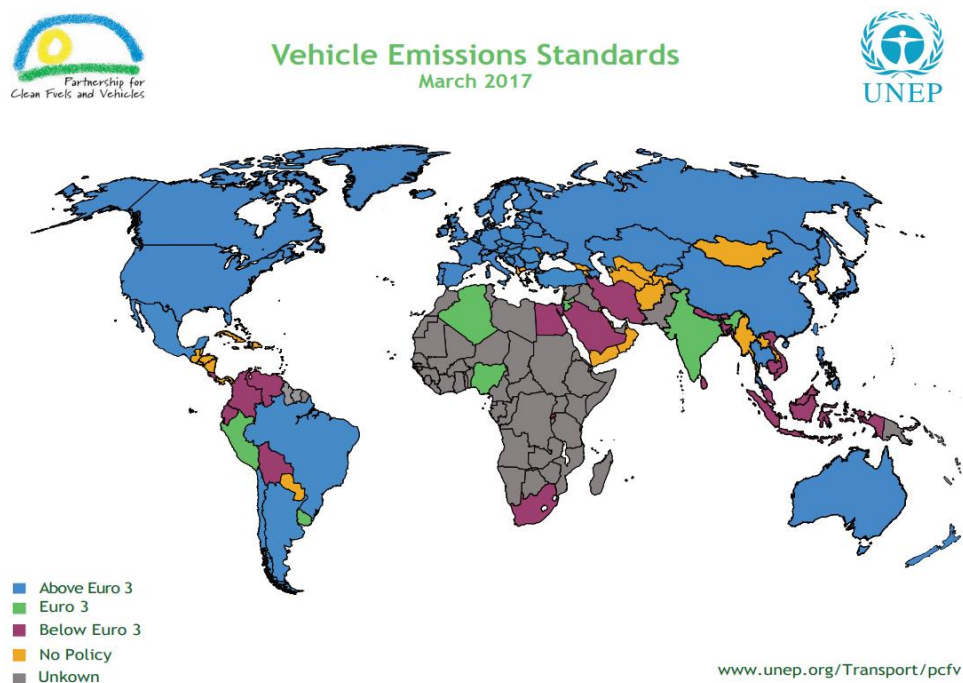


FIGURE 4. Vehicle emissions standards worldwide (UNEP 2017)

In Europe, the European Commission has set a high priority for the reduction of greenhouse gas emissions and protection of air quality. Currently, the European



emission standards are in place for “light-duty (cars, vans) and heavy-duty vehicles (lorries, buses), and for non-road mobile machinery.” (European Commission n.d.). In 2014, the latest emission standard Euro 6 was introduced by the European Commission. Euro 6 is the sixth and current incarnation of the emission standards, which defines the exhaust emission limits of new vehicles sold. (RAC Motoring Services 2019; European Commission n.d.)

The target countries of this research in Latin America have a variety of applied emission standards, which are comparable to the Euro Emission Standards (Figure 5). In some of the Latin American countries both European and U.S. emission standards are applicable. For instance, in Mexico, Euro 3 and Euro 4 (US Tier 1 to 2) emission standard limits must be followed when it comes to new light-duty vehicles. In Chile, Euro 5 (US Tier 2) was adopted for light and medium-duty vehicles in 2012 and 2014. Currently, Brazil follows emission standard PRO-CONVE L6 for light-duty vehicles, which is comparable to Euro 5. Since 2016, light and medium-duty vehicles must meet the Euro 4 or US Tier 2 emission standards. In Colombia, the Euro 6 standard was introduced in July 2019, which is planned for adaption by 2023, meaning that all imported or manufactured diesel vehicles must meet Euro 6 standard from 01.01.2023. (Transport Policy 2018; DieselNet 2019.)

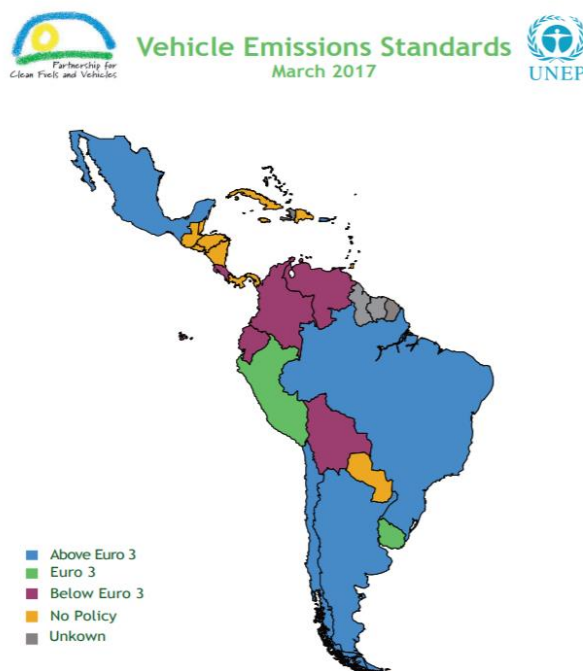


FIGURE 5. Vehicle emissions standards in Latin America (UNEP 2017)

## 4 COMPANY AND PRODUCT ANALYSIS

Tamlans is a Finnish privately owned enterprise was found in 1998 in Tampere. In the beginning of 2000's, the company hired more employees and currently the personnel is a total of 56 people. According to Tuomo Sertti (2019), Emergency Vehicles Sales Director of Tamlans, there are three ambulance manufacturers in Finland: Tamlans, Profile and J5L. Tamlans's revenue is 10 153 000 € (2019), which is over 2 million euros higher than in 2018. According to statistics, the company's revenue in 2018 was 8 915 000 €. In 2017, the company's revenue was 9 239 000 €. (Asiakastieto 2019.)

According to Savon Sanomat (2016), the estimated number of ambulances in Finland was 500 in 2016. As Tamlans manufactures rescue, service and defense vehicles, their main customer base consists of passenger transportation companies and emergency vehicle buyers. Currently, Tamlans is doing business in Scandinavia, Germany, Luxembourg, Switzerland, the United Kingdom, Slovenia, Romania, the Netherlands, Turkey, Australia, New Zealand, South Korea and Mexico. (Sertti 2019.)

Tamlans already has some existing contacts in Brazil, Chile, Ecuador and Mexico. The company has gained the existing contacts mostly through fairs and direct contacts. Tamlans has received several business inquiries from other Latin American countries and in September 2019 some customers from Brazil and Ecuador visited the company's production plant. Thus, Tamlans is interested in researching the potentiality of the Latin American markets. (Sertti 2019.)

### **Tamlans's Volkswagen Amarok ambulance**

In 2018, as the first company in Finland, Tamlans received Volkswagen AG's PremiumPartner Certificate, which is the highest acknowledgement that Volkswagen AG can grant to an external partner. In addition, Tamlans's latest Volkswagen Amarok module has been granted with a Letter Of Non Objection (LONO) certificate by Volkswagen AG. This certificate is the highest acknowledgement that can be granted for a product that is not directly Volkswagen's own production. (Tamlans 2019.)

Tamlans plans to bring their box ambulance module built on Volkswagen Amarok to the Latin American markets, as they think that there might be a potential demand for the product in the area. According to Sertti (2019), the target countries' topographical features favor 4x4 (four-wheel drive) vehicles, as there are plenty of challenging terrains and off-road circumstances. In addition, Volkswagen has a good production capacity within the continent, as the Amarok model is manufactured in several factories there. Tamlans sees that the mentioned factors could be an asset when planning to enter the Latin American markets. (Sertti 2019.)

The benefits and competitive advantage of the product according to Tamlans are the following:

- Safe and ergonomic working environment
- Best traction in road and off-road conditions
- Fuel economy and reduced environmental impact
- Light design keeps the total weight under 3500 kg
- Module can be moved from one vehicle to another
- Local service through the network of Tamlans's local partners.

(Tamlans 2019.)

Tamlans's ambulance module built on the chassis of Volkswagen Amarok has multiple advantages (Picture 4). Due to the monocoque body structure, the module is strong and yet lightweight. The monocoque complies to EN 1789 standard and its security has been tested carefully. The module retains its shape even in severe rollovers or collisions, has a good load capacity, as well as lower fuel consumption. As a remarkable competitive advantage, the Volkswagen Amarok ambulance does not require driver's license C, but can be driven with driver's licence B. (Kauppalehti 2015; Tamlans 2018; Sertti 2019.)

According to Kortessluoma (2019), the ambulance product is always designed to meet the customer's needs. In other words, the module is tailor designed according to the customer's preferences and regulations within the target country. The working space within the module allows the paramedic personnel to work as efficiently as possible while seated. The personnel can easily access the medical

equipment as well as care for the patient while the seatbelt is fastened. (Kortesluoma 2019.)



PICTURE 4. Tamlans's Volkswagen Amarok ambulance (Tamlans Emergency & Rescue 2019)

There are certain challenges to be taken into consideration regarding the manufacturing process of the Volkswagen Amarok ambulance module. In order to build a spacious enough ambulance module on the chassis, a body extension must be done to the vehicle. First, the vehicle body extension is made in the Netherlands and afterwards the vehicle is transported to Tamlans's production plant in Finland for building and installing the module. This causes a challenge in the logistics and delivery times of the ambulance modules when exporting the product to countries outside of Europe. Thus, the body extension might be a restrictive factor, as Tamlans has no vehicle converters locally in Latin America. In addition, the price of the module product is rather high due to the necessary body extension and thus, is often seen quite expensive in the eyes of the customers. (Kortesluoma 2019; Sertti 2019.)

## 5 PESTLE ANALYSIS

South America consists of twelve sovereign states: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela, and the overseas department of French Guiana. Mexico is located between the United States and Central America, in the southern part of North America. Both South America as well as Mexico are part of the Latin American region. (National Geographic n.d.)

In this market analysis, research is conducted on the following five countries: Mexico, Chile, Brazil, Peru and Colombia. The target countries' markets are analyzed with the help of PESTLE analysis, and the healthcare of the target countries is introduced.

### 5.1 Mexico

#### **General information**

**Location:** Southern part of North America

**Border countries:** The United States, Guatemala, Belize

**Capital:** Mexico City

**Population:** 126.19 M

**Area:** 1,964,375 km<sup>2</sup>

**Language:** Spanish 92.1 %

**Currency:** Mexican Peso, MXN

**Time zone:** Multiple, Mexico City UTC -6

(World Data 2018.)

#### **Healthcare in Mexico**

Mexico has a universal healthcare system, which is divided into private sector providers and insurers, and an extensive healthcare network run by the government. The provision of pharmaceuticals and care is covered by the government-run network. Starting from June 2019, the healthcare system provided by the

government is further divided into multiple public healthcare networks. (Export.gov 2019.)

Instituto de Seguridad Social de Trabajadores del Estado (ISSSTE), the Institute of Social Security and Services for Public Employees is a network for government employees and their families, consisting of approximately 13 million people. Instituto Mexicano de Seguridad Social (IMSS), the Mexican Institute of Social Security includes the rest of the employed and their families, which covers around 60 million people. Seguro Popular is a system that provides basic health insurance for the remaining unemployed or informally employed population. In addition, the Mexican states provide separate healthcare services, as well as the Mexican Armed Forces, which has its own system for healthcare. (Export.gov 2019.)

The current administration aims to combine the three federal systems into one national system, which would cover all families regardless of the status of employment. Furthermore, significant changes have been made by the President López Obrador regarding the procurement system in order to reduce corruption and to force cost reductions for devices, drugs, supplies and services. (Export.gov 2019.)

In 2014, there were 22,831 public healthcare units in Mexico, consisting of 1,386 hospitals including 194 highly specialized medical centers, and 2,960 authorized private hospitals. Only approximately 100 private hospitals had over 50 beds and the capacity to provide highly specialized services. According to The World Bank, Mexico's expenditure for healthcare was 5.5 % of its GDP in 2016. Currently, the budget for the sector is not certain due to the proposed changes of the administration. Public healthcare institutions cover 70–80 % of all domestic medical services in Mexico, whereas private healthcare providers serve around 25–30 % of the Mexican population. (The World Bank 2016; Export.gov 2019.)

Major private health providers of Mexico include Star Medica, Hospital San Jose, Grupo Empresarial Angeles, Hospital Español, Centro Medico ABC, Grupo Christus Muguerza, Medica Sur, Hospitales San Angel Inn and Amerimed Hospitales. (Export.gov 2019.)

## **Political**

The United Mexican States is a federal republic with a presidential system of government. Mexico consists of 31 states and Mexico City, which is a federal entity with comparable autonomy to a state. In Mexico, power is separated into the three following branches: executive, legislative and judicial. The three levels of government are federal, state and municipal. In Mexico, the President is the head of state, government and military. The Current President, Andrés Manuel López Obrador, was elected on 1<sup>st</sup> of December 2018. The President is selected for a six-year term and cannot serve more than one term in office. Congress is established by the Senate for a six-year term and the Chamber of Deputies for a three-year term. (GOV.UK 2018.)

Security is one of the main challenges in Mexico, and especially drug-related violence has been increasing during the past years. The violence is concentrated in specific areas, and thus a careful research on the destination is in place when travelling to Mexico or possibly expanding business to the country. However, drug-related violence and crime levels are mostly lower in major tourist destinations, since they are protected by the Mexican government. In addition, political demonstrations are common in Mexico, and could turn tense and violent. (GOV.UK n.d.)

Another risk for businesses operating in Mexico is corruption, which is widespread in the country's police and judiciary. In 2018, Mexico received a score of 28/100 (0 meaning highly corrupt, 100 meaning very clean) in a corruption perception index. Hence, the country was ranked 138 out of a total of 180 countries worldwide. Even though new anti-corruption laws were passed in Mexico in 2017, these laws are generally almost never enforced and the officials are rarely held liable for their illegal actions. The corruption has a negative impact when it comes to business registration, for instance licences. In addition, organized crime causes problems for businesses in Mexico, imposing high costs on companies. (GAN Integrity 2018; Transparency International 2018.)

## **Economic**

Mexico is the second largest economy in Latin America and one of the world's 15 largest economies. The Mexican economy is highly dependent on the country's

largest trading partner, the United States: around 80% of Mexico's goods and services are exported to the US. Due to the fall in international demand for Mexican goods, the economic activity of Mexico has decreased since 2010. Mexico is one of the most open economies in the world with 12 free trade agreements in 46 countries, including the EU and the US. The World Bank ranked Mexico 1st as the easiest country to do business within the Latin American and Caribbean region in 2019. Mexico is the 60<sup>th</sup> easiest country to do business worldwide according to The World Bank. (GOV.UK 2018; The World Bank 2019.)

According to Santander Trade (2019), Mexico's GDP growth was 2.2 % in 2018 and small improvements are expected in 2019 and 2020. In 2019, the country's GDP per capita is 9,866 USD, the inflation rate is 3.6 % and there is a 3.5 % unemployment rate of the entire labour force. Mexico's general government gross debt is 53.7 % of the GDP and the total GDP in 2019 is 1,242.39 billion USD. (Société Générale 2019; Santander Trade 2019.)

### **Sociological**

Mexico has a demographic density of 66 inhabitants per square kilometer. The medium age of the Mexican population is 26.0 years. Men have a life expectancy of 74.7 years whereas women have a life expectancy of 79.5 years. Mexico's labour force is 52,810,000 and the literacy rate of the population is 91.6 %. (Société Générale 2019.)

Mexican body language has differences when it comes to Northern European body language. Personal space is smaller in the Mexican culture, and people have a lot stronger eye contact. A lack of eye contact or maintaining a distance can be seen as untrustworthiness, so it is important to try the "Mexican approach" regarding body language. (World Business Culture 2017.)

Emotions are not hidden in business meetings, and thus discussions could get heated. However, showing emotions is seen as a positive way of communication that indicates engagement. It is wise to find out in advance whether a translator will be necessary, since English levels vary widely in the country. Naturally, language skills in Spanish are seen as a huge advantage when doing business in Mexico. (World Business Culture 2017.)



## **Technological**

The Research and Development expenditure of Mexico has been increasing since 1997. According to The World Bank, Mexico's expenditure for Research and Development was 0.5 % of its GDP in 2016. Internet access was classified as a constitutional right for all Mexican citizens through the telecommunications reform in 2013. Mexico had a total of 82.7 million Internet users in 2018, which represents 71.0 % of the population over the age of six. (The World Bank 2016; Export.gov 2019; Knoema n.d.)

Mexico's digital economy has been growing due to increased connectivity in the country. Currently, 44.0 % of the businesses use private or public clouds in Mexico, and cloud computing is expected to increase 25.0 % by 2020. Internet-related regulations and policies regarding, inter alia, privacy, intellectual property and server localization are still in the making by the Mexican government. Mexico is following the global trend of a service-centric IT industry, in which majority of technologies are offered under a service lease or contract. (Export.gov 2019.)

## **Legal**

In Mexico, the following legislation regarding ambulance regulations is followed: Official Mexican Law, Norma Oficial Mexicana, NOM-237-SSA1-2004. This is an amendment to NOM-020-SSA2-1994, health care service performance in mobile units such as ambulances, changed to the contents of the official Mexican regulation for healthcare services. (Organización Panamericana de la Salud 2010.)

A translated collection of the most relevant ambulance regulations, NOM-237-SSA1-2004, can be found in the Appendices (appendix 3). These regulations have been translated from Spanish to English by a fluent Spanish speaker during the research process of this thesis and are retrieved originally from a legislation compilation by the Pan American Health Organization published in 2010. The compilation was the latest information that could be found regarding ambulance regulations in Latin America. It should be taken into consideration that these regulations might have changed over the past years. Therefore, the validity of the ambulance legislations within the target country should be checked. As the legislations are fully written in the country's local language, it is highly recommended to use a professional translator. (Organización Panamericana de la Salud 2010.)

## **Environmental**

Mexico is a member of the Paris Agreement, which is the first universal, legally binding agreement and action plan regarding climate change. However, there are several environmental challenges in Mexico, including the air pollution in Mexico City, provision of clean water, and rural erosion and deforestation. Currently, there is an alarming trend of increased use of private cars in Mexico, which may result in the vehicle fleet reaching 70 million vehicles in 2030. (European Commission n.d.; SGI n.d.)

While Mexico has been internationally recognized for its proactivity regarding innovation, the policymaking and enforcement of environmental regulations is often lacking. However, the environmental policies have developed particularly in the major cities of Mexico, such as Mexico City. (SGI n.d.)

## **5.2 Chile**

### **General information**

**Location:** South-west of South America

**Border countries:** Peru, Bolivia, Argentina

**Capital:** Santiago

**Population:** 18.73 M

**Area:** 756,700 km<sup>2</sup>

**Language:** Spanish 89.7 %, English 5.2 %

**Currency:** Chilean Peso, CLP

**Time zone:** Two time zones, Santiago UTC -3

(World Data 2018.)

### **Healthcare in Chile**

Chile has a total number of 2,902 healthcare centers which includes both publicly and privately owned units. Chile has a total of two private healthcare centers, Clinica Alemana and Clinica Las Condes, and they are both with Joint Commission Accreditation. The country has an aging population as well as a lot of patients with chronic diseases and thus, the healthcare infrastructure is constantly being developed and big investments are made in the healthcare sector. In Chile

the healthcare industry has its own country specific regulations. Thus, the majority of medical devices and pharmaceuticals need to be registered and authorized at the Institute of Public Health, ISP. (Export.gov 2019.)

According to The World Bank, Chile's expenditure for healthcare was 8.5 % of its GDP in 2016. Chile has a healthcare insurance system called FONASA run by the government, which services cover 77.0 % of the country's population. The majority of the remaining 23.0 % have either a private insurance or an insurance of the Ministry of Defense, out of these Chilean citizens 5.0 % live without any insurances. (The World Bank 2016; Export.gov 2019.)

### **Political**

Chile is a democratic republic and it has a presidential system, lead by the President Sebastián Piñera Echenique since 11th of March 2018. The President acts as the head of the country and government. There are three separate institutions in the current constitution, which are the following: Executive, lead by the President; Legislative, consisting of the Senate and Chamber of Deputies; and lastly Judiciary, consisting of Supreme Court, Appeals Courts and local systems. (GOV.UK 2019; Société Générale 2019.)

Chile has a strong rule of law, with a free press and universal voting rights applying to citizens aged 18 or over. The country also has a modern transparency legislation and an independent judiciary. In 2018, Chile received a score of 67/100 (0 meaning highly corrupt, 100 meaning very clean) in a corruption perception index. Hence, the country was ranked 27 out of a total of 180 countries worldwide. All forms of bribery are strictly illegal in the country. (Transparency International 2018; GOV.UK 2019.)

### **Economic**

Chile is the fifth largest economy in Latin America with steady growth and solid stability in macroeconomics. In 2019, the country's GDP per capita is 16,277 USD, the inflation rate is 3.0 % and there is a 6.5 % unemployment rate of the entire labour force. Chile's general government gross debt is 26.0 % of the GDP and the total GDP in 2019 is 305.56 billion USD. (GOV.UK 2019; Societe Generale 2019.)

Chile trades with more than 64 countries, and it has signed over 25 Free Trade Agreements. Chile's top three most valuable export countries in 2018 were China (33.5 %), United States (13.8 %) and Japan (9.3 %). In 2017, Chile's total exports were 68,306 million USD. On the other hand, the country's most valuable import countries in 2018 were China (23.6 %), United States (18.9 %) and Brazil (9.0 %). In 2017, Chile's total imports were 65,162 million USD. However, trade between Chile and other Latin American countries is relatively low. (GOV.UK 2019; Société Générale 2019.)

Chile offers strong business opportunities especially in the construction, healthcare and retail sectors. This is due to the country's economic stability, low level of corruption, public deficit and public debt, as well as efficient government and markets. (GOV.UK 2019; Société Générale 2019.)

### **Sociological**

Chile has a demographic density of 24 inhabitants per square kilometer. The medium age of the Chilean population is 32.8 years. Men have a life expectancy of 76.9 years whereas women have a life expectancy of 81.9 years. Chile's labour force is 8,680,000 and the literacy rate of the population is 95.7 %. (Société Générale 2019.)

Chile has people of European and Indian ancestry, which makes the country a multi-ethnic society. In Chile, in order to appear as a potential business partner, it is preferred to have business negotiations face-to-face with serious and straightforward communication style. It is important to determine the priorities, terms and conditions of the possible business setting for the Chilean partners as they expect direct and honest negotiations. It is good to take into account Chile's official language, Spanish, although some senior managers might have adequate business language skills in English, too. (BBC 2018; Great.GOV.UK 2019.)

### **Technological**

Copper mining and its importance have further convinced the country's government to push for developmental operations on technology, as they want to reach a good quality level concerning tech industries within South America. According

to The World Bank, Chile's expenditure for Research and Development was 0.4 % of its GDP in 2016. (The World Bank 2016; Stratfor 2018.)

In 2018, the Internet access in Chile grew 20.2 % during one year and the development of Internet accessibility continues to grow within the country. Currently 3G connections are changed to 4G and during 2020 the country aims to implement 5G internet connections throughout the country. (Export.gov 2019.)

### **Legal**

In Chile, the following legislation regarding ambulance regulations is followed: General technical legislation No. 17 about the medical emergency care system (SAMU) of the 2nd of March 2005. It is the extended court decision 338 of 2005. (Organización Panamericana de la Salud 2010.)

A translated collection of the most relevant ambulance regulations in Chile can be found in the Appendices (appendix 4). These regulations have been translated from Spanish to English by a fluent Spanish speaker during the research process of this thesis and are retrieved originally from a legislation compilation by the Pan American Health Organization published in 2010. The compilation was the latest information that could be found regarding ambulance regulations in Latin America. It should be taken into consideration that these regulations might have changed over the past years. Therefore, the validity of the ambulance legislations within the target country should be checked. As the legislations are fully written in the country's local language, it is highly recommended to use a professional translator.

### **Environmental**

Due to the narrow yet longitudinal geographical shape of Chile, the country possesses a broad variety of different climates. This brings its own challenges to the driving conditions and safety aspects everywhere in the country. According to GOV.UK, Chile has surfaced main roads, but in the countryside and rural areas a four-wheel drive vehicle is needed. Also the driving conditions can vary from snowy and icy roads to sandy deserts. (BBC 2018; GOV.UK 2019.)

Environmental sustainability has developed slightly in Chile over the past years. The reason behind the slow and prolonging development is the country's complying with other international markets instead of focusing on sustainability. Chile has signed the Paris Agreement on climate change which pushes Chilean organizations to work for protecting the country's environment and natural resources. In the future Chile plans to focus more on the environmental sustainability and climate aspects by reducing the overall emissions of the country. (SGI n.d.)

### 5.3 Brazil

#### **General information**

**Location:** Heartland and east of South America

**Border countries:** Argentina, Bolivia, Colombia, French Guiana, Suriname, Guyana, Paraguay, Peru, Uruguay, Venezuela

**Capital:** Brasília

**Population:** 209.47 M

**Area:** 8,515,770 km<sup>2</sup>

**Language:** Portuguese 97.5 %

**Currency:** Real, BRL

**Time zone:** Multiple, Brasília UTC -3

(World Data 2018.)

#### **Healthcare in Brazil**

The healthcare system in Brazil consists of both government institutions and private institutions. In Brazil, healthcare is a constitutional right and the public healthcare system of Brazil is called Sistema Único de Saúde (SUS), United Health System. SUS is the largest publically administered healthcare system run by the government in the world. The system has more consumers, clinics and treatment centers than any other comparable health system in the world, and it also covers a larger geographical territory in terms of land mass than any other system. Any legal resident of Brazil can participate in the SUS, although it is not required by the law. (International Insurance n.d.)

Brazil is the largest healthcare market in Latin America. According to The World Bank, Brazil's expenditure for healthcare was 11.8 % of its GDP in 2016. In Brazil, there are approximately 6,400 hospitals, of which 70.0 % are private. There are approximately 96,000 healthcare supplementary services, 495,000 hospital beds, 70,000 drugstores, 432,000 physicians and 144,000 dentists. Approximately 80.0 % of the population rely on the public healthcare system of SUS and around 25.0 % rely on the private healthcare institutions. As Brazil has a huge geographical territory, the public healthcare system consists of a large network of small hospitals. More than 55.0 % of the public hospitals in Brazil have fewer than 50 beds. (The World Bank 2016; Export.gov 2019; International Insurance n.d.)

The Brazilian healthcare market is price-driven, mainly towards products that are manufactured inside the borders of the country. Quality is considered to be important and businesses must meet all sanitary registration related requirements when selling to the government. It is necessary to have a distributor or importer for product liability, although some specific products may be exempt from registration. In addition, foreign companies are advised to have replacement parts for customer support, as well as a technical staff locally. (Export.gov 2019.)

The Ministry of Health is responsible for primary healthcare in Brazil, while administering certain elements related to primary healthcare is the responsibility of the states. There is a significant disparity in terms of organization, resources and the proper allocation of them, and medical facilities between the states. Furthermore, emergency services of Brazil lack consistency in the standard of care. Serviço de Atendimento Móvel de Urgência (SAMU) is the emergency medical service of Brazil. One of the challenges regarding the public healthcare system of Brazil is the overcrowding of emergency departments, and thus private healthcare is sometimes considered to be more efficient. (International Insurance n.d.)

### **Political**

The Federal Republic of Brazil is based on parliamentary democracy. Brazil is the largest country in Latin America and it consists of 26 states and one federal district. The legislative power in Brazil is bicameral. The National Congress (the parliament) consists of two houses: the Senate and the Chamber of Deputies. In

Brazil, the President is both head of the government and head of the state. The President has executive power and he or she designates the Council of Ministers. Jair Bolsonaro is the current President of Brasil, since 1<sup>st</sup> of January 2019. The President and Vice-president are elected for a four-year term through universal suffrage. The four-year terms are elected by popular vote, which is compulsory for citizens between 18 to 70 years of age. (GOV.UK 2017; Santander Trade 2019; The New York Times 2019.)

Corruption and bribery cause challenges when it comes to doing business in Brazil. In 2018, Brazil received a score of 35/100 (0 meaning highly corrupt, 100 meaning very clean) in a corruption perception index. Hence, the country was ranked 105 out of a total of 180 countries worldwide. The tax system in Brazil is complicated and prone to corruption. Reportedly, the tax collectors often ask for bribes to relax inspections and assessments, to give legal advice on possibilities of reducing tax obligations or to refrain from pursuing acts of tax fraud. (GOV.UK 2017; Transparency International 2018.)

In addition, organized crime is a serious problem in several parts of Brazil. The issue is significant especially in the major Brazilian cities, along the widely uncontrolled border areas of the country and around the various international sea ports. Organized crime groups are mainly linked to drug trafficking and might be heavily armed, especially in Sao Paulo and Rio de Janeiro. The Brazilian Federal Police is leading the initiative to tackle organized crime together with the Brazilian government. The activities of illegal organizations range from cargo theft to procurement manipulation of the government. Piracy and financing through counterfeit products are often linked to illegal organizations connected to drug trafficking. (GOV.UK 2017.)

### **Economic**

Brazil is the seventh largest economy in the world and the largest in South America, accounting approximately 50.0 % of the continent's GDP. In 2019, the country's GDP per capita is 9,160 USD, the inflation rate is 4.2 % and there is a 10.7 % unemployment rate of the entire labour force. Brazil's general government gross debt is 90.5 % of the GDP and the total GDP in 2019 is 1,929.71 billion USD. The 2019 World Bank's Ease of Doing Business index ranked Brazil as the



17th easiest country to do business within the Latin American and Caribbean region. Brazil is the 124th easiest country to do business worldwide according to The World Bank. (Société Générale 2019; World Bank 2019.)

Brazil is a member of MERCOSUR, the Southern Common Market. MERCOSUR is a trade bloc established to promote free trade that creates investment and business opportunities through a regional intergration process. The founding States Parties of MERCOSUR are Brazil, Argentina, Paraguay, and Uruguay. Venezuela is also a full member of the trade bloc, but has been suspended since 2016. The Associated States of MERCOSUR are Chile, Colombia, Bolivia, Ecuador, Peru, Guyana, and Suriname. The associated South American countries also benefit of the agreement through trade preferences and participation in the activities of the bloc. In addition, MERCOSUR is a signatory of multiple political, commercial or cooperation agreements around the world. (MERCOSUR n.d.)

### **Sociological**

Brazil has a demographic density of 25 inhabitants per square kilometer. The medium age of the Brazilian population is 27.0 years. Men have a life expectancy of 71.9 years whereas women have a life expectancy of 79.1 years. Brazil's labour force is 109,200,000 and the literacy rate of the population is 88.6 %. (Société Générale 2019.)

In Brazil, oral communication is appreciated more than the written word. For instance, it is good to follow up a written word with a visit or a phone call. Normal communication includes a strong body language, close contact and strong level of eye contact. A reserved behaviour can be interpreted as unfriendliness in the Brazilian culture, so it is important to adapt to the way of communication. Humour shouldn't be used in very serious situations, although being entertaining is valued in everyday situations. (World Business Culture 2017.)

Many business executives in Brazil have a high level of English language. However, when interacting with people outside of the major centres, it is extremely useful to know Brazilian Portuguese language. Brazilians are proud of their language and its uniqueness in South America, and thus speaking Spanish can be interpreted as culturally insensitive. It is wise to find out in advance whether a

translator will be needed or not when starting to do business in Brazil. (World Business Culture 2017.)

### **Technological**

According to The World Bank, Brazil's expenditure for Research and Development was 1.3 % of its GDP in 2016. The Information Technologies (IT) market grew 9.8 % in 2018, reaching \$47 billion, and is expected to continue its growth in 2019. Brazil is Latin America's largest telecom market with approximately a third of the region's population. The market of telecommunications services is expected to reach \$45.76 billion in Brazil by 2022. (The World Bank 2016; Export.gov 2019.)

In Brazil, investments in machine learning for security and artificial intelligence (AI) are expected to increase to \$671 million. Consequently, 15.3 % of Brazilian medium and large companies already have AI technology as one of their prioritized initiatives, and the number is expected to double during the next four years. The greatest growth potential areas comprehend healthcare, diagnostics, IT automation, customer service, and fraud investigation and analysis. (Export.gov 2019)

### **Legal**

In Brazil, the following legislation regarding ambulance regulations is followed: "Portaria GM/MS n.o 2048, de 5 de novembro de 2002. Regulamento Técnico dos Sistemas Estaduais de Urgência e Emergência". This was the latest information that could be found regarding ambulance regulations in Latin America. (Organización Panamericana de la Salud 2010.)

The aforementioned legislation can be found for instance from the legislation compilation published by the Pan American Health Organization in 2010. As Portuguese is the main language of Brazil, the ambulance regulations are also fully written in the local language. Thus, it is highly recommended to use a professional Portuguese language translator in order to best utilize and understand the legislation. It should be taken into consideration that these regulations might have changed over the past years. Therefore, the validity of the ambulance legislations within the target country should be checked.

## **Environmental**

Brazil is a member of the Paris Agreement, which is the first universal, legally binding agreement and action plan regarding climate change. Brazil is the seventh largest producer of greenhouse gases in the world, and thus has a significant responsibility when it comes to climate change. In 2015, Brazil committed to a goal of cutting 37.0 % of the country's carbon emissions by 2025, and 43.0 % by 2030 under the Paris Agreement. According to GOV.UK, the quality of the roads in Brazil is poor when driving away from the main highways closer to the rural terrains. (GOV.UK 2019; Mongabay 2019.)

Brazil has several environmental issues, including deforestation which creates emissions particularly in the Amazon. The Amazon Rainforest covers an area of 5.5 million square kilometers and is the largest rainforest in the world. Between August 2018 and July 2019, 9,762 square kilometers of the Amazon rain forest were destroyed in Brazil. Other environmental issues of Brazil are water and air pollution in large cities, illegal poaching, and land degradation. (Mongabay 2019; Yle 2019; Central Intelligence Agency n.d.)

## **5.4 Peru**

### **General information**

**Location:** West of South America

**Border countries:** Ecuador, Colombia, Brazil, Bolivia, Chile

**Capital:** Lima

**Population:** 31.99 M

**Area:** 1,285,220 km<sup>2</sup>

**Language:** Spanish 84.1 %, Quechua 13.0 %

**Currency:** Nuevo Sol, PEN

**Time zone:** Lima UTC -5

(World Data 2018.)

### **Healthcare in Peru**

The healthcare system of Peru is administrated by five decentralized entities, of which four are public and one is private. The Ministry of Health (MINSA) provides

healthcare for 60.0 % of the population, which makes it the largest insurance provider. EsSalud, the Ministry of Labor's social security program, covers 30.0 % of the Peruvian population. Lastly, the remaining 10.0 % of the population receive health services from the private sector, the Armed Forces (FFAA), and National Police (PNP). (WHO n.d.)

According to The World Bank, Peru's expenditure for healthcare was 5.1 % of its GDP in 2016. In 2017, the Organisation for Economic Co-operation and Development (OECD) released a report on Peru's health systems. OECD is an economic organisation, which was established to increase well-being, help developing countries with economic goals, and to stimulate world trade and economic progress. According to OECD's Health System Review of Peru, the healthcare workers and hospital beds are unevenly distributed within the country, and they are centralised mostly to the capital and coastal regions of Peru. Reportedly, the density of hospital beds is 1.5 per 1000 population in Peru, which is lower than the average density of beds (4.8 beds per 1000 population) when comparing to OECD countries. The density is also lower than in Mexico and Chile (1.6 beds and 2.2 beds per 1000 population), which have the lowest ranking among OECD countries. (The World Bank 2016; OECD 2017; Eduskunta 2019.)

### **Political**

Peru is a semi-presidential democratic republic, where the President is both head of government and head of state. The Peruvian Constitution of 1993 established the current government. The government consists of three branches of power, which are legislative, judicial and executive, the latter being exercised by the government. Legislated power is exercised by both the congress and the government, whereas judiciary is independent of the legislature and executive power. The current President of Peru is Martín Vizcarra, who took office on 23<sup>rd</sup> of March 2018. The President is elected for a five-year term through direct suffrage, and there is no immediate re-election held. (Constitute 2019; Embassy of Peru in the United Kingdom n.d.)

Corruption, bribery and extortion are unfortunately still common both in the public and private sector in Peru. Reportedly, the public administration, police, tax administration and customs of Peru tend to accept bribes. Peru's anti-corruption

legislation has been described as partially inadequate, and particularly the implementation of it is weak. In 2018, Peru received a score of 35/100 (0 meaning highly corrupt, 100 meaning very clean) in a corruption perception index. Hence, the country was ranked 105 out of a total of 180 countries worldwide. (Team Finland 2018; Transparency International 2018.)

### **Economic**

According to Team Finland, the Peruvian market is one of the freest markets in Latin America, which favors foreign investments. The Peruvian economy has long relied on raw materials exports and the extractive industries, but the country's long-term strategy includes diversification of production and export articles. In particular, agriculture and forestry, energy, textiles, construction and tourism are areas with potential for growth. (Team Finland 2018.)

Peru is one of the fastest growing economies in Latin America. In 2019, the country's GDP per capita is 7,362 USD, the inflation rate is 2.0 % and there is a 6.8 % unemployment rate of the entire labour force. Peru's general government gross debt is 27.4 % of the GDP and the total GDP in 2019 is 239.22 billion USD. The 2019 World Bank's Ease of Doing Business index ranked Peru as the 6th easiest country to do business within the Latin American and Caribbean region. Peru is the 76th easiest country to do business worldwide according to The World Bank. (Société Générale 2019; World Bank 2019.)

Over the last decade the economic growth of Peru has reached the average of 5.9 % which is the highest in Latin America. Peru also bears the title of the country with the lowest inflation rate in the region over the same time period. The country has covered the majority of its trading operations with free trade agreements, Peru having one agreement with the European Union. This helps Peru to remain as one of the most open markets to trade with, within South America's continent. The country also offers business opportunities in the defense and security industries in upgrading the ground and air equipment. (GOV.UK 2018.)

### **Sociological**

Peru has a demographic density of 25 inhabitants per square kilometer. The medium age of the Peruvian population is 25.0 years. Men have a life expectancy of 72.4 years whereas women have a life expectancy of 77.7 years. Peru's labour

force is 16,800,000 and the literacy rate of the population is 87.9 %. (Société Générale 2019.)

Peruvians communicate in an open, close manner with quite a small personal space. However, the communication is also more indirect, and saving face is considered as something valuable. Peruvians want to avoid confrontation or offence, and thus might agree with something in a conversation when they don't necessarily agree. Trust and strong relationships are highly valued in doing business. Furthermore, networking has a high importance for Peruvians, since they prefer working with trusted associates. (Expatriate Arrivals n.d.)

Business meetings often start with chatting about daily things in life, as Peruvians prefer to do business with someone familiar and trustworthy. Thus, some time could be spent getting to know each other before starting to do business with an associate. English is not widely spoken especially within the public sector of Peru, while the language might be understood in some large businesses of Lima. The main business language in Peru is Spanish, and thus it is a significant advantage to know the language. (Expatriate Arrivals n.d.)

### **Technological**

It can be stated that the overall technology level in Peru is very low, and it is relatively challenging to find quality research on the topic. The market displays a lack of technical development and the research conducted of the country's technology level is quite poor. According to The World Bank, Peru's expenditure for Research and Development was 0.1 % of its GDP in 2016. (The World Bank 2016; GOV.UK 2018.)

In Peru 47.1 % of households have access to Internet in the metropolitan area of Lima. However, only 1.4 % of households in the rural terrains of Peru can access Internet. In 2010, a plan for broadening the national Internet connections was launched. In 2015, 60.0 % of Peru's provincial capitals had high-speed Internet connection. (AS/COA 2016.)

## **Legal**

In Peru, the types of ambulances must comply with the conditions stated in Ministerial Resolution No. 343-2005 by the Ministry of Health of Peru (MINSA). A translated collection of the most relevant ambulance regulations in Peru can be found in the Appendices (appendix 5). These regulations have been translated from Spanish to English by a fluent Spanish speaker during the research process of this thesis and are retrieved originally from a legislative document published by the Ministry of Health of Peru. This was the latest information that could be found regarding ambulance regulations in Latin America. It should be taken into consideration that these regulations might have changed over the past years. Therefore, the validity of the ambulance legislations within the target country should be checked. As the legislations are fully written in the country's local language, it is highly recommended to use a professional translator.

## **Environmental**

For many years Peru has almost entirely ignored environmental sustainability as some politicians have received bribes and thus, construction has been allowed to nature's most fragile environments. However, some institutions in Peru have started to take actions and demand changes to reduce pollution within the country. (Anywhere n.d.)

In Peru, road travel can face disruptions due to land, rock and mudslides during the rain or snow seasons especially in the jungle and mountain areas. In addition, natural disasters may occur and cause dangerous situations in the environment. These phenomena are such as earthquakes, volcanic eruptions, tsunamis, high tides and flooding. (GOV.UK 2019.)

## **5.5 Colombia**

### **General information**

**Location:** North-west of South America

**Border countries:** Panama, Brazil, Ecuador, Peru, Venezuela

**Capital:** Bogotá

**Population:** 49.65 M

**Area:** 1,141,749 km<sup>2</sup>

**Language:** Spanish 99.0 %

**Currency:** Colombian Peso, COP

**Time zone:** Bogotá UTC -5

(World Data 2018.)

### **Healthcare in Colombia**

The medical devices market in Colombia is strongly focused on imports as they covered 82.0 % of the market in 2018. After implementing the US-Colombia Trade Promotion Agreement (TPA) between the countries, nearly all medical equipment, 96.0 %, exported from the US to Colombia are treated as duty free. Colombia has free trade agreements with technologically developed markets such as Canada and the European Union and in addition, they are having free trade agreement negotiations with New Zealand, Australia and Japan. (Export.gov 2019.)

Colombia's healthcare infrastructure in the urban regions is rather sufficient, although there is still room for big improvements. According to The World Bank, Colombia's expenditure for healthcare was 5.9 % of its GDP in 2016. The universal medical system provided by the Colombian government covers currently 96.0 % of the population as Colombia has a law which entitles citizens of the country to access a thorough healthcare system despite of people's ability to pay for it. (World Bank 2016; Export.gov 2019; Great.GOV.UK 2019.)

The institution responsible for supervising the healthcare market is called INVIMA (Instituto Nacional de Vigilancia de Medicamentos y Alimentos). It inspects various aspects of the medical services industry, such as the marketing and production of medical products, and monitors the procedures and supervises the health standards compliance. In addition, INVIMA provides medical approval for all imports and exports within the country and industry. (Export.gov 2019.)

Accessing the Colombian healthcare market can be quite challenging for new businesses. Currently, the market consists of many international companies which make the market even more mature and competitive within the sales of medical products and equipment. Due to legislative aspects of the registration



processes, there is always a possibility of occurring entry barriers. (Export.gov 2019.)

The most common diseases showing an increasing rate in Colombia are such as cancer, diabetes and cardiovascular disease. These diseases are said to affect the future of the healthcare market in Colombia. In addition, as the most significant public health issues regard the diseases of HIV and tuberculosis. (Export.gov 2019.)

### **Political**

Colombia is a constitutional republic with a president and a bicameral parliament controlling the legislation of the country. Despite over 50 years of civil war between the government forces and left-winged guerrilla group's movements, Colombia has been able to maintain strong democratic institutions. In Colombia there have traditionally been two political parties, Conservatives and Liberals. However, currently there is a multi-party system with sixteen parties being present in the Colombian Congress. (Globalis 2015; GOV.UK 2018.)

Even though Colombia has managed to break down some major drug cartels within the country with the help of the US, Colombia is still a substantial cocaine producer globally. It has been discovered that some Colombian politicians are linked to death squads and drug trafficking. In 2018, Colombia received a score of 36/100 (0 meaning highly corrupt, 100 meaning very clean) in a corruption perception index. Hence, the country was ranked 99 out of a total of 180 countries worldwide and thus, it can be stated that corruption is a significant issue in Colombia. (Globalis 2015; Transparency International 2018.)

### **Economic**

According to GOV.UK, due to the increasing level of overall stability in Colombia, the country offers new commercial opportunities as new sectors and markets are able to develop further. In 2019, the country's GDP per capita is 7,049 USD, the inflation rate is 3.4 % and there is a 9.1 % unemployment rate of the entire labour force. Colombia's general government gross debt is 47.8 % of the GDP and the total GDP in 2019 is 355.16 billion USD. The 2019 World Bank's Ease of Doing Business index ranked Colombia as the 3rd easiest country to do business within

the Latin American and Caribbean region. Colombia is the 67th easiest country to do business worldwide according to The World Bank. (Société Générale 2019; World Bank 2019.)

The economic growth of Colombia has been positive over the last years. The country's economy is traditionally based on agriculture, as well as exporting coffee and bananas. Today, oil is one of the most important legal export products of Colombia. Exports of cocaine is estimated to be higher compared to oil exports, as 60.0 % of all cocaine produced comes from Colombia. (Globalis 2015.)

As Colombia has become a closer trading partner with the US during the recent years, relations with other South American, socialistic countries have worsened. However, China has become one of the most important trading partners of Colombia. (Globalis 2015.)

### **Sociological**

Colombia has a demographic density of 44 inhabitants per square kilometer. The medium age of the Colombian population is 26.0 years. Men have a life expectancy of 70.9 years whereas women have a life expectancy of 78.0 years. Colombia's labour force is 24,340,000 and the literacy rate of the population is 92.8 %. (Société Générale 2019.)

In Colombia, income inequality and societal class differences are evident. Violence is also strongly related to the culture of Colombia, which causes a lot of costs and restlessness within the society. What comes to the education level of Colombia, there are a lot of inequalities as well. Primary education is accessible for 83.0 % of Colombians, secondary education is accessible for 63.0 % and higher professional education is accessible for only 15.0 %. (AJPH 2011.)

It is recommended to acquire a local distributor or an agent when expanding business operations to Colombia. This is because Colombian people are more likely to do business with local representatives of their potential foreign business partners. (Great.GOV.UK 2019.)

### **Technological**

According to The World Bank, Colombia's expenditure for Research and Development was 0.3 % of its GDP in 2016. Colombia has a remarkable demand for generating electricity from renewable sources. The Ministry of Mines established national guidelines in 2018 which promote long-term projects of renewable energy systems and their contracts. (The World Bank 2016; Great.GOV.UK 2019.)

Colombia also has a remarkable demand for medical devices as it is the third largest market in Latin America which provides medical devices. The reasons behind Colombia's increasing growth of the generic medical services market is the technological development and tightened regulations regarding bioequivalence. (Great.GOV.UK 2019.)

### **Legal**

In Colombia, the following legislation regarding ambulance regulations is followed: "Res. 1043/06, contiene anexos con especificaciones técnicas y funcionales para ambulancias". This legislation contains annexes with technical and functional specifications for ambulances. This was the latest information that could be found regarding ambulance regulations in Latin America. (Organización Panamericana de la Salud 2010.)

For Colombia, it was not possible to find legislation regarding ambulance regulations in detail. Thus, further research has to be conducted in the future in order to find these particular regulations. It should be taken into consideration that these regulations might have changed over the past years. Therefore, the validity of the ambulance legislations within the target country should be checked. As the legislations are fully written in the country's local language, it is highly recommended to use a professional translator.

### **Environmental**

Colombia is known for the country's wide range of different climates and ecosystems due to its many jungles, rainforests, snowy mountains, deserts and marshlands. Colombia is the world's second most biodiverse country and thus, the country's government tries to retain all the precious natural diversities by setting certain environmental policies and initiatives to the legislations of the country.

Energy diversification within Colombia has also been recognized internationally, as in 2008 and 2010 Colombia was ranked in Yale University's Environmental Performance Index in the top 10. (Embassy of Colombia 2012.)

## 6 HOFSTEDE'S CULTURAL DIMENSIONS

The theory of Hofstede's six cultural dimensions is used to determine the cultural differences between Finland and the five given countries. In the following chapters, Finland's culture is compared to the target countries' cultures as this will provide valuable information for the commissioner. With the help of Hofstede's Country Comparison model, it is easy to get an understanding of the differences and similarities regarding the Finnish and the Latin American cultures.

The model provides useful information when planning to expand business operations to new countries and furthermore, acquiring knowledge of the cultural societies. The results of the country comparisons are further presented and discussed in the conclusion of this thesis.

### 6.1 Mexico

In this chapter, the cultural differences between the Finnish and Mexican societies are compared through Hofstede's six cultural dimensions. Figure 6 illustrates the following cultural indices of Finland and Mexico: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence.

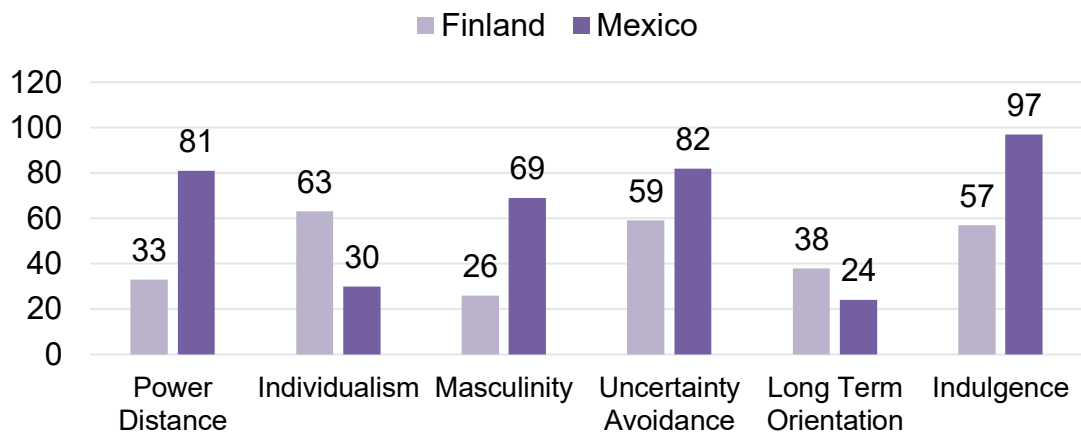


FIGURE 6. Country comparison Finland vs. Mexico (Hofstede Insights 2019)

### **Power Distance**

Finland has a score of 33 on the Power Distance dimension, which is considered to be low. Mexico, on the other hand, scores 81 on this dimension, which means that the country has a hierarchical society. In Mexico, people accept that everyone has their place in a hierarchical order and this can reflect as inequality in organizations, while in Finland hierarchy is used for convenience only. Centralization is popular in Mexico, whereas in Finland power is decentralized. In Finland, communication is participative and direct, control is disliked, and attitude towards managers is informal. In Mexico, manager is expected to tell subordinates what to do and the ideal manager is a “benevolent autocrat”. (Hofstede Insights 2019.)

### **Individualism**

Finland is an individualist society with a score of 63 on the Individualism index, whereas Mexico is a collectivistic society with a score of 30. It means that in Finland, individuals take care of themselves and their closest families only, while in Mexico people have a closer long-term commitment to a group, for instance family. The Mexican society values strong relationships, and everyone takes care of fellow members of their group. In Finland, the relationship between employer and employee is based on contract of mutual advantage, whereas in Mexico the relationship is perceived in moral terms. In individualist societies managers are managing individuals, and in collectivist societies managers are managing groups. (Hofstede Insights 2019.)

### **Masculinity**

Finland is considered a feminine society with the score of 26. Mexico, on the other hand, scores 69 on the Masculinity dimension and is thus a masculine society. In feminine countries, equality, quality and solidarity is valued in working life, and managers strive for harmony. Conflicts are solved through negotiation and compromise, and the focus is on well-being, not showing the status. In masculine societies, the focus is on equity, performance and competition, and conflicts are solved by fighting. Managers are expected to be assertive and decisive in masculine countries, whereas in feminine societies managers are supportive and employees are involved in decision making. (Hofstede Insights 2019.)

### **Uncertainty Avoidance**

Finland scores 59 on the Uncertainty Avoidance index, which means a high desire to avoid uncertainty. Mexico scores 82 on the same dimension and thus also prefers to avoid uncertainty. In societies with high Uncertainty Avoidance score, people have an emotional need for rules and have an inner desire to work hard and keep themselves busy. In these countries, security is a highly important element when it comes to individual motivation, and punctuality and precision are common. Unconventional ideas and behaviour are not tolerated and innovation may be resisted in countries with high Uncertainty Avoidance score. (Hofstede Insights 2019.)

### **Long Term Orientation**

Both Finland and Mexico score low on Long Term Orientation dimension. Finland (score of 38) and Mexico (score of 24) are both normative cultures in which societies are strongly concerned with establishing the absolute truth. The focus is on achieving fast results, traditions are highly respected and the tendency to save for the future is relatively small. (Hofstede Insights 2019.)

### **Indulgence**

With a relatively high score of 57 on the Indulgence dimension, Finland is an indulgent society. Mexico, for its part, has a very high score of 97 on the Indulgence index. Cultures with a high score in Indulgence have a tendency towards optimism and highly value leisure time. People have a positive attitude and they feel free to spend money and act as they please. (Hofstede Insights 2019.)

## **6.2 Chile**

In this chapter, the cultural differences between the Finnish and Chilean societies are compared through Hofstede's six cultural dimensions. Figure 7 illustrates the following cultural indices of Finland and Chile: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence.

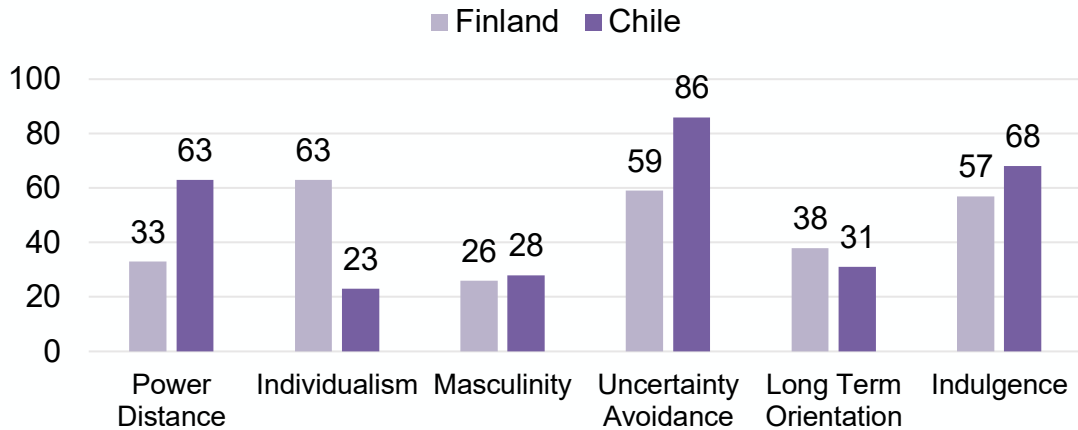


FIGURE 7. Country comparison Finland vs. Chile (Hofstede Insights 2019)

### Power Distance

According to the Hofstede analysis, Chile has a socially hierarchical structure while in Finland the power distance is low. This means that in Finland, employees within organizations have equal rights and the communication is rather direct between colleagues. On the other hand, in Chile great power differences can be noticed within most organizations. (Hofstede Insights 2019.)

### Individualism

What comes to individualism, Finland is a very clear individualistic culture with people having the habit of only looking after themselves and their immediate families. Chile then again, scores low in the individualism sector as people are expected to take care of each other and are seen in business environments as groups and teams rather than separate individuals. (Hofstede Insights 2019.)

### Masculinity

Both Finland and Chile score low in the masculinity sector and thus, are considered as feminine countries. The feminine cultures' communication style is participative and negotiative, and in case of conflicts, the issues are dealt through reciprocal compromising. Due to the feminine cultural environment, status is not essential in business operations but the focus is rather on flexibility, consensus and supporting colleagues. (Hofstede Insights 2019.)



### Uncertainty Avoidance

Uncertainty avoidance is rather high in Finland and Chile, which means that in both countries having rules and following them is seen as a huge support platform in order to structure operations. In addition, being precise and punctual is a cultural norm and thus, people expect others to act accordingly. (Hofstede Insights 2019.)

### Long Term Orientation

Both Finland and Chile score low in the long term orientation sector, so they are both normative cultures. This means that people want to live by strong traditions and react to bigger changes with a sceptical attitude. (Hofstede Insights 2019.)

### Indulgence

Comparing the indulgence level of these two countries it can be stated that both of them are relatively indulgent. Thus, people in Finland and Chile, tend to be more optimistic and positive, and they value free time as well as seek to enjoy life. (Hofstede Insights 2019.)

## 6.3 Brazil

In this chapter, the cultural differences between the Finnish and Brazilian societies are compared through Hofstede's six cultural dimensions. Figure 8 illustrates the following cultural indices of Finland and Brazil: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence.

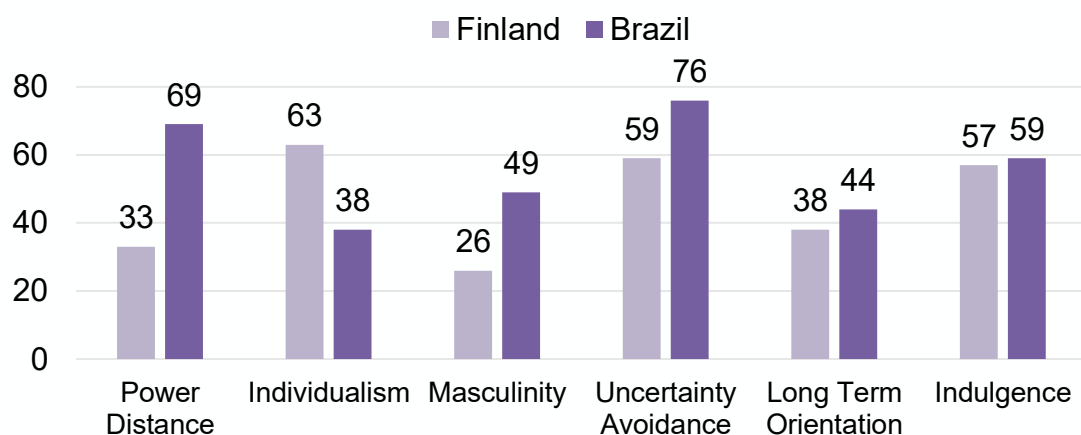


FIGURE 8. Country comparison Finland vs. Brazil (Hofstede Insights 2019)

### **Power Distance**

Finland scores 33 on the Power Distance dimension, which is considered to be low. This means that equal rights and independence is valued, and hierarchy is used for convenience only. Brazil, on the other hand, scores high (69) on Power Distance dimension, and thus is a hierarchical society where inequalities are acceptable. In Brazil, status and power are important indicators of social position and determine the respect that should be shown. In Brazilian companies, managers take full and complete responsibility, whereas in Finland managers are coaching leaders. In addition, elderly are highly respected in Brazil. (Hofstede Insights 2019.)

### **Individualism**

Finland is an individualist society with a score of 63 on the Individualism dimension. Social framework of individualist societies is described to be loosely-knit, meaning that people take care of themselves and their closest families only. Brazil scores 38 on this dimension, which means that individuals are integrated into cohesive, strong groups where the members are protected in exchange for loyalty. In Brazil, creating long and trustworthy relationships is highly valued in business. Usually business meetings start with getting to know each other better before doing business. Communication in Brazil is rather context-rich, and people often express themselves profusely and write in a detailed manner. (Hofstede Insights 2019.)

### **Masculinity**

Brazil scores 49 on Masculinity dimension, which is a very intermediate score. Thus, Brazil cannot be considered neither masculine nor feminine society dominantly. Finland, however, scores 26 on the same dimension and can be described as a Feminine country. In feminine societies, people value quality, equality and solidarity in their professional lives. Negotiation and compromises are the key in resolving conflicts. (Hofstede Insights 2019.)

### **Uncertainty Avoidance**

Brazil scores high (76) on Uncertainty Avoidance index, which means that there is a strong need for rules and legal systems. In these societies, rules, bureaucracy and laws have a great importance in creating a feeling of safety. However,

people's need to obey the rules is weak. Brazilians show their emotions openly in their body language and are highly demonstrative and passionate people. Relaxation moments, interaction with colleagues, and long meals are valued in everyday life of Brazilian people. With a score of 59 on Uncertainty Avoidance dimension, it can be stated that also Finland has a high need to avoid uncertainty. (Hofstede Insights 2019.)

### **Long Term Orientation**

Brazil scores 44 on Long Term Orientation dimension, which is considered as intermediate. Finland, on the other hand, scores 38 on this dimension and is classified as a normative country. In Finland, traditions have a great importance, focus is on achieving fast results, and establishing the absolute truth is of high concern. (Hofstede Insights 2019.)

### **Indulgence**

Both Finland (with a score of 57) and Brazil (with a score of 59) have a relatively high score on the Indulgence dimension, which indicates that they are both indulgent countries. People in these societies are optimistic and possess a positive attitude. Leisure time is considered as highly important, as well as having fun and enjoying life in general. (Hofstede Insights 2019.)

## **6.4 Peru**

In this chapter, the cultural differences between the Finnish and Peruvian societies are compared through Hofstede's six cultural dimensions. Figure 9 illustrates the following cultural indices of Finland and Peru: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence.

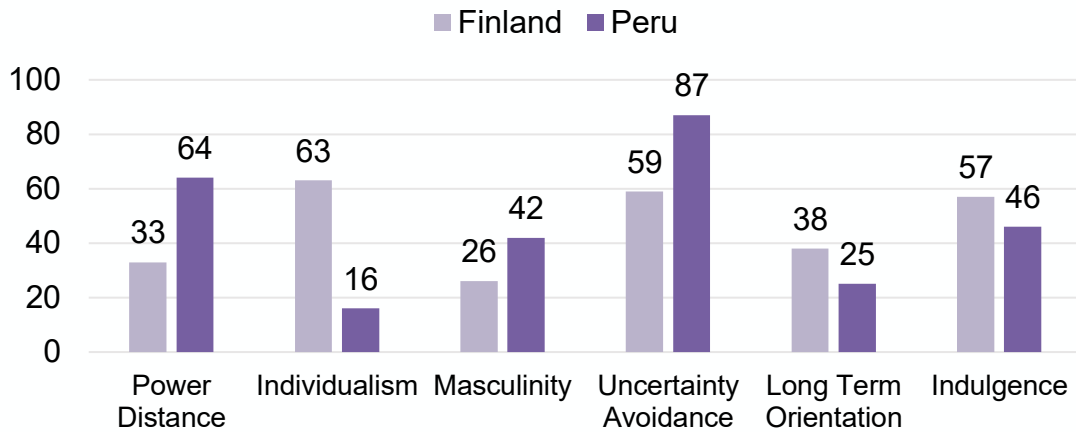


FIGURE 9. Country comparison Finland vs. Peru (Hofstede Insights 2019)

### Power Distance

Finland scores low (33) on Power Distance dimension, whereas Peru scores high (64) on this dimension. In Finland, power is decentralized and communication is participative but direct. In Peru, on the other hand, centralized structural arrangements are common. Superiors are perceived as difficult to approach or trust, and superiors expect to be respected. In Finland, control is disliked, superiors are approachable, and equality is of high importance. (Hofstede Insights 2019.)

### Individualism

With a score of 16 on the Individualism index, Peru is a very collectivistic society. Finland, on the contrary, scores 63 on this dimension and is an individualist society. In general, large companies are seen as attractive in collectivistic societies, such as Peru. Especially among blue collar workers, the involvement with the enterprise is moral rather than calculative. In Peru, it takes more time for managers to start supporting group activity and employee initiative. The Peruvian managers also favor more traditional viewpoint and maintaining security over autonomy in their position. (Hofstede Insights 2019.)

### Masculinity

Peru scores 42 on the Masculinity dimension and thus is considered to be rather feminine society. With a score of 26 on this dimension, Finland is also a feminine country. In Peru, this characteristic has been the origin of many misunderstandings and cultural clashes. The Peruvians have a high preference for human contacts, and family is more important to them than wealth or recognition. In feminine

societies, focus is on well-being, and flexibility and leisure time are valued. (Hofstede Insights 2019.)

### **Uncertainty Avoidance**

Peru has a high score of 87 on the Uncertainty Avoidance Index. Finland, with a score of 59, also has a strong desire for avoiding uncertainty. In these countries, legal systems and rules are used as a way of structuring life. Nonetheless, the Peruvian people have difficulties with following the laws, and corruption has spread widely in the country and the black market is large. As a consequence, further regulations are dictated if rules cannot be kept. In Finland, on the other hand, the relatively high score on UAI is seen as intolerance towards unusual ideas and behaviour. (Hofstede Insights 2019.)

### **Long Term Orientation**

Both Finland (with a score of 38) and Peru (with a score of 25) score low in the Long Term Orientation dimension. Thus, both countries are classified as normative rather than pragmatic. In these societies, establishing the absolute truth is of great concern, tendency to save for the future is quite small, traditions are highly respected and achieving fast results is valued. (Hofstede Insights 2019.)

### **Indulgence**

Peru has a score of 46 on the Indulgence dimension, which is intermediate. Finland scores 57 on this dimension, making it an indulgent country. Cultures with a high score in Indulgence have a tendency towards optimism and highly value leisure time. People have a positive attitude and they feel free to spend money and act as they please. (Hofstede Insights 2019.)

## **6.5 Colombia**

In this chapter, the cultural differences between the Finnish and Colombian societies are compared through Hofstede's six cultural dimensions. Figure 10 illustrates the following cultural indices of Finland and Colombia: Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long Term Orientation and Indulgence.

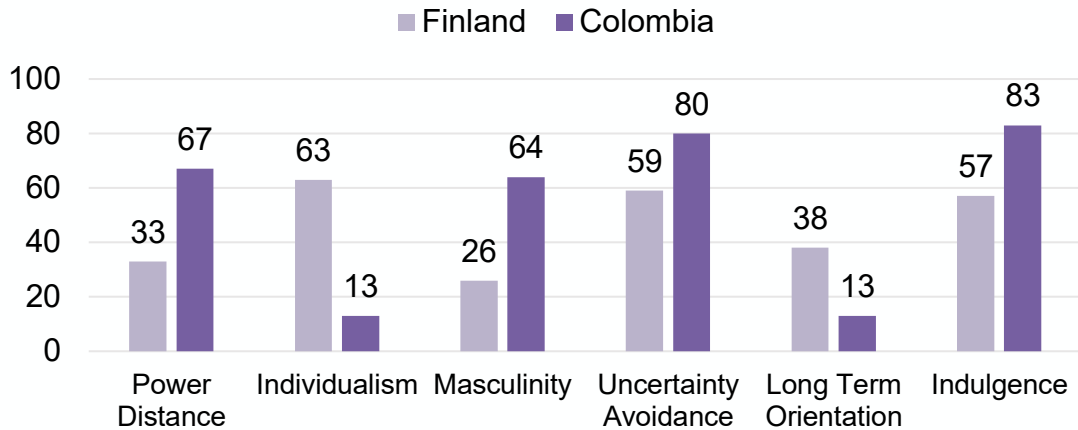


FIGURE 10. Country comparison Finland vs. Colombia (Hofstede Insights 2019)

### Power Distance

According to the Hofstede's Country Comparison analysis, Colombia possesses a very hierarchical structure, while in Finland hierarchy does not play a remarkable role as the power distance is low. Thus, Finnish people are very independent and highly value equality between colleagues. In Colombia inequalities are completely accepted and viewed as a social norm. (Hofstede Insights 2019.)

### Individualism

As Finland is an extremely individualistic culture, it can be stated that Colombia scoring only 13 in the individualism index, the countries are the ultimate opposites among each other. Colombia can be viewed as one of the most collectivistic cultures in the world, meaning that relationships are very important and thus, conflicts are being avoided as much as possible. (Hofstede Insights 2019.)

### Masculinity

As a feminine country, Finland is the opposite of Colombia within the masculinity index, since Colombia scores relatively high and thus, is a masculine country. The masculine cultures are status-oriented and very competitive towards the opponent groups. Showing other people excellent performance in the business field is important as it creates a better status of an individual. (Hofstede Insights 2019.)

### Uncertainty Avoidance

Uncertainty avoidance is relatively high in Finland and even higher in Colombia, which means that both countries want to have structured guidelines for work and

rules to live by. People in both Finland and Colombia also want to avoid ambiguous situations to a great extent. Within the business field this stands for detailed preparation and planning in advance, which may not be implemented in the later real-life situation. (Hofstede Insights 2019.)

### **Long Term Orientation**

Both Finland and Colombia score low in the long term orientation index and thus, they are both normative countries. This means that both cultures highly respect traditions and do not feel comfortable when facing bigger changes. (Hofstede Insights 2019.)

### **Indulgence**

Comparing the indulgence level of these two countries, Finland is a relatively indulgent country and Colombia's indulgence level is even higher. People in indulgent countries tend to value free time to a higher extent and also want to follow their desires to enjoy life and have fun to the fullest. (Hofstede Insights 2019.)

## 7 SWOT ANALYSIS

The commissioner's strengths, weaknesses, opportunities and threats regarding the internationalization to the Latin American markets are presented below (Table 1):

TABLE 1. SWOT analysis of Tamlans

<b>Strengths</b>	<ul style="list-style-type: none"> <li>- High-quality product</li> <li>- Light weight product</li> <li>- Volkswagen AG's PremiumPartner</li> <li>- LONO Certificate granted by Volkswagen AG for the product</li> <li>- Professionalism in production</li> <li>- Prestige of the Volkswagen brand</li> </ul>
<b>Weaknesses</b>	<ul style="list-style-type: none"> <li>- High product price</li> <li>- Body extension is necessary</li> <li>- Lack of local language skills</li> <li>- Websites are not translated to local languages</li> <li>- Lack of information regarding Latin American markets</li> </ul>
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>- Increasing number of business inquiries</li> <li>- Networking through attending fairs</li> <li>- Ambulance product matches Latin America's topographical features</li> <li>- Healthcare industry is developing and demand for medical services is increasing in Latin America</li> </ul>
<b>Threats</b>	<ul style="list-style-type: none"> <li>- Challenges regarding logistics</li> <li>- Lack of local contacts</li> <li>- Political instability of the Latin American target countries (e.g. corruption)</li> <li>- Information of the Latin American target countries is limited and available only in local languages</li> </ul>



## **Strengths**

Tamlans's most significant strength, when planning to expand export to Latin America, is their high-quality, light weight product: Volkswagen Amarok ambulance module. Tamlans has respectively received international recognition regarding their ambulance product. Tamlans has been granted with Volkswagen AG's PremiumPartner Certificate, as well as LONO Certificate for converting Volkswagen's Amarok model to a rescue vehicle. In addition, Tamlans has many years of experience and craftsmanship in manufacturing ambulances, which indicates their high level of expertise and know-how. Also, the prestige of the Volkswagen brand is widespread worldwide, which can be a great asset for Tamlans when entering the markets. The cooperation with an internationally well-known corporation could add trustworthiness in the eyes of Latin American business partners.

## **Weaknesses**

The vehicle body extension is necessary in order to manufacture Tamlans's ambulance module, which results in a relatively high product price especially when planning to export to a new continent. The commissioner's employees lack a proficient level of local languages in Latin America, which can cause challenges, for instance, when creating business relationships. In four of the target countries, Mexico, Chile, Peru, and Colombia, the main spoken language is Spanish. In Brazil, Portuguese is spoken as the main language. Furthermore, Tamlans's websites are currently available only in Finnish and English language, and thus it might be a challenge for possible Latin American companies to find the webpages or approach the commissioner. There is a need for Tamlans to acquire trustworthy and adequate information regarding the target countries before expanding their business to the area.

## **Opportunities**

Tamlans has received multiple business inquiries from Latin American countries, which indicates that there is an increasing interest towards Tamlans's ambulance product. Through attending fairs, Tamlans grows its visibility and network internationally. For instance, Tamlans will participate in a trade fair arranged for market operators in Cancun, Mexico, in December 2019. As the Tamlans ambulance

module is built on Volkswagen's Amarok model, it is a suitable vehicle for challenging terrains and off-road circumstances. Thus, the product matches Latin America's demanding physical features. According to the PESTLE analysis conducted in this research, it can be stated that the healthcare industry is constantly developing and the demand for medical services is increasing.

### **Threats**

The current requirements of manufacturing Tamlans's ambulance module generate a challenge within the operations regarding logistics. As the required body extension is made in the Netherlands, and the rest of the module in Finland, the delivery times to another continent will inevitably be longer. Tamlans still has a lack of local contacts in Latin America, since the business expansion to the continent is in an early phase. As a market area, Latin American countries are politically unstable due to high corruption rates and other political issues. After conducting the PESTLE analysis in this research, it can be stated that it is rather difficult to access data regarding the Latin American countries. Furthermore, the information is mostly available only in local languages, which makes the data gathering quite demanding for non-native speakers.

## 8 DECISION MATRIX

In this chapter, the data acquired through the PESTLE analysis of the researched markets are charted and ranked with the help of a decision matrix. The selected political and economical factors of the target countries are compared in the following tables. Furthermore, a directive estimation of the potentiality of the markets is provided.

In the table below, relevant economical and political data of the chosen Latin American countries is presented (Table 2). The criteria factors of the decision matrix are the following: GDP expenditure for healthcare, GDP expenditure for R&D, Ease of doing business rank within Latin America & Carribbean, Corruption rate, Inflation rate, Unemployment rate, and General government gross debt of GDP.

TABLE 2. Decision matrix of the target countries

Criteria	Mexico	Chile	Brazil	Peru	Colombia
<b>GDP expenditure (%) for healthcare in 2016 (The World Bank 2016)</b>	5.5	8.5	11.8	5.1	5.9
<b>GDP expenditure (%) for R&amp;D in 2016 (The World Bank 2016)</b>	0.5	0.4	1.3	0.1	0.3
<b>Ease of doing business rank within Latin America &amp; Carribbean in 2019,</b>	1	N/A	17	6	3

<b>1 = easiest &amp; 32 = most challenging (The World Bank 2019)</b>					
<b>Corruption rate in 2018, 0 = highly cor- rupt &amp; 100 = very clean (Transparency International 2018)</b>	28	67	35	35	36
<b>Inflation rate (%) in 2019 (Société Gé- nérale 2019)</b>	3.6	3.0	4.2	2.0	3.4
<b>Unemploy- ment rate (%) of the entire la- bour force in 2019 (Société Gé- nérale 2019)</b>	3.5	6.5	10.7	6.8	9.1
<b>General gov- ernment gross debt (%) of GDP in 2019 (Société Gé- nérale 2019)</b>	53.7	26.0	90.5	27.4	47.8

The aforementioned criteria is weighted by importance as presented in Table 3. The importance of the factors is weighted on the scale of 1 to 7 – 7 being the most important and 1 being the least important factor.

TABLE 3. Criteria weighted by importance

Criteria	Weight
<b>GDP expenditure (%) for healthcare</b>	7
<b>Corruption rate</b>	6
<b>General government gross debt (%) of GDP</b>	5
<b>Ease of doing business rank within Latin America &amp; Carribean</b>	4
<b>GDP expenditure (%) for R&amp;D</b>	3
<b>Inflation rate (%)</b>	2
<b>Unemployment rate (%) of the entire labour force</b>	1

After weighting the criteria factors based on their importance, the countries are ranked on the scale of 1 to 5 according to their performance regarding the selected political and economical factors (Table 4). In this case, 5 presents the best value and 1 presents the weakest value. After ranking the countries based on their performance, the rank (1–5) is multiplied by the importance weight of the factors (1–7). This calculation gives a score for each country, which indicates the countries' performance regarding each criteria factor. The sum of the seven criteria of each country will provide country-specific total scores.

TABLE 4. Weighted decision matrix of the target countries

Criteria	Mexico	Chile	Brazil	Peru	Colombia
<b>GDP expenditure (%) for healthcare in 2016 (The World Bank)</b>	7x2=14	7x4=28	7x5=35	7x1=7	7x3=21
<b>GDP expenditure (%) for R&amp;D in 2016 (The World Bank)</b>	3x4=12	3x3=9	3x5=15	3x1=3	3x2=6
<b>Ease of doing business rank within Latin</b>	4x5=20	N/A=0	4x2=8	4x3=12	4x4=16

<b>America &amp; Carribean in 2019, 1 = easiest &amp; 32 = most challenging (The World Bank)</b>					
<b>Corruption rate in 2018, 0 = highly corrupt &amp; 100 = very clean (Transparency International)</b>	6x2=12	6x5=30	6x3=18	6x3=18	6x4=24
<b>Inflation rate (%) in 2019 (Société Générale)</b>	2x2=4	2x4=8	2x1=2	2x5=10	2x3=6
<b>Unemployment rate (%) of the entire labour force in 2019 (Société Générale)</b>	1x5=5	1x4=4	1x1=1	1x3=3	1x2=2
<b>General government gross debt (%) of GDP in 2019 (Société Générale)</b>	5x2=10	5x5=25	5x1=5	5x4=20	5x3=15
<b>TOTAL</b>	77	104	84	73	90

Results of the decision matrix of the target countries are as follows:

1. Chile (total score of 104)
2. Colombia (total score of 90)
3. Brazil (total score of 84)
4. Mexico (total score of 77)
5. Peru (total score of 73).

The results acquired through PESTLE analysis support Chile's ranking in the decision matrix as the best potential export market. It can be stated that Chile is one of the most promising countries of the Latin American target markets, as the corruption rate of the country is the lowest, and GDP expenditure for healthcare is the second highest among the other countries. However, it should be taken into account that all the studied countries including Chile have political and economical instability.

Due to Colombia's second lowest corruption rate as well as ranking second best in the Ease of doing business index, Colombia received a high score from the decision matrix. Ranking third on the decision matrix, Brazil can be seen as a promising export market with the highest GDP expenditure on healthcare and R&D. Mexico, ranking fourth, scores best in the ease of doing business index and unemployment rate, which in this decision matrix were not weighted as the most important criteria. Peru ranks the lowest of the target countries in the decision matrix, as GDP expenditure as well as R&D expenditure of the country are the lowest. Peru had the best score regarding inflation rate and ranked second best when it comes to general government gross debt of GDP.

This decision matrix indicates a rough estimation of which countries could provide the most stable business environment in Latin America for the commissioner. However, this decision matrix does not take into consideration all aspects of the PESTLE analysis or the Hofstede's Cultural Dimensions theory. Thus, the results of the decision matrix are directive and must be interpreted as a preliminary research outcome. Hence, further research in the future is recommended.

## 9 LOCAL OPERATORS

The potential partners and main competitors in the Latin American markets are discussed in this chapter. A list of potential business partners will be delivered to the commissioner, which is excluded from this thesis report.

### 9.1 Partners

The five most important criteria for a good business partner according to Tamlans are listed below:

1. Local contacts within the markets
  2. Activity
  3. Possibility to provide after sales service  
(installations, repairs)
  4. No competing products in the portfolio
  5. Sufficient financial solvency.
- (Sertti 2019.)

As a part of this thesis, the commissioner has requested the authors to search for potential business partners in the given Latin American countries: Mexico, Chile, Brazil, Peru and Colombia. The above mentioned criteria were determined by the commissioner, and were utilized as a guideline when searching for the partners.

During the partner searching process it was noticed that all of the websites of the companies are only in the local languages, which supports the fact that it is crucial to have a researcher who possesses adequate language skills of the local countries. When expanding business operations to the Latin American countries it is essential to have knowledge of the local markets. Thus, it is highly recommended to have people working locally with local customers in order to gain trust and furthermore, achieve stronger business relations.



Due to language barriers, it was a challenge to find the partners as well as to completely understand the websites written in the local languages when conducting this research. The authors have provided the commissioner with a list of local operators in the target countries. However, further research is required preferably conducted by a native or fluent speaker of the local languages. The complete list of the local competitors and operators is excluded from this thesis.

## **9.2 Competitors**

### **Mexico**

The possible competitors in the Mexican market are listed below:

- COMSA Mexico
- AEERSA
- GRUPO EL DORADO
- VECSA
- VARHER.

COMSA Mexico manufactures ambulances and other special vehicles for public and private sector as well as the international markets. The company has 25 years of experience in the ambulance industry, and has been granted with 6 certifications. COMSA Mexico has a broad network of current business partners and customers. (COMSA Mexico 2019.)

AEERSA manufactures ambulances, rescue vehicles and fire trucks. The company has been operating within the industry for 25 years. The company has been granted with ISO 9001: 2015 certificate, which is a recognition of a prestigious and reliable company in the field. (AEERSA 2019.)

GRUPO EL DORADO describes itself as a leader of the ambulance and special mobile units market in Mexico. The company is known for its high standards of quality and safety, and delivering satisfaction to its customers. With more than 45 years of experience of design and technology in motion, the company provides

the following services: designing and manufacturing ambulances, converting mobile units, as well as offering sales and after sales services. The company has an extensive customer base of large enterprises. (GRUPO EL DORADO 2019.)

VECSA manufactures and designs emergency vehicles offering quality equipment and products. Their product range includes police vehicles, fire trucks, defense vehicles and ambulances. VECSA delivers functional units with customized service. (VECSA 2019.)

VARHER has experience of 15 years in manufacturing conversion vehicles. The company's products include ambulances, medical units, defense vehicles, patrol vehicles and other special conversion vehicles. The company has been granted with quality certificates and possesses a customer base of big international companies. (VARHER 2019.)

## **Chile**

The possible competitors in the Chilean market are listed below:

- Bertonati
- Vespek
- Centinela.

Bertonati produces various kinds of conversion vehicles for example for emergency, rescue, defense and security purposes. The company has been operating within the industry for nearly 40 years and thus, has comprehensive experience in the field of manufacturing special vehicles. (Bertonati 2019.)

Vespek manufactures special vehicles with a wide product range, including ambulances. The impressive product portfolio includes fire trucks, minibuses, defense and security vehicles, rescue vehicles, trucks and other special vehicles. Vespek offers products of multiple well-known international brands, including Volkswagen. (Vespek 2019.)

Centinela is specialized in manufacturing rescue vehicles including ambulances, mobile pharmacies, mobile clinics and other conversion vehicles. Centinela commits to provide customers with innovative quality solutions that match the customers' needs. (Centinela 2019.)

## **Brazil**

The possible competitors in the Brazilian market are listed below:

- Marimar Veículos
- AUTOMARCAS
- TCA Transformações Veiculares
- Revescap
- Transforms – Veículos Especiais
- Greencar.

Marimar Veículos has 27 years of experience in manufacturing ambulances, rescue vehicles, mobile units, patrol vehicles and other customized vehicles. The main customers of the company include vehicle manufacturers, hospitals, clinics, dealerships, and so forth. Marimar Veículos's customers consists of well-known international brands including Volkswagen. (Marimar Veículos 2019.)

AUTOMARCAS has operated in the vehicle manufacturing industry for over 15 years. The company manufactures vehicles such as ambulance bodies, ambulance vans, mobile units and other models as required by the customer. The company possesses a broad customer base and seeks to provide high-quality products. (AUTOMARCAS 2019.)

TCA Transformações Veiculares manufactures emergency and rescue vehicles, as well as patrol vehicles and fire trucks. The company customizes the vehicles according to customer's needs. TCA has also been granted with ISO 9001: 2015 certificate, which is a recognition of a prestigious and reliable company in the field. (TCA Transformações Veiculares 2019.)

Revescap has 28 years of expertise and a production capacity of 2,600 special vehicles per year with high-quality standards, within the safety standards required

by the market. The company manufactures variable vehicles including ambulances and mobile units customized for the customer needs. Revescap has a wide business partner range of big international companies. The company also provides installation and after sales services. (Revescap 2019.)

Transforms – Veículos Especiais, founded in 2009, operates in the conversion and adaptation of special vehicles segment, executing customized projects with quality and excellence. The company manufactures customized ambulances and possesses some good business partners. (Transforms 2019.)

Greencar manufactures various kinds of ambulances as well as patrol vehicles with nearly 30 years of experience in the field. The company has received an approval for manufacturing Volkswagen's Saveiro vehicle model. Greencar has been granted with the ISO 9001: 2015 certification. (Greencar 2019.)

## **Peru**

The possible competitors in the Peruvian market are listed below:

- CSJ
- Transmedic.

CSJ has manufactured vehicles for more than 80 years, including 4x4 ambulance modules. CSJ offers a wide range of products in both Peru and Chile, including mobile clinics, rescue vehicles, police and security vehicles and a variety of special vehicles, as well as equipment and accessories. (CSJ 2019.)

Transmedic is a Peruvian company, which rents and sells rescue vehicles. The company has more than 20 years of experience in the Peruvian market and they also provide 4x4 vehicles. Their customers consist of operators in various industries, such as mining, oil, construction and health companies nationwide. Transmedic has also been granted with ISO 9001 certificate. (Transmedic 2019.)

## Colombia

The possible competitors in the Colombian market are listed below:

- Petro Ambulancias
- Carrocerias El Sol
- Industrial Axial.

Petro Ambulancias provides ambulances, medical units, medical equipment and other special vehicles. The company manufactures both van and 4x4 box ambulances. Petro Ambulancias has more than 10 years of experience in manufacturing special vehicles in the health sector, with high standards of innovation and technology. (Petro Ambulancias 2019.)

Carrocerias El Sol has more than 55 years of experience in the field of manufacturing ambulances and other rescue vehicles. The company exports its products to countries such as Ecuador, Venezuela, Peru, Bolivia, and Mexico. Carrocerias El Sol is the leading company in the development and manufacturing of specialized vehicles in the health sector in Colombia, and their ambulance line has high standards of innovation and technology. (Carrocerias El Sol 2019.)

Industrial Axial aims to become the leading manufacturer for ambulances and special conversion vehicles by 2020. Currently, they specialize mostly in providing ambulances. The company's network within Colombia is impressively broad, and it converts vehicles of various international automotive brands. (Industrial Axial 2019.)

## 10 CONCLUSION

The aim of this thesis was to chart the potential business opportunities within the five Latin American countries: Mexico, Chile, Brazil, Peru and Colombia. The data of this research was acquired through interviews, training sessions, and research conducted on the ambulance industry, commissioner, product and export markets. Furthermore, competitors and local operators of the target countries were charted in this report as an exploratory research. The current market situation of the export countries was researched in order to create a decision matrix among the determined target countries.

The cultural aspects were also taken into consideration by comparing Finland with the five scope countries through Hofstede's Cultural Dimensions theory. The Latin American societies are mostly hierarchical, collectivistic and indulgent. In Finland, on the other hand, power is equally distributed and the society is more individualistic. Within the Finnish and the five Latin American cultures, traditions are highly valued, uncertainty is avoided, and people are rather optimistic. In addition, these cultures are mostly normative, which is similar to the Finnish culture. Within all of these specific cultures, planning is of high value as people want to avoid ambiguous situations.

People in both Finnish and the Latin American cultures have a need for rules and norms. However, within these Latin American countries, rules might not be followed as strictly as in Finland. Thus, it is crucial to be aware of this cultural aspect, as doing business could be affected by the different perception of rules. When establishing new business relationships in Latin America, it is recommended to adapt to the way of communication within the target country.

After conducting a PESTLE analysis of the markets, it can be stated that there are multiple similarities among the researched Latin American countries. Political instability is more or less predominant in the scope countries due to relatively high corruption rates, income inequalities, and crime. The healthcare industry is constantly developing in the Latin American countries, which creates an increasing demand for healthcare and medical services.

Within this research, the target countries were ranked in a decision matrix according to their performance in certain political and economical aspects. According to the decision matrix created, the most potential export country of the five determined markets for the commissioner is Chile. This is due to the lowest corruption rate and the second highest GDP expenditure for healthcare among the other countries. However, it should be taken into account that all the studied countries including Chile have political and economical instability.

Tamlans's light-weight yet strong product matches Latin America's demanding topographical features. As Tamlans has received business inquiries from Latin America, it indicates that there is an increasing interest towards the product. Attending fairs will help Tamlans to grow its visibility and international network.

Currently, the manufacturing requirements of Tamlans's ambulance module generate a challenge within the logistics operations, since the vehicle body must be extended in the Netherlands. As the rest of the module is manufactured in Finland, the delivery times to another continent will inevitably be longer. However, after conducting further research on the logistical operations of Tamlans, this challenge could be conquered as well.

Availability of information regarding the target countries turned out to be limited when gathering data for this research. In addition, most of the ambulance industry related data is published only in the local languages of the studied countries. Thus, it is recommended for the commissioner to have a native Spanish and Portuguese speaking researcher as well as a professional translator for the legislations. When expanding business operations to Latin America, it is also recommended to study the local languages and possibly have a local staff. In order to attract business partners from Latin America, the webpages of Tamlans should be translated into Spanish and perhaps Portuguese as well.

A majority of the data utilized in this research was either in Spanish or Portuguese, which could affect the reliability of this research due to the authors' limited language competence of the aforementioned languages. The research outcome could also be affected by the authors' personal interpretations during the data

collection and data analyzing processes. The most recent information was not always available, which could affect the validity of the research results.

As a future research topic for the commissioner, it is recommended to conduct a country-specific research for each target market in order to attain more detailed information. Furthermore, an in-depth research on the possible Latin American business partners could be conducted. A decision matrix according to Tamlans's specified partner criteria could be created in order to determine the most valuable partners in the market. A native Spanish or Portuguese speaker could also be a remarkable asset in this respect.

In the end it is up to Tamlans to decide about its future actions regarding the internationalization to Latin America. The Latin American markets could offer valuable opportunities for Tamlans and its high-quality ambulance product in the future, if the current challenges are turned into strengths.



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## APPENDICES

### Appendix 1. Interview with Tamlans's Sales Director

1. What is the goal, mission and vision of Tamlans for entering the global market?
2. What is the purpose and goal in expanding the business to Latin America?
3. What does Tamlans want to achieve by expanding the business to Latin America?
4. In which countries is Tamlans currently doing business?
5. Does Tamlans have any existing contacts in Latin American countries? If yes, in which countries? Please name the contacts here, if possible.
6. In which ways has Tamlans achieved these contacts?
7. How has Tamlans expanded their business to the international markets?
8. What products and/or services does Tamlans offer within the international markets?
9. What products and/or services does Tamlans want to offer within the Latin American markets?
10. What type of business partners is Tamlans looking for in Latin America (maintenance/manufacturing services/etc.) ?
11. What visions and plans does Tamlans have for the future?
12. What does Tamlans want to achieve through the exposition held in Mexico?
13. What differentiates Tamlans from its competitors?
14. Which companies does Tamlans consider as its biggest competitors?
15. Do any of these competitors operate/do business in Latin America already?



## Appendix 2. Interview with Tamlans's Production Manager

1. What is a vehicle body extension?
2. Are the competitors of Tamlans also converting body extended vehicles?
3. Why does Tamlans choose to do conversions specifically on the Volkswagen Amarok model?
4. What does Tamlans's Volkswagen AG's PremiumPartner Certificate, granted by Volkswagen, consist of?
5. What does the standard equipment consist of regarding Tamlans's ambulance module?
6. What are the most common regulations regarding rescue vehicles worldwide?
7. Which of the ambulance module equipment can be modified according to customer's needs?
8. What differentiates Tamlans Volkswagen Amarok ambulance from its competitors?
9. What benefits or competitive advantages does Tamlans Volkswagen Amarok ambulance offer?

### Appendix 3. Translation of Mexico's ambulance regulations

Official Mexican Law (Norma Oficial Mexicana) NOM-237-SSA1-2004 is an amendment to NOM-020-SSA2-1994, health care service performance in mobile units such as ambulances, is changed to the contents of the official Mexican regulation for health care services. Prehospital care of medical emergencies.

4.1 The following rules are to be applied for the general ambulances:

4.1.6. The ambulance must contain the word "AMBULANCIA" on the front, the two sides and the rear of the vehicle. In the frontal part your image has to be in mirror writing, in other words "reversed". The material has to be reflexive and in a contrasting colour to the vehicle itself. The letters have to be a size of at least 10 centimetres (not smaller) and in addition to that, the type of ambulance must be specified on the sides of the vehicle: "traslado", "urgencias básicas", "urgencias avanzadas" or "cuidados intensivos" (transfer, first aid, advanced emergencies or intensive care). They should also be labelled, depending on the type of ambulance, on the hood of the vehicle, the jacket of the personnel and the fuselage of the aircraft. The patient cabin of the vehicle must be outfitted with windows that hinder visibility from the ambulance's exterior by the use of e.g. polarised, tinted, frosted or darkened glass. The only exception is made for the ambulances of the armed forces.

4.1.7. The ambulance must be outfitted with a label that indicates the institution to where it belongs to or the name of the firm, both with the number of the unit. The material must be reflexive and in a contrasting colour to the vehicle, and located on the two sides and the rear part of the unit, with characters that has to be 8 centimetres or higher in size. On the hood of the ambulance the minimum size for the characters is 40 centimetres.

4.2. For the terrestrial ambulances the following rules apply:

4.2.1. The ambulance has to be equipped with two beacons that beam red and white light forward in an intermittent manner and with a turret that contains rotating beacons of 360 degrees or stroboscopic or intermittent beacons that project red light. These lights have to be visible from a distance of 150 metres.

4.2.1.1. The ambulance must contain a mechanical or electronic siren that generates a sound of 124 decibel in promotion.

4.2.1.2. The use of the siren and the emergency lights are strictly limited to the necessity of gaining space to attend to an emergency call or during the transfer of a patient that is in a severe or critical state. The emergency lights can be used independently with or without the use of the siren, provided that there is a patient onboard the ambulance, depending on the patient's condition or health status.

4.2.2. The ambulance has to contain a care compartment, that has to be designed to provide free space that offers at least accommodation to a patient on a stretcher and to two crew members that attend the patient and that should be able to be seated during the transfer.

4.2.2.1. The care compartment has to be outfitted with a lighting system that provides enough intensity for the crew members to be able to evaluate the patient and the appropriate identification of the materials and provisions that they need to provide care for the patient.

4.2.3. The patient care compartment of the emergency and intensive care ambulances (urgencias and cuidados intensivos) must be 1.60 metres high, 1.90 metres wide, and 2.50 metres long.

4.2.3.1. The transfer ambulances must be at least 1.35 metres high, 1.50 metres wide, and 2.00 metres long.

4.2.4. They have to contain physical support resources, medical equipment, provisions, and medication that are specified in the normative appendixes, as applicable to each type of ambulance.

## 9. Normative appendixes

Normative appendix "A". The terrestrial basic emergency ambulances have to comply to the following guidelines.

### 1. Physical support resources:

1.1. Radio communication equipment for adequate operating conditions, compatible with teams and frequencies of the Centro Regulador de Urgencias Medicas (medical emergency centre);

1.2. Basic equipment.

1.2.1. Basic manual tools equipment.

1.2.2. Basic signalling equipment.

1.2.3. Spare tyre with accessories (including a jack and cross key).

1.2.4. Starter cable set.

1.2.5. An extinguisher against fire at the very least.

1.2.6. Safety belts for all the seats.

1.2.7. Portable emergency lamp.

The numeral 1.2 applies to all types of terrestrial ambulances (transfer, first aid, advanced emergencies and intensive care)

## 2. Medical equipment:

2.1. Mobile stretcher and additional stretcher (military or marine type);

2.2. Adult and paediatric binaural stethoscope;

2.3. Adult and paediatric sphygmomanometer with cuffs;

2.4. Semi-rigid cervical collars in small, medium and large sizes as well as a device to immobilise the head;

2.5. Oropharyngeal tubes equipment;

2.6. Hooked infusion pole;

2.7. Reanimator with re-inhalation prevention ball, with oxygen entrance ways, aggregating devices, and relief valves. In case of a new-born a ball of 250 millilitre is used, for an infant a ball of 500 millilitres, for a child a ball of 750 millilitres, and an adult a ball of 1000 millilitre. As well as a pair of transparent respirators with a size of 0,1,2,3,4, and 5;

2.8. Pinard stethoscope;

2.9. Mobile oxygen tank with a size of minimal "D" or "E", with a manometer regulator and a flowmeter;

2.10. Fixed oxygen tank of at least 3 m<sup>2</sup> with manometer, flowmeter and humidifier;

2.11. Sterilised delivery care equipment that has to include at least: instrument tray, mould, Foerster forceps (with rings), 3 curved Rochester forceps or 2 curved Kelly forceps, 1 pair of tweezers without teeth, 1 pair of tweezers with teeth, omphalotome scissors, Mayo scissors, Mayo Hegar with needle holder, double-sided tape or something similar, aspiration syringe bulb and six purviews;

2.12. A rigid stretcher and short table with a minimum of five restraining straps or extrication vest;

## Appendix 4. Translation of Chile's ambulance regulations

General technical legislation No. 17 about the medical emergency care system (SAMU) of the 2<sup>nd</sup> of March 2005. Extended court decision 338 of 2005.

Ambulance M1 or basic:

Mobile unit that is destined for the transport of patients that are not in life danger, with little or no risk of worsening health conditions. The equipment of this ambulance, therefore, does not need to be complex and the requirement is given for that what is needed to assure the situation of the patient and basic supporting elements.

Within these, immobilisation, extrication and airway treatment elements are included.

The crew consists of two people; a driver and a technical paramedic. Both duly capable of providing pre-hospital care.

### IV. Equipment

The ambulances must identify themselves with logos and institutional colours.

#### Basic mobile equipment (M1)

Immobilisation and extrication elements:

- Limb spreader
- Lateral immobiliser
- Cervical collars in different sizes
- Long spinal board with corresponding restraining belts
- Short spinal board with corresponding restraining belts or extrication belt

Elements for the basic care for the airways

- Vacuum motor
- Adult resuscitation bag with mask
- Children resuscitation bag with mask
- Aspiration catheter with different lumens
- Mayo cannula in different sizes
- Mobile lifeline with manometer and flowmeter

Monitors and equipment:

- Glucometer
- Semi-automatic desfibrillator (optional)

Various elements:

- Basic equipment for delivery care
- Equipment for the treatment of injuries and wounds
- Sphygmomanometer
- Stethoscope

Elements for the protection of the personnel:

- Masks
- Flashlight
- Surgical gloves
- Safety glasses

## Appendix 5. Translation of Peru's ambulance regulations

Without prejudgement of the established norms in the national regulations for vehicles, approved by supreme decree No. 058-2003-MTC, the types of ambulances according to the type of vehicle must comply with the following conditions:

### Urban ambulance

- Integral factory-built carrosserie
- 4 x 2 drive
- Mechanical transmission system
- Powerplant in line with the vehicle's specifications
- Internal noise in the patient cabin must be below 65 decibel
- Sliding door that moves to the right; the backdoor of the vehicle should either go up horizontally in case of one door and in case of two doors vertically to the sides

### Rural ambulance

- Internal factory-built carrosserie or rebodied as a transport vehicle
- Double traction 4 x 4 all-terrain
- Mechanical transmission system
- Powerplant in line with the vehicle's specifications
- Internal noise in the patient cabin must be below 65 decibel
- Sliding door that moves to the right; the backdoor of the vehicle should either go up horizontally in case of one door and in case of two doors vertically to the sides

Without prejudgement of the established norms in the national regulations for vehicles, approved by supreme decree No. 058-2003-MTC, the type of ambulances according to the vehicle type shall contain space to accommodate at least one patient on a stretcher and seats for the personnel, with sufficient space to facilitate the required manoeuvres to attend to the patient.

In addition, according to the type of vehicle and the space where the treatment for the patient takes place, the ambulance has to comply with the following minimum requirements and conditions in the treatment area:

Dimensions*	Type I – II	Type III
Height	No less than 1.30 metres	No less than 1.60 metres
Length	No less than 2.30 metres	No less than 2.30 metres
Width	No less than 1.50 metres	No less than 1.70 metres

\*Internal dimensions

- There must be a separation between the driver's cabin and the rest of the vehicle.
- The internal cabin surface without protruding or cutting edges, must be covered with an impermeable and cleanable material.
- Area designated for drawers, with a rack on each end is fixated against the left-side of the patient cabin and can not be wider than 0.30 metres. The material should be impermeable and is covered with an easy to clean protection tapestry and blunt or rounded exterior edges.
- Device or system for the infusion pole.
- Couch with interior drawer that is constructed on the right wall of the patient cabin with a width of no more than 0.30 metres with also impermeable material and an easy to clean protection tapestry and blunt or rounded exterior edges.
- A slip-resistant, cleanable and wear-resistant surface has to be placed on the original floor of the vehicle in one single piece without obstacles or deformations that is not sewed nor provisionally joint in any way.
- The stretcher is installed on the vehicle floor with space next to the furniture with drawers. It is attached with a double fixation system: one directly attached to the floor and the other with a vertical lateral to the stretcher; the placement of the stretcher has to be lineal and straight without obstacles nor rail systems.
- The free space between the stretcher and the place where the personnel is seated cannot be less than 0.30 metres.
- The equipment should be installed safely with antivibration devices, easy access and manipulation; it should also be possible to remove the equipment and for use outside of the vehicle.
- A swivel chair with a headboard should be installed directly on the vehicle floor and to the top part of the stretcher. It should be equipped with a safety belt.



- Interior white lighting.
- Sufficient sockets for the installed equipment.
- External power supply system that permits the use and charge of the equipment and batteries of the unit with a power of 220 volt. when the unit is stationed.
- Additional security systems: extinguishers and handrails on the doors and interior of the cabin.
- Interior climatization system (air-conditioning) with renewable air.

In the rural ambulance treatment area:

- The internal cabin surface without protruding or cutting edges, must be covered with an impermeable and cleanable material.
- The stretcher is installed on the vehicle floor on the left side. It is attached with a double fixation system: one directly attached to the floor and the other with a lateral to the stretcher; the stretcher cannot be installed with a rail system.
- The equipment should be installed safely with antivibration devices, easy access and manipulation; it should also be possible to remove the equipment and for use outside of the vehicle.
- Automotive swivel chair with headboard should be installed directly on the vehicle floor and to the top part of the stretcher. It should be equipped with a safety belt.
- Interior white lighting.
- Sufficient sockets for the installed equipment.
- A slip-resistant, cleanable and wear-resistant surface has to be placed on the original floor of the vehicle in one single piece.
- External power supply system that permits the use and charge of the equipment and batteries of the unit with a power of 220 volt. when the unit is stationed.
- Additional security systems: extinguishers and handrails on the doors and interior of the cabin.
- Interior climatization system (air-conditioning) with renewable air.
- Adequately installed infusion pole.
- Optionally, in accordance with the vehicle characteristics it is possible to make use of the drawer furniture that is similar to the urban ambulance.

### Alarm beacons

All the terrestrial ambulances need to be equipped with a bar with rotating beacons in the colour that is specified by the effective norms of the Ministry of Transport and Communication located in the roof of the unit and beacons on both sides and rear of the vehicle that identify the type of vehicle.

### Alarm system

All the ambulances need to be outfitted with a siren of 100 watts through a megaphone and two tones as a minimum plus a handsfree function.

### Communications system

All the ambulances, urban and rural, need to be equipped with a compatible radiocommunication with a central base of operation.