



LENGTHENING THE LIFE CYCLE OF AUTOMOBILES AS A BUSINESS IDEA

Case studies Fangmbeng & Son's Shipping ay

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Degree Programme in Environmental
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ABSTRACT

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Nowadays there are plenty of cars which still can be used, for instance, as a source of spares part after they have been used for work, business, or pleasure. It is usual that those cars consume petrol or diesel and contribute to pollution of the atmosphere. But they could last with good services and repair for quite a long time, maybe for ten years or more. However there comes a time when the repairing does not pay. But for sure these cars can be used as spare parts storage for many other cars, even after they have been taken to the scrap yard, which earlier would have been a final resting place for them. Nowadays we are stripping the cars of useful components, which can be taken into use. These useful parts may include a wide range of materials.

These parts and materials can be sold to private car customers who are in need of spare parts, and also to companies that can reclaim the materials for further use. The rest of the car can be crushed into blocks. These are melted down in special furnaces; the waste is removed leaving the usable metal, normally steel. The recycled metal can be used to manufacture new cars or other products.

This thesis discusses some of these issues of recycling and concludes with suggestions for improvement in life cycles of cars, waste management solutions in various locations or areas in Finland and abroad, especially in Africa. The main research method was a questionnaire alongside with books, journals and internet sources. Also the personal experience of the author has contributed in a great measure to the conclusions. The Fangmbeng & son`s shipping open company has made comparisons on how different municipalities deal with the recycling issues in general, but particularly with metal recycling and with abandoned cars. The company tries to update the differences in waste management policies in local communities in both Finland and abroad.

Keyword: recycling, cars spare, waste management, business, customers.

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1 INTRODUCTION

Fangmbeng & Son`s Shipping is a new shipping company based in Finland. This company was established on April 1st 2009, so the thesis writing is based on one year of working experience on our branch of business. We deal with shipment of used cars and car spare parts using 40 or 20 feet dry containers (dc). Some of the main objectives or goals of this work are firstly to present the main operations of Fangmbeng & Son`s shipping company in Finland. We want our company to contribute to supporting the improvement of recycling as a function of local and regional environmental management, to develop environmental situations that are technically and economically suitable for various issues related in our line of business. One of the goals is also to create employment in both Finland and abroad, where our company`s main products or lines of business deal with deliveries and markets of reuse.

To describe the current situation of Fangmbeng & Son`s Shipping main activity, which is recycling, a critical analysis has been done on the bases of the business idea of recycling, plans for future improvement, and on the business stability in Finland and abroad. The collecting of different kinds of loose cars waste, potentially useful material in Finland and abroad, is important. Also it is essential to explain how the materials that are valuable in Finland and abroad are reused, marketing procedures, the impact on the environment, and also how such activities benefit the society or community at large.

Recycling and shipment of used cars, and cars spare parts, have been the main activities of Fangmbeng & Son`s Shipping, where they are trying to set up the infrastructure for the collection and storage of the different car parts and materials, particularly in the provision of recycling containers. After collecting, an arrangement is made for a collector to regularly pick up materials for recycling.

According to Jama and Aam, (2002, 220, 332) recycling is the processing of used products to provide the raw material to make new ones. It is always known that when we take materials to a bring bank or to a disposal container for the local authority to collect, they have not at that point been recycled - although they have been collected for recycling. They are yet to be processed, ready for recycling, and then made into a new product, at which point they need to be recycled. It is usual that the recycling process is

not really fully completed until we buy the products which have been made from the recycled materials.

Recycling in every situation reduces the demand for raw materials. By recovering materials from recent products we are removing or reducing the need to extract yet more raw materials from the earth. We believe that when recycled matter gets, a financial value, it creates a demand for the collected material that needs to be recycled, and also aids the development of the material's reprocessing infrastructure and therefore increases opportunities for recycling. It is obviously believed by most that recycling has not actually taken place until the new product has been in the market, ready for consumption. The recycler normally ensures that the recycled material is up to standard and in good conditions after processing before it can be forwarded for marketing in other forms for the new product to be reused.

2 BUSINESS PLAN

In the business plan designed by the author a critical analytical method has been used. In order to show that the business operations will be successful, a SWOT analysis was run in which the strengths weaknesses, opportunities, and threats which affect the business are described. Besides the SWOT, a critical description of the products. their cost, prices, and sales margins in the market, are presented. In addition, the customer and customer groups and marketing situation in general, along with the financial administration and accounting situation based on the company operation are seriously considered.

2.1 Short Summary of our Business and the Business idea

The company owned by the author and his brother is selling used cars and car's spare parts to Cameroon, Nigeria and to South Africa. The products are bought in Finland, and packed into containers and sent to Africa. There they are sold to the clients, who sell these products in their own shops. The company also wants to start selling car bodies to Stena Oy or other firms interested in metal recycling.

2.2 SWOT Analysis

A SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a business venture. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective.

2.2.1 Strengths

The strengths of Fangmbeng & Sons Shipping are the products high demand in African markets, especially in Cameroon, Nigeria and also in South Africa, where a lot of trade takes place at the present moment. Good profits are available for the products that are now for sale, in those countries mentioned above. The firm's good contacts to Cameroon, Nigeria and South Africa are very useful in this operational area. We are able to work both in Finland and in Africa ourselves. When taking the goods from

Finland and selling them in Africa. We have also started to succeed in Finland by selling the empty car bodies when the entire engine and other useful parts have been removed.

2.2.2 Weaknesses

Our working is not continual, which means that at the moment, after sending a container, we need to wait until the transported products are sold before we can start to buy new material in Finland again. Also the fact that at moment we must work outdoor space of other garages makes it difficult to work around the year and to store our products safely.

2.2.3 Opportunities

Obtaining financial support would make it possible to work full-time and to get our own working space here in Finland. To get more clients is one of our primary targets. This will be much easier when the business operation is running continuously. Regularity with business activities makes clients more confident, and it is then easier to get as many clients as we want. We aim to enlarge our company, for example, by selling others products, repairing and breaking cars in Finland, and selling products to other African countries. Also to sell the empty cars bodies will be more profitable.

2.2.4 Threats

Lack of financial support prevents the firm to function on a full-time basis. Without good financial support it is difficult to operate. For this reason we are sometimes in a difficult position due to the lack of sufficient funds to carry on duties or business activities. One of the biggest threats is competition which gets harder all the time. In every business, financial backing is the main requirement for keeping the business alive. It is difficult to be competitive with a business when a good financial source for support is lacking.

2.3 Use of Expertise in the company.

At the moment the company is owned by two persons and we focus on what we can do best. Since we are educated as environmental engineers, the idea of such a business came naturally and during the studies good advice from a fellow graduate was given. And also learning from Global Business Strategy, Learning Business was a mind-opening experience (R, John, *et al*, 1st edition 1997, 32, 50,). There we got more ideas on how a business should be handled for example, using different methods and strategies. Also from a lot of other business studies, such as international marketing, information on managing and planning our own company was obtained. We also have experience of running our own company because we have started this business little by little and we have seen it successfully proceed. Our practical experience of breaking cars and exporting and selling them, together with our theoretical knowledge of business will all help us to run our own company. Our strengths as entrepreneurs are our passion to succeed, ambition, and braveness to run the company well. To us since childhood having our own company has been a familiar way to provide a living for a family. Our strength is also that we can work both in Finland and in Africa.

We know the African way to do business, so it is easy for us to sell our products there and also to get clients there. We are used to working hard to reach our goals, and so the long working days are not difficult for us. We have also learned to survive obstacles and to find different ways of working if original plans are not successful. As entrepreneurs,, we need to develop especially the work in Finland. Our practical experience in this country is not extensive yet, so we need to learn more about the Finnish way of doing business and to create connections. Language skill is also one thing that we need to focus on, because it will help us to succeed. Our plan is that we, who are running the company, have to begin to study Finnish, and later we should all get more education in business. In order to improve our understanding of the Finland business system, we have also asked for business advice from Ensimetri, a business advice agency located in the city centre of Tampere. It is a partnership between the region's municipalities and private companies, and it gives free consultation to at least 2,000 customers a year, referring them to a network of 200 advisers for specialist advice. This results in 500 start-ups each year, creating about 400 jobs by many people starting part-time businesses. Ensimetri is a member of the national 'Jobs and Society' network, which, through its connections to the business world, tries to bring an enterprising approach to job creation.

We have also used other advice services regarding our business. Our connections especially in Africa are extensive and there we get support from many people, especially our family members, who have long and successful experience of business. They have also helped us to start our own company.

2.4 Products and services

The products that we sell are used cars and spare parts for cars. The strengths of our products are that they are highly demanded in Africa. In Africa cars are quite old, so cars that are not needed here anymore are still usable there and people pay well for them. African countries are dependent on European cars. Also spare parts are much needed there, and the same with car electronics. These products are mostly sent there by individual persons who live in Europe or some small companies, and therefore our possibilities to succeed are the better the more we are able to send our products.

2.4.1 Product/Product group

Our products are categorized according to the types of cars that we are dealing with. Below an example of the products we supply, their prices, the cost and our sales margin in the market are mentioned.

A short description is given for a used Toyota, showing the price most commonly asked for a used Toyota car model, which could be from 1980 – 1992. The prices mentioned are shown as examples of an over-view of our company's products. The cars could cost us 350€ to buy at a tax free price, and will be sold for 600€, the sales margin will thus be 250€. The same system applies with the other car brands which we are dealing with, which are Mercedes Benz, Nissan, Mazda, Honda, Golf and Peugeot.

2.5 Customers and markets

Our clients are mostly cars shops in Africa selling spare parts and electronics for cars. We also sell a little bit to private persons. At the moment we have three big clients in Africa with whom we have a contract; these clients are Emmavic Resources Limited

from Nigeria, and Mekanocam and Kevin Auto from Cameroon. With these clients we always discuss beforehand, which products they need and want, and we sell these products to them. We try to make sure, that our products are always good and that the price and quality match. This is how we can keep the client with us. There are more buyers than sellers in the market, so for our clients it's difficult to get the products from elsewhere.

2.5.1 Customers/customer groups

As mentioned before, our company supplies customers in the following countries: Cameroon, Nigeria and South Africa; and that is where our biggest customers are.

2.5.2 Markets and competition

In Finland there is competition in buying of used cars. Car dismantling businesses can buy these cars cheaper and at the moment we need to buy cars from them at a slightly higher price. When our company is working full-time we can possibly get a license to dismantle cars and have our own garage dismantling business place here in Finland, so buying cars will become cheaper for us.

That would help us also to enlarge our business. In Africa where we sell our products there are fewer sellers than buyers. That is why our products are easily sold. Our competitors are other European companies, which sell the same products as us. At the moment our problem is that we can't work full-time. We need to wait until we have sold the previous container load before we can start to buy and pack new things to sell. This unfortunately means that companies which are working full-time can get more clients than us. If we could start to work also full-time, we could get more clients and our place in the market would be stronger.

2.5.3 Marketing procedure

Fangmbeng & Son's Shipping has advertised its services mainly in Finland and Africa. It works in co-operation with many different companies in both Finland and Africa and with some private persons. Our company has good marketing strategies where our products are being advertised in many different ways, through the media, TV and radio, newspapers, internet and by post in both Finland and Africa. In Africa our company is

advertised in the most unique way, in which a moving car with a loudspeaker drives around making the products and the company known. The company car drives around announcing with a microphone in the street of the various cities on a daily basis or sometimes weekly basis that our products are now available. With these marketing strategies our goods are liable to meet the needs and demands of the local and common population.

2.5.4 Selling procedure

Fangmbeng & Son's Shipping most often sells its products in both Finland and Africa. It has its biggest markets in Africa, where the demand for the product is higher than the supplies. During our one year experience in this field of business we have discovered that the demand for our spare car parts is much better in Africa than in Finland.

We think that the reason is because the supplies of spare car parts in Finland are much higher than in Africa, which means that many companies deal with car spare supplies in Finland. Since we can operate also in Africa, it gives us a better position to match the demand with supplies of our goods within the regions we deal with. This makes us different from our competitors both abroad and in Finland, because most of the competitors do the marketing and selling of their goods only in Finland. Our goods are sold sometimes through the internet whereby the description of the goods is uploaded and placed in the internet, where customers can find what they need and will call for delivery. In Africa, after discharging our goods from the container, they are packed in a warehouse where customers come to buy them according to their needs.

2.6 How our company operates

The name of our company is Fangmbeng & Sons Shipping. From our name the clients can see that our company is a family company with an African background. That makes them trust us more and it is easy for them to communicate with us, because we have the same habits to work. Our name also tells that we are shipping products, which makes the nature of our work clearer to the clients.

In Finland, we work mostly in the area of Tampere. At the moment, we do not have our own working place yet, but when our work becomes stable, we are going to get a

suitable place. That will help our work very much. Around Tampere there are good possibilities to buy the products that we need, even though we also buy them elsewhere. Some tools we have already bought, but especially we would need a truck to carry the non-drivable cars. At the moment all the work is done by the owners themselves and if our work starts to be more permanent, we will probably start to hire some workers.

In Finland, where we buy our products, we advertise our company by going around breakers yards to tell which products we are interested to buy. This has given us contact with some dismantlers already, who are happily selling those products to us. We also make some advertisements to newspapers and our own flyers, which can be given or delivered to people. In Africa, we also distribute our advertisements and we contact clients directly by phone or e-mail. We are also planning to make our own website so that it is easier to advertise our company. As soon as possible, we are going to take out good insurance cover for our company too.

2.7 Financial administration and accounting

We have made a bookkeeping contract with a back office company already, so they take care of the handling of accounting by analyzing and preparing our statement of income and balance sheet. In the beginning, the bookkeeping will cost us about 50€ per month. We are checking on our work frequently and if there are any problems, we will think of some new ways to work. One of us is mostly in charge of all the office work, such as accounting and other paper work. In order to be able to make our work stable and more permanent, we would need financial support at first. If we get some loan, from every container load that we sell, we will pay part of the loan back. Our purpose is to send and sell one container every month. If this happens we think we can pay the entire loan back within two years and continue full-time operation with our own money. The table 6 below describes critically the investment of the company, its capital requirement and sources of financing, while table 7 presents an estimated profitability calculation according to our business operations.

2.7.1 Short estimated description on how profitable our business is

TABLE 6. Investment, Capital requirements and sources of financing

Immaterial goods	Registration costs other company driving plat	155euro 600euro
Machinery and equipment	Production equipment acquirements Assets, in kind tools Vehicle Furniture phone/fax/Internet including installation Installation of machinery and equipment	5000euro 200euro 10000euro 3500euro 500euro 500euro
Working capital	Initial advertising/brochures Rent and rent deposit Entrepreneurs personal living costs	300euro 1600euro 5000euro
Sales and Financial assets	Cash reserve	5000euro
CAPITAL REQUIREMENTS IN TOTAL		32555euro
CAPITAL SOURCES		
Equity	Personal funds invested	20000euro
Difference	Personal production tools and equipment	200euro -12355.00euro
SOURCES OF CAPITAL IN TOTAL		20200euro

Table 7: Profitability calculation

		Amount Per month	Amount Per year
TARGET NET RESULT		14000	168000.00

Loan amortisements Years	Amount	0	0
INCOME AFTER TAXES		14000	168000.00
+ Taxation	-Infinity%	-14000	-168000.00
CAPITAL REQUIREMENTS		0	0
+ Company loan Interests	%	0	0
A = OPERATING MARGIN		0	0

+ Fixed costs (excl. VAT)

-YEL % 20.6 Income level	85.32 Sale% 25	1	13
-other insurances		0	0.00
-salaries		5000	60000.00
-salary related	3 %	150	1800
-Company premises		800	9600
-leasing payments		0	0
-communication		300	3600.00
-accounting, tax declaration etc.		50	600
-office expenses		250	3000.00
-travel, vehicle etc.		300	3600.00
-marketing		200	2400
-education, books, magazines		0.00	0.00
-Fixing and maintenance		50	600.00
unemployment fund		0.00	0.00
-other expenses		100	1200.00
B = TOTAL FIXED		7201.00	86413.00

COSTS			
A+B = SALES MARGIN REQUIREMENT		7201.00	86412.00
+ Purchases (excluding VAT:)	Margin % or EUR	0.00	0.00
NET REVENUE REQUIREMENT		7201.00	86412.00

+VAT %	%	0	0
TOTAL SALES / INVOICING REQUIREMENT		7201.00	86412.00

3. DESCRIPTION OF THE COMPANY'S OPERATIONS

There is always a systematic way to do recycling and carry it on, especially when the person has got training and good background knowledge about environmental issues, and understands the concept of handling different recycled material and their various uses. This means that he possesses the methods to process, collect and dispose of all components and materials. Fangmbeng & Son`s Shipping has the capability to also recycle products and knows various methods to handle them, through their technical know-how and experience gathered from studies.

Cars are normally bought from car owners, in many cases, people who are in the position of disposing of their old cars and who call for our service. We buy the vehicles and transport them to our scrap yard, where they will be ready for scrapping and recycling. The basic recycling process for used cars and spare parts needs to follow the following procedure: taking back, deregistration, and pre-treatment of used cars.

During the take-back stage, the vehicle documents as well as the registration and identification data are verified. Only the owner is entitled to have the vehicle scrapped. The vehicle is also checked to see if there are missing or extra materials and items in it. The deliverer of the vehicle is given a certificate of destruction and the vehicle is deregistered. The data system notifies the insurance company to terminate insurance and the Finnish Vehicle Administration to end the collection of taxes. When the vehicle has been deregistered it moves into the recycling system and can no longer be reregistered. After that the whole vehicle will be taken through the same working procedure, when cars are brought into the scrap yard the following method or sequence of operations are carried out in the manner described below from step to step.

3.1 Step one

Cars are picked up with heavy duty trucks and they are taken to the scrap yard. The cars are then placed on a safe build container where the hazardous materials need to be taken away. This container is built to prevent the hazardous material taken out from the car from contaminating the environment. For example engine oil, fuel, brake and clutch fluid and others, can be prevented from spilling onto the ground or the soil. This is done

as shown on the series of pictures below from picture 1 to picture 5. Picture 1 demonstrates creating a free passage to let the engine oil flow out from the car. Picture 2 shows how the container is placed to collect the engine oil from the car while picture 3 shows the removal of the catalytic converter. Picture 4 illustrates the creating a passage from the fuel tank for fuel collection. And finally picture 5 shows a container placed for the collection of fuel from the fuel tank.



PICTURE 1. Creating free passage of engine oil from the engine sump (Photo taken by Ernest Kika 2010)



PICTURE 2. Container placed to collect the engine oil from the car engine (Photo taken by Ernest Kika, 2010)



PICTURE 3. Removing of catalytic converter from the end-of life vehicle (Photo taken by Ernest Kika 2010)



PICTURE 4. Creating free passage from the car tank for collection of fuel (Photo taken by Ernest Kika 2010)



PICTURE 5. Fuel is collected in a container from the car tanks (Photo taken by Ernest Kika 2010)

3.2 Step two

Cars are carried and placed on the ground in a safe place, where the various useful parts are removed as shown in pictures 6 and 7 below. When the cars have been placed on the ground, the following mechanical working process is carried out, whereby the useful parts are taken out from the cars. The working process is shown in pictures 8 and 10 below.



PICTURE 6. Cars placed on the ground after the removal of hazardous waste material (photo taken by Ernest Kika Fangmbeng 2010)



PICTURE 7. Cars placed on the ground are now ready for dismantling of useful parts
(Photo taken by Ernest kika 2010)



PICTURE 8. Taking useful parts from cars (photo taken by Ernest Kika Fangmbeng 2010)

As a pre-treatment, the end-of-life vehicle is dried, i.e. all dangerous and useful components are removed. Also tires, the battery and catalytic converter etc. are removed from the vehicle. Components with a danger of explosion, such as airbags, are removed or deactivated in some other way. After being through the pre-treatment, the used spare parts can then be notified in the data system of our spare part requirements, and based on the demand, usable components such as the engine, sheet metal parts etc., which

have removed from the vehicle can be identified. And the car's remains will be ready to be sent for crushing.

3.3 Step three

Useful parts are normally placed where they will be labeled and will be prepared for loading into a 40 or 20 feet dry container (dc) for (transportation by) shipment to countries where we operate. The series of pictures from 9 to 11 below show how the various parts are carried and placed on their separate positions where there will be labeled and prepared for shipment.



PICTURE 9. Carrying the car parts to be packed in a safe place (Photo taken by Ernest Kika Fangmbeng 2010)



PICTURE 10. Placing useful parts ready for labeling (Photo taken by Ernest Kika 2010)



PICTURE 11. Different kinds of useful car parts separated and ready for labeling (Photo taken by Ernest Kika 2010)

When the various parts have been taken away from the cars, the parts are label by differentiating the various parts according to their given name. Most often our labeled products are parked on a reserved place where later they are to be transported in containers abroad, specifically to certain countries in Africa.

3.4 Step four

After every useful component has been removed, the cars bodies are carried and placed where they will be taken for the final stages of reusing. This means the cars bodies will be crushed down into blocks which will be carried for smelting to form a new metal that might be used for other purposes, or for the same car building purpose. Pictures 12 and 13 below show cars remains which are ready for crushing and to be carried for recycling.



PICTURE 12 Scrap cars waiting to be crushed into blocks. (Photo taken by Ernest Kika 2010)



PICTURE 13: Cars crushed in blocks by Stena Oy (Photo taken from Autokierrätys 2005)

In the process of crushing and recycling, the crushed vehicles are sorted into three different categories, at the shredder plant.

- 1) Magnetic steel, raw-material for the steel industry
- 2) NFR (Non-Ferrous Residue); various metals, which are processed further into the raw-materials for metal industry
- 3) Light components; one of it is part recovered as energy and the other as unrecoverable waste which is disposed of at a dump. In table 8 below is shown the various percentages of materials that are recovered from each recycled car.

TABLE 8. Percentages of an average material content of end-of-life vehicle

Metals	Non metals	Others
Sheet steel 41 %	Plastics 9,1 %	Glass 2,8 %
Steel 18 %	Rubber 6 %	Liquids 0,8 %
Cast iron 7 %	Textiles 0,9 %	Miscellaneous 1.9%
Stainless steel 1 %	Glues, paints 3%	
Aluminum 7 %		
Zinc, copper, lead 1,5 %		
Metals in total: 75,5 %	Non metal in total: 19 %	Others in total: 5,5 %

3.5 Handling of hazardous waste from the end-of-life vehicles

During the working process of disassembling cars our company takes care to handle and use safely hazardous materials which were once components of cars. According to “Regulation and Innovation in the Area of End-of-Life Vehicles,” Zoboli et al., (2000,

332,) components which are hazardous materials and are destructive to our environment are removed from the end-of-life vehicle, and must be handled with proper care.

This handling process involves the removal, separate collection and storage of the following: fuel, motor oil, transmission oil, gear box oil, hydraulic oil, cooling liquids, antifreeze, brake fluids, air-conditioning system fluids, and any other fluid contained in the end-of-life vehicle, unless they are necessary for the re-use of the parts concerned. Car batteries are always collected from the cars and placed into separate containers, from where they are later collected by a hazardous waste management company. Ekokem Oy, one of the biggest hazardous waste management companies in Finland, normally comes from time to time to pick up hazardous material. Picture 14 below shows how the container is filled with the recycling hazardous engine oil that has been taken from cars for recycling purpose. Picture 15 shows the container full of used engine oil ready to be collected for recycling. Picture 16 and 17 present a recycling container for fuel, oil filters, air filters and fuel filters which have been removed from cars and are now ready for recycling, while picture 18 shows car batteries collected in the container ready for recycling.



PICTURE 14 Collected engine oil from the end-of-life vehicle will be saved in a bigger container (Photo taken by Ernest kika 2010)



PICTUER 15 A full container of engine oil ready to be sent for recycling.(Photo taken by Ernest kika 2010)



PICTURE 16 Collected cars engine oil and fuel containers ready for recycling (Photo taken by Ernest Kika Fangmbeng 2010)



PICTURE17 Hazardous air filter and oil filter collection containers (Photo taken by Ernest Kika Fangmbeng 2010)



PICTURE 18 Car batteries in collection containers (Photo taken by Ernest Kika Fangmbeng 2010).

4. ENVIRONMENTAL AND LEGISLATION ISSUES

4.1 Environmental legislation

According to the Finnish legislation, our business has to obtain a valid environmental license for car dismantling and other processes like transportation of cars, and spare parts and other hazardous waste material obtained from the end-of-life vehicles. Also International environmental law, (Alice Palmer et al. 2004. 60, 80) requires that the work should be carried out in an environmentally friendly manner, since companies are liable to pay fines if they neglect environmental issues pointed out by the authorities.

The legislation concerning the end-of-life vehicles was adopted from the European Parliament (EP) and Council Directive in September 2000 and was published in Official Journal L269 on 21st October (Directive 2000/53/EC - the "ELV Directive"). According to this Directive, all respondents are to introduce measures to ensure that the reuse/recovery and reuse/recycling targets set in the Directive are attained by the economic operators. Most Member States transposed the targets set in the Directive literally. This means that the targets of 95% reuse/recovery and 85% reuse/recycling have to be met by the year 2015 according to the Directive. A recovery target of 87% and a recycling target of 81% was said to be attained by the 31 December 2008; and a gradual increase to 95% recovery and 85% recycling is set for 2015. The Czech Republic, Greece, Hungary, Italy, Latvia, Finland, Poland, Portugal, Romania, Slovakia and the United Kingdom made use of the possibility to set lower targets for vehicles produced before January 1st 1980. Every year, end of life vehicles generate between 8 and 9 million tons of waste in the area of the European Community, which should be managed correctly. In 1997, the European Commission adopted a Proposal for a Directive which aims at making vehicle dismantling and recycling more environmentally friendly, sets clear quantified targets for reuse, recycling and recovery of vehicles and their components and pushes producers to manufacture new vehicles also with a view to their recyclability.(Directive 2000/53/EC of the European Parliament and of the Council of 18 September 2010 on end-of-life vehicles - Commission Statements)

According to the Export Practice and Management by Alan Branch fifth edition, (2006 30) the international customs law or legislation regarding exporting of goods requires the following.

- 1) Export Compliance,
- 2) Knowledge of your commodity,
- 3) Proper documentation including permits, licenses and related certificate of origins,
- 4) Pre-shipment requirements from the destination country.

Also, according to the Dictionary of Shipper International Business Trade Terms and Abbreviations by Alan Branch, 5th edition (2005, 40), the business export documentation requirements vary depending on the value of the goods, destination of the shipment and if the goods are controlled, prohibited or regulated. Goods that must be reported require a bill of lading/air waybill, an SAD (Single Administrative Document) export declaration, a commercial or a pro-forma invoice, as well as any export permits, certificates, or licenses required for controlled, prohibited or regulated goods. All controlled, regulated commodities require an export permit regardless of the value.

It is extremely important that all documents tendered for export clearance processing are accurate in every way. Incomplete or inaccurate documentation may result in lengthy delays in customs processing and may result in warehousing and other customs fees.

The meaning of the following terms and abbreviations all need to be understood as they are required in our day to day life regarding our business. Such abbreviations and important terms are for instance described in table 9 below. Also, in table 10 a brief list is given of customs-restricted items or goods for exporting which are considered dangerous according to international regulations.

TABLE 9 Important terms and abbreviated word (by Alan Branch, 5th edition 2005)

Important terms or abbreviations	Meaning
ADR	European agreement on the international carriage of dangerous goods by road
AES	Automated Export System
Affreightment	A contract for the carriage of goods by sea

	for shipments expressed in charter party or bill of lading
Agent	One who represents a principal, or buys or sells for another
Average bond	Bond in which cargo owners agree to pay their share in the general average losses, each contribution being determined by the average adjuster
Average deposit	Cash security deposited by the consignee pending assessment of general average contribution
Bilateralism	Trade between two countries
Bill of exchange	Written request from creditor to a debtor ordering the debtor to pay a specified sum to a specified person or bearer at a certain date. It usually is referred as a draft
Bill of sight	Customs import form, used when importer cannot make customs entry complete owing to insufficient information from the shipper
Consignee	Name of agent, company or person receiving consignment
Consignor	The shipper
Confirming Bank	A bank which adds its own undertaking to that of the issuing bank. The confirming bank is usually the advising bank.
CPC	Customs Procedure Code
CSC	Container Safety Convention
CSI	Container Security Initiative
CCC	Customs Clearance Certificate
CFS	Container Freight Station, place for packing and unpacking LCL consignments
Clean bill of lading	a bill of lading which has no superimposed

	clause(s) expressly declaring a defective condition of the packaging or goods
CB	Container Base
CFSP	Customs Freight Simplified Procedure
CHIEF	Customs Handling of Import and Export Freight. The customs entry processing computer system)
Demurrage	Charges raised for detaining cargo, FCL container, trailer or ship for a longer period than prescribed
DGN	Dangerous Goods Note
Customs clearance	process of clearing import / export cargo through customs examination
CWE	Cleared Without Examination or clear without inspection
Cargo manifest	Inventory of cargo shipped
Export license	government-issued document authorizing export of restricted goods
Exporter's acceptance	credit opened by an exporter with his own bank credit which entitles the exporter to draw bills on his own banker

TABLE 10 Customs-restricted items or goods for Exporting

A flexible metal blade entirely contained in a plastic, paper, or fabric sheath.
All forms of asbestos fibers. Rubber erasers that similar in appearance to food products that are easily ingested.
Hazardous waste, including, but not limited to, used hypodermic needles or syringes or other medical waste.
Car battery is also specifically noted as a hazardous waste and transporting of them is practically known as an illegal act.

4.2 Environmental impact

The process of recycling itself requires energy, as does any machine while working. The energy required to process material into new material varies depending on your starting material. It is obvious that during the recycling process there would be some impact on the environment which could be considered negative, while some impacts are even positive.

Negative impacts

1) Mechanical destruction during working operations can cause environmental impacts. During the process of preparing our recycled main product, it is also usual that there are some mechanically recycled substances which are destructive for the environment. For instance picture 19 below shows how unsafe it can be if hazardous liquid is released from cars to the soil.



PICTURE 19 Destructive or hazardous substance going to the ground or soil (photo taken by Ernest Kika Fangmbeng 2010)

Situations can occur which are environmentally destructive, such as soil contamination when substances from cars, such as oil, antifreeze, fuel and other liquid spills onto the ground. This will destroy or contaminate the soil eventually.

- 2) Other activities such as mining, quarrying and logging operations can also be environmentally destructive, damaging the natural environment and local wildlife habitats.
- 3) The processing and transportation activities also add to the environmental impact.
- 4) It is also known that some human environmental effects generating from work places during working hours such as sound, noise, and radiation caused by mechanical appliances can be environmentally destructive to humans especially to those who live in such areas where working operation is situated.

Positive impacts

- 1) Environmental and economic benefits of recycling of the end-of-life vehicle are described as the positive impact. In other words, recycling reduces the need for landfill space. It also aids to balance the payments as we can import or export fewer materials for our needs.
- 2) Recycling conserves resources and energy that would be expended in the production of more products.
- 3) Reuse of hazardous products can save money and reduce the need for generating hazardous substances.
- 4) Recycling often uses less energy and causes less pollution than using raw materials. It is always cheaper for many to afford recycled goods which serve the same purpose as a brand new product.
- 5) One of the most important recycling benefits includes a cleaner environment, where people require the safe disposal of hazardous materials, and have greater awareness of excess packaging and a more careful approach to the way in which they use and re-use materials.

5. DISCUSSION

It is our company practice that we always make questionnaires along-side with the customer in order to understand the market better. In our questionnaires we ask what is needed by the customer, when and how. This specifically means we give priorities to our customer demands before supplying of our goods. When reading the completed questionnaires we have discovered that in every group of about ten people we meet some that would prefer more spare parts for Japanese cars than for European cars. The goods most often requested are parts for Japanese cars like Toyota, Nissan, Mazda, Mitsubishi and Honda.

In some exceptional cases a customer has demanded a spare part for a car like Mercedes Benz, Golf, Opel or Peugeot which are European-made cars. The demand for this kind of spares has always been a special supply. Most of our customers, being small or medium enterprises (SMEs) do not deal with these brands, which are often demanded only by big companies and other top government official departments.

Our company aims to make significant improvements as the time goes by. In the beginning, when we had just started our operation, we were able to make shipments only for cars, but during the past year, due to our hard work, we have been able to make shipments of large quantities of both cars and spare parts for cars. We still look forward to trying to improve the quality of our goods, in other words to meet our customer demands. According to the questionnaire responses, many customers were not satisfied with the quality of our goods; some of them complained that some car spares that were supplied were already in bad condition and, for that reason we want to listen to the customer's voice and also try to improve the quality and our volume of shipments as well. At the moment we are not shipping frequently because of lack of sufficient funds.

Our company intends to make regular supplies as soon as we can meet our financial targets, expanding our supplies network and implementing the strategy of getting more customers both in Finland and abroad. Fangmbeng and Son's Shipping specifically deals with shipment of specific cars and cars spare parts abroad. During the processing of end-of-life vehicles we deal with all brands of cars which we are able to buy in their

end-of-use state from the car owners and sell them to bigger recycling companies like Stena Oy which is in charge of crushing the cars and recycling them. Stena Oy in Finland handles the recycling process of metal and other recycled components which are hazardous, plastic or other materials recovered during the smelting process. Most often our company sells car spare parts in large quantities out of Finland, specifically in Africa.

5.1 The Company's future plans

Our company intends to acquire a piece of land here in Finland and also abroad, to set up an infrastructure which will be used for its operations. We are also acquiring flexible transportation by getting heavy duty trucks and towing vehicles for company uses. We also plan to expand our service and methods of operation, e.g. like working or operating in other cities in Finland. We want to have flexibility of supplying and delivery of car bodies for crushing to recycling companies, and also for supplying and delivering of hazardous waste like car batteries, engine oils, etc, that are collected from the end-of-life vehicle to companies that deal with recycling of hazardous waste. We also aim to expand our network and introduce our company in other countries. And implementing new strategies of keeping clients and getting new clients is in our interest as well as gradually increasing the volume of goods and improving all the time the quality of the goods we supply. We want to create employment as soon as the company operation demands, and create bank-to-bank connections to the countries where we supply our goods. Steady advertising to keep the company known and update with its operations is also necessary. Working steadily in collaboration with people that are practically in support of the progress of the company operations is vital, as well as learning to introduce new things or new ideas that are helpful in the company portfolio. Working and ensuring that the company should always be on a positive financial steady balance, and seeking from time to time to business advice when necessary is the way to develop the company.

6. CONCLUSIONS

In order to be a recycler in the perspective in which Fangmbeng & Son`s Shipping is operating you need to understand all measures that deal with safe environmental-related issues in accordance with the environmental legislation or environmental laws. It is noted in Finland that many cars are being used for several years before going to deregistration. In other words to save our environment Fangmbeng & Son`s Shipping is suggesting to the Finnish authorities that they would closely monitor old vehicles since they release so much CO₂ and other green-house gases to the atmosphere, and dangerously pollute the environment. If the amount of old vehicles is reduced, the amount of CO₂ that is released would also be less. This will help to save our environment. In central Europe, Japan and many other countries they do not allow cars to be used for more than ten years, because of new technologies and new car models.

Many countries have come up with new car systems that would save the environment from pollution and other hazards that might be generated by cars.

In concluding. I would say that our company has a wider view of improvement in all its activities, first of all by acquiring its own stable and safe business premises and working environment here in Finland. Also we prioritize improving our working conditions by installing all the necessary safety equipment and working apparatus needed for safe working activities in the environment. Next, we will improve by installing a fully computerized system in the company that will permit the easy labeling and identification of goods and services both in Finland and abroad.

Nevertheless we appeal to the Finnish authorities to give recognition and support to recyclers as they are seeking the well-being and saving the environment and our health at large. Many questionnaires have been completed by our customers and others that are buying the recycled goods for reuse, our customers abroad specifically in Africa. And the information gathered from these customers reveal that they would prefer purchasing second-hand goods, if they could be confident that the service will be durable, and will save them money in the long term, which would enable them to run their business smoothly. They particularly want to avoid purchasing imported goods made from low

quality materials that will not be durable and in the end will make them spend more money.

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