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Development of Kärävä's transportation to Iranian market.

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This thesis was a comprehensive study about Development of Kärävä's transportation to Iranian market. The purpose of the study was to analysis and evaluate the current ongoing transportation operations of Kärärvä toward Iranian market and finding rooms for improvement and finally making suggestions and recommendations to Kärävä in order to have a better and more developed transportation of products to the Iranian customers while suffering from the global economic sanctions.

This is a research-based thesis with a qualitative research method mostly while having a fraction of qualitative data.

The results from a questionnaire address to the CEO and responsible person was considered as the primary source of information another important source of information was a thesis about Kärävä potential customers which widely concentrated on the Kärävä market share possibilities s in future, other resources such as books and internet were widely used as first-hand data toward having secondary data which were used in research finding and recommendations chapters of the thesis.

At the end of the thesis there are number of suggestions and recommendations for having a more developed and efficient while keeping or increasing the quality of the process, this recommendation is addressed to Kärävä.

As Thermowood expand its market in Iran and as one of the main products produced by Kärävä, the thesis contains information about Thermowood and possible increases in the market.

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#### 1 INTRODUCTION.

There are many definitions of logistics. The U.S.-based Council of Logistics Management defines logistics as the process of "planning, implementing, and controlling the physical and information flows concerned with materials and final goods from point of origin to point of usage. (Wood, Barone & Anthony 2002, 5).

International business cannot be complete if the transportation of the products is not done perfectly, in today's world logistics and transportation as an important part of it have become more advance and complicated, rules and regulations of each region and country can change companies' strategic plans and directly affect their income in a positive and negative ways.

International logistics deals with goods transactions involving parties in two or more nations. The word logistics was originally used for military applications but today covers commercial activities as well. Goods move through channels, as do orders, payments, and documents. (Wood, Barone & Anthony 2002, 10)

An effective and efficient logistics organization is a vital part of a firm's strategic management process. The problems and challenges that organizations face do not lie primarily with strategic decision-making, but how the systems, networks, formal procedures and processes, and people are integrated and coordinated; the way these interact to create a synergistic system is critical. (Grant et al. 2006, p.290)

Some regions of course have been more challenging than others for various reasons, political reasons can be one of the most important one as well as countries financial relationship with each other.

All nations support international trade for a number of reasons. Most of the reasons deal with promoting their own economies. A second set of reasons relates to national defense. (Wood, Barone & Anthony 2002, 14)

A smooth and functional logistics can be a main reason for an international business to thrive and become successful. There are many examples of most successful companies in the world having or creating innovative and excellent logistics.

Logistics has become a part of a company's strategic planning, management and controlling. Every company must develop their strategy and logistics competitiveness factors from their own point of view. (Haapanen et al. 2005, p.15)

Having this information in mind and being introduced to Kärävä Oy, beside the fact of being an Iranian and a student of logistics science were the reasons for choosing this thesis topic.

The financial and economic cooperation between Iran and Finland, currently enjoys the highest level after the Iranian revelation in 1979. Unfortunately, this high level of collaboration happened to be during the new version of sanctions posed by united state to the Iranian market which make things difficult for dollar base transactions, this indirectly has an effect to the level of business between Iranian market and Kärävä Oy.

The idea of cooperation between Kärävä and this thesis started with a previous and related thesis by Mr. Sina Alizadeh a graduate student of International Business and Marketing Logistics in Satakunta University of Applied Sciences on the topic of finding potential customers for Kärävä Oy in Iranian market.

The thesis evaluated the Iranian market explaining the availabilities and ends with a list of proper potential customers for Kärävä's products in Iranian market. It is worth to mention the thesis was done before the new waves of sanctions to Iranian market, but it is one of the primary sources for this thesis as well as a gate which introduced the company and their products that was found very useful for writing this thesis.

After reading the thesis about finding potential customers in the Iranian market, this created the questions related to the matter of logistics of these products to the Iranian market. Obviously, there is an ongoing operation since Kärävä already has Iranian customers but there are possibilities to increase their market share according to Mr. Alizadeh's thesis.

The question is how this operation can be even more successful? and what if the business expand in the Iranian market and the logistics operation needs to expand as well.

After talking about the subject with Mr. Alizadeh and contacting Mr. Jaakko Soini the CEO of Kärävä Oy, it was decided to start the thesis with the topic of Development of Kärävä's transportation to Iranian market.

## 2 PROBLEM SETTING AND CONCEPTUAL FRAMEWORK.

## 2.1 Research problem and research objectives.

This thesis like many others as research-based thesis formed around some questions, while how to develop the current operations are the main questions in mind, considering the fact of increasing customers in future which effect the logistics of Kärävä is the next step in this thesis and can be an important objective.

It is true that this thesis is based on research, but the facts are relying on a lot of information from the current operations which Kärävä conduct at the moment, therefore and in that sense, it seems like a project base thesis.

The research problem here is to how develop the current operations and how to handle the possible future volume of products in the transportation point of view? These research questions are a group of questions which helps Kärävä to develop their future transportation operations. A good and reliable research question must be brief but to the point to avoid too much unwanted information.

It is highly important to have the objectives in question format; the below questions are the objectives of this thesis.

What does logistics and transportation mean?

What are the products and what special cares they need?

What is the operation cost for Käräva's transportation?

What route has chosen to transport of products to Iran?

What are the alternatives for these routes and what is their values?

How can Kärävä improves the operations?

How these changes might affect the transportation?

Who handle the logistics inside the company?

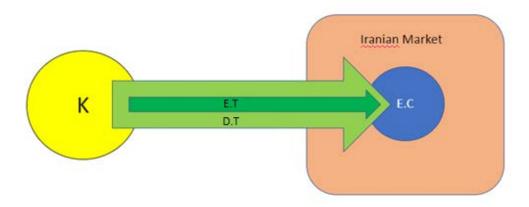
What are the key locations for the operation?

Where Käräva or logistics partners give the products to the Iranian customers/partners?

There are many more questions in mind, but it was avoided to narrow down the thesis on the right path and pass extra information.

## 2.2 Conceptual framework.

Conceptual framework in this thesis tries to simply explain the existed transportation as well as what the thesis wants to accomplish.



- Kärävä Oy position
- Existed transportation
- Possible development for the transportation
- Existed Customers
- Iranian market position

Figure 1: Conceptual Framework of the thesis. (Abbasi 2018)

Since Kärävä Oy is located outside the Iranian market and there is already an ongoing operation for the logistics and transportation of the products to the Iranian market. The available logistics is complicated but simplicity in the framework is crucially important, existed transportation here shown with a straight dark green arrow.

Iranian market is very big and existed customers are a part of potential customers available in the market, the light green arrow which showing the possible development of Kärävä Oy tries to consider this fact and not only point to the existed customers but also points a very large part of the Iranian market which consists of possible future

customers. Focus here is on the light green arrow, since the development of the transportation is a very important part of this thesis.

#### 2.3 Boundaries and limitations.

Every single piece of academic writing needs to follow boundaries and limitations in order to be fair, honest and useful. Being fair in this thesis means to be on point and avoid giving that extra information may have not been agreed to publish by Kärävä Oy. The most important part of honesty in writing a thesis is to write a thesis which is the product of the mind and avoid plagiarism.

This thesis is focusing on developing the transportation of Kärävä Oy to the Iranian market. In the final chapter there are some suggestions and recommendations related to the topic. As mentioned, being on the point is important and extra information such as marketing or sales are unrelated to the topic and therefore need to be left out of the thesis.

## 3 INTRODUCTION OF THE CASE COMPANY.

Kärävä Oy is a family owned company founded in 1988 with 11 employees and an international market with customers from Colombia to Australia, one of the biggest markets outside Finland is the Iranian market.

Tandis Namaye Arman Co. Ltd is their main customer in Iran which manages most of the customers in Iran directly and having a spot in the information page of Kärävä Oy website. It is also Kärävä's biggest international customer.

Kärävä Oy is located in Pirkkala, a small city close to Tampere and 182 kilometers away on the north east side of Helsinki. their total revenue was 3.15 million €in 2016. (Alizadehamirbeiki 2017,15).

Käräva's main products are very much related to saunas specially in Finnish market, however their main products to sell to the Iranian market are mostly Thermowood which is used in facing and constructions of the buildings in Iran.

Kärävä designs and implements saunas and bathrooms in Finland, as a member of Thermowood Associations, Kärävä has a history with the production of Thermowood. Their raw materials are aspen, black alder, thermos aspen, hemlock, and cedar and thermos ash (Website of Kärävä Oy 2018).

It is worth to mention that Kärävä knows the value of partnership very well and expanding their business with having some domestic and international partners, their biggest Iranian partner is Tandis Tejarat Arman as mentioned and the most important domestics are K-Rauta and Sauna Manager.

Kärävä has about 60 corporate customers which are mostly wholesalers. The suppliers of raw materials are from Lithuania, Latvia and central Europe.

#### 3.1 Products and services.

As an expert with high tech machinery Käräva provide range of products and services. products are mostly consisting of different types of Thermowood and sauna equipment as well as sauna benches and panels.

Their services Kärävä provides are designing saunas and bathrooms for their customers, installation of the new sauna or renewing the old ones alongside the deliveries of their products.

Thermowood or thermally modified wood is one of most important products Kärävä offers as a member of Thermowood Association which is one of the products export to Iran.

Thermally modified wood is a chosen type of wood, modified and changes with thermochemical decomposition in high temperature without the existence of Oxygen.

This changes the chemical components of the wood and makes it many times harder than usual and also increases the quality, makes it one of the most popular materials for saunas.

Thermowood specially is popular for constructions mostly for frontage of buildings in Iran apparently in recent years. (Alizadehamirbeiki,2017,16)

The reason Thermowood has been used in saunas is its resistance against water and steam. It is good to know that one of the main process of creating Thermowood is a Finnish invention (International Thermowood Association 2013).

## 4 WAYS OF TRANSPORTATION TO IRAN.

Developing Royal road as an international road in 500 BC, a systematic post service throughout the country and silk road as one of the most important and practical roads which connected east to the west for more than a thousand years, are impressive facts about history related to Logistics and transportation of Iran. The roads in Iran were famous to be well instruct and very safe compare to other countries at that time.

Iran is the 18<sup>th</sup> biggest country in size in the world and having access to the international waters through Persian Gulf and Oman Gulf. These two gulfs are in south of Iran. In the north Iran is in the southern part of Caspian Sea, the world's largest inland body of water. Caspian Sea shares border with Iran, Turkmenistan, Russia, Azerbaijan and Kazakhstan.

Iran also has land border with seven countries, due to the locations of the neighbors, historical and economic reasons, Turkey from land and UAE through the sea are the best candidate for transportation to Iranian market. As one of the most ancient countries on the face of planet earth, Iran has a lot of effects on the development of the logistics in the world.

Turkey does not have any sea borders with Iran and most of the transportations are by the field routes with trains and trucks. The two countries of Iran and Turkey share a lot of cultural similarities and a lot of tourists from Iran and Turkey visit each other's countries. The air transportation is also common for less heavy imports or exports since there are number of flights from Iran to Turkey and vice versa on a daily basis.

For the sea transportation United Arab of Emirates is the best candidate with long history of local and international companies operating for transportation of goods to and from Iran. There are of course many other borders available to enter Iran for transportation purposes but in recent years these two countries proved to have the biggest shares of transportations. Bandar Abbas as the biggest port city of Iran which handle most of sea transportation from all around the world. Bandar Chabahar is another important port on the south of Iran.

There are other sea routes on the north which also play important roles on the matter of logistic and transportation toward Iran from Caspian Sea such as Bandar Anzali and Astara.

#### 4.1 Sanctions.

In this part of the thesis it is tried to explain about a condition that happened to Iranian business environment which has direct effects on any international businesses related to this market. it seems necessary to provide this information for the readers to create a better level of understanding about the thesis.

In figure two the reader can have a general understanding about the history of sanctions imposed on Iran.



Figure 2: Iran's Sanctions and main consequences (Daily Mail, 2018).

It is worth to mention this picture does not show the most recent sanctions imposed on Iran by Trump administration in 2018.

Throughout the recent history Iran had some political difficulties with the west world mostly with United Stats, due to these political disputes there has been sections on and off always against Iranian economy which make operations harder for any aspects of doing business with Iranian market.

While USA impose sanctions against Iran, the Europeans are follow and impose some sanctions against Iranian business owners and companies on the dollar based transactions. In simple words US companies and those who are partners with these companies in conducting any kind of business eliminate or minimized their business with the Iranian markets. This of course make the business hard and sometimes impossible with Iran since the market value is much higher in countries like USA and push European companies to be careful and sometimes not interested to do business with Iran or other companies involve with business with Iranian companies at least directly.

At the time of President Obama these sanctions were in their minimum level in recent decades due to an agreement reached by seven countries and European Union, but USA did withdrawal from the agreement in 2018 unilaterally after Mr. Trump became the president of United States.

## 4.2 Potential risks for transportation of products

To understand any kinds of logistic process, it is crucial to analysis the possible risks, difficulties and hazards almost in every step of the way. topics such as the safety of the routes, packaging, fragility of products or any kind of unexpected problems are in mind to consider, moreover doing business with Iran comes with its difficulties which caused by mostly political reasons.

It is important to consider many factors in mind such as the volume of products, the chosen methods of transportation, possibility of warehousing in the way, insurances, tariffs and customs, legal regulations, safety of products during the transportation in case of fire, theft or other natural or unnatural difficulties that may appear during the transportation.

As there are risks, there are methods, techniques and ways to handle them, spotting these risks are first and perhaps the most important phase in managing these them. Depending of where the products hand to the Iranian customers/partners, the risks can be categorized inside or outside of Iran. This categorization also can be useful in many other evaluations needed for this thesis.

Safety is very much related to the location of the products while transporting them, risks such as theft and fire are the main concerns here. Kärävä or its partners of course need to follow international regulations and instructions to transport products to the Iranian market which minimizes any of these kinds of risks, the risk of theft is more related to the chosen route but unless choosing a very unusual route, that risk is also

manageable easily. One of the serious risks here caused by the fragility of the products, good packaging and professional handling can minimize this risk as well.

Understanding Iranian Laws and Regulations as well as any other countries on the way of the transportation alongside of international laws and regulations are very much advisable, knowing the cultural risks are also important in doing business with Iran, but since these risks are more connected to the business in sense of marketing and not logistics there is no deeper explanations about this topic.

International logistics must take into account difference in cultures, currency, and transportation systems. According to most accounts, this makes international logistics more difficult than domestic logistics. The relationships between and among many logistical activities are not standardized; they still are determined on a case-by-case basis. (Wood, Barone & Anthony 2002, 10).

It is important to get familiar with the Iranian culture due to the communications needed and possible meetings related to the transportation of products to Iranian market with the Iranian customers/partners. These types of risks can be managed by an introduction to the culture of Iranians and keeping the mutual respect.

#### 5 METHADOLOGY

A research method is a way of conducting and implementing research. Research methodology is the science and philosophy behind all research. It goes into the heart of how we know what we know and allows us to understand the very strict constraints placed upon our concept of what knowledge actually is (Adams & Khan 2007, 25).

In this part of the thesis the methodology of the thesis will be explained, the research design, research methods, data collection and validity and reliability. Since the research is ongoing for the case company, this is a case study thesis.

As a crucial part of any academic writings, it is very important for methodology to be well explained and at the same time easy to follow.

This is a research-based thesis and the implementation of the information maybe for future usage. The development of Kärävä's transportation to Iranian market is the goal of this thesis which hopefully will use by Kärävä in future, therefore this thesis is not a project based even though most of needed data for creating this thesis comes from existed operations. This means the development of the logistics by giving suggestions and recommendations are the primary goals.

It is worth to mention the research designed should not be confused with explorative design since the thesis is not after fixing a problem but to research the possible development options in general sense, while focusing on transportation operations Kärävä already has. In another word it is tried to investigate and analyses the current situation while trying to find spots that can be improved in order to find more financially reasonable methods while keeping or improving the quality if possible.

### 5.1 Research Design

Research design is the blueprint for fulfilling research objectives and answering research questions. In other words, it is a master plan specifying the methods and procedures for collecting and analyzing the needed information. (Adams & Khan 2007, 81).

There are not many research designs available for the chosen topic, explaining the process of an ongoing logistics operation with the intend of spotting operations which can be developed while suggesting possible ways that maybe new to operate can be only leave a casual research design for this thesis according to the case study.

Other research design such as explorative or descriptive couldn't be as useful for the topic, so it is safe to say the chosen research design is casual research design in here.

### 5.2 Research methods

The research method chosen for this thesis is a mixture of mostly qualitative versus a bit of quantitative.

Qualitative research involves the collection, analysis, and interpretation of data that are not easily reduced to numbers. These data relate to the social world and the concepts and behaviors of people within it. Qualitative research can be found in all social sciences and in the applied fields that derive from them. (website of NCBI,2010).

Most needed information is related to chosen ways and the matter of analyzing the quality of methods against other methods. However, there are some information related to quantitative research methods such as the volume of the products send to Iran which have a big effect to all steps of transportation, but qualitative research method stays the primary and main research method in this thesis.

It is obvious that costs in mathematic figures are a very important part of this thesis enlighten the eligibility of the processes alongside of many other factors. Therefore, mixture of qualitative and quantitative with much stronger focus on qualitative research method is decided to use.

## 5.3 Data Collection

An important aspect of research design and the ability to achieve the research aims and answer the research questions depends on the effectiveness of data collection. In student work you must think about the practicality of obtaining the required data in the available time period and also the accessibility to the field site. This means that careful consideration and planning of data collection is required (Adams & Khan 2007, 107).

Data collection is what the research and any academic work is based on, the correct way of gathering data is the only way to be sure the outcome of the thesis will be useful and reliable.

The primary source of data is the questionnaire answered by Kärävä CEO. answers to this questionnaire almost show and explain the current logistics operation by Kärävä and its partners.

The design of the questions was in a way to focus the question to get the related information but suggestive to add any kind of extra information which are possibly related to the topic of the thesis.

The questionnaire consists of 23 questions trying to focus on the current situation of Kärävä's transportation of products to the Iranian market. The existed transportation information can be a corner stone toward finding new information. Spotting the current difficulties can help to find solutions in order to fix the issues, this may result in having even better and smoother transportation of products to Iran.

To improve and develop a system we absolutely need to increase our information about what is done and how?

For collecting other needed data, it is required to have a general understanding about business relationship between Finland and Iran and the process of import and exports between the two countries therefore other than questionnaire it has been tried to study about the matter and gain the knowledge which is mostly available online and in the books.

Being Iranian was also helpful to have access to Farsi version and point of views of writers focusing to the similar topics of study as an interesting topic to follow.

Other methods such as surveys were not useful as much because accessing all involved people in the process is almost impossible and collecting and analyzing of those data seems irrelevant. These methods would be more useful if the thesis was anyhow related to other sector in business world. books, internet, webpages of partners, customers and possible potential partners and customers are some of the other sources used to write this thesis.

## 5.4 Validity and reliability

An academic piece of writing needs to follow some moral regulations, moreover it needs to be reliable otherwise it can't be trusted as a source for future study. These facts can be crucially important and were a primary concern for the thesis. Plagiarism as a very destructive issue has been avoided in this thesis.

The validity ratio of this thesis is almost in the highest possible levels since the primary source of our information comes from the company which benefits the most from the thesis.

Iran as an Islamic country with a unique culture requires special attention to details related to these facts but Kärävä's products are wood based products such as Thermowood and in that sense there are no confusion considering cultural and Islamic details.

The CEO of Kärävä Mr. Jaakko Soini has a history of co-operating with students for their thesis and himself is a business graduated person who values academic knowledge related to his field of work.

The validity and reliability of the thesis remained untouched and information gathered were genuine as well as each sources of online information are academic or involve in the industry.

## 6 KÄRÄVÄ'S PRODUCT CURRENT TRANSPORTATION TO IRAN

International logistics involves movements that cross borders, and these movements are considerably more complex than domestic ones. Many international movements go aboard ship, and the entire process of moving through ports and being at sea is time consuming. (Wood, Barone & Anthony 2002, 246)

Current logistics of Kärävä has a vital value for this thesis therefore studying and understanding it is very important. As this thesis is the second co-operation of Kärävä with Satakunta University of Applied Sciences, it is easy to understand the company values and welcomes new ideas.

Kärävä's products have been explained in previous part the thesis but it is good to explained what actually is sent to Iranian customers. Kärävä's transportation of products consist of planed wood products mainly from thermos modified Finnish pine. The usage of this product is for building facades, decking and other outside usage. Currently there are few profiles are produced such as SHP, UTS and decking, the dimensions of mentioned products have been 15 cm to 90 cm. 19 to 118 cm. 42 cm to 42 cm and 26 cm to 92 cm.

Three purposes are served by packaging: identifying the product, protecting it, and aiding in handling. Identification serves a variety of purposes, from automated recognition of the product through bar coding to promotional purposes: packages make the product stand out on a store shelf and say "take me home" to the customer. (Wood, Barone & Anthony 2002, 249)

After the production process is finished the chosen goods are starting the process of transportation to the Iranian customers. It starts with packaging in the factory, wood products are first packed into smaller packages, for example SHP and UTS are packed in order to six pieces per package. The package is then covered with vacuumed plastic and cover straps all around it.

Then SHP and UTS are packed to a bundle which contains 48 packages. The bundle then is wrapped on five sides on plastic covers, plastic covers don't let the moisture absorb by wood which caused damage, only the bottom is not covered. Underneath the bundle there is packing boards to allow forklift to carry it to the trucks. The load need to be enough to fill the truck then the trucks leave the factory and move to the next level of the process.

Forklift drivers need to handle the products with care because it is easy to damage the products with the forklifts another point to consider is loading into the containers needs

to be done with the container loading machine. If they are just pushed to the container, there is a high risk that products will break.

Main route for moving these bundles starts from Kärävä factory, located in Pirkkala, at first products transport to a port. Kärävä is using the port of Rauma or Helsinki depends on their availability at the time of transport. There the bundles load into containers. These containers loaded to cargo ships which go to Hamburg, Germany then to Dubai and after that finally to Bandar Abbas, Iran.

Bandar Abbas is the biggest port of Iran located in south part of the country and north part of Strait of Hurmuz world's most strategically important choke points as well as one of the busiest passages in the world. This is up to the point Kärävä handles the transportation and the Iranian customers and partners receive and take the products in Bandar Abbas.

The customers use the transportation companies operational in the port and take the products to their destinations to further sales or construction purposes. The agreement for the shipment needs to be scheduled 2-3 weeks prior to the transportation to the port. Products need to be loaded into containers before the closing day for the ship departure, which is usually 2-3 days ahead and the loading can be done on time.

The transportation from the factory to either of the mentioned ports take 2-3 hours, total loading time is half a day and the total time for transport on sea is around 3-5 weeks. This time depends on the route chosen by the ship line companies. The amount of each transport is usually 3-5 40'HC containers.

Container ships, railway car or truck transportation are equally good for transporting wood products, Kärävä chose the sea shipment in containers as the main way of transportation of the products since it is more economically reasonable.

Since the products are shipped directly to the customers there is no need for warehouses on the way except when they are waiting to be loaded into ship and when unloaded from ship and waiting for the pickup by customers. These kinds of warehousing is part of shipment company's obligations according to their standard responsibilities for the fix time.

Kärävä have used Greencarrier Oy for the transportation of product to the Iranian market. Greencarrier Freight Services is a freight forwarding company that offers smart and sustainable transport solutions and supply chain management services. From their offices in the Nordic and Baltic countries, Eastern Europe, Central Asia and China, they offer global transport solutions. Greencarrier use all modes of transport including ocean, air, road and rail, and take care of your cargo from starting point to final destination. (website of Greencarrier, 2018).

This outsourcing and using a transportation for the main route gives all the legal responsibilities, customs and tariffs to the shipment partner.

Kaukokiito Oy handles the transport inside Finland. The Company's business is to carry out both national and international freight forwarding, clearing, chartering, warehousing and transport operations, transport services, and professional motor vehicle and terminal operations, especially for road transport, import and sale of cars and automotive accessories and other relevant business activities. (website of Kaukokiito,2018).

The Tariffs and other legal obligations are handled by the Iranian customer after the products arrive in Bandar Abbas.

Kärävä does not use any kind of insurance for the transportation of the products to Iran this means any kind of accidents or disaster on the way will leave uninsured.

Mr. Jaakko Soini is handling the logistics to the Iranian market in Kärävä with the help of transportation companies. As mentioned Kärävä outsource the transportation fully to two transportation companies one inside Finland and one internationally.

There are always two sides of each coin. On one hand, if you choose to outsource the demanding logistics activities, you will not need to hire extra labor force. It means fewer expenses on salaries, smaller company, not so many headaches regarding the

taxes etc. So, simply, in case you need, i.e. a logistics service requiring strong work-force, a suggestion is to outsource. (website of Kokusai Express ,2017).

As special needs for the customers in Iran, quality of the product is the main request. Product being intact is also important for them Mr. Soini makes sure to ask the shipment companies to handle the products with care to satisfies Kärävä's customer's needs.

The cost of transportation has been around 2400€per 40'hc container and 5,60€per cubic meter for loading into containers. Kärävä uses CPT incoterm so they, as the seller, pay the transport. CPT or Carriage Paid To is an international trade term, it means the sellers is taking responsibility to deliver the product on their expense. Transportation can be either done by the seller or carrier.

Luckily Kärävä has not faced any difficulties and hazards during the transportation process, minor damages happening during rough handling were the only bad news during the logistics process so far.

Trucks and ships are the main vehicles used for the movement of products all the way from Finland to Iran. Kärävä's customers in Iran handle the rest of the transportation from port of Bandar Abbas and Kärävä's operation is finished by that point.

According to Mr. Soini "the sanctions are dollar based and anyone who is dealing with dollar-based economies, such as banks and transport companies working with Americans have no possibility to work with Iran. That limits the money transfer very much from Iran to outside world. It also greatly reduces the amount of possible transport companies who can ship those products to Iran. Currently the business is uncertain thanks to those sanctions and shifting politics".

Among the roads Train could be the fastest, if they don't have to unload it from train cars. Ship is usually the best way to transport. The main office of Kärävä's main Iranian customer is located in Tehran and as mentioned the customer receive the products at the port of Bandar Abbas, Iran.

Documentation is the preparation and handling of all the documents accompanying a shipment. In international movements, all documents must be present at the point where the goods are passing through the importing nation's customs and inspection posts. (Wood, Barone & Anthony 2002, 250)

International shipments require many more documents than domestic shipments. The typical number ranges from six to ten, but the number can climb far above that. (Wood, Barone & Anthony 2002, 250)

For transportation of plant and wood products outside EU the exporter companies need to get phytosanitary certificate. Phytosanitary certificates are issued to indicate that consignments of plants, plant products or other regulated articles meet specified phytosanitary import requirements and are in conformity with the certifying statement of the appropriate model certificate. Phytosanitary certificates should only be issued for this purpose. (website of FAO, 2018)

Otherwise there is no special requirements when dealing with non-danger wood species. Kärävä also got the certificate of origin for their products.

#### 7 RESEARCH FINDINGS

What is produces from a research lies on what has been found around the topic. This part let any academic writer to be creative and able to analysis the data, an honest and reliable data can provide the proper raw materials for a solid research finding which can be useful for future study and business guidelines.

When crafting your findings, the first thing you want to think about is how you will organize your findings. Your findings represent the story you are going to tell in response to the research questions you have answered. Thus, you will want to organize that story in a way that makes sense to you and will make sense to your reader. You want to think about how you will present the findings so that they are compelling and

responsive to the research question(s) you answered. These questions may not be the questions you set out to answer but they will definitely be the questions you answered. You may discover that the best way to organize the findings is first by research question and second by theme. There may be other formats that are better for telling your story. (Martinez-Kellar Dissertation, p. 140-144).

By studying and understanding Kärävä's logistics operation there are some facts to consider. In this part of the thesis it is tried to mention and explains around these facts in order to create the proper research findings related to the Kärävä's development of transportation to the Iranian market.

The steps and how the process works play the key role for what the thesis tries to find and analyzing this information is undeniably important. First it is important to remember the whole operation seems to be good in many ways, starting with a proper packaging with proper materials, the products seem to be in a protected packaging which can handle the standard transportation easily and are well covered.

According to the answers of Kärävä's CEO to the questionnaire, being careful while working with forklift and other transportation vehicles is highly needed and expected from the drivers inside the factory and also asked from the transportation companies. It is also believed the company and its transportation partners use the right vehicle and expertise for the movements.

Kaukokiito Oy the company that handles the transportation inside Finland was founded in 1953 and enjoy a good market share in Finland as one of the leaders of the industry in Nordic Countries. The company has about 2,000 employees and more than 1,000 transport vehicles. Other possible options for Kärävä could be CHS Group, Polar Logistics International Oy and KWH Group, but Kaukokiito Oy is either equally qualified or provides better services.

There is a bigger market outside Finland to access. There are many international companies providing international transportation, but the sanctions against Iran here limits this number to almost one in each four companies, good examples for such companies

that are unable to participate in Kärävä's operations are Kuehne and Friedrich Nagel, Gruber Logistics, Dachser Intelligent Logistics and BDP international.

The impact of sanctions here is obvious and worth to mention. Iranian companies do not have to face these sanctions and therefore can be an alternative for Greencorier.

Greencarrier another Finnish company which takes care of international transportation for Kärävä with the head offices in Helsinki is one of the Nordic region's largest privately-owned companies specializing in global logistics solutions.

Today the company has 800 employees in 12 countries with offices in Sweden, Denmark, Norway, Finland, Estonia, Latvia, Lithuania, the UK, Poland, Czech Republic, Slovakia, and China. (website of Greencarrier, 2018).

Figure 3 explains the possible alternative partners that Kärävä could use instead of Greencarrier.

Company	Details		
Valfajr Shipping Co (IRISL)	An Iranian government owned interna-		
	tional transportation company with com-		
	petitive prices.		
UCC (United Carriers Company)	As an Estonian Company, UCC can be a		
	good logistics partner for Kärävä.		
LEMAKS TRANSPORT &	This Turkish transportation company has		
LOGISTICS	years of experience transporting goods		
	from Europe to Middle East.		
Silk Road Ganj International	Another Iranian company with years of		
Transport Co.	experience in the market.		
<b>Neptune Logistics Group</b>	An International Chinese logistics group		
	operational in Iran and Russian market.		
ELDIYAR	A Turkish logistic company with years		
	of experience in the Iranian market.		
HG TRANS INT FORWARDING	Another Turkish company interested		
LTD	mostly on sea transport to Iran.		
IMSAN Group	IMSAN group has operational system		
	inside and outside Iran and provide cus-		
	tom services for their customers.		
A LOGISTICS LTD	A Bulgarian company with experience in		
	Iranian market and one of not many Eu-		
	ropean companies interested in Iran.		
ABAN TIR TRANS	Another Iranian company with interna-		
	tional capacity focusing on southern		
	ports of Iran.		

Figure 3: Table of potential international transportation partners. (Abbasi 2018)

While researching to find transportation companies operational in Iran, it has been understood the impact of sanctions as the market availability to transportation of products to Iran is highly reduces in number of participants. In 2016 when the sanctions were lifted for a while, the big names of the industry were available which made choosing the possible nominees very easy, competitive prices, good level of services and quality in service were obvious reasons to choose the right player in the market as the carrier and it is safe to say life was easier in this sense.

Most of this big companies are not available these days, so the actual transportation of product is the one which got the most damage from the perspective of sanctions. This on the other hand give a good opportunity to Iranian transportation companies to appear in the market with more competitive prices but the quality of service might be less for most of these companies as they have less resources in Europe which is the starting point of the transportation process.

SWOT analysis in the next page tries to evaluate the Iranian transportation companies in order to understand the value of them and to realize if they can be a major competitor for other logistics companies from outside Iran and to see if they can be a candidate for Kärävä as logistic partner.

## .Strength.

- Sanctions unaffected.
- Better operation inside Iran.
- Familiarity to Iran laws, regulations, custom and tariffs.
- Competitive prices due to less expensive labor and transportation costs such as fuel prices and taxes.

#### .Weaknesses.

- Less average quality compares to international competitors.
- weak operational systems through EU.
- Payments and money transfer can be hard and more expensive to Iran.

## .Opportunities.

- In case of lifting sanctions, the operation can be even cheaper and more functional due to new resources available.
- Long term partnership since the destination and logistics partner locations are Iran.
- Introduction of new ways of transportation to Iran due to local knowledge and availability of the market to these Iranian companies.

#### .Threats.

- In case of imposing new sanctions, Kärävä may force to stop the cooperation with Iranian logistics partner.
- Since the environment is not economically stable, due to the sanctions, investments and partnership can be tricky at the moment.

Figure 4: SWOT analysis about possible Iranian Transportation partners. (Abbasi 2018).

As it is easy to spot doing business with Iran comes with its advantages and disadvantages, most of these disadvantages are triggered by sanctions imposed by United States now days and international community in previous years.

It is interesting that these sanctions apparently result to expand Iranian logistic companies to get more share of the market while many of their international competitors are out of the market at least for sometimes.

#### 7.1 Routes.

Next step in analyzing Kärävä's logistics and the process of transportation of goods to Iran is evaluating the method of transportation, Kärävä uses Greencarrier and they choose Hamburg as the first destination, from Hamburg the ships go to Dubai, an International gate to enter Iranian market and then Bandar Abbas the biggest port of Iran.

#### 7.1.1 Sea Route.

There are three basic types of ocean carriers: 1) private fleets; 2) tramps (chartered or leased vessels); and 3) liner carriers. Private fleets are owned by merchants or manufacturers themselves in order to carry their own goods. (Wood, Barone & Anthony 2002, 89).

It is easy to say the sea route is the best choice due to the products material and the availability of the route as well as the costs of it. Sea route consider as the cheapest, almost safest and most common way of transportation of products in the world in an international aspect, for the mentioned products transporting to Iran from Kärävä, obviously containers are the best choice.

Containers are big metal boxes in different dimensions and are considered as the best way of transportation for most of the goods around the world, a container can easily move and put on a truck, train, a container carrier ship and even planes. The value of a container is to create a safe environment for the products against natural causes of corruption such as rain and sun light, theft, they are easier for warehousing and coding and best usage of the available space in a ship or any other transportation vehicle, these facts made containers the most popular way for transportation.

Kärävä uses container 40'HC tone one of the most common type of containers using in the sea transport.

2,385 mm

20 ft

2,385 mm

2,385 mm

12,035 mm

The dimensions for a dry freight container 40'HC (High Cubed) shown in this photo.

Figure 5:Picture of Dry Freight Container dimensions.(Euromed.2018)

## 7.1.2 Rail ways.

At a meeting in Tehran in 2016 presidents of Iran and Finland showed their interests to consider a project of connecting two countries with railroad. This might change future decisions but at the moment the possibility does not exist and rail roads are possible through Russia and movement of the products are needed to new rail road to continue the way to Iran, this fact can be a barrier to having an smooth rail road transportation to Iran and the fact that this is almost tice more expensive than the current version of transportation and chosen route.

40 ft High Cube

12.035 mm

By using the rail road through Russia to Azerbaijan and Iran the speed of the process will cut in one third but since the products are wood base and not going to get corrupted easily and with good packaging, faster transport while important not essential here.

## 7.1.3 Air freight.

The most expensive and fastest way of transportation, air freight does not seem a smart way of transportation of wood materials to Iran. Since the costs are extremely high compare to other options, air transportation seems to leave possible options early in the process of analyzing.

## 7.1.4 Field transportation (trucks).

Transportation by field transportation and with trucks has some main disadvantages which makes them disqualified as the main transportation vehicle, while transportation through lands are the best ways for local customers deliveries and shorter distances, considering the distance between Iran and Finland they do not seem such a good idea.

Moreover, the costs are also in the second place more expensive than railways and much more expensive than sea transport. Safety of the products are also another matter; the risk of theft and accident are much higher compare to other ways of transportation which reasonably dismiss this method also.

In the table below, readers can compare the international methods of transportation of Kärävä's products at once. In the cost column being high is not a good thing compare to other three columns that higher is better therefore the color is different.

Ways of trans- portation	Costs	Velocity	Safety	availability
Sea Transport	Low	Low	High	Medium
Air Transport	High	High	High	Low
Railways	Medium	Medium	Medium	Low
Field transports (trucks)	Medium	Medium	Low	High

Figure 6: Comparism of different transport route. (Abbasi, 2018).

#### 7.2 Customs, tariffs and incoterms.

Kärävä uses the CPT incoterm as explained, their responsibility is to deliver the product to Bandar Abbas from their own expenses, customers usually expect the seller to take responsibility for deliveries and seems Kärävä has a good deal in the sense that they don't have to involve in the custom and tariff processes of Iran which seems complicated.

Iranian customers must release the products from custom of Iran, having a better understanding about the customs as well as better connections makes this process easier to handle for the Iranian side.

Taking the products to port of Bandar Abbas is the final step of Kärävä's logistics to Iran therefore Kärävä is not involve with customs and tariffs and as agreed between Kärävä and their customers, any transportation inside Iran is the Iranian sides responsibilities and Kärävä is not involved, since this thesis is about Kärävä's transportation, the next steps will not be explained as they are irrelevant to the topic of study.

The costs that Kärävä pays is almost in the average of the market, 2400 euro for each container. The Iranian competitors price average is a bit less about 2100 euros using almost the same methods. The incoterm used by Kärävä is CPT which is usually the case for such products in international market of the business.

## 8 SUMMARY AND CONCLUSION

Writing a conclusion is an important part of any piece of writing. It is often possible to get a good overview of an assignment by looking briefly at the conclusion. However, writing a conclusion can be quite difficult. This is because it can often be hard to find something interesting or useful to say in the conclusion. Conclusions should be attractive and interesting but often they are rather dull and "formula written". (globalpad, 2017).

A thesis is not complete without a conclusion as many other academic writings, it is needed and expected to have a general understanding about what is written as well as what is produced in a thesis.

A good conclusion not only provide an explanation or solution for increasing quality and create development but also show the path toward future studies and further researches, therefore it is imperative for a thesis to have a proper conclusion.

To summarize the whole process of Kärävä's logistics to Iranian market it is good to start with the supply chain of products to the last point of the transportation briefly in order to have a general picture of the process.

The first step of the supply chain starts with the raw materials needed to produce the selected products for the Iranian market, after cutting the woods in proper sizes and using the chemical process of Thermowood, the products packed properly in the factory and with trucks send to either Rauma or Helsinki port to ship to first Germany and then to Iran. The products are transport in container as the most proper way for the shipment of these types of products.

In the methodology it is chosen to have a mixture of qualitative and quantitative for research method with much higher concentration on qualitative methods. The research design was casual design according to the needs of the thesis. The data collected was based on the ongoing operations by Kärävä produced by a questionnaire to Mr. Jaakko Soini the CEO of the company and responsible person for the transportation of products to Iran.

Research in the internet to gain information for possible alternatives and gathering information about players in the process of the transportation was done. Books were the most reliable sources to get the needed method to deal with the data, books also add a general understanding of the situation to the thesis.

There is no insurance used and the incoterm for international transportation is CPT which explains all the costs to Bandar Abbas are Kärävä's responsibilities.

Kärävä uses a third party for transportations and does not directly operate the movement of products to Iran. Even though there are many international carriers and shipment companies available worldwide the unfortunate fact of political sanctions imposed by United States make finding a proper carrier challenging since any company who work with Iranian market is not able to work with anyone from United States this reduces the number of available companies.

There is also explanation about the gates to Iranian market which was formed on years of sanctions against Iran. United Arabia of Emirates and Turkey are the biggest gates to Iran in recent years. Till this point of the thesis most of the explanations were focused on the current operations of Kärävä and not about the development of the logistics, it is important to know evaluation and analysis of the current operation is an imperative part of study to create ideas for development of Kärävä's logistics in order to have the ideas it is good to point out the problems of this operations.

## 8.1 Kärävä's Problems in the logistics operations

Kärävä's operation seem to be almost perfect in current situation considering important facts about the destination and sanctions while having less international carriers.

Kärävä seem to choose a trusted company handling its international transportation, Greencarrier is a reliable and successful logistic company and the transportation inside the country is done by one of the best logistic companies in Finland, Kärävä seem to be very careful about packaging of the products and in that sense the company is doing good work as well.

As mentioned and evaluated in the related matrix the route chosen is obviously the best possible option as it has the lowest costs, high safety and appropriate for the products.

The incoterm chose by the company is a very usual incoterm in the international market and almost all of Kärävä's competitors use the same incoterm if having international customers, it is also wise to transport the products till Bandar Abbas and the fact that Kärävä is not involve in Iranian tariffs and customs since these really seem complicated and handling them by the Iranian customers seem to be a good decision.

Almost perfect is not absolute perfect and it was expected that there are room for improvement, the first fact to consider for the development of Kärävä's logistics is that Kärävä do not uses any insurance, it is extremely important that a company that is involve in international markets and especially international shipments uses insurances for their product.

Another point to consider is while using Greencarrier as international carrier is a good idea considering the reputation of the company and availability of carriers for Iranian market, Kärävä can change operations in order to decreases costs as well as receiving the same quality for transportation of products.

Using Iranian company for a better access or the same company for all transportation steps from Kärävä factory to Iranian market are suggested in the part suggestions and recommendations will be explained more about these possible problems and the ways to solve them.

In conclusion of the process of research findings, it was understood that international and political relationships with Iran can have major effect on transportation process.

Unfortunately, now economical relationships suffer because of political relationships, this create a situation for international players to have a difficult time to transport products to Iran and obviously increases the costs.

#### 9 SUGGESTIONS AND RECOMANDATIONS.

The topic was a complicated and challenging topic because of many different reasons, the primary source of information was really helpful to have an understanding about the steps of the thesis and Mr. Jaakko Soini was really helpful and available in the process of writing the thesis.

There were problems and room to improvement spotted in the previous part of the thesis, in some recommendations in order to create solution to these problems.it is worth to mention these suggestions are provided in the current situation and further studies based on this thesis might be needed if this situation changes in future.

The suggestions and recommendations produced during the research are best to categorized into four topics.

#### 9.1 Recommendations related to sanctions

The consequences of sanctions on Iranian economy is one fact but the relation of sanctions on Kärävä's operation are another topic which was discussed in the previous chapters of this thesis.

The recommendations about the sanctions might be helpful for future and current operations. It is recommended to Kärävä to be update about the sanctions and follow the right sources to catch up with day to day news about the status of sanctions, as mentioned it has been proved that these sanctions were lifted before and there is a chance to get canceled again in future which is good news for Kärävä specially for choosing from new range of logistics partner which will be available.

Recent history showed that it is possible that the sanctions get canceled by the countries which imposed them, Kärävä needs a plan if this happens, there is a chance to increase market share and to choose among better number of international carriers so a list in needed to be swift in case of lifting sanctions. Providing a list for possible

nominees as carrier and transportation partners, negotiating the prices in higher possible volumes with them in advance can be very helpful in case of increasing the market share in future.

Further investigation might be needed if the situation changes to be updated on the availability and possibility of new partners.

#### 9.2 Recommendations about insurance

As mentioned Kärävä does not uses insurance in the process of transportation of products to Iranian market.it is true that using insurance might increase the logistic costs but as the situation of the world is changing both in a natural way such as climate change and unnatural ways such as sea pirates, wars and conflictions among governments specially in the region of customers, it is wise to have at least some kind of basic insurance for the products. There are companies providing reliable insurance for transportation of products to Iran.

The transportation partners probably use insurance for the products they carry in the international market, but an insurance purchased directly by Kärävä can decrease the risks in a big scale. It is recommended to Kärävä to hire an insurance company to insure their products to decrease the level of the risks.

## 9.3 Recommendations about alternative partners

One theory that Kärävä can use to create improvements is using the same company which take care of domestic or international transportations to take care of the whole process. Easier management and communications are the first advantages created by using this method.

Kaukokiito Oy does not seem a good candidate since they are involved with business with American companies and there is a high chance they do not accept to operate for

the Iranian market even though they are a bigger company compare to Greencarrier and probably offering better terms or prices for their service.

Greencarrier can be a nominee for domestic movement of the product, Kärävä can negotiate the costs with Greencarrier and end up to better terms or costs for the transportation using the same company for both domestic and international transportation. Not having a list for proper alternative suppliers can be a problem that has room to improve and solved, it is always a smart choice to have a list for suppliers and business partner in a general sense.

another theory is to hire a new international or local logistics partner capable of doing the transportation from the starting point to the last point all by themselves.

## 9.4 Recommendations about Iranian logistic partners

It is easy to guess that Iranian logistic company are having a better times competitions wise while the international operators are much less in their market, in recent years the quality of services have been increased in Iran and even though there are still space for improvements and most of international competitors offering better quality in service, there are Iranian companies have a better quality average that their market.

During the thesis and in research findings chapter a SWOT analysis have been done about possible Iranian partners which worth to consider. There is also a list of possible partners and there are few Iranian companies I the list, it is recommended to Kärävä to further investigate the possibility of Iranian players in the market.

## 10 FINAL WORDS

Every step of writing a qualified thesis can be challenging as well as interesting, applying what was learnt in school on a real-life case is exciting but requires attention and knowledge, it has been tried to increase her knowledge about the process while applying those knowledges in the process of writings.

The sensibility of the topic pushed the thesis to point out some facts about the political situations related to the topic, but the thesis stayed neutral and did not take any sides though out the study. Hopefully this study can be a step toward future studies on the topic or related topics and will be useful for Kärävä as a respected company which values academic studies.

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## APPENDIX 1

## Questionnaires

- Could you please describe the type of business you are doing?
- What are the main products you sell to the Iranian market?
- What kind of packaging is used for the products?
- What is the main routes you are using for the movement of the products?
- What are the special cares needed on the way of the transportation?
- What is the schedule and lead time for the transportation?
- What is the amount of each transport?
- Do you find containers the best solution for the transportation of products to Iran?
- Is there any kind of warehouse inside or outside Iran for the products? And why?
- Do you have a logistic partner and if yes Who are the other parties involved in the transportation of the products to the Iranian market?
- What kind of tariffs you face?
- Do you use insurance? Who pays for insurance and till which point?
- Who manage the logistics to the Iranian market?
- What are the special needs of the customers in Iran?
- What are the costs for the logistics in certain amount and who pays for them?
- Have you ever faced any hazards during the transportations?
- Which are the main vehicles used for the transportations?
- What are the governmental policies in the transportations mostly in the Iranian government point of view?

- How the sanctions effects on the logistics and therefore the level of doing business with Iran?
- What is your vision for future improvements?
- Which route is the fastest, which one is the safest and which one is more economically reasonable?
- Where are the locations of the customers in Iran?
- Where Kärävä hand the products to Iranian partner/customer?
- What kind of safety issues and standards are given by authorities for transportation of Kärävä's products?

# APPENDIX 2

Thermowood photo sample, the most popular wood product for Iranian market



SHP Sample.



UTS sample

