

Saimaa University of Applied Sciences  
Business Administration Lappeenranta  
Degree Programme in International business

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# **Business Plan and Cost Analysis of LH-Kuljetus Oy**

Thesis 2014

## **Abstract**

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The purpose of the thesis was to create a business plan for LH-Kuljetus Oy and to furthermore create and include a vehicle based cost analysis as a part of the research.

The thesis does not include theoretical and empirical parts separately, because each chapter includes both theory and empirical data.

The information for the theoretical parts of the thesis was based on literature, such as books and journals, and internet sources about business planning and logistics. The data for the research part was collected by interviewing the company's bookkeeper, the owner, the father of the owner and also by gathering data from the company's archives.

As a result of this thesis the company will have an up-to-date business plan and better knowledge of the cost structures of each of the company's vehicles.

Keywords: business plan, vehicle based cost analysis, Logistics, Logistics Services

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# **1 Introduction**

Business planning is a process of planning and reviewing a company's business operations. A good business plan is an action for a company to develop a profitable business and it can be for company's internal use or possibly for attracting investors and financiers to invest or finance the business. (Nunn & McGuire 2010.)

## **1.1 Background**

The purpose of the thesis is to create an updated version of the business plan and cost analysis of the vehicles for LH-Kuljetus Oy. This is a good time to update the business plan, because the company has been under many changes in a short period of time and there have also been many changes and acquisitions since the last business plan was made. Another reason to make a new business plan is, because of the recession, it is good to plan where this company should be heading and how to develop its operations. Another purpose is to find out where the expenses of each vehicle consists of and if there is a way to cut those expenses. This thesis is aimed especially for internal purpose, meaning it is intended for the management to illustrate the state of the company's operations.

The results of the research will give a new and different view on how much each vehicle or operation costs and it will enable the company to plan and develop their operation more economical and optimized or to see if it is even possible. Furthermore, it will offer the company a tool to track and follow the costs of the vehicles in the future.

## **1.2 Objectives and Limitations**

One major objective is to have the business plan of LH-Kuljetus Oy updated to match the company's current operations. Moreover, the objective is to have all of the older operations and the new acquisitions in the same, unified business plan. Another objective has already been mentioned before and it is, first of all a tool with which the company can find out exactly how much each vehicle costs and secondly to follow the costs in the future.

Limitations are such issues that are excluded from the thesis. First of all a marketing chapter will only include basic information about marketing of the company and there will not be a major scale marketing plan or marketing mix. Another limitation is that the research will only be concentrating on the costs of the vehicles and the purpose is to find out how much each vehicle costs, but the profits of the vehicles will be excluded from this research.

### **1.3 Research Questions**

#### **- What are all of the costs of each vehicle?**

What are the separate and specific costs that include the total costs of each separate vehicle of the company?

#### **- Are there some costs that could be avoided?**

What are the kind of costs that are not necessary and could be avoided and cut down or if there even are such costs?

### **1.4 Framework of the Thesis**

The business plan itself will hold most of the theoretical data of this thesis and the research part will mostly be about the empirical data and findings which will give some answers for enhancing the business. Moreover research will not be divided into two different parts of theory and empirical, they are united into one sole entity. In other words each chapter includes both theory and empirical data, which is intended to make the whole thesis clearer and easier to follow.

First part of the business plan is a description about the company and its operations. Next part will be defining the markets which include the marketing of the company, trading area where the company is operating, the development and the future of the logistics field, the customer analysis and the competitor analysis. The business plan will also include specific definitions about all of the services that LH-Kuljetus Oy is offering to its customers. There will also be a chapter about the management and company structure which will illustrate the company's hierarchical structure and more specifically this will show who is in

charge and who the employees are. This chapter will also explain what everybody's tasks/duties in the company are and what kind of training is offered for the employees by the company. After this, the next part will be the SWOT (strengths, weaknesses, opportunities and threats) analysis and this chapter will support the next chapter which is risk management. The risk management part will give answers to the company especially on how to handle the threats that the company is facing or may face. The last part of the business plan is the Vehicle cost analysis research and the financial data chapter will provide more information and data about the cost structures of each vehicle, how the company has been doing and what the future of the company is like.

### **1.5 Research Method**

The method that will be used in the research part of this thesis will be the quantitative method. The reason for the choice of the method is that the only way to explain the costs of the vehicles is to look through the statistics and numbers of the company. Data for the research will be acquired and collected by interviewing the owner Lauri Huomanen, the father of the owner Harri Huomanen and the accountancy company of LH-Kuljetus Oy named Tilitoimisto Heini Poutiainen Oy. The purpose is to calculate the costs of each vehicle separately and compare them with the total costs in order to find out which vehicle has the largest costs.

## **2 History and Background**

This section will describe the background and history of the business and the company. Moreover the origins of the company and the background of the owner will be explained. It will also be explained how the business and services has developed during the years.

The owner and CEO of the company is Lauri Huomanen. The education of the owner is vehicle mechanics, but the owner has been working in logistics and trucking field since the age of 18. His working experience varies from garbage truck driver, full trailer/combination truck driver, demountable truck driver to delivery truck driver. In 2006 he got tired of working for others and enrolled in an

entrepreneurship course. After finishing the course he bought a truck and the existing business from a retiring entrepreneur and at the end of 2006 LH-Kuljetus was established. The owner started the company as a private entrepreneur and at first the company had its own individual clients. In 2007 Transpoint Oy (currently Itella Oyj) sub-contracted some of their services to LH-Kuljetus. Transpoint Oy's growing demand for sub-contracted services offered a change for LH-Kuljetus to grow and expand. By the year 2008 the demand for LH-Kuljetus' services was so high that the company was able to buy another truck and hire an employee. Because the company was growing, the owner decided that it is better to change the company form to Private Limited Company (Finnish: Osakeyhtiö) so in year 2009 the transition to Private Limited Company was established and LH-Kuljetus became LH-Kuljetus Oy. Year 2013 was big for LH-Kuljetus Oy, because the company made three acquisitions within a year. First in spring 2013 it bought a company from Lahti and the acquisition included a truck equipped with a crane, an existing business and also the former owner continued as an employee in LH-Kuljetus Oy. The second acquisition happened at the end of 2013 when LH-Kuljetus Oy bought JJ-Trans Oy. This purchase also included the business itself, its employees and the vehicles. In spring 2014 the company bought another crane equipped truck from Lahti and its operations.

Since 2009, LH-Kuljetus Oy has been growing rapidly and currently it has eight full-time employees, two part-time workers, one subcontracted driver and the owner is also working full-time with one of the trucks. The Company owns:

- four delivery trucks
- two crane fitted trucks
- five cargo vans

### **3 Description of the Business**

The description of the business chapter gives a closer insight of the business. It will give more detailed information about the field of business where the

company is operating. It will also give a perspective on what kind of services will sell, what are the most important inventories, where the most profits are created and also what customers want and how the company intends to meet these needs. (Bangs 2002, p. 14-15.)

LH-Kuljetus Oy is a logistics company offering a great variety of different logistical services. Logistics as a field of business is very large and logistics is an essential part of the supply chain. Without any logistical functions the goods would not move anywhere from the producer, there would not be any place to store the goods, so in other words nothing could be produced without the logistics. In The text Book of Supply Chain Management the term logistics was defined as follows: “Logistics management includes such services and operations that will make customer’s required amount of goods available in the exact place and time where the customer want them to be with lowest costs possible in order to provide the best possible service for the customer.” (Bhatnagar 2009, p. 88).

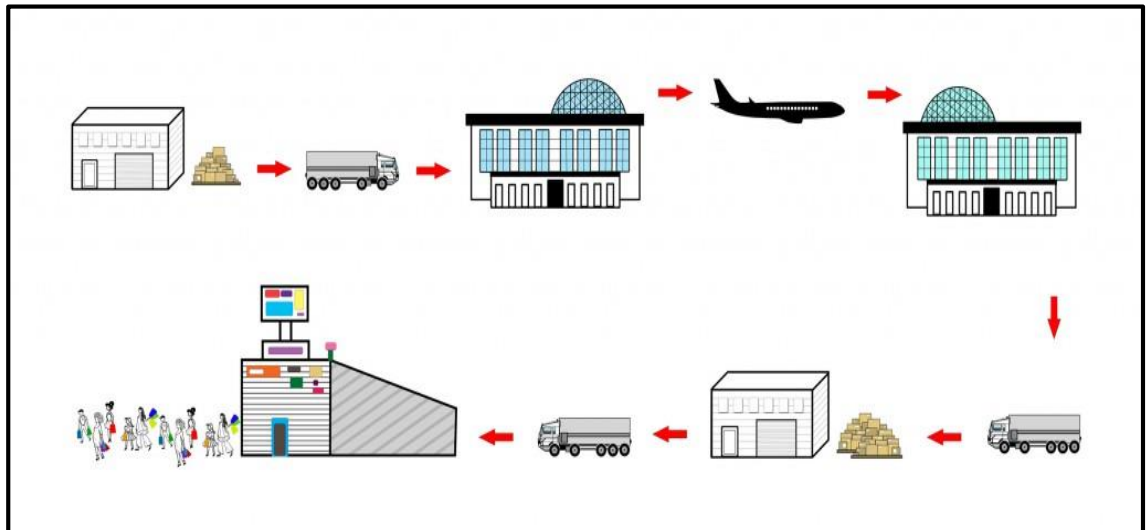


Figure 1. Supply chain. (Oceanstar Express 2014).

It is fair to say that demand for logistical services will never end as long as businesses are running, because in every part of the supply chain some form of logistical services are needed to keep the chain moving. Figure 1 demonstrates this point well, because every arrow and line between each part of the supply



chain is some form of logistics. Taking this into consideration, the possibilities to do business in this field is fairly high.

Outsourcing is a fashionable term in today's business world and this is also a great way for LH-Kuljetus Oy to offer their services. Companies and people want to outsource more and more, which can be interpreted that the less they need to do themselves the better. There is also, in both the private sector and business sector, a demand for as complete services as possible. Some industrial companies e.g. like to outsource their warehousing services, meaning that another company orders, delivers and stacks the spare parts etc. on the shelves. In the private sector customers are willing to pay for services that can make their life easier. For example if people order something from the internet or buy it from store and especially if it is big or heavy, they most likely are willing to pay if someone delivers it to their home, carries it to the place they want and even installs it if needed or possible. LH-Kuljetus Oy and JJ-trans are companies that can fulfil these kinds of requirements. The company has made large investments on the vehicles so that they are able to serve their customers completely, perfectly and as fast as possible. These investments are also made in order to offer as many different logistical services as possible.

## **4 Definition of the Markets**

This part of the business plan will define the company's market related issues such as customers, competitors, marketing area and its development, etc. in general, but it will not include an exact marketing plan, because marketing is not the most important competition tool for the company and also as this is already an existing company which has already chosen more or less the right marketing methods for themselves, a new marketing plan is not considered to be of high importance. (Byrd, Megginson & Megginson 2006, p. 123.)

### **4.1 Target Market and Market Area**

For whom is the company selling the services? What are the customers like? Why do they buy the services the company is offering? Where is the company

operating? These are questions that help defining the target markets and market areas of LH-Kuljetus Oy. (Pinson 2004, p. 41)

The company is offering a variety of different kind of services for different kind of customers who have different kind of needs. One customer base is bakeries and they have demand for delivery services for their bakery products and they also want their empty boxes to be collected from their customers' premises and returned to their premises. Some of the customers are other logistics companies that have outsourced some of their delivery services to LH-Kuljetus Oy. Such companies are Itella Logistics, Transvision Oy, Jussi Juutilainen Oy. Some of the customers require more complete services. These services includes warehousing, delivering, shelving and ordering their goods to their customers. These kinds of customers are Staples Finland Oy and Bufab Finland Oy. Courier Services are designed for customers that wants a set of different kinds of smaller services such as postal services and small deliveries between customers' different premises or to their customers. Customers are e.g. governmental and business offices, car dealerships, etc. LH-Kuljetus Oy also aims to serve private customers as much as possible with their need for delivery services, moving services, etc.

Most of the company's operations happen in South Karelia area, e.g. Lappeenranta, Imatra, Taipalsaari, Savitaipale, etc. but LH-Kuljetus Oy has also been able to expand the operations to the Lahti city area. Kymenlaakso area could be the next step for the company to expand in the future, but it has not happened yet.

## **4.2 Competition**

This part will concentrate on the competitors of the company and analysing their weaknesses. What are the companies that operate on the same markets offering similar services than LH-Kuljetus Oy? What are their weaknesses that may help LH-Kuljetus Oy gain competitive advantage over them? (Paley 2004, p. 59)

As Itella Logistics has outsourced their services to many different subcontractor companies, they are LH-Kuljetus Oy's competitors. LH-Kuljetus Oy has been more flexible and willing to make new investments for Itella's services than the other subcontractors, which has enabled the company to set a firm foothold in Itella Logistics' organization. Some of the companies that have outsourced some of their delivery services to LH-Kuljetus Oy, could also be seen as competitors, because they are also operating with the same kind of delivery services and if they decide that they can do the services better themselves, LH-Kuljetus Oy can lose these services. The company is doing this kind of thing with co-operation of competitors such as Jussi Juutilainen Oy, Transvision Oy, Länsiö Logistiikka Oy and Läänin Kuljetus Oy.

There are also a number of different companies in South Karelia area that do not have co-operation with LH-Kuljetus Oy, but offers similar delivery services and thus can be seen as competitors. Examples of such companies are Sinkko Finland Oy, Kuljetus Kilpiä Oy, VP Kuljetus Oy, etc. The company's competitive advantage against the competitors is the range of different kind of services for a number of different customers, so if one of the customers drop out, it does not affect the whole business and it is quite easy to cover or replace that lost gap. For example if Jussi Juutilainen Oy would lose their DHL and UPS deliveries or even one of them, they would almost inevitably be facing major problems, since most of their operations consist of those companies' delivery services and as LH-Kuljetus Oy does not have exact main client, these kind of problems will not occur.

### **4.3 Marketing and Sales**

What kind of methods does the company use to promote its services? What kind of distribution channels are used? How are the services sold and how can customers buy the services? This next part will focus on answering such questions. (Pinson 2004, p. 45)

As LH-Kuljetus Oy has existed for eight years, it has been able to create great, service/customer oriented reputation which has led to positive word-of-mouth marketing and in other words the good reputation promotes the company. The

company has sponsored a couple of racing teams and the SM-league hockey team Saipa to get some visibility through sporting events. Another promotion method that the company has been using is gifts such as pencils, t-shirts, hats, etc. with LH-Kuljetus Oy's logo and contact information printed on and the company has been giving these gifts to their existing and possible new customers.

LH-Kuljetus Oy and JJ Trans both have own websites which are not only a good way to promote the company's operations, but also one way for customers to order services or contact the company with possible need for services. One major contacting channel is the company's email, where many of the customers send their orders and enquiries for services. The company's most effective sales method is the direct marketing that the owner is constantly doing, which includes calling to the prospect customers and the existing ones, sending them offers through email or their websites, etc.

In the future the company should be more active with its online marketing. Especially social medias like Facebook, Twitter, LinkedIn, and Instagram have been proven to be a very effective way of advertising, so LH-Kuljetus Oy should start using at least some of the well-known social medias. Another issue that the company has not yet done, but should do is to look through all of the marketing costs and try to weigh whether the benefits of the promotion or marketing methods are worth the costs.

## **5 Description of the Services**

In this chapter the more specific description of the services of the company will be provided or in other words what brings the incomes to the company and keeps it operating.

### **5.1 Goods Delivery Services**

Itella Logistics has outsourced most of its goods deliveries and LH-Kuljetus Oy is one of the subcontractors in the South Karelia area. Every business day (from Monday to Friday) there is one delivery truck driving goods from Lappeenranta to Imatra, one truck delivering goods in the Lappeenranta city centre and nearby areas and one more truck taking care of the deliveries in Pallo, Kivisalmi, Voisalmi, Skinnarila, Sammonlahti, Uus-Lavola and Mattila areas. Furthermore, in addition the company has one truck driving night shifts three times a week in Lappeenranta, Imatra and Ruokolahti areas. In this case Itella is LH-Kuljetus' customer and to whomever the goods are delivered are Itella's customers.

JJ Trans does package deliveries of Kuehne+nagel, DHL and UPS. Kuehne+Nagel deliveries are Transvision's subcontracted services and JJ Trans works as a subcontractor for Transvision in Lappeenranta and Imatra areas. DHL and UPS are Jussi Juutilainen Oy's subcontracted services and JJ Trans is also working as a subcontractor for Jussi Juutilainen Oy delivering DHL and UPS packages to Imatra, Taipalsaari, Savitaipale, Lemi and Ylämaa.

### **5.2 Courier Services**

JJ Trans' courier services include picking up customers' posts and postal packages from Lappeenranta head postal office and delivering them to the customers and at the end of the day picking up outgoing posts and packages from the same customers. They also include picking up customers' packages from Matkahuolto and taking outgoing packages there. The company also does express and special deliveries between the customers. Another service that can be included in courier services are Backflash International Trading House Oy's bomb triggers. Backflash International Trading House Oy has three warehouse

containers in Ylämaa where they store their bomb triggers and LH-Kuljetus Oy services include maintaining these premises and containers, keeping the inventory updated, unloading the incoming shipments to the containers, picking up the outgoing orders and delivering them to Itella Logistics' terminal from where Itella takes care of the follow-up transportation to the final customer.

### **5.3 Bakery Product Deliveries**

The company also transports bakery products of Perheleipurit Oy, Pullin Leipomo Ay and Rikkilän Leipä Oy. Perheleipurit Oy's bakery product deliveries are also Transvision Oy's services and LH-Kuljetus Oy has two vans delivering the bakery products to the stores in Lappeenranta, Taipalsaari, Savitaipale, Suomenniemi, Lemi and Ylämaa. One of the JJ Trans' vans drives Pullin Leipomo Ay's breads to the stores in Imatra, Ruokolahti, Joutseno and part of Lappeenranta. Rikkilän Leipä Oy is only two times a week to Ylämaa at this point, but it may grow in the future.

### **5.4 Office Supply and Bufab supply services**

Staples Finland Oy's office supplies services are subcontracted to JJ Trans through Länsiö Logistiikka Oy. The services include ordering, delivering and arranging the Staples office supplies on the shelves of the customers' storage rooms. These customers are in Lappeenranta, Joutseno, Imatra and Simpele areas and they comprise schools such as Saimaa University of Applied Sciences and Lappeenranta University of Technology, public offices, business offices, factories and paper mills, etc. Some of these, such as the police office and military facilities in Lappeenranta, require governmental approvals in order to get inside and work. JJ Trans also offers services for Lappeenrannan Konttorikone Oy, but these services only concern the deliveries of their office supplies in the Lappeenranta, Joutseno and Imatra areas. Bufab Finland Oy has subcontracted their services for the Outotec (Filters) Oy and Flowrox Oy in Lappeenranta to JJ Trans. Bufab offers fasteners and small parts such as bolts, nuts and screws. JJ Trans is managing the ordering and arranging the Bufab's supplies to the shelves in the facilities Outotec and Flowrox.

## 5.5 Crane Fitted Truck Services

LH-Kuljetus Oy also owns two Hiab crane fitted trucks which are ideal means of transportation for bulkier and heavier cargo that cannot be fitted into a regular delivery trucks. These trucks also enable deliveries to difficult locations such as places that are on a higher ground than the road.



Picture 1. LH.Kuljetus Oy's crane fitted truck.

Both of these trucks are operating in Lahti and its nearby areas. Most of these trucks' operations consist of Läänin Kuljetus Oy's subcontracted services such as deliveries from Puukeskus and Starkki, but LH-Kuljetus Oy also offers these services for other customers too.

## 5.6 Moving and Warehousing Services

Moving and warehousing services are only extra services of LH-Kuljetus Oy and they are offered only when they are not overlapping the regular services. The company has provided moving services occasionally, both within Lappeenranta city area and to the completely different cities. The company can also rent moving boxes for the customers to pack up their belongings for the moving cargo. The company has also preserved some space in their premises for warehousing and storing their customers' goods if needed, but only small

amounts and for short period of time so in other words it is a temporary holding place of customer's goods.

## 6 Company Structure

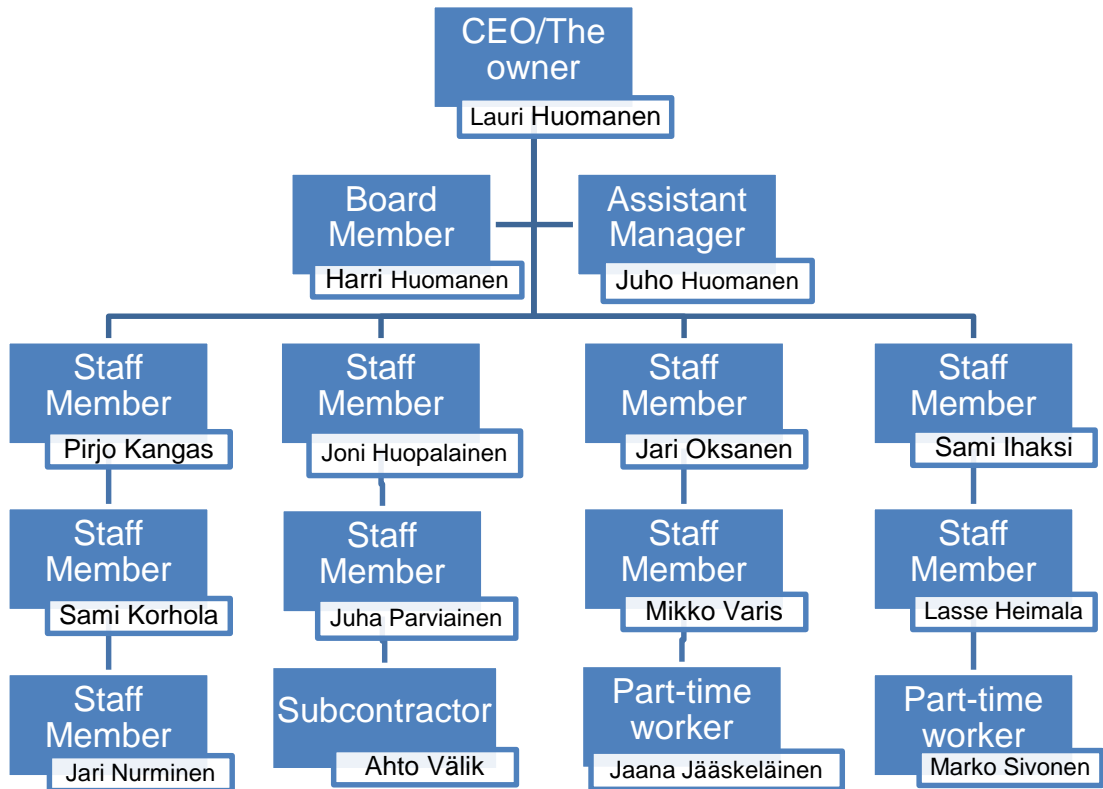


Figure 2. Organizational Chart of LH-Kuljetus Oy.

This part of the business plan will give an insight into the structure of the company and what are the duties and job descriptions of each member working and contributing in LH-Kuljetus Oy are. Furthermore, the education and the possibilities of further training of the employees will also be covered. Moreover this chapter shows the hierarchical structure of the company.

The Chief executive officer (CEO) and the owner of the company is Lauri Huomanen. The owner possesses all of the decision making power and takes care of the external issues such as customer relations, new contracts and furthermore his purpose is to expand and evolve the operations. He is also working in one of the vans on a daily basis or whenever needed and he can also substitute the other employees when needed.



The author's position is to assist the owner with managing the company. The tasks include a part of the invoicing, paying the invoices, calculating and paying the salaries, archiving the company's important papers which need to be stored and also to manage, develop and use the company's IT tools and solutions. The author also substitutes for the other employees when they have vacation or whenever needed.

Harri Huomanen is the father of the CEO and the author and he is marked as a board member even though he is not officially on the company's pay roll. He has helped the CEO to build up the company. He is only an advisory organ in the company.

Pirjo Kangas is one of the JJ-Trans' van drivers. Her work includes one of the bread delivery lines which includes Perheleipurit Oy's and twice a week Rikkilän Leipä Oy's bakery products. She also handles the ordering, delivering and shelving of the Staples office supplies to the customers and also ordering and shelving Bufab Finland Oy's fasteners and small parts such as nuts, bolts, screws, etc. to Outotec (Filters) Oy and Flowrox Oy. Mikko Varis drives the LH-Kuljetus Oy's van and his tasks are to drive the other line of the Perheleipurit Oy and whenever needed he can do some of the extra jobs or substitute for the JJ-Trans drivers. Both Joni Huopalainen and Jari Oksanen drive the two other cargo van lines of the JJ-Trans and they exchange their tasks every other week. Their tasks include the courier services, deliveries from the Lappeenrannan Konttorikone Oy and the bread deliveries of the Pullin Leipomo Ay.

Sami Ihaksi, Sami Korhola and Juha Parviainen are the delivery truck drivers and they are driving the Itella Logistics delivery lines. Lasse Heimala is also working at Itella Logistics, but he is driving the night shifts and when needed, he is substituting for the delivery truck drivers. Jari Nurminen and Ahto Välik are driving the crane fitted trucks in the Lahti area. LH-Kuljetus Oy owns both of these trucks, but only Jari Nurminen is a full-time employee in the company and Ahto Välik is a subcontractor and working as a private entrepreneur at least for now. Marko Sivonen and Jaana Jääskeläinen are working part time and their job is to drive Itella's food deliveries at weekends.

The Finnish legislation has changed so that after 10 September 2009 every new truck driver needs to have completed the professional competence course in order to work as a truck driver. Also every truck driver who has received their licence before September 2009 has to have completed 35 hours of follow-up course by 10 September 2014. LH-Kuljetus Oy has been offering these courses to the employees and as every employee possesses a BC-class driving licence (truck driving licence) and since most of them drive trucks daily everybody needs to take part in these courses. (Finnish Transport Safety Agency Trafi.)

## **7 SWOT-Analysis**

A SWOT analysis is used for analysing the strengths, weaknesses, opportunities and threats that affect the company. It is an important part of strategic business planning. By carrying out a SWOT analysis, for example yearly, a company could be able to maintain its business plan and operations up to date. It also helps the business to be future oriented and plan their operations ahead. Furthermore, it enables companies to be ready for competition and changing markets. A SWOT analysis can be used as a basis for risk assessment and management. This analysis illustrates the harmful, helpful, external and internal factors that affect the business and whether these factors correlate with each other or not. For example if there are more weaknesses than strengths in the company, then the company may face difficulties, etc. (Simoneaux & Stroud 2011, p. 75-78.)

In the case of LH-Kuljetus Oy it is good and even essential to do a SWOT analysis as a part of this business plan, because of the fact that there have been many changes such as new acquisitions, etc. so it is a good time to evaluate the old, existing operations and the new operations for being able to see how everything can be moulded together and what the company's future operations will be like.

	helpful	Harmful
Internal origin	<b>Strengths</b> – These are characteristics of the business that give you an advantage.	<b>Weaknesses</b> – These are characteristics of the business that give you a disadvantage.
External origin	<b>Opportunities</b> – External elements that may give you an increase in sales and a future advantage.	<b>Threats</b> – External elements that may hinder your chances of increasing sales and may prove to give you a future disadvantage.

Table 1. Swot-Analysis. (Wisteria Business plans)

### 7.1 Strengths

The strengths part of the SWOT analysis is concentrating on internal factors of the company which are positive and can provide the company an advantage against their competitors (Simoneaux & Stroud 2011, p. 76).

LH-Kuljetus Oy has been able to build a long and good relationship with their customers which further helps the company to prevent these customers to switch over to the competitors. The company is flexible with their services in order to fulfil their customers every need as perfectly and fast as possible. The employees of LH-Kuljetus Oy are polite and ready to serve the customers that leaves a positive picture of the company. Another strength is that LH-Kuljetus Oy has done such investments that every vehicle and equipment is meaningful and fully operating which means that all of the pointless investments have been cut off and new useless investments are not going to be made. Furthermore, this means that LH-Kuljetus Oy concentrates first on finding the meaning or operation for an investment before making it. The most important strength of all is that the owner has been and remains to be brave in doing business which means that he is willing to take risks, explore something new and develop the operations when needed. The owner is also always trying to develop the operations in order to achieve optimal gain. The company has been able to keep the business running profitably and positive without any losses and

negative results. One issue that can be considered as a strength is LH-Kuljetus Oy's sensitivity towards invoicing, which means that when a service is fulfilled the company will always take fair compensation of it rather than give the service free of charge. LH-Kuljetus Oy has also a great reputation in the logistics field in the South Karelia area.

## **7.2 Weaknesses**

Weaknesses are opposite to strengths and they are such factors that are or can be harmful if not handled and gotten rid of. The weaknesses should not over run the strengths and if they do, a company may encounter severe problems. Additionally, if the weaknesses are somehow in connection with the threats, it can cause problems. (Friend & Zehle 2004, p. 86.)

LH-Kuljetus Oy does not have many weaknesses today, since they have gotten rid of most of the major weaknesses that have occurred in the past. Naturally there are still some matters that could be seen as weaknesses. One of them is the lack of an appropriate education and training of the owner. Firstly he does not have any business education and training except the entrepreneurship course. This means that he is dependent on some other professional people and companies that can help him to make smart and rational business decisions. It is great that there are these kind of people and services that can help, but in some cases it would be good to have more knowledge of your own business in order to act quickly to new or changing business functions and also to be able to be sure that the professional's opinions are really valid ones. The owners IT skills are also merely on a basic level and the use of IT tools in the company could be much higher.

## **7.3 Opportunities**

The opportunities are such external factors that has not yet been thought of or capitalized, but could be beneficial and helpful for a company in order to grow or develop their operations if they are seized. Opportunities for a company are for example some new or existing market segments that the company has not yet

been operating, new technological solutions to ease the working, possible acquisitions of the competitors, etc. (Pinson 2004, p. 27-28.)

If the IT skills and tools of the company were seen as a weakness, then these could also be seen as an opportunity. If the company acquired new IT tools and the owner learned more IT skills, the company could be able to optimize and speed up some of their operations and also they could get rid of the unnecessary paper waste when everything would be in the computer database. The owner could also learn some business and economics skills in order to make quicker decisions and to be more proactive with the company's businesses.

There are a number of plans and much construction work in progress in the trade sector at the South Karelia area, such as Ikea/Ikano. Even though the decision about the Ikea/Ikano is not final yet, they have already started to build the site for it and if the Ikea/Ikano will be located in Lappeenranta, it will be a great opportunity for LH-Kuljetus Oy to offer logistics services. There are also many building construction sites already under way and many other plans have been made in Lappeenranta, which will also offer a chance for LH-Kuljetus Oy. All in all, active listening and offering the company's services will create opportunities for LH-Kuljetus Oy.

The competition of home bakeries in South Karelia area has been growing which has forced the bakeries to develop and expand their businesses. For example some of them have opened bakery cafeterias, increased their marketing in grocery stores with marketing persons, etc. These developments also create a need for transport services, which is a chance for LH-Kuljetus Oy to offer their expertise.

#### **7.4 Threats**

Threats are opposite to opportunities and they are external factors that may be harmful for the company if not dealt correctly and sufficiently with. If for example new competitors are entering in the market or existing competitors are able to grow their market share, they become a threat to the existing business. Also if

the markets drop or slow down, it can threaten the company's operations. (Simoneaux & Stroud 2011, p. 76.)

The first and the most obvious threat is the competition and the competitors. Furthermore the threat is that customers may switch over to using competitor's services. Moreover, in general the high competition in the South Karelia area in the logistics field generates possible threats for LH-Kuljetus Oy.

The Russian market and Russian customers comprise a big part of the incomes of some of the LH-Kuljetus Oy's customers and if the Russian market slows down or the value of the Rouble decreases, as they have been lately, then these customers' businesses slow down which may then affect LH-Kuljetus Oy's operations. Also if LH-Kuljetus Oy's customers' business slows down in general, then the need for logistics services of the LH-Kuljetus Oy will also decrease.

## **7.5 Analysis**

As the owner is willing to develop the company and try something new then the development of the IT tools is possible. The company has already taken some steps towards modern day and acquired some new IT tools such as tracking devices on every vehicle that can be monitored online, Visma online invoicing program, etc.

Since LH-Kuljetus Oy has a large variety of different services for many different customers, they are not dependent on one single customer, so if some customers have troubles the effects on LH-Kuljetus Oy are much milder than they could be. The variety of different services also creates more opportunities to the company to offer them to possible new customers and as the owner is also proactive and brave to develop the company, he is constantly looking for new customers and offering them services.

Even though the owner lacks some IT skills and education, he has been smart to choose trustworthy and qualified people to assist him and he is also willing to

learn himself which means that the weaknesses do not matter much to the businesses. (Friend & Zehle 2004, p. 86.)

## **8 Risk Management**

Every business includes risks and even though the nature of the risks may vary between different business fields they still have the same common factor of threatening the business (Agrawal 2009, p. 1-2.). What are such external and internal factors that threaten the company and more importantly how does the company prevent or prepare for such risks? These are the issues that will be untangled in this chapter.

First of all as LH-Kuljetus Oy is a logistics company which services mainly include transporting, lifting and moving goods and thus makes the job sometimes very physical. Heavy lifting and moving cargo can cause injuries for the employees. This is why each of the company's employees are provided with protective wears such as protective footwear and bright coloured, protective work outfit, which also makes them more visible. If an employee decides not to wear the protective wears, then the company is not required to compensate any injuries. According to the law every employee must be insured for accidents during working time, but the insurance only applies if the employee has worn the adequate protective wears when the injury has occurred. The company has also taken insurance for the employees to cover the medical care and partially the sick leaves caused by any injuries, accidents etc. occurring during their free time. The owner has a separate accident insurance for himself as well.

Another compulsory insurance is a vehicle insurance for every vehicle which covers the physical damages of the people involved in a traffic collision and the innocent party's vehicle damages. The company has also taken a Kasko comprehensive coverage insurance for each vehicle, which covers the company's damages and other parties' damages more thoroughly. The company also has an extra insurance for the crane fitted trucks that covers any damages and injuries that happen during a lifting operation.

There is also a possibility that the goods of the customers get damaged somehow during the transportation or warehousing. The company has also an insurance for this kind of misfortune called the liability insurance which covers the damaged goods of the customers and can also cover damaged belongings of LH-Kuljetus Oy.

If something unexpected happens to the owner of the company, for instance a severe injury or sudden disease, which makes it impossible for him to continue working, then the whole company's operations are at risk to stop completely. For this reason the company has a business interruption insurance which covers the losses caused by sudden interruption in business operations. Another way to prevent total stoppage of operations is to have capable personnel to manage the company even though the owner himself would be unable. That is one reason why the author has been getting more responsibilities in the company's management.

As mentioned already in earlier chapters, the company is not dependent of only one or two customers. If the company is at risk of losing or loses some customers, it does not paralyze the whole business. The risk of employees resigning or transferring to competitors is hard to predict and there is no logical or exact solution to prevent and stop it from happening. It is understandable that employees sometimes want changes in their lives and the only thing that the company can do is to offer a fair and friendly work place with good atmosphere and try to rotate the different tasks between the employees in order to keep the job interesting and challenging. If for one reason or another an employee decides to leave the company, LH-Kuljetus Oy has a few part time workers that could possibly replace the resigned worker. The company has also occasionally taken trainees from schools to have their internships periods done in the company. These students are also future employee prospects for the company.

Legislative issues, for example if someone sues the company or if someone breaks a business contract, may become quite problematic for the company. Luckily the company is a member of the Finnish Transport and Logistics Union SKAL and The Federation of Finnish Enterprises (Suomen Yrittäjät) which both



offers legal counselling among many other services that are helpful for the company.

Some of the truck drivers' follow-up course concerns safety issues such as a safe way to work and safe acting in the traffic. These courses are aimed to give tips and ideas for the truck drivers, how they can individually make their own and others working environment safer and when the employees actively work safer, the risk of accidents reduces considerably (Friend & Zehle 2004, p. 236-238).

## **9 Cost Analysis Study and Financial Data of the Company**

This next chapter will include a cost analysis study on each vehicle, which is also the research part of the thesis, and also some key financial information about the company to give a better insight of its operations. The issues that will be handled are the research method and objectives, reliability and validity of the research, conclusions of the results, future suggestions and also some other key financial figures of the company.

### **9.1 Research Method and Objectives**

The research method used in this research was a quantitative data analysis method, because the acquired data is purely statistical and the vehicle based cost analysis tool is designed to give statistical results of each vehicle's cost structure. It was also one of the objectives to find out what the total cost of each vehicle separately was. Another objective was to have a tool for the future tracking of the costs.

The data for the research was collected by interviewing the company's bookkeeper Heini Poutiainen from Tilitoimisto Heini Poutiainen Oy, the owner Lauri Huomanen, our father Harri Huomanen who has been helping in managing the company since the beginning, and also by going through the company's bookkeeping to find out the required data.

## **9.2 Reliability and Validity of the Research**

The reliability of the research means how accurate the research's results are. The aim is that the results are not unsystematic and there are no mistakes. When the reliability is high, the research should be able to be repeated with the similar results. The validity of the research means that the results of the research are the kind that were intended to be clarified. Better validity means that the interviewees or respondents have understood what the researcher was asking and wanted to find out. (Ikävalko 2014, p. 14-19.)

The vehicle cost analysis tool used in this research was made with Microsoft Excel. The excel worksheet is relatively easy to use, all that needs to be done is to enter the needed information and the readymade functions calculates the right values on the parts that need calculation. As this is quite a simple excel calculation worksheet and the calculative functions are slightly a basic calculation the test is easy and possible to be repeated. If the test is repeated with the exact same data, the results would be identical with the earlier results and even though the number would be changed, the results would be similar with this test. This should prove that the research is reliable enough and that is also why this is a great tool for following the cost structures of the vehicles in the future.

The validity of this test can be easily verified as high validity, because most of the collectable data for this research can be found from the company's bookkeeping and what is not recorded in the bookkeeping, is relatively easy to be estimated. As the bookkeeper Heini Poutiainen is a professional accountant, she is working daily with such data that was needed for this research so it was easy for her to understand the meaning of this research and find out some of the required data. The information that she did not have was easily found from the owner's and our father's bookkeeping and estimates. This makes the research and its results more valid.

### 9.3 Conclusions and Future Suggestions

In this section the concentration will be on the results and conclusions of the research. What can be discovered from the research and how can the company benefit from the results? Also some future suggestions and thoughts will be suggested.

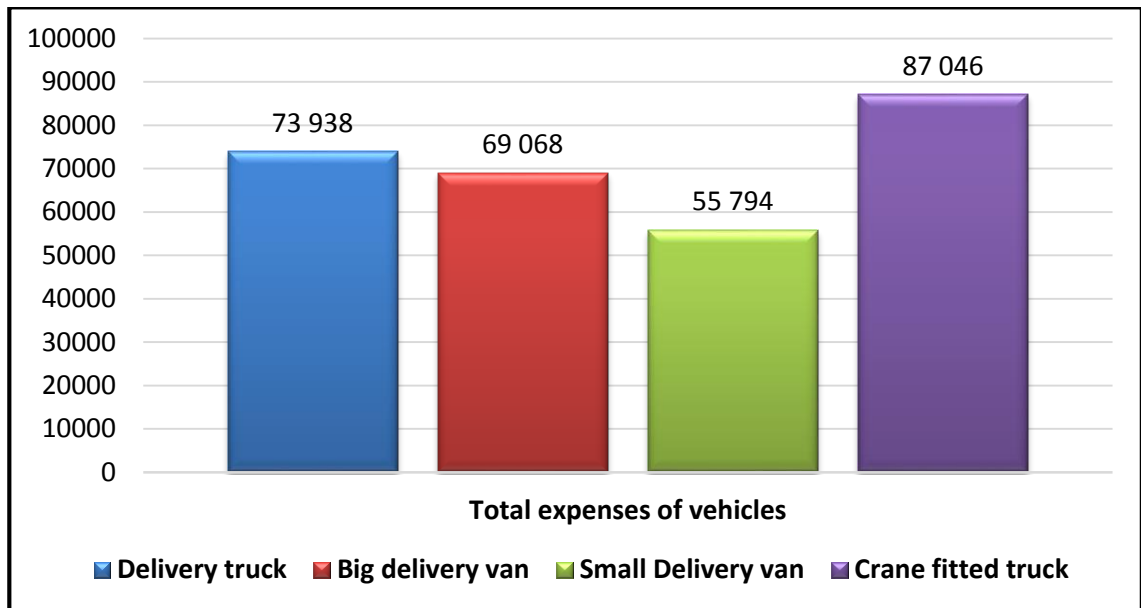


Chart 1. Bar chart of total expenses of vehicles.

Chart 1 illustrates the total expenses of one sample vehicle from each vehicle type that the company possesses and more detailed results can be found from the appendices at the end of this thesis. The chart shows that the crane fitted truck has the largest overall expenses. The general conclusion is that the bigger the vehicle is, the greater the costs are. The crane fitted truck is the largest and heaviest of the trucks and usually carries the heaviest cargo, which causes the truck to consume fuel more than other trucks. Also the heavier cargo consumes the truck's tires more and accumulates more burden on the truck which also causes higher repair and maintenance costs of the vehicle.

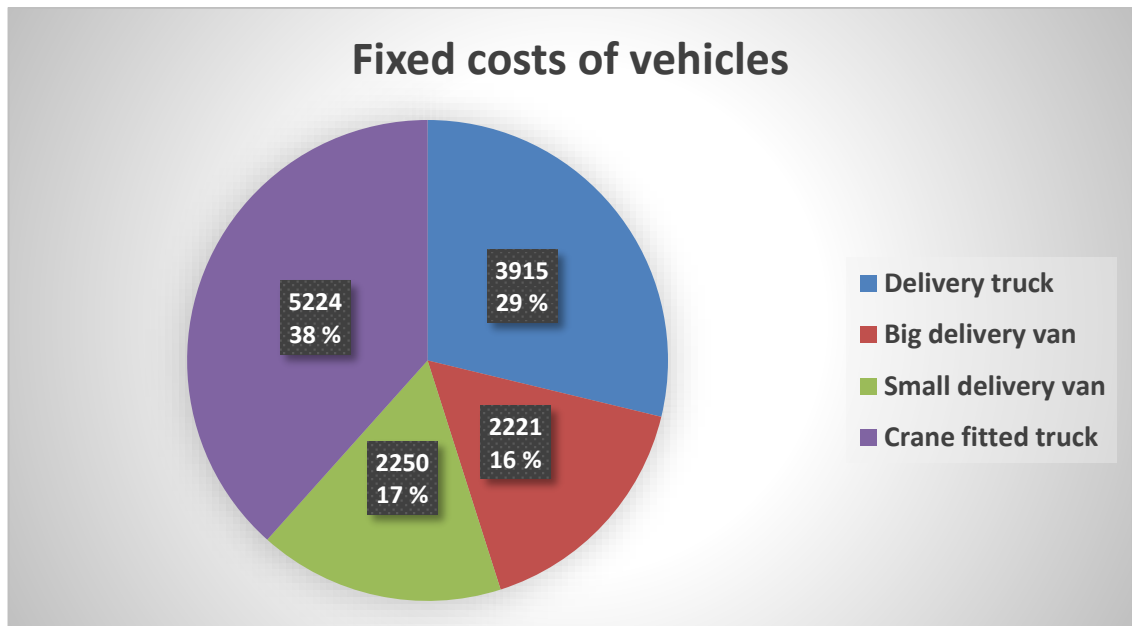


Chart 2. Pie chart of fixed costs.

The fixed costs of vehicles includes the insurance costs, traffic charges such as vehicle taxes and inspections, management costs like accounting, IT and mobile costs, maintenance costs that include storage, sanitation and equipment costs. Maintenance and management costs are the same for each vehicle, but the insurance costs and traffic charges vary between each vehicle. Chart 2 shows similar results than chart 1. The bigger vehicles have higher insurance costs, taxation and inspection costs. The crane fitted truck's fixed costs are clearly higher than other vehicles. The insurance costs are higher, because the truck has extra insurance for the lifting operations and the inspections costs more because of the crane. The taxes are higher because of the bigger fuel consumption and amount of pollution. One notable remark is that the smaller delivery van has a little bit higher fixed costs than the big delivery van. The reason for this is that the small van is much newer than the big van and thus the insurances of the small van cost more.

The most important outcome of the research is that today the company has a working IT tool for following the costs of vehicles in the future. Another important outcome is that the research shows the costs per kilometer and hourly costs, which makes the pricing of the services easier and faster, because all that is needed to know is the distance or time that the service will take.

## Savings calculator

<b>Average Consumption:</b>	26	l/100 km			
<b>Fuel Price:</b>	1,49	€/km			
<b>Total mileage anual/vehicle:</b>			20 000	50 000	80 000
<b>Savings %:</b>	5 %		387	969	1550
<b>Number of vehicles:</b>	3		1162	2906	4649

<b>Average Consumption:</b>	15	l/100 km			
<b>Fuel Price:</b>	1,49	€/km			
<b>Total mileage anual/vehicle:</b>			20 000	50 000	80 000
<b>Savings %:</b>	5 %		224	559	894
<b>Number of vehicles:</b>	2		447	1118	1788

<b>Average Consumption:</b>	10	l/100 km			
<b>Fuel Price:</b>	1,49	€/km			
<b>Total mileage anual/vehicle:</b>			20 000	50 000	80 000
<b>Savings %:</b>	5 %		149	373	596
<b>Number of vehicles:</b>	2		298	745	1192

<b>Average Consumption:</b>	35	l/100 km			
<b>Fuel Price:</b>	1,49	€/km			
<b>Total mileage anual/vehicle:</b>			20 000	50 000	80 000
<b>Savings %:</b>	5 %		522	1304	2086
<b>Number of vehicles:</b>	2		1043	2608	4172

<b>Total Savings:</b>	20 000	50 000	80 000	km
	2950	7376	11801	€

Table 2. Fuel savings calculations.

As the economic situation in the whole Europe including Finland is in quite a bad state, LH-Kuljetus Oy should start concentrate on the cost savings. Fixed costs are mostly such kind that they are quite hard or even impossible to decrease. Also the labor cost cannot be decreased, because the employees' wages and contracts are according to the Collective agreement (Finnish: Työehtosopimus). This is why the variable costs are the easiest and most obvious costs to decrease. Table 1 shows how much money could be saved with more economical driving and by cutting only 5% of each vehicle's fuel consumption. Already driving 50 000 km, which is more or less the annual mileage of each vehicle on average and by consuming 5% less fuel, the company would safe 7376 euros. The difficulty is to get each employee to become more economical with their driving styles. One solution could be to offer some sort of bonus for the employees, for example use some of the savings to do some group activities with the employees.

In the future the company should do vehicle based income calculations and compare them with the vehicle based cost calculations of this thesis in order to find out the actual profits of each vehicle individually. This would give an overall picture on how lucrative it actually is to have each vehicle.

#### 9.4 Financial Data

	2009/12	2010/12	2011/12	2012/12	2013/12
<b>Turnover EUR1000</b>	84	311	433	511	737
<b>Turnover change %</b>	-	54,3	39,2	18,0	44,2
<b>Operating profit EUR1000</b>	10	11	4	1	-17
<b>Operating profit %</b>	15,7	5,4	2,3	1,4	-1,5
<b>Number of staff members</b>	-	-	6	6	16

Table 3. Comparison of company's operations.

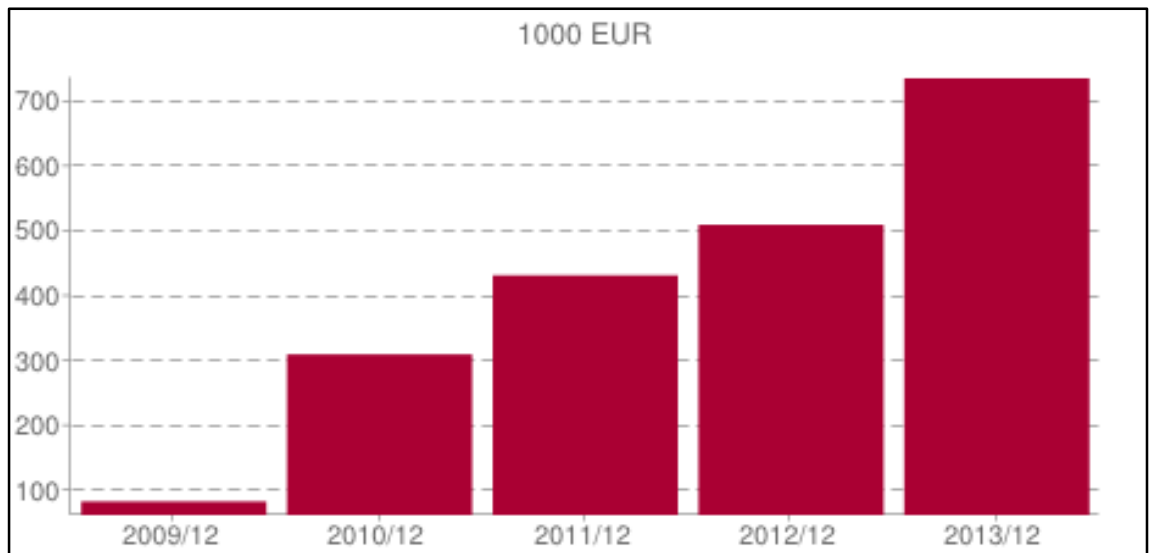


Chart 3. Bar chart of turnover developments.

<b>Accounting Seasons</b>	<b>1.7.2014-31.7.2014</b>	<b>1.1.2014-31.7.2014</b>
<b>Operating profit EUR</b>	6656,98	2695,20

Table 4. Operating Profit development of 2014.

This part of the chapter will give some key financial figures on how the company has developed and expanded during the years 2009-2013 and what is the recent situation. Table 2 illustrates how the turnover, operating income and the number of employees has changed during the years and Chart 3 shows how the company's turnover has been growing. The turnover of the company has grown from 84 000 euros in 2009 to 737 000 euros in 2013, which proves how rapid the company's growth and expansion has been. Especially the year 2013 included many changes and expanding, which can be seen already on the change in the number of staff members that changed from 6 members to 16 members.

The operating profit seems to be diminishing after the year 2010, but the reason is that the company did many investments between the years 2011 and 2013, which included buying more trucks, changing some of the older trucks for newer models and business acquisitions. Especially the company operations

shows 17 000 euros losses and the biggest reason is the acquisition of the JJ Trans which happened so late in the year, that the company's operations could not yield enough profit to cover the costs of the purchase before the accounting period ended. Table 3 shows that the company has been able to yield profit at the first half of the year 2014. The beginning of the current year was still a little in the red, but the total profit of the first half was 2695,2 euros and July's result alone was 6656,98 euros plus.

## **Conclusion**

A business plan is used for getting an insight of a company's operations and what kind of business it is. The considerations that are needed for a business plan are the products or services that are offered, what the trading area and the markets are, who the competitors are and why your business is better than the competitors', What are the risks and how they will be handled or minimized and also some financial data is needed to prove the competence of the business.

The business plan of this thesis is designed more for internal use of the company. It gives an insight on the current state of the business which furthermore helps the company to develop the operations in the future.

LH-Kuljetus Oy's competitive advantages are the large variety of different kind of logistics services for many different customers and the aim to please the customers' every need as completely as possible. As the customer base is rather large, the company is not dependent on one or two key clients which make them less vulnerable if some of the clients drops out.

The vehicle cost analysis' results showed that bigger vehicles have larger costs. The outcomes of the research are that the company has nowadays a working IT tool for following the costs of the vehicles in the future and by knowing exact costs of each vehicle, the pricing of the services is quicker and easier. The financial data shows that the company has been expanding quite rapidly during the recent years. Even though the operating profits have been low or even in



the red due to the big investments, the company has been able to break even and make the investments yield profits during the current year.

## **Figures, Tables, Charts and Pictures**

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## List of references

Agrawal, R. 2009. Risk Management. ABD Publishers.

Bangs, D. 2002. Business Planning Guide: Creating a Winning Plan for Success. Dearborn Trade, a Kaplan Professional Company.

Bhatnagar, A. 2009. The Text Book of Supply Chain Management. Word-Press.

Byrd, M. Megginson, L. Megginson, W. 2006. Small Business Management: An Entrepreneur's Guidebook. New York: McGraw-Hill Companies.

Friend, G. Zehle, S. 2004. Guide to Business Planning. Profile Books.

Ikävalko, M. 2014. Research Methods. Analysing stage and writing the research report. Saimaa University of Applied Sciences. Business Administration.

Nunn, L. McGuire, B. 2010. The Importance Of A Good Business Plan. Journal of Business & Economics Research. Volume 8. Issue 2. pp. 95-105.

Paley, N. 2004. Successful Business Planning: Energizing Your Company's Potential. Thorogood.

Pinson, L. 2004. Anatomy of a Business Plan: A Step-by-Step Guide to Building a Business and Securing Your Company's Future (6th Edition).

Simoneaux, S. Stroud, C. 2011. Business Best Practises: SWOT Analysis: The Annual Check-Up for a Business. Journal of Pension Benefits. Volume 18. Issue 3. pp. 75-78.

Finnish Transport Safety Agency Trafi. Drivers' professional competence. [http://www.trafi.fi/en/road/drivers\\_competency](http://www.trafi.fi/en/road/drivers_competency). Accessed on 16 August 2014.

## Appendix 1 Research worksheet on delivery truck

LH-Kuljetus Oy	COST CALCULATIONS			
<b>Type of transport:</b>	Itella Logistics' deliveries to Imatra			
<b>Vehicle type:</b>	Delivery truck			
				<b>% of total</b>
Mileage (Compensated/working kilometers per Year)		km/a	40 000	10,5
Mileage (Uncompensated)		km/a	3000	40,0
Total Mileage		km/a	43 000	11,1
Total mileage of the vehicle during the holding period		km	215 000	9,5
Total time of the holding period in years		year/s	5	10,9
Average fuel consumption		l/100 km	26	16,0
Duration of the tires		km	100 000	16,7
Working hours of the vehicle		h/a	2080	12,6
Working hours of the driver	10 %	h/a	2288	12,6
Average wage of the driver	14,5 €/h	€/a	33176	13,2
Indirect wage costs	38 % (social costs, etc.)	€/a	12606,88	13,2
Total labour costs		€/a	45782,88	13,2
Labour costs per working hour		€/h	20,01	13,1
Fuel costs	1,49 €/liter	€/a	16658,2	15,1
Repair- and maintenace costs		€/a	3000	14,2
Tire and retreading costs	500 €/piece	4pcs €/a	860	11,7
<b>Total variable costs</b>		€/a	<b>20518,2</b>	<b>14,8</b>
Insurances (traffic-, vehicle-, transport-, etc. Insurance costs)		€/a	1995	15,4
Traffic charges (vehicletaxes, vehicle inspection costs)		€/a	860	18,2
Management costs (accounting, IT, mobile, etc.)		€/a	700	12,5
Maintenance costs (storage, sanitation, equipment costs)		€/a	360	12,5
<b>Fixed costs</b>		€/a	<b>3915</b>	<b>15,0</b>
Total expenses before operating surplus		€/a	70216,08	13,7
Operating surplus	5,3 % of total expenses	€/a	3721,45	13,7
Total anual expenses		€/a	73937,53	13,7
Hourly costs per working hour on average		€/a	35,55	13,6
Average cost of the milage per kilometer		€/km	1,85	14,1

## Appendix 2 Research worksheet on big delivery van

LH-Kuljetus Oy	COST CALCULATIONS			
<b>Type of transport:</b>	JJ Trans' bakery product deliveries, etc.			
<b>Vehicle type:</b>	Big delivery van			
				<b>% of Total</b>
Mileage (Compensated/working kilometers per Year)		km/a	70 000	18,4
Mileage (Uncompensated)		km/a	0	0,0
Total Mileage		km/a	70 000	18,1
Total mileage of the vehicle during the holding period		km	450 000	19,9
Total time of the holding period in years		year/s	7	15,2
Average fuel consumption		l/100 km	15	9,2
Duration of the tires		km	50 000	8,3
Working hours of the vehicle		h/a	2080	12,6
Working hours of the driver	10 %	h/a	2288	12,6
Average wage of the driver	13,5 €/h	€/a	30888	12,3
Indirect wage costs	38 % (social costs, etc.)	€/a	11737,44	12,3
Total labour costs		€/a	42625,44	12,3
Labour costs per working hour		€/h	18,63	12,2
Fuel costs	1,49 €/liter	€/a	15645	14,2
Repair- and maintenace costs		€/a	3700	17,5
Tire and retreading costs	250 €/piece	4pcs €/a	1400	19,0
<b>Total variable costs</b>		€/a	<b>20745</b>	14,9
Insurances (traffic-, vehicle-, transport-, etc. Insurance costs)		€/a	751	5,8
Traffic charges (vehicletaxes, vehicle inspection costs)		€/a	410	8,7
Management costs (accounting, IT, mobile, etc.)		€/a	700	12,5
Maintenance costs (storage, sanitation, equipment costs)		€/a	360	12,5
<b>Fixed costs</b>		€/a	<b>2221</b>	8,5
Total expenses before operating surplus		€/a	65591,44	12,8
Operating surplus	5,3 % of total expenses	€/a	3476,35	12,8
Total anual expenses		€/a	69067,79	12,8
Hourly costs per working hour on average		€/a	33,21	12,7
Average cost of the milage per kilometer		€/km	0,99	7,5

### Appendix 3 Research worksheet on small delivery van

LH-Kuljetus Oy	COST CALCULATIONS			
<b>Type of transport:</b>	Perheleipurit, Staples, Bufab, etc.			
<b>Vehicle type:</b>	Small delivery van			
				<b>% of total</b>
Mileage (Compensated/working kilometers per Year)		km/a	50 000	13,2
Mileage (Uncompensated)		km/a	0	0,0
Total Mileage		km/a	50 000	12,9
Total mileage of the vehicle during the holding period		km	200 000	8,8
Total time of the holding period in years		year/s	4	8,7
Average fuel consumption		l/100 km	10	6,1
Duration of the tires		km	50 000	8,3
Working hours of the vehicle		h/a	2000	12,1
Working hours of the driver	10 %	h/a	2200	12,1
Average wage of the driver	13,5 €/h	€/a	29700	11,8
Indirect wage costs	38 % (social costs, etc.)	€/a	11286	11,8
Total labour costs		€/a	40986	11,8
Labour costs per working hour		€/h	18,63	12,2
Fuel costs	1,49 €/liter	€/a	7450	6,8
Repair- and maintenace costs		€/a	1500	7,1
Tire and retreading costs	200 €/piece	4pcs €/a	800	10,9
<b>Total variable costs</b>		€/a	<b>9750</b>	7,0
Insurances (traffic-, vehicle-, transport-, etc. Insurance costs)		€/a	830	6,4
Traffic charges (vehicletaxes, vehicle inspection costs)		€/a	360	7,6
Management costs (accounting, IT, mobile, etc.)		€/a	700	12,5
Maintenance costs (storage, sanitation, equipment costs)		€/a	360	12,5
<b>Fixed costs</b>		€/a	<b>2250</b>	8,6
Total expenses before operating surplus		€/a	52986	10,3
Operating surplus	5,3 % of total expenses	€/a	2808,26	10,3
Total anual expenses		€/a	55794,26	10,3
Hourly costs per working hour on average		€/a	27,90	10,7
Average cost of the milage per kilometer		€/km	1,12	8,5

## Appendix 4 Research worksheet on crane fitted truck

LH-Kuljetus Oy		COST CALCULATIONS		
<b>Type of transport:</b>	Crane truck services in Lahti			
<b>Vehicle type:</b>	Crane fitted truck			
				<b>% of total</b>
Mileage (Compensated/working kilometers per Year)		km/a	50 000	13,2
Mileage (Uncompensated)		km/a	2000	26,7
Total Mileage		km/a	52 000	13,4
Total mileage of the vehicle during the holding period		km	500 000	22,1
Total time of the holding period in years		year/s	10	21,7
Average fuel consumption		l/100 km	35	21,5
Duration of the tires		km	100 000	16,7
Working hours of the vehicle		h/a	2080	12,6
Working hours of the driver	10 %	h/a	2288	12,6
Average wage of the driver	14,5 €/h	€/a	33176	13,2
Indirect wage costs	38 % (social costs, etc.)	€/a	12606,88	13,2
Total labour costs		€/a	45782,88	13,2
Labour costs per working hour		€/h	20,01	13,1
Fuel costs	1,49 €/liter	€/a	27118	24,6
Repair- and maintenace costs		€/a	3500	16,5
Tire and retreading costs	500 €/piece	4pcs €/a	1040	14,1
<b>Total variable costs</b>		€/a	<b>31658</b>	22,8
Insurances (traffic-, vehicle-, transport-, etc. Insurance costs)		€/a	3264	25,3
Traffic charges (vehicletaxes, vehicle inspection costs)		€/a	900	19,0
Management costs (accounting, IT, mobile, etc.)		€/a	700	12,5
Maintenance costs (storage, sanitation, equipment costs)		€/a	360	12,5
<b>Fixed costs</b>		€/a	<b>5224</b>	20,0
Total expenses before operating surplus		€/a	82664,88	16,1
Operating surplus	5,3 % of total expenses	€/a	4381,24	16,1
Total anual expenses		€/a	87046,12	16,1
Hourly costs per working hour on average		€/a	41,85	16,0
Average cost of the milage per kilometer		€/km	1,74	13,3

## Appendix 5 Research worksheet on total costs of the vehicles

<b>LH-Kuljetus Oy</b>		<b>COST CALCULATIONS</b>			
					<b>Total</b>
Mileage (Compensated/working kilometers per Year)	km/a				380 000
Mileage (Uncompensated)	km/a				7 500
Total Mileage	km/a				387 500
Total mileage of the vehicle during the holding period	km				2 264 000
Total time of the holding period in years	year/s				46
Average fuel consumption	l/100 km				163
Duration of the tires	km				600 000
Working hours of the vehicle	h/a				16 480
Working hours of the driver	h/a				18 128
Average wage of the driver	€/a				251 592
Indirect wage costs	38% (social costs, etc.)	€/a			95 605
Total labour costs	€/a				347 197
Labour costs per working hour	€/h				153
Fuel costs	1,49 €/liter	€/a			110 305
Repair- and maintenace costs	€/a				21 200
Tire and retreading costs	€/a				7 350
<b>Total variable costs</b>	€/a				138 855
Insurances (traffic-, vehicle-, transport-, etc. Insurance)	€/a				12 916
Traffic charges (vehicletaxes, vehicle inspection costs)	€/a				4 730
Management costs (accounting, IT, mobile, etc.)	€/a				5 600
Maintenance costs (storage, sanitation, equipment costs)	€/a				2 880
<b>Fixed costs</b>	€/a				26 126
Total expenses before operating surplus	€/a				512 178
Operating surplus	5,3% of total expenses	€/a			27 145
Total anual expenses	€/a				539 323
Hourly costs per working hour on average	€/a				261
Average cost of the milage per kilometer	€/km				13