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Executive Summary

The main purpose of this thesis is to contribute with insights to outsourcing in the humanitarian sector, by focusing on fleet management activities. The theoretical framework showed little research combining outsourcing and fleet literature with humanitarian science. Therefore we aimed to answer the following research question: **How can outsourcing of fleet management activities influence humanitarian logistics?**

To provide an answer to this question we looked at both the demand-side and the supplier-side by introducing three sub-questions. These sub-questions elaborated on the challenges involved in running fleets in the humanitarian sector, the current views on outsourcing from the humanitarian organizations" perspective, and the fleet management capabilities of a large logistics service provider that operates on a global scale. The logistics service provider selected was the Norway-based shipping company Wilhelm Wilhelmsen.

The research method applied in this study was qualitative and divided into two steps. A cross-sectional research design was used to look at fleet management practices through interviews with ten respondents involved in humanitarian logistics. A case study was applied to look at the resources and capabilities of the logistics service provider Wilhelm Wilhelmsen in terms of fleet management. The case study was also based on interview, as well as conversations and secondary data.

We found several challenges involved in running humanitarian fleets, and these constraining factors influence multiple fleet activities, making the overall management complex. We also found that there are good opportunities to outsource some of the fleet activities. However, there is not necessarily an outsourcing rationale lying behind current decisions to source these from external providers. In terms of Wilhelm Wilhelmsen we found that they could be an eligible provider of fleet services, but it would require investments or collaboration with existing providers. The main findings indicate that outsourcing is a strategy that has the potential of improving fleet management in the humanitarian sector, thus improving humanitarian logistics.

Abbreviations

3PL: Third-party logistics provider

4PL: Fourth-party logistics provider

ARC: American Shipping and Logistics Group

CARE: Cooperative for Assistance and Relief Everywhere, Inc

CRS: Catholic Relief Services

ECHO: European Commission Humanitarian Organization

EDI: Eletronic data interchange

EM-DAT: the Emergency Database

FAO: Food and Agriculture Organization

GLS: Global Logistics Service

HRG: Humanitarian Research Group

ICRC: International Committee of Red Cross

IFRC: International Federation of Red Cross and Red Crescent Societies

INSEAD: Institut Européen d'Administration des Affaires (European Institute for Business Administration)

IOM: International Organization for Migration

KPI: Key performance indicators

LSP: Logistics service provider

MSF: Medicines Sans Frontieres

NGO: Non-governmental organization

NRC: Norwegian Red Cross Society

NT: Network theory

RBT: Resource based theory

RFID: Radio frequency identification

TCE: Transaction cost economics theory

UN: United Nations

UNDP: United Nations Development Program

UNHCR: United Nations High Commissioner for Refugees

UNICEF: The United Children‟s Fund

UNLB: United Nations Logistics Base

VRP: Vehicle Rental Program

WFP: World Food Program

WVI: World Vision International

WW: Wilhelm Wilhelmsen Group

WWL: Wallenius Wilhelmsen Logistics

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1. Introduction

Outsourcing of logistics has in recent decades been widely used in the commercial sector as a strategy to improve effectiveness and efficiency of operations. As markets are becoming increasingly competitive, outsourcing is used to focus on core activities and improve performance (van Weele 2010). Some of the main reasons for outsourcing are to reduce operating cost and capital investment, gain access to resources otherwise not available internally, and increase flexibility and responsiveness.

Actors operating in the humanitarian sector are also experiencing increased pressure on logistics performance. Logistics plays a crucial role in the humanitarian sector, as the main aim of humanitarian supply chains is to distribute aid to people affected by disasters. The existing resources are stretched and competition for donor funding is high (Thomas and Kopzcak 2005). In addition, the need for efficient humanitarian logistics gains more importance as the number of disasters is expected to increase five-fold over the next 50 years (Thomas 2003). Many researchers have suggested an increase in collaboration between humanitarian actors in order to meet these predictions (Balcik et al 2010; Majewski, Navangul, and Heigh 2010, Tatham and Pettit 2010).

As humanitarian agencies aim to optimize logistics, it would be interesting to see whether the outsourcing concept would yield the same results in this sector as it does for commercial companies. However, there seems to be little focus on the outsourcing term in the humanitarian literature. With this thesis we want to explore the application of outsourcing strategies in a humanitarian context. In order to narrow down the scope of the study, we choose to focus on a smaller part of humanitarian logistics. In a general business setting, transportation is often the first logistics activity to be outsourced. This is because fleets are capital intensive assets, and there are many companies that specialize in providing transport services. This removes the burden of fleet management from the outsourcing firm. Martinez, Stapleton, and van Wassenhove (2011) state that fleet represents the second largest overhead cost after staff expenses for humanitarian organizations. Therefore, we find it interesting to narrow our scope down to fleet management in the humanitarian sector.

Our thesis is a sub-project to an extensive development and research project called "Contribute" that has been going on since 2010. The project is a co-operation between BI, Everywhere Humanitarian Response and Logistics Services, and Wilhelm Wilhelmsen ASA, a Norway-based shipping company. WW has participated in the project to learn more about the humanitarian sector and discover ways in which they can improve logistics in the sector by providing their services. They have expressed that they are especially interested in looking into providing fleet management services. We want to use Wilh. Wilhelmsen as a means to apply our findings in the humanitarian market to a logistics provider currently not operating within that market.

1.1 Research Question

Based on the topic of outsourcing and our interest in applying it to fleet management in the humanitarian sector, we have developed the following research question:

How can outsourcing of fleet management activities influence humanitarian logistics?

In order to be able to answer this broad question, we need to define some more specific sub-questions that will look at the aspects of the research question in more detail. First of all, there is a need to understand how humanitarian organizations currently manage their fleets and what problems they face in doing so. This will give an argument for answering the overall question, as we will be able to see which parts need improvements by identifying challenges in fleet management. We therefore seek to answer the following sub-question:

(i) What are the challenges faced in managing humanitarian fleets?

Because of the limited amount of research on humanitarian agencies" use of external service providers, we have little knowledge of the degree to which these are used. Another aspect of answering the overall research question is then to

examine how humanitarian agencies view the option of outsourcing. This leads us to the second sub-question:

> *(ii) What are the current attitudes in the humanitarian sector towards outsourcing fleet management activities?*

The two sub-questions we have defined so far look at the demand side for humanitarian fleet management. In a commercial setting, logistics services are often outsourced to companies that have logistics as their specialization. We also want to look into whether such a company can be the right supplier of fleet services for humanitarian organizations. Since our thesis is a part of the research project Contribute, we wish to use the logistics service provider Wilh. Wilhelmsen in order to see what their capabilities are in offering fleet services to the humanitarian sector, a market they currently do not operate within. Thus, our third sub-question is:

> *(iii) What can a global logistics service provider, with extensive resources and experience in providing supply chain solutions, offer in terms of humanitarian fleet management activities?*

1.2 Objectives and relevance of the thesis

The objective of our study is to contribute to more understanding of fleet management in the humanitarian sector, and see how the commercial concept of outsourcing could be applied in this context. There are two angles of approach to describe why our proposed research is relevant: one theoretical and one practical. Theoretically, the topic of fleet management in the humanitarian sector has not been greatly elaborated on. As far as we have seen, there are no studies on the use of external logistics providers for fleet management by humanitarian organizations. The most recent and extensive study of humanitarian fleet management was conducted by INSEAD in 2011 (Pedraza-Martinez, Stapleton, and van Wassenhove 2011). This was a multiple case study of fleet management practices for 4x4 vehicles in four humanitarian agencies. Although the study is instructive in terms of showing the link between fleet management and aid delivery performance, it does not mention outsourcing. With this research being

the most updated within this topic, it would seem that our thesis will have theoretical relevance.

Practically, the challenges of fleet management are something humanitarian aid workers are facing and dealing with on a daily basis. In 2003 Fleet Forum, which is an interagency association dealing with humanitarian fleet challenges, was founded (Fleet Forum 2012). The aim of this association is to put fleet management on the agenda, to raise awareness, and provide a meeting arena for discussions of fleet experiences. Early in the process of writing this thesis, Fleet Forum showed interest in a study on outsourcing of fleet activities (van Steijn 2012). In this study we aim to discover what the demand for fleet activities is in the humanitarian sector, and what the potential external supply of these could be. This can have practical relevance for companies or organizations that could be interested in providing such services to the humanitarian sector.

The following figure illustrates our thesis outline.

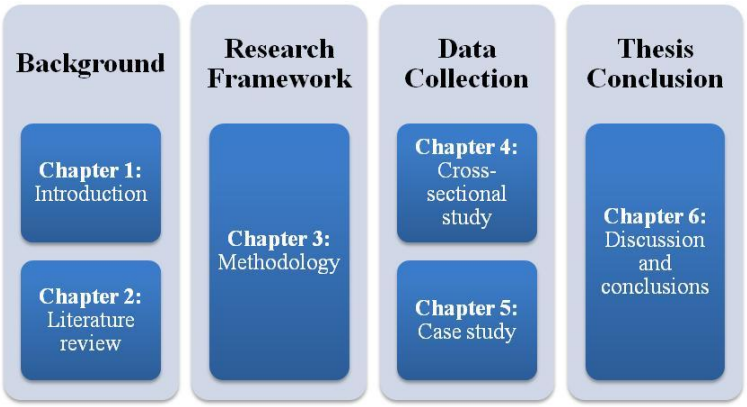

Figure 1: Thesis outline

1.3 Initial presentation: humanitarian respondents

In order to answer our two first sub-questions, we have made a sample of humanitarian respondents. We have a total of ten respondents for our cross-sectional study, which is found in chapter 4. One respondent was an experienced humanitarian logistician; one represented a peacekeeping organization, while the remaining respondent represented a humanitarian organization. We will elaborate further on the sample in chapter 3 concerning methodology. Below follows an overview of the nine agencies‟ different missions.

	Mission
CARE	Development and relief. Strengthening self-help capacity, provide economic oppurtunity, influence policy decitions, and address discrimination
Catholic Relief Services	Development and relief. Faith-based agency that promotes human development by responding to emergencies, and fighting disease and poverty
International Organization for Migration	Development and relief. Migration management, promoting co-operation regarding migration issues, and provide humanitarian assistance to migrants in need
OXFAM	Development and relief. Working with 17 partners on development and humanitarian projects directly with communities
Save The Children	Development and relief. Working in communities in helping children and families help themselves. Assistance extends to life-saving health care, education and income-earning opportunities for out-of-school youth and families
Tearfund	Development and relief. Faith-based agency working with partners who share their aims and objectives. The agency's broad work extends to advocacy and campaigning alongside governments in respect of climate change, HIV/AIDS, and education.
UN High Commissioner for Refugees	Refugee legal protection and international relief operations. To lead and co-ordinate international action to protect refugees and resolve refugee problems worldwide. Its primary purpose is to safeguard the rights and well-being of refugees
UN Logistics Base	Support UN peacekeeping operations worldwide by managing three inventories; one of them is the Strategic Deployment Stocks (SDS)
World Vision International	Relief, development, and advocacy organisation working with children, families, and communities to overcome poverty and injustice

Table 1: Missions of the responding agencies (Interviews and organization websites)

1.4 Initial presentation: Wilhelm Wilhelmsen Shipping Company

The Wilhelm Wilhelmsen Group is a large shipping actor in the maritime sector, and through the Contribute research project they have expressed interest in providing fleet services for the humanitarian sector. Below follows an initial presentation of the group, which will be the focal company in our case study, found in chapter 5.

Wilh. Wilhelmsen shipping company was founded in Tønsberg in 1861 and is a company with long maritime traditions with headquarters at Lysaker, Norway (Wilhelmsen 2012). Over the years the company has grown through mergers and acquisitions and is today a major global actor in the marine industry. The company is listed and had in 2011 $292 million in operating profit. Wilh. Wilhelmsen Holding ASA (WW Group) consists of three branches, where the branch Wilh. Wilhelmsen ASA consisting of subsidiary companies Wallenius Wilhelmsen Logistics (WWL), EUKOR Car Carrier, and American Shipping and Logistics group (ARC), are operated in joint venture with Wallenius Logistics AB, a Swedish shipping company.

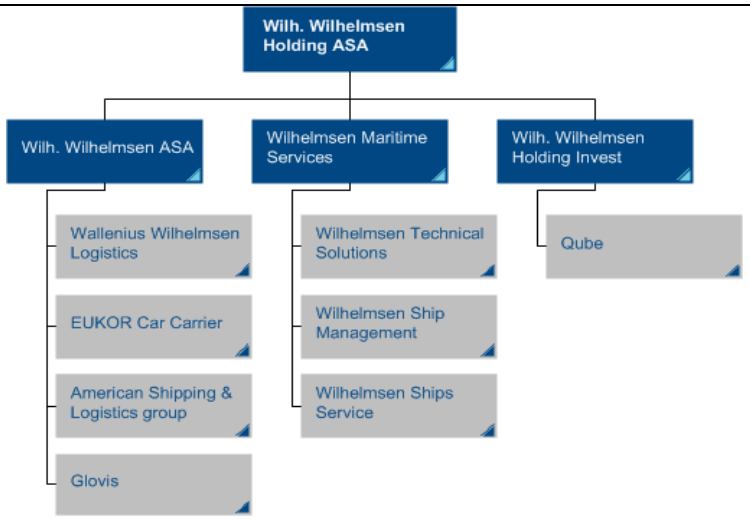

Figure 2: WW Holding ASA organizational structure (Wilhelmsen 2012)

Currently, the WW Group has about 15,000 employees at 398 offices in roughly 71 countries. With joint ventures included, the group employs almost 17,000 people at more than 485 offices in some 72 nations. The group has worldwide operations, and figure 3 shows their global presence and their shipping lanes.

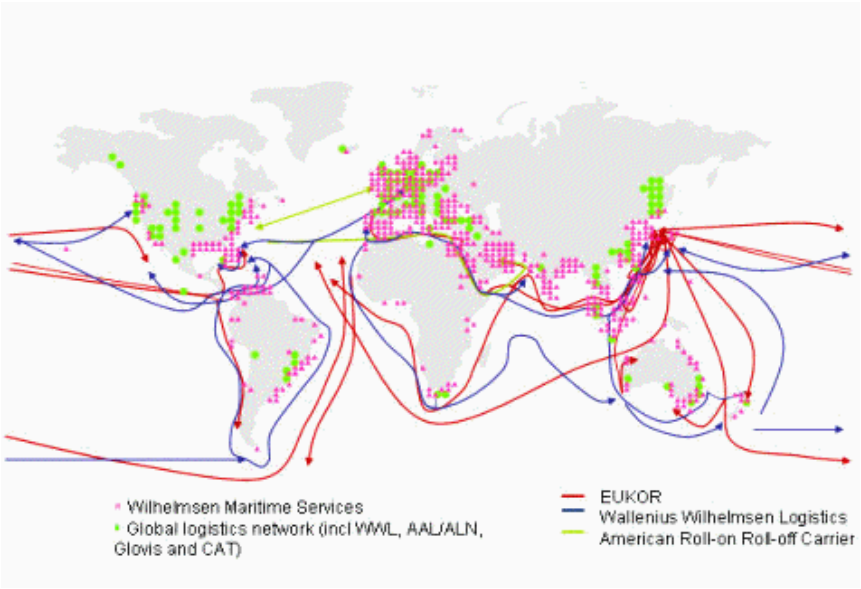

Figure 3: WW Group: global presence (Wilhelmsen 2012)

Through its daughter companies, the WW Group offers a range of marine products and services, such as ship management, transportation for cars and rolling cargo, marine chemicals, and safety products. In addition, two companies in the group, WWL and Maritime Logistics, a division under Wilhelmsen Ships Service (WSS), offer integrated logistics services.

2. Literature review

In this chapter we will present literature that is relevant for our research. Reviewing existing literature is a part of developing an argument about the significance of our research (Bryman and Bell 2007), but also providing a foundation for understanding key concepts. Our research question and sub-questions lead us to three main theoretical starting points, namely; outsourcing, fleet management, and the humanitarian sector (Figure 4).

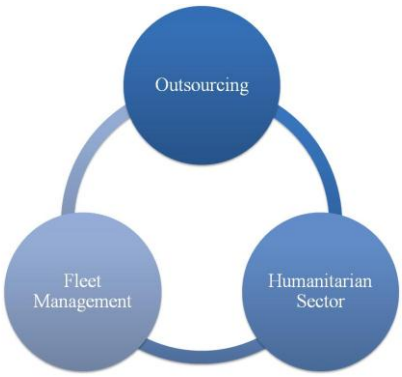

Figure 4: Theoretical starting points

We will first look into outsourcing literature, focusing on the advantages, disadvantages, and strategies for outsourcing. Secondly, we will provide some insights on fleet management practices in general, as well as what recent research on fleet management in the humanitarian sector. Further, we will go deeper into the humanitarian sector and present existing literature on how humanitarian organizations work, under what conditions, and what challenges the sector is facing.

2.1 Outsourcing

Outsourcing is a topic that has been widely discussed in the literature. In this section we will look at what the term "outsourcing" means and comprises, we will look at different types of logistics service providers, reasons why companies want to outsource logistics, how they decide what activities to outsource and how theories can be applied to argue for the outsourcing decision. Further, we look at different versions of buyer-supplier collaborations and finally we look at the pitfalls and critical success factors involved in making an outsourced solution work.

2.1.1 About the term

Outsourcing can be defined as „… the strategic use of external specialized service providers to execute and manage activities or functions that are normally seen as non-core to the business" (Rushton and Walker 2007, 4). Essentially, what distinguishes outsourcing from general subcontracting is the divestment of assets, infrastructure, people and competences (van Weele 2010). When a company uses an external provider to perform activities that were previously performed in-house, the company"s own ability to perform them will be gradually weakened. Over time, both tangible and intangible resources involved in carrying out the activity will be transferred from the contractor to the provider. Sourcing out can therefore be a lot easier than the process of returning to an in-house solution. The balance of power between the contactor and the provider is also likely to shift in favour of the provider. Managing an outsourcing relationship is therefore much more demanding than dealing with a traditional buyer-seller relationship. In general, there should always be a thorough risk assessment before a decision to outsource is made.

Outsourcing is often mistakenly assumed to mean the same as off shoring, but these two terms are not equivalents. Off shoring is about relocating the provision of services from one country to another, for instance to low-cost countries in Asia. Selecting the most suitable country to set up company facilities is off shoring, and at this location the company can decide which activities to do in-house and which to outsource. A company can thus employ off shoring without outsourcing and vice versa (Rushton and Walker 2007).

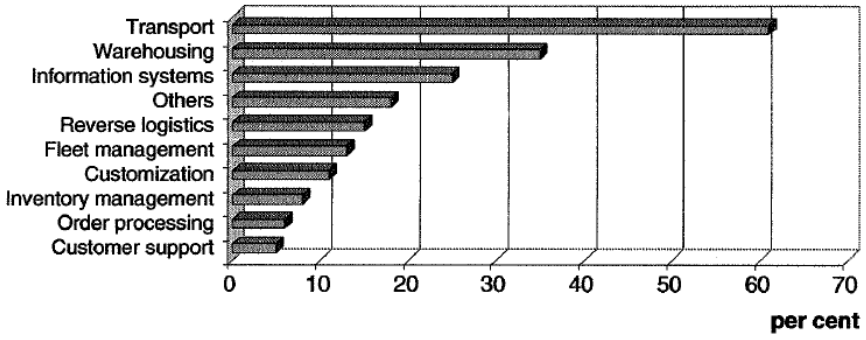

Figure 5: Logistics functions outsourced in Europe 2006 (Rushton and Walker 2007, 8)

As the figure above shows, transportation is the number one logistics activity that companies choose to outsource. A little further down the list we can also see fleet management. These two must be seen in relation to each other, however. Outsourcing of transportation will in most instances result in a divestment of transport assets, that is, trucks, company cars and other related assets. When companies divest their fleet, the need for fleet management naturally diminishes. Looking at these two activities in combination we can state that there is significant demand for logistics services in relation to fleets.

2.1.2 Logistics service providers

Logistics service providers, from here on called LSPs, are companies that have logistics as their core business and provide logistics services for other companies. Based on the range of services they provide and to what degree they provide the organization of these services, the LSPs can be divided into three categories (Virum 2006, 231).

Category I: Physical logistics activities
In this category you find the asset-owning logistics companies that perform physical logistics tasks such as transportation, warehousing and packing. They operate by the specifications of the customer and are usually not in charge of any management of logistical processes. Their customer segment includes all types of companies, including logistics service providers in categories II and III. The number of companies in category I is decreasing due to buyers‟ demand for fewer, larger, and more professional actors with whom they can build long-term collaboration.

Category II: Organization and responsibility for implementation
The category II companies are intermediaries that perform administration and implementation of transportation and related activities. This includes services such as consolidation of shipments, freight forwarding and integrated express deliveries. Some of these companies own their own terminals and warehouses, but they also buy services from category I companies. Category II companies can operate both in densely populated areas as well as manage regional and

international shipments. It is common that they have their own information systems that keep track of orders from a larger number of customers.

Category III: Third-party logistics

A third-party logistics provider (3PL) can plan the operational activities of the customer‟s supply chain as well as perform all or parts of the related logistical activities. The third party logistics industry is rapidly being developed and the service offers come in many variants. Compared to the category I and II logistics companies the 3PLs can create the foundations for logistical alliances and more long-term cooperation between providers and buyers of the services.

A special category of logistics providers are the fourth-party logistics providers, the 4PLs. This category has emerged as the role of the 3PLs has evolved. A 4PL systematically combines resources from different carriers, storage operators, package companies and other knowledge- and service-intensive firms in order to design supply solutions (Huemer 2012). A 4PL does not own any physical logistics resources, but build on the resources of 3PLs. While the 4PL manages the information flows and coordinates the network, the 3PLs take care of the physical movement of products through the network layers.

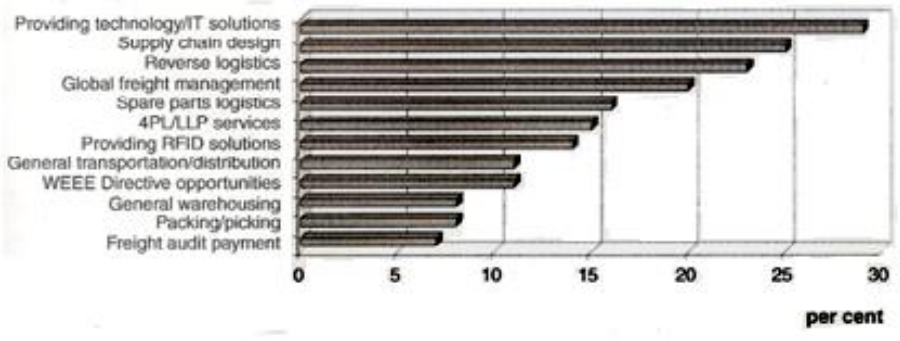

Figure 6: Best opportunities for growth in European 3PL industry (Rushton and Walker 2007, 11)

Figure 6 above shows the services that have the best opportunities for growth in the European 3PL industry (Rushton and Walker 2007). We see that while there will still be growth in demand for stand-alone logistics tasks such as warehousing and general transportation, the focus is shifting to more integrated services such as supply chain design and global freight management. This is where the 3PL/4PL

companies have their competences, thus we can expect further expansion of the market for these companies.

2.1.3 Why companies choose to outsource

Some of the key reasons for outsourcing logistics activities are the following (Virum 2006, 237; Rushton and Walker 2007, 229):

- Focus on core competences, that is, the activities where the company has a distinct advantage
- Create a strategic advantage through a more efficient logistics system
- Free up capital and convert fixed costs into variable costs
- Reduce the risk involved in owning fixed assets
- A need to quickly develop logistics services in new markets
- Lack of logistics professionalism
- Improve service and quality levels
- Get better access to technology capabilities, especially within IT
- Reduce uncertainty and solve problems related to changing rules and regulations
- Reduce costs and simplify administration

The motives for outsourcing logistics can thus be both strategic and operational (Virum 2006). Strategically, the outsourcing should reduce risk and facilitate the development of core competences. Operationally, the cost and quality should be improved through access to better knowledge, economies of scale and more effective technology.

2.1.4 How companies decide what to outsource

The decision to outsource a function can be said to rely on two dimensions; the degree of strategic importance of the competence and the degree of competitiveness in performing the function. This gives the company four options, according to figure 7 below.

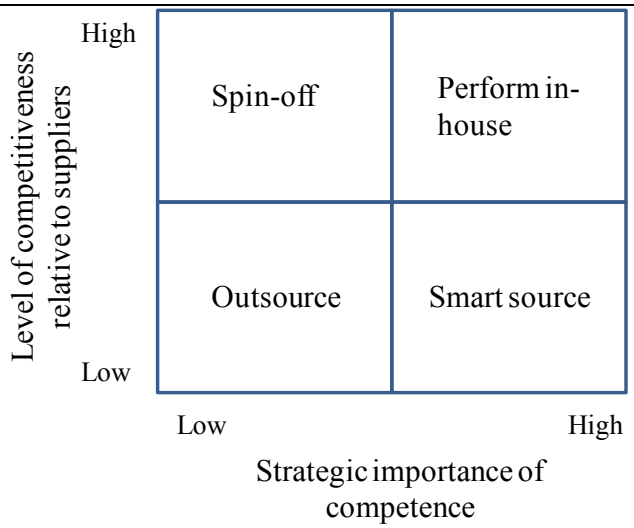

Figure 7: The outsourcing matrix (van Weele 2010; Bolumole 2001)

In the upper right-hand quadrant the company is in a position where the competence is of high strategic importance at the same time as the company is on leading edge compared to competitors. The activities in this quadrant are "core competencies" that are critical to a firm"s success when creating core products or services, and should not be contracted out (Bolumole, Frankel, and Naslund 2007), but rather developed and invested in (van Weele 2010). The opposite is true in the lower left-hand quadrant. If the competence scores low on both dimensions it is logical to fully outsource the function to a capable third party. If the competence is strategic, at the same time as it is insufficient to compete effectively, the company should "smart source" by seeking long-term collaboration through partnerships, joint-ventures, alliances, etc. This is a hybrid solution where you outsource the function but maintain control of the process. Finally, if a competence is of low strategic importance but is fairly well-developed compared to competitors, the company can do well to use a spin-off strategy. The company should then maintain and invest in the competence as long as the advantages allow them to perform at a competitive level.

2.1.5 Theoretical frameworks for logistics outsourcing

We have seen that a company can use the outsourcing matrix to make a simple assessment of what activities they should perform in-house and what they can let someone else perform for them. Deciding on an outsourcing strategy is however something that should be rationally explicable by applying a theoretical

framework. Selviaridis and Spring found in their literature review that 3PL studies are generally weakly theorized. 69 percent of the 114 studied sources had no theoretical foundation and simply described trends in the industry (Selviaridis and Spring 2007). However, three frameworks for outsourcing of logistics mark themselves as the most applied theories; the transaction cost economics theory (TCE), the resource-based theory (RBT), and the network theory (NT). We will go through each of these frameworks to see how they can support an outsourcing decision.

The transaction cost economics theory (TCE) advocates the view that a firm should make decisions to minimize the sum of its production and transaction costs (Bolumole, Frankel and Naslund 2007). „Transaction costs represent the cost of physical and human resources incurred in order to complete an exchange of goods and services between parties" (Klingenberg and Boksma 2012, 4879). Because of the issue of opportunism in business relationships, TCE is related to agency theory (Bolumole, Frankel and Naslund 2007). This theory discusses how a contractor (the principal) ensures the development and monitoring the relationship with a provider (the agent). Two factors that reside in most business settings are incomplete information and uncertainty. Due to this, the principal cannot fully assess whether the agent is capable of performing the work he is required to, or whether he has put maximum effort into the work. Monitoring and limiting opportunism through contractual clauses such as open book accounting, performance-based bonuses, and penalties, are measures to limit the transaction costs. In terms of outsourcing, the TCE theory promotes the use of 3PLs whenever there is an opportunity to reduce costs (Zacharia, Sanders and Nix 2011). Although a relationship between the contracting firm and the logistics provider will also constitute a transaction cost, dealing with a 3PL can replace multiple relationships with different providers, thus favoring the use of a 3PL. Transaction costs will be further reduced by the standardization of processes and improvements in coordination that the 3PL can offer. As the role they play has evolved the 3PLs have acquired assets and created synergies by supplying multiple clients. There is considerable evidence that the greater the consolidation of tasks a 3PL can provide, the lower the transaction costs will be.

The resource-based theory (RBT) describes a firm as a set of resources. „Firm resources are all assets, capabilities, competencies, organizational processes, firm attributes, information, knowledge, and so forth, that are controlled by a firm and that enable the firm to conceive and implement strategies designed to improve its efficiency and effectiveness" (Barney 2011, 121). There are four categories to sort resources into: financial capital, physical capital, human capital, and organizational capital. According to the RBT view, competitive advantage is a result of either ownership of, or un-restricted access to, inimitable assets, innovations and resource barriers. RBT suggests that in order to survive and improve operational performance, a firm is dependent on an efficient bundle and flow of the right type of resources from its surroundings (Zacharia, Sanders, and Nix 2011). Competitive advantage is in this sense dependent on a firm"s ability to effectively implement a strategy that maximizes value through access to external resources (Bolumole, Frankel, and Naslund 2007). To sustain this advantage the firm must be able to acquire, combine and deploy resources in a way that yields long-lasting productivity or value advantage. High performance in logistics is often critical for the performance of a firm, but it can require large capital investments. At the same time, all logistics functions can be outsourced, giving the firm access to a range of resources it does not itself own. Changes in the business environment, increased competition, demand for cost reduction and the need to restructure supply chains are often-mentioned reasons for the formation of alliances with LSPs (Selviaridis and Spring 2007). As the demand for access to "external" resources has grown, the seekers and providers of such services have become mutually adapted to each other and more value-dependent (Zacharia, Sanders, and Nix 2011). The RBT is therefore a particularly useful theory to support logistics outsourcing and the role of 3PLs.

The network theory (NT) describes „…the formation of external relationships, organizational structures and alliances required to support the integration of the firm in its network" (Klingenberg and Boksma 2010, 4879). An outsourcing decision should be beneficial not just to the outsourcing firm, but to the entire network that the firm participate in. According to NT, forms of collaboration are based on the key concepts of economic motivation, power, and trust (Bolumole, Frankel, and Naslund 2007). A company can be dependent on the resources

controlled by other firms, and access to those resources can only be obtained by interacting with, forming relationships with, and eventually forming networks with, these firms. The interactions between members of the network will in turn lead to the development of new resources and skills, thus leading the focus away from how the firm allocates its resources to how it relates to others in the network. Associating with a 3PL enables a firm to gain access to and take advantage of network relationships. Logistics outsourcing strategies are argued for in the NT by how experience in handling relationships will lead to development and refinement of routines for managing inter-firm transactions and information transfers. This is something which in turn can create a basis for competitive advantage.

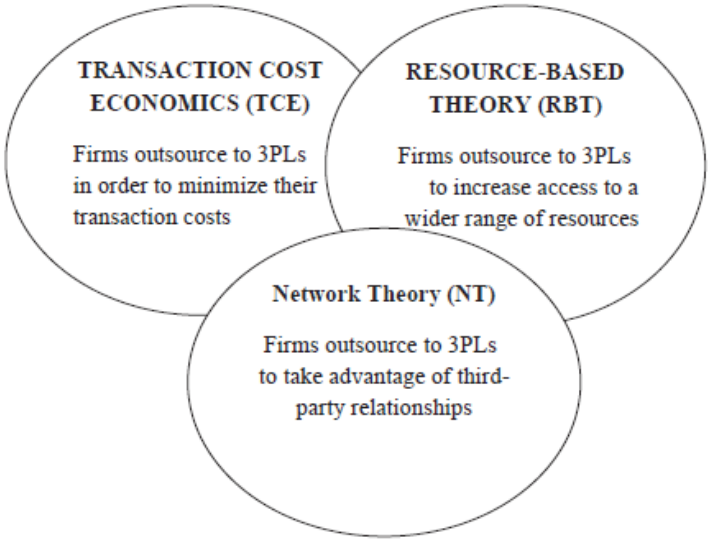

Figure 8: Theoretical support for the role of 3PLs (Zacharia, Sanders, and Nix 2011, 42)

Selviaridis and Spence (2007) have found deficiencies in the literature concerning each of these theories. Existing studies that apply the TCE approach to the outsourcing decision fail to recognize the cost of defining what is to be exchanged, writing contracts and measuring performance. The studies also suggest that actual production costs are to "mundane" to be included in the analysis of where the boundaries of the firm ought to be. In studies adopting the RBT, there is little theoretical explanation of the acquisition of external resources as a driver for outsourcing. Existing studies are static in nature and fail to recognize the interaction between buyer and supplier. Finally, studies using a NT perspective are lacking in terms of how to design and implement contracting

arrangements with LSPs. Further, although many explain the separation from the 3PL term, existing studies fail to reach a common definition of what a 4PL is.

2.1.6 The contents of the service provision

Third-party logistics can be provided in a range of different ways, and to understand the content of the service provision we can look at two parameters; scope of service and intensity of cooperation (Virum 2006). *The scope of service* concerns what activities the 3PL performs for the outsourcing firm. These can include all logistics activities as well related support activities such as administration and physical operations. Examples can be procurement, forecasting, inventory control, production planning, invoicing, and simple production tasks. *The intensity of cooperation* can be measured based on how often the partners have direct contact, at what level of the organizations the communication takes place and how openly the partners share information. The degree of intensity increases if there are formal procedures for exchange of information, established social bonds between the firms, and if they share information systems and premises. With these two parameters we can make a matrix consisting of three types of third-party alliances:

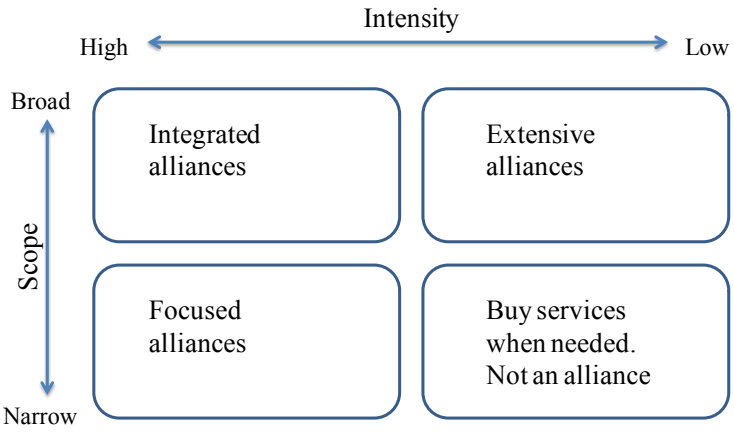

Figure 9: Third-part alliances (Zinn and Parasuraman 1997, recited in Virum 2006, 238)

The *integrated* square refers to a situation where the firms cooperate closely on a number of activities with high intensity of communication. In this situation the firms often develop shared resources. Integrated alliances are often used for specific products that aim for sharply defined markets. An example of this is how DHL did service product management and supply of spare parts for an Irish firm producing data storage devices for banks and hospitals. DHL established a

warehouse and a workshop at their hub in Brussels in order to deliver these services. *Extensive* alliances involve a wide range of services performed by the 3PL, but with relatively low intensity. An example can be a research institution that irregularly publishes scientific literature with a 3PL doing all the physical and administrative activities connected to distribution and sale. *Focused* alliances are high in intensity but limited to a small set of activities. An example can be a 3PL that replenishes stock in grocery stores and retail stores at a Just-in-Time basis. Transportation and handling the goods are the basic activities, but the number of deliveries each day can be high and close communication with the retailer is needed to provide the right supply of goods. When both intensity and the required range of services are low it will be more efficient to buy logistics services when the need arises. This typically does not require the use of a 3PL but works well with a category I or category II company.

2.1.7 Pitfalls and critical success factors when outsourcing logistics activities

Designing and implementing a 3PL relationship can be problematic. Van Weele (2010) identifies four types of risks that outsourcing contracts are associated with. *Technical risk* concerns whether the provider is able to provide the desired functionality and performance. An outsourcing contract should ideally contain an output specification rather than an input or process specification, and technical risk is associated with whether these outcomes can be expressed in objective terms. It also concerns the question of how to retain crucial knowledge in the company so that the outsourced activity can be managed effectively, and how to secure that the supplier provides the best possible solutions. *Commercial risk* is related to the price to be paid and the costs to be incurred by outsourcing to an external party. Reducing this type of risk requires thorough knowledge of the cost structure of the outsourced activities, the key cost drivers and the underlying cost parameters. Commercial risk is also related to ensuring that sensitive information does not leave the company uncontrolled. *Contractual risk* concerns whether the contract has been properly designed to describe the performance that is expected, the scope of the work do be done, and the penalties, which should be possible to enforce without destroying the relationship with the provider. *Performance risk* is

related to whether the supplier has sufficient capacity and flexibility to meet the agreed service levels, quality and costs.

Rushton and Walker (2007, 300) give the following list of the most common reasons why outsourcing relationships fail, showing which party is responsible for the failure.

Customer	Third-party Provider
Inaccurate operational and volume information from customer	Not pushing back during negotiation, design and implementation phase
Inappropriate resources to manage 3PL	Over-promising
Not setting clear or realistic expectations	Not understanding customer‟s requirements
Relationshp focused entirely on cost reduction	No continuous improvement
No clear service level agreement in place	Poor service levels and performance
Outstanding 3PL performance not rewarded	Lack of IT or technical support or commitment
3PL just thought of as another supplier	Not behaving as part of the customer‟s supply chain
Both parties' responsibility	
Unclear contract	
No performance-measurement program	
Poor implementation	
Poor communication	

Table 2: Why outsourcing relationships fail (Rushton and Walker 2007, 300)

In order to mediate these problems, the literature focuses on issues such as 3PL selection, contracting, information sharing, and performance measurement systems (Selviaridis and Spring 2007). In order to select the most appropriate 3PL to cooperate with, firms are encouraged to develop a set of criteria that should extend well beyond price considerations. Concerning formal contractual agreements the literature presents two opposing views. While the most prevalent view is that formal contracts are necessary for the management and control of 3PL relations, some authors argue that detailed contracts can give the perception of lack of trust. Information sharing should be frequent and there should be established communication channels in multiple organizational levels in order to cover both strategic and operational information needs. Regarding performance measurements, there should be established key performance indicators (KPI) so that achieved service can be continuously compared with expected service. These

KPIs can measure factors such as delivery timeliness and accuracy, order fill rates, and inventory turns. Finally, there has been much research concerning which factors that are critical for the success of a buyer-3PL relationship. A summary of these factors are provided in the list below, and these represent factors that are common both in inter-firm partnerships and strategic alliances.

•Common goals and compatible interests	•Compatibility of information systems	•Customer orientation
•Compatibility of organizational culture and routines	•Expert knowledge in spesific markets/products/processes	•Provider ability to stay updated with respect to new technologies
•Mechanisms for dispute resolution	•Power balance between contracting parties	•Financial stability of service provider
•Frequent communications and information exchanges	•Joint investment for achieving relationship objectives	•Joint planning, management and control of 3PL relationship
•Risk and reward sharing	•Top management support	•Understanding client"s supply chain needs
•Service provider flexibility and responsiveness	•Service level improvements/reduction of distribution costs	

Table 3: Success factors for 3PL partnerships (Selviaridis and Spring 2007, 135)

2.2 Fleet Management

Transportation is at the center of logistics as it represents the physical movement of materials between points in a supply chain (Waters 2009). Transportation and fleet management are activities that are frequently being outsourced (Rushton and Walker 2007). High customer expectations and little tolerance for inadequate performance create a competitive environment for operating a fleet, which forces fleet managers to achieve high levels of reliability and cost-efficiency (Galletti, Lee, Kozman 2010). Since the 1980s, outsourcing of fleet management has been a frequently used method to cut fleet cost and focus corporate resources on the core profit-making business (Lauria 2008; Creswick 2011).

Companies that buy transportation are called shippers (Jonsson 2008). They contract the transportation out to specialist companies that offer such services to other companies. Shippers pay a commercial rate for the transport service and the rate usually depends on the type of product, transportation mode, and the market conditions (Waters 2009). The commercial rate should be used as a benchmark cost for evaluating own account transportation. Own account transportation involves using own transportation fleet to move goods and personnel, and does

not involve providing these services to other organizations. If the cost of running a fleet is higher than the rate, the company should outsource transportation and fleet management. However, some companies offer a specialized or unique service to their customers that cannot be met by a specialized transportation company, forcing them to keep ownership and rather focusing on minimizing fleet cost (Galletti, Lee, and Kozman 2010). This could either mean that they have certain standards and customer demands, for instance 24-hour delivery, or they need to own company cars in order to move staff that is directly involved in providing core services to customers.

Companies offering transportation services are usually different types of LSPs. As mentioned previously, LSPs can be categorized into three main groups (Virum 2006). They either own transportation assets or arrange transportation by planning and subcontracting the needed resources in their name or the shippers". Carriers are typically a category I LSP, and Jonsson (2008) explains that carriers often specialize in different transportation modes and own transportation assets accordingly. The traditional modes of transportation include road, rail, sea, and air, and intermodal transportation involves more than one mode. Shipping companies transport goods by sea, and it is common that they specialize in transportation of certain types of goods and thus use certain vessel types (e.g. tank- and bulk ships). Railways are usually state-owned, while airfreight is conducted by airlines that focus on transporting mainly passengers or goods. Road haulers transport goods using different road vehicles, such as: delivery vans, specialized trucks, and truck and trailers (Waters 2009). Passenger movement involves motorcycles and buses, but mostly company cars.

The rail, sea, and air transportation modes are usually used for larger quantities and the activity is only on a port-to-port or terminal-to-terminal basis (Jonsson 2008; Waters 2009). Road transportation is therefore the most common mode as it allows for more flexible delivery points, but it also complicates the management. Fleet management covers many areas, such as finance, human resources, safety, equipment, technology, and maintenance (Harrington 1999). It involves „… making the vehicle repositioning and vehicle-to-load assignment decisions so that some performance measure (profit, cost, number of served loads, etc) is

optimized" (Topaloglu and Powell 2007, 319). „Fleet optimization is the minimization of cost or maximization of earnings while satisfying all regulatory and business constraints" (Snowdon 2008, 116). Galletti, Lee, and Kozman (2010) explain that the main focus of fleet management is:

- the administration of a company"s fleet, that is, replacement strategy and investment,
- fleet operations, such as maintenance and fleet depreciation,
- cost management, which involves administration cost, unit cost management, such as fuel and tires, and personnel cost, such as training and salary

Ownership of fleets is capital intensive. Pattullo (2004) explains that fleet costs are usually divided into direct and indirect cost. Direct cost involves depreciation, maintenance, fuel, funding, taxes, accident repairs, insurance, and fees. Indirect costs have a greater impact on the business, but are less visible and typically difficult to track. They involve driver downtime, lost revenue, customer satisfaction, administration, and marketing value.

Understanding fleet cost components is significant in fleet management (Galletti, Lee, and Kozman 2010). While many fleet managers understand strategic fleet decisions, they lack standardized methods in achieving them. Galletti, Lee, and Kozman (2010) therefore developed a benchmarking process for fleet operation cost analysis. The process involves identifying cost and allows managers to better see areas that need improvement. Performance measurements such as on-time service, customer satisfaction, and cost per mile are used for evaluating fleets (Farris II and Pohlen 2008). The metrics should also be based on a company"s strategy and transportation objectives, which may include miles operated, fill-rate, and number of loads.

The pressure to deliver faster and cheaper has made vehicle utilization an important aspect of fleet management (Jonsson 2008; Waters 2009). Better vehicle utilization lowers operating cost though better planning. Transport planning requires software support with the use of transportation management systems. The aim is to determine routes that will provide the highest overall

utilization of vehicle capacity, with as many customers served and the largest amount of goods delivered, at the same time as the delivery times are minimized. Advanced planning also takes into account specific factors such as road and traffic conditions, in order to provide a more realistic route. Technological communication improvements in the business environment have allowed for better planning through the use of electronic data interchange (EDI), radio frequency identification (RFID), satellite navigation, and so on (Waters 2009). There have also been technical improvements within vehicle design, in order to meet environmental requirements.

2.2.1 Fleet Management in the humanitarian context

Humanitarian operations often implement relief and development aid in the field simultaneously (Besiou, Martinez, and van Wassenhove 2012), giving the fleet a dual mission. In accordance with emergency and development operations, the fleet has a different purpose. Emergency aid is mainly concerned with the speed of delivery, while development aid seeks to cover demand in a cost efficient manner. Fleet management for relief has a short duration, higher urgency with highly stochastic demand, and short response time (Martinez, Hasija, and van Wassehove 2010). Fleet management for development is characterized by longer duration and response time, as well as low urgency and stochastic demand. Martinez, Stapleton, and van Wassenhove define field vehicle fleet management as; „decision-making on repositioning and load assignment for groups of transportation means operating in job locations remote from regular facilities, offices etc., to optimize performance" (2011, 404).

Most humanitarian organizations tend to use trucks for the distribution of the heavy tangible aid, while field vehicles are frequently used to coordinate and move personnel, aid, and beneficiaries in field operations, but also last mile distribution (Balcik, Beamon, and Smilowitz 2008; Martinez, Stapleton, and van Wassenhove 2011). Last mile distribution refers to the delivery of aid supplies from local distribution centers to beneficiaries affected by disasters (Balcik, Beamon, and Smilowitz 2008). 4x4 vehicles are mostly used due to poor infrastructure in many beneficiary countries and the infrastructure conditions after a disaster. Fleet Forum estimates that there are between 70-80,000 4x4 units in the

humanitarian sector (Martinez and Van Wassenhove 2012), in addition to motorcycles and other types of vehicles. Humanitarian organizations tend to utilize many small vehicles in their fleet, unlike commercial companies where economies of scale are archived through larger vehicles (Huang, Smilowitz, and Balcik 2012). This is because of the field operations humanitarian organizations operate in may only be accessed by smaller vehicles.

Implementing decent fleet management has proven to reduce fleet size and operating costs, while increasing speed of vehicle delivery to national offices (Martinez, Stapleton, and van Wassenhove 2011). The performance of different humanitarian in-country programs is measured by speed of aid delivery, access to and coverage of identified demand. The performance is directly affected by the fleet management. The performance of the fleet is measured by the speed of vehicle delivery, the availability of fleet, and cost effectiveness. There is much room for performance improvement, and last-mile delivery remains one of the most problematic areas for humanitarian logistics (Balcik, Beamon, and Smilowitz 2008; Majewski, Navangul, and Heigh 2010). Balcik, Beamon, and Smilowitz (2008) explain that limitations related to transportation resources and emergency supplies, difficulties due to damaged infrastructure, and lack of coordination among relief actors are the main reasons for the “last mile” challenge. Further, there may also be fleet management constraints in relation to security and geographical characteristics of the operating environment (Balcik et al. 2010).

Martinez, Stapleton, and van Wassenhove (2011) found different external and internal factors, at both organizational and fleet level, that affect the coordination of humanitarian fleet functions and performance. High levels of uncertainty in demand and operating conditions, (e.g. diverse landscape, lack of infrastructure and facilities) are external factors that negatively impact coordination and performance. Internal factors, at organizational level, that influence performance negatively are earmarked vehicle funding, lack of integrated information systems, and transport demand uncertainty. These also negatively affect the fleet level internal factors. The internal level factors, fleet management model alignment and coordination of fleet functions, positively affect performance.

There are three types of fleet management models; centralized, decentralized, and hybrid model (Martinez, Stapleton, and van Wassenhove 2011). Centralized models have a centralized budget for fleet management, while decentralized models have a national budget where the country offices manage their fleet. Hybrid models combine elements of the centralized and decentralized models. Due to the dual mission of fleet management (i.e. providing both relief and development aid) and earmarked funding, organizations tend to be decentralized (Besiou, Martinez, and van Wassenhove 2012). Further, there are different activities that fleet management comprises. These are procurement, transportation, tracking and routing, warehousing, maintenance, fleet safety and insurance, and disposal of vehicles (Martinez, Stapleton, and van Wassenhove 2011). In the following section we will go through these activities.

2.2.2 Fleet activities in the humanitarian sector

Many humanitarian organizations believe *procurement* function of goods and services to be a key function for the success of their relief efforts, and many have entered into long term agreements with suppliers (Gomez 2011). However, when it comes to procurement of vehicles there is a lack of standardization of brands in the sector that could help improve fleet management (Martinez, Stapleton, and van Wassenhove 2011). Standardization promotes cost savings through economies of scope and scale due to procurement in bulks from manufacturers and lower maintenance cost. „Humanitarian organizations have four sources of vehicle procurement; purchasing, donations, rental, and outsourcing" (Martinez, Stapleton, and van Wassenhove 2011, 408). Procurement approaches are affected by the management model implemented (Besiou, Smilowitz, and Balcik 2012). The centralized approach gives the lowest purchasing costs of the three models due to economies of scale and scope through direct purchases from manufacturers, but it has the longest lead time. The decentralized model has faster lead-time since it facilitates local sourcing, but at a higher purchasing cost. Earmarked donations affect the coordination and performance of the fleet negatively and should be avoided (Martinez, Stapleton, and van Wassenhove 2011), because they drive humanitarian organizations towards decentralization and ultimately lead to a lack of vehicle standardization (Besiou, Martinez, and van Wassenhove 2012). For the

dual objective of humanitarian fleets, there is a need for flexibility in procurement and funding strategies, and earmarked funding constrains internal budget allocation and the mobility of assets between programs. The hybrid model is found to be optimal for minimizing cost per served beneficiary and maximizing service levels. For humanitarian organizations that mostly conduct relief operations, cost would be minimized by the central model and service levels maximized using decentralization. However, when there is little earmarked funding present the hybrid model should be applied.

"*Transportation* is the second largest cost to humanitarian organizations after personnel" (Martinez, Stapleton, and van Wassenhove 2011, 404). The need for transportation is greater and more time sensitive when responding to emergency disasters, compared to in development work. Frequent movement of vehicles requires registration in new countries, and new vehicle registrations can take up to six months. Humanitarian organizations usually have tax free status in countries, making the purchasing costs lower compared to those of commercial companies (Martinez and Van Wassenhove 2012). However, if the agency does not have international tax free status, it has to apply for it in each separate country, making border clearance time consuming and complicated.

For humanitarian organizations it is beneficial to have a large fleet of small vehicles, since it improves the efficiency and equity of aid operations. However, the operation and coordination of large fleets can be difficult for logisticians in the field (Huang, Smilowitz, and Balcik 2012). There is an increasing effort to develop and implement good software in the humanitarian sector for management of large fleet operations. Currently, such software is mostly used for tracking, monitoring and reporting purposes, but it lacks modules that will support operational decisions, for instance based on fleet cost. „Routing and delivery scheduling decisions are made mostly according to the insights and experiences of the logisticians" (Huang, Smilowitz, and Balcik 2012, 16). Martinez, Stapleton, and van Wassenhove 2011 found that information systems for coordination and routing at field level will have a positive impact on fleet performance and route optimization. However, there is generally a lack of data bases and funding to purchase such a system.

Long distances and remote field locations cause problems regarding spare parts, and thus maintenance is an issue in humanitarian fleet management. There is a lack of decent workshops in the field and it is quite time consuming to drive long distances in order to get good vehicle service. Maintenance in field operations increase cost rapidly (Martinez and van Wassenhove 2012). There is a need for drivers to have basic mechanical skills to perform simple maintenance. As mentioned, vehicle standardization can help ease the challenge of maintenance. Insurance and fleet safety is also an important concern due to the fact that accidents occur mainly because of poor driving skills and traffic security, but also due to poor infrastructure and off-road driving in remote locations (Martinez, Stapleton, and van Wassenhove 2011). There is a great need of good driver skills and safety, since it usually can take a long time to resume operations when an accident does occur. The Fleet Forum aims to increase awareness for road safety and the importance of driver training in the humanitarian sector (Fleet Forum 2012).

At a point during a vehicle‟s lifecycle, the costs of maintenance and repairs outweigh the benefits of the continued use of the vehicle. Disposal of the vehicle should therefore take place before this point is reached. If the vehicle can be re-sold, the salvage value will act as a cost reducer that lowers the total cost of the fleet. In developing countries the second-hand market for vehicles are generally quite substantial, giving cars that have run less that 200,000 km the possibility of a relatively large resale value (Falit and Fenton, 2008). Martinez, Stapleton, and van Wassenhove 2011 state that renewing vehicles more frequently does decrease total replacement costs, since the duty-free procurement cost is below commercial price; however, having more vehicles in field operations increases running cost (i.e. fuel and maintenance). The usual replacement policy in the humanitarian sector recurrently suggests a timing for disposal and replacement of vehicles after 5 years or usage or 150,000 kilometers, whichever comes first (Martinez, Stapleton, and van Wassenhove 2011). However, the vehicles are often used even after the 5 year mark, causing an over aged fleet problem. An additional challenge for a robust replacement strategy is the availability of reliable fleet data. In most humanitarian organizations the data is difficult to obtain, while in others the data

may not be reliable. Vehicles meant for humanitarian operations can also be used for private requirements which alter the mileage and replacement policies.

In order to give a perspective on how humanitarian agencies conduct fleet management, the following table summarizes the different fleet activities according to International Federation of Red Cross and Red Crescent Societies (IFRC), International Committee of Red Cross (ICRC), World Food Program (WFP), and World Vision International (WVI). These agencies are at the larger end of the scale.

Category	Key indicator	ICRC	IFRC	WFP	WVI
Organization	Founded	1863	1919	1962	1951
	Beneficiaries (millions)	20	250	86,1	100
	Countries	80	75	77	98
	Expenditures (US$)	784,1 million	394,2 million	2,97 billion	2,2 billion
	Staff (people)	12,000		9,139	31,000
Fleet	Managerial structure	Centralized	Hybrid	Hybrid	Decentralized
	Fleet size	1,770	535	1,900	2,000
	Avg fleet age (months)	42	33	18	63
Vehicle life cycle	Procurement	Global	Global 80% Local 20%	Global 80% Local 20%	Regional Local
	Vehicle suppliers	1	2	2	2
	Brands (World wide)	1	4	2	4
	Maintenance	Authorized dealers Own workshops	Authorized dealers ICRC workshops	Authorized dealers	Authorized dealers Own workshops Particular workshops
	Replacement policy	5 years or 150,000 km	5 years or 150,000 km	5 years or 150,000 km	5 years or 150,000 km
	Sales	Local auction or tender	Local or regional	Local or regional	Local auction or tender
Vehicle use	Transport of:				
	Relief items in-country and to beneficiaries	Very frequently	Occasionally	Rarely	Occasionally
	Staff coordinating or delivering services to beneficiaries	Very frequently	Very frequently	Very frequently	Very frequently
	Staff and materials related to development programs	Very frequently	Occasionally	Occasionally	Very frequently

Table 4: Basic facts and figures on humanitarian organizations and their fleets (Martinez, Stapleton, and van Wassenhove 2011, 413)

2.3 The Humanitarian Sector

The humanitarian literature has more than doubled since the 2004 Indian Ocean Tsunami. In this section we will look at the importance of humanitarian logistics, disaster types and phases, as well as the actors in the humanitarian supply network. Further, we will look at some differences between commercial and humanitarian supply chains.

2.3.1 Humanitarian logistics

Logistics is involved in every stage of aid efforts (Thomas 2003). van Wassenhove (2006, 476) defines humanitarian logistics as „…the process and

systems involved in mobilizing people, resources, skills and knowledge to help vulnerable people affected by disaster". In addition, Thomas and Kopczak (2005, 2) provide a more thorough definition of humanitarian logistics as;

'…the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials as well as related information from the point of origin to the point of consumption for the purpose of alleviating the suffering of vulnerable people. The function encompasses a range of activities including; preparedness, planning, procurement, transport, warehousing, tracking and tracing, and customs clearance'.

There are two main categories of humanitarian logistics: development aid and disaster relief (Kovacs and Spens 2007). Most international humanitarian organizations engage in a mix of development and relief activities (Thomas 2003). Disaster relief refers to emergency aid, such as food, shelter, and services that are provided immediately after a natural or man-made disaster. Development relief is the continuous longer-term aid aimed at creating self-sufficient and sustainable communities (Byman et al 2000).

Many actors have underestimated the importance of humanitarian logistics (Murray 2005; Thomas and Kopzcak 2005). Van Wassenhove (2006) states that there has been a lack in the understanding of logistics as a core function and the importance it has in planning and budgeting processes; which has resulted in a "fire-fighting" mentality in humanitarian logistics.

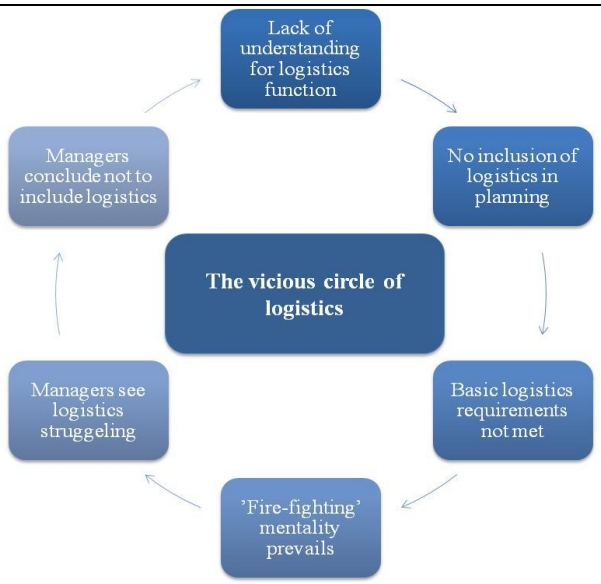

Figure 10: The vicious circle of logistics (van Wassenhove 2006, 477)

However, more humanitarian organizations are realizing the importance of logistics, as it serves as a bridge between disaster preparedness and response, between procurement and distribution, and between headquarters and the field (Thomas 2003; Thomas and Mizushima 2005; van Wassenhove 2006). It is also crucial to the effectiveness and speed of response, and it can mean the difference between a successful or failed operation. Logistics is critical to the performance of both current and future operations and programs, since logistics data can be analyzed to provide post-event learning. It is also the most expensive part of any relief operation, accounting for approximately 80 percent of disaster relief efforts (van Wassenhove 2006).

2.3.2 The humanitarian supply aid network

The humanitarian aid supply network in any particular humanitarian operation is formed by various actors with a common goal (Tatham and Kovacs 2010); alleviating the suffering of vulnerable people (Thomas and Kopczak 2005). The actors include: aid agencies, military, donors, governments, logistics providers, and other NGOs (Kovacs and Spens 2007).

Figure 11: Actors in the supply network of humanitarian aid (Kovacs and Spens 2007, 106)

Humanitarian action has three principles: humanity, neutrality, and impartiality (van Wassenhove 2006), and together they create the humanitarian space which *aid agencies* work within and strive to maintain the balance between. This is a role they are obliged to fulfill in order to retain trustworthiness and sovereignty, with regards to accessibility and negotiation opportunities with politically instable governments in sensitive conflict areas. In other words, their work should not influence the outcome of a conflict or favor one group of beneficiaries over another. The space represents a „zone of tranquility where civilians, non-combatants, and aid workers are protected from gun fire and can move and operate freely" (van Wassenhove 2006, 478).

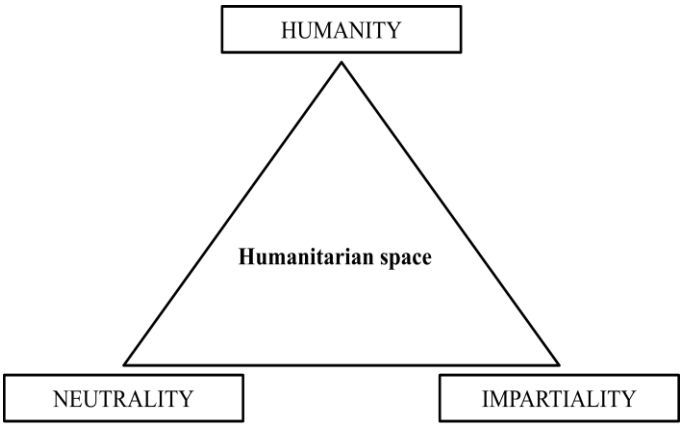

Figure 12: Humanitarian space (van Wassenhove 2006, 478)

Aid agencies serve as a connection between donors and beneficiaries. They can take many different forms; from intergovernmental aid agencies, like UN agencies, and governmental organizations, like ECHO, to international aid organizations, like IFRC, and non-governmental organizations (NGOs), such as WVI and CARE (Thomas and Kopczak 2005; Kovacs and Spenc 2009; Byman et al 2000). NGOs can also maintain country offices (Thomas and Kopczak 2005), but the offices are independent of government control (Byman et al 2000). Further, aid agencies also differ in terms of local presence, size, and mandate. „The mandate of a humanitarian organization defines its operational boundaries, including (Kovacs and Spens 2009, 511):

- *the items it delivers*, for example Oxfam focuses on water and sanitation, UNHCR and IFRC on shelter, and WFP on food;
- *which beneficiaries it focuses on*, such as Save the Children focuses on children and their families, and UNHCR on refugees;
- *the types of disasters it is concerned with*, for instance, IFRC mainly responds to natural disasters, while ICRC responds to man-made disasters;
- *which phase of disaster relief it is concerned with*, for instance WFP focuses on immediate response, while FAO is in charge of food development aid, and
- *which partners it can or cannot collaborate with*, for instance civil-military collaboration restrictions (e.g. MSF‟ withdrawal from Afghanistan because US military involvement compromised their ability to work, Petit and Beresford 2005).

The use of the *military* to achieve humanitarian goals can undermine the pre-mentioned principals of neutrality and impartiality of humanitarian action (Pettit and Beresford 2005; Byman et al 2000). However, they are also important actors in the supply aid network (Kovacs and Spens 2007), as military forces can support the agencies with a range of activities. Their missions in humanitarian action usually consists of five general categories: „providing humanitarian assistance, protecting humanitarian assistance, assisting refugees and displaced persons, enforcing a peace agreement, and restoring order‟ (Byman et al 2000, 27).

The *donor* funding mechanism is crucial for humanitarian operations, because humanitarian aid is not a profit-making activity. According to Jahre and Heigh (2008), existing long- and short term funding models are divided into tied and untied donations, depending on the donor"s specifications. Donors can be divided into three groups: neighboring regions or governments, foreign governments, and the general public and private corporations (Schulz 2008). Neighboring regions or governments are often the first to respond with donations or volunteers when a disaster strikes. Foreign governments assist through local presence such as their embassies, or through bilateral cooperation agencies such as ECHO. Lastly, donations given to humanitarian organizations can also come from the general public and private corporations. In recent years, this type of donors has become an important source of funds (Kovacs and Spens 2007). Van Wassenhove, Tomasini, and Stapleton (2008) describe four main categories of corporate contributions; partnerships, volunteers, goods, and cash.

Host governments can either facilitate or constrain the operational effectiveness of humanitarian operations, since they control important assets such as warehouses and fuel depots, as well as the import and export regulations (Kovacs and Spens 2007). *Logistics providers*, either regional or international, also contribute to the supply process, as many participate in delivering aid, either free of charge or hired by humanitarian organizations. *Other NGOs* many involve campaigning and advocacy agencies that attract support for aid agencies.

One of the greatest challenge in the humanitarian aid network lies in aligning the actors without compromising their mandate or beliefs (van Wassenhove 2006); „…their ability to work together has far-reaching consequences for their aim and ultimately, for the success or failure of the disaster response" (Tatham and Kovacs 2010, 43).

2.3.3 Disasters

The world database on disasters, the Emergency Database (EM-DAT) describes victims of disasters as „people requiring immediate assistance during a period of emergency, i.e. requiring basic survival needs such as food, water, shelter, sanitation, and immediate medical assistance". Further, a disaster is defined as „a

situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction, and human suffering" (EM-DAT 2012).

Disasters can be categorized according to their cause and the speed of their occurrence. Van Wassenhove (2006) distinguishes between natural and man-made disasters, as well as sudden onset and slow onset.

	Natural	Man-made
Sudden-onset	Earthquake Hurricane Tornadoes	Terrorist attack Coup d'Etat Chemical leak
Slow-onset	Famine Drought Poverty	Political crisis Refugee crisis

Table 5: Disaster categorization (van Wassenhove 2006, 476)

Natural disasters are caused by natural phenomena, while man-made disasters are caused by human beings. When a disaster occurs immediately, with little or no forewarning, it is categorized as sudden-onset, while slow-onset disasters are developed over time. However, due to the pre-mentioned humanitarian principle of neutrality, „man-made disasters do not include wars, which are a category of their own, since most humanitarian organizations do not get involved while the fighting continues" (van Wassenhove 2006, 476).

Thomas and Kopzcak (2005, 1) state that „both natural and man-made disasters are expected to increase another five-fold over the next fifty years due to environmental degradation, rapid urbanization, and the spread of HIV/AIDS in the developing world". Figure 13 shows the number of natural disasters from 1975 to 2011, recorded by EM-DAT, while Figure 14 shows that Africa, Central/South Asia, and Southeast Asia are the areas with the highest levels of human vulnerability.

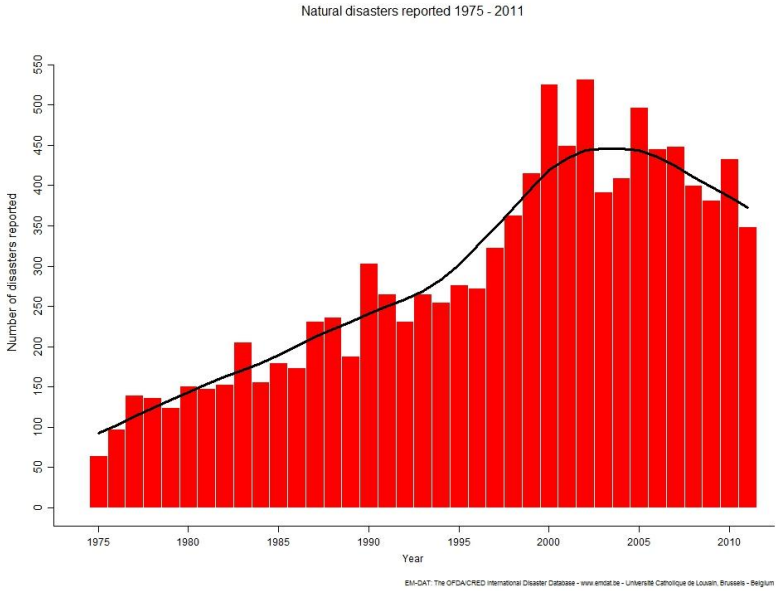

Figure 13: Number of natural disasters worldwide reported 1975-2011 (EM-DAT 2012)

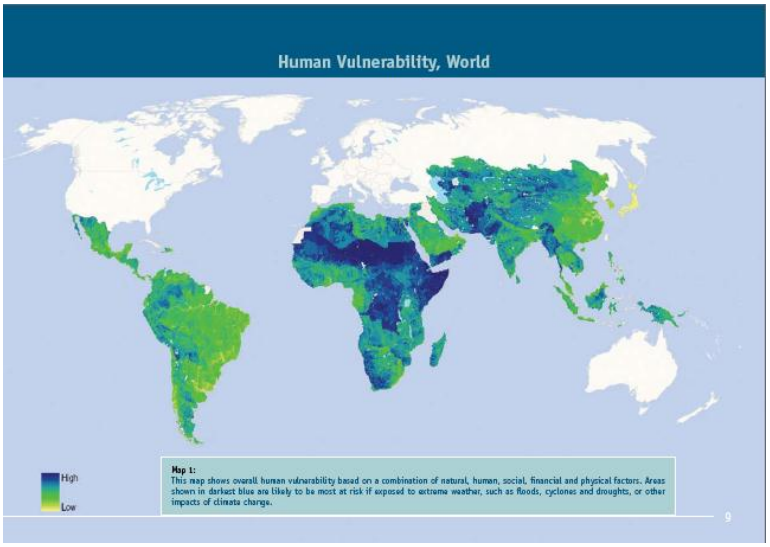

Figure 14: Human vulnerability (Ehrhart et al 2008)

Disaster management is „an applied science which seeks, by the systematic observation and analysis of disasters, to improve measures relating to prevention, mitigation, preparedness, emergency response, and recovery" (Carter 1999, retrieved from Pettit and Beresford 2005, 316). Disaster management deals with situations before, during, and after a disaster (Schulz 2008), and the disaster and its management consist of a variety of inter-linked activities (Pettit and Beresford 2005). Kovacs and Spens (2007) divide disaster relief operations into three phases: preparation, immediate response, and reconstruction. The phases can also

be seen as a cycle that links recovery back to the preparedness phase (Pettit and Beresford 2005), thereby, learning from a disaster can be included in the preparedness for the next one.

Figure 15: Phases of disaster relief operations (Kovacs and Spens 2007, 101)

Each stage differs in intensity. *Preparation* is largely reliant on pre-tested systems and communications. It involves the assessment of needs, planning and delegation of responsibilities and resources, equipment and supplies, training, and prepositioning of stock. Van Wassenhove (2006) presents the following five key elements of preparedness that produce effective disaster management: human resource (logistics professionalism), knowledge management (learning from previous disasters), operations and process management (recognizing logistics as a central role in preparedness), financial resources (preparing funding), and the community (collaboration with key players). Most disasters demand an *immediate response*, thus making this phase quite unpredictable (Kovacs and Spens 2007). The response phase is therefore usually carried out in crisis conditions and requires flexible planning, organization and mobilization of staff, and in-country operations. *The recovery phase* is related to reconstruction and entails rehabilitation. In this phase, organizations reduce the number of emergency personnel and move towards a more long-term planning and development of diverse, integrated programs (Pettit and Beresford 2005).

2.3.4 Humanitarian vs. Commercial Supply Chains

The characteristics of disasters, with high uncertainty, risks and complexity with regards to the breakdown of physical infrastructure, lack of communication systems, numbers of actors involved, and social and political upheaval, makes it difficult to plan and set up supply chains that are able to deliver emergency goods and services in an efficient manner (Tomasini and van Wassenhove 2010).
Jahre and Heigh (2008) distinguish between three types of humanitarian supply chains: the permanent, the emergency, and the project supply chain. *The*

permanent supply chain covers all three phases of a disaster, that is, preparation, response, and recovery; therefore it is generally predictable and stable. The supply chain infrastructure consists of permanent or long-term elements such as facilities, systems, and different staff functions, etcetera. It involves standardizing as many processes and activities as possible, in order to be able to shorten lead-times and increase responsiveness when a disaster strikes. *The emergency supply chain* is unpredictable because it is set up in the immediate response phase of a disaster. It is usually short-termed and set up by deployed specialist teams who plan the needed resources. *The project supply chain* is generally predictable and stable since it is usually set up in the recovery phase of a disaster. It consists of a locally managed set of resources, and therefore requires local presence and market understanding. The latter two supply chain types have a tendency to overlap; separating pure emergency or project supply chains can be difficult.

There are two groups of general supply chain vulnerabilities: commercial and non-commercial (Waters 2007; retrieved from Choi et al 2010). Commercial vulnerability refers to when uncertainties in business environment cause fluctuation in demand, while non-commercial concerns uncertainties that are dramatic and caused by external shocks, such as terrorism or natural disasters. Choi et al (2010) make the following comparison between unstable and standard supply chains:

Volatile and Fragile Supply Chains	Standard Supply Chains
Some inventory is good, for example, nonperishable and durable goods (tents, tinned/dried food, etc.)	Inventory minimization
Unreliable schedules	Reliable schedules: tuned to hours/minutes
Use of suboptimal transportation mode/modal mix	Optimal/close-to-optimal transportation mode choice
Bad-fit/inappropriate vehicles	Correct vehicles
Routes in poor condition	Infrastructure in good condition
Immature operating framework	Mature operating framework
Lack of agreements cross-border/cross company	Robust agreements
Insecure: high wastage/loss/damage (10-30 percent)	Secure: low wastage/damage (< 1 percent)
High cost: determined by external/uncontrollable factors	Low/medium cost determined by customer requirements
Information innaccurate and pathcy	Good information and accurate transmission
Management/responsibility unclear	Service providers responsibilities/liabilities clear

Table 6: Volatile and standard supply chains compared (Choi et al 2010, 28)

Many researchers have elaborated on the differences between humanitarian and commercial supply chains (Van Wassenhove 2006; Thomas and Kopzcak 2005; Kovacs and Spens 2007; Beamon and Balcik 2008; Day et al 2012). Despite differences, the two also have some goals in common; both try to optimize efficiency and effectiveness in terms of cost, time, and quality. However, the focus is different. Efficiency and effectiveness in the commercial supply chain can mean the difference between profit and loss, while for the humanitarian supply chain it can mean the difference between life and death. In a commercial setting the aim is to maximize profitability for shareholders and achieve high levels of customer satisfaction. For humanitarian supply chains the aim is to maximize utilization of funding in form of aiding most beneficiaries more efficiently.

Balcik and Beamon (2008) summarize characteristics that bring additional complexity and unique challenges to humanitarian logistics, as opposed to commercial. These characteristics are mutually dependent on and affected by each other:

- unpredictability of demand, in terms of timing, location, type, and size;
- sudden demand occurrence in large amounts, but with short lead times for a wide variety of supplies;
- high stakes (e.g. human lives) associated with adequate and timely delivery; and
- lack of resources in terms of supply, people, technology, transportation capacity, and money.

Humanitarian organizations view personnel as one of their most important resources (Gomez 2011), but there tends to be a lack of professionalism and institutional learning (Thomas 2003; Thomas and Kopzcak 2005; Majewski, Navangul, and Heigh 2010). Field experience is considered more valuable than formal logistics training, and the annual turnover of field logistics personnel is as high as 80 percent (Thomas 2003); resulting in "brain-drain" and next generation logisticians having to "re-invent the wheel" and conduct "fire-fighting" activities. Many larger organizations have tried to break free from the vicious circle by investing in logistics and supply chain management (van Wassenhove 2006); there have been calls for increased professionalization of humanitarian logistics community through improved selection, training, and education of personnel (Thomas and Mizushima 2005), as well as increased partnerships with academic institutions (Majweski, Navangul, and Heigh 2010).

Thomas and Kopzcak (2005) explain that most humanitarian organizations have two broad categories of activities: programs, which refer to the front-line aid activities and services associated with disaster response, and support services, back-office activities supporting the front line (logistics, technology, human resources, etc.). Donors tend to focus on the tangible and visible front-line activities, leading to a lack of earmarked funding for back-office activities associated with preparation between disasters (Thomas and Kopzcak 2005; van Wassenhove 2006; Jahre and Heigh 2008; Tatham and Pettit 2010). Preparedness is directly linked to the effectiveness of humanitarian logistics (Jahre and Heigh 2008); the better prepared, the more effective the response (e.g. reaching more beneficiaries) (van Wassenhove 2006). A lack of preparedness can thus lead to inefficient logistics, and potentially, to high and costly competition with other aid

agencies on resources in the aftermath of a disaster (Tatham and Pettit 2010). Funding mechanism therefore need to be changed in order to allow for greater investment in more permanent supply chain structures, which will significantly reduce the funds needed to set up emergency supply chains during disasters (Jahre and Heigh 2008).

Performance measurements of humanitarian supply chains have been crucial for humanitarian agency accountability to donors, as well as for beneficiaries (Beamon and Balcik 2008; Kovacs and Tatham 2010). Performance measurements empower logisticians to demonstrate and improve relief efforts; increasing transparency and supply chain efficiency by aiding more beneficiaries (Thomas 2003: Thomas and Kopzcak 2005, Beamon and Balcik 2008). Usually logistics performance focuses on the dimensions of efficiency and effectiveness (Kovacs and Tatham 2010). Kovacs and Tatham (2009) discuss these two in relation to product and process quality, on-time delivery, flexibility, time and cost effectiveness, and customer service levels. Davidson (2006) suggests key performance indicators for emergency response, while Schulz and Heigh (2009) focus on the performance of logistics units that operate, not only during a disaster, but also in the preparation phase. In table 7, Beamon and Balcik (2008) adopt an existing supply chain performance measurement framework with the unique characteristics of relief supply chains.

Performance metric type	Goal	Supply chain purpose	Relief chain purpose
Resources	High level of efficieny	Efficient resource management is critical to profitability	If an organization utilizes its resources poorly, donors may discontinue funding
Output	High level of effectiveness	Without acceptable output, customers will turn to other supply chains	Poor output performence leads to increased deaths and suffering
Flexibility	Ability to respond to a changing environment	In an uncertain environment, supply chains must be able to respond to change and have the ability to change	High variability and inherent uncertainties related to disaster characteristics and emergency relief require high levels of flexibility performance

Table 7: Goals and purposes of the performance metric types (Beamon and Balcik 2008, 16)

High levels of unpredictability have been stated as a major characteristic of humanitarian logistics, as opposed to commercial logistics, by many researchers (Thomas 2003; Murray 2005; Thomas and Kopzcak 2005; van Wassenhove 2006; Kovacs and Spens 2007; Jahre and Heigh 2008; Balcik and Beamon 2008; Balick et al 2010; Day et al. 2009; Tomasini and van Wassenhove 2009; Majewski, Navangul, and Heigh 2010). Uncertainty in demand makes it difficult to prepare and estimate needs for goods and services in the aftermath of a disaster, and ultimately affects the performance and cost of humanitarian logistics negatively. Current practices are largely manual (Thomas and Kopzcak 2005), and demand is assessed based on "guesstimates" from logisticians' previous experience. Everywhere, Jahre, and Navangul (2011) suggest that logisticians should rather assess demand on systematic use of historical data and accumulated previous experience, as opposed to the current ad-hoc practice. They therefore presented the first phase of the research project Contribute, which involved developing an annual index of global demand that humanitarian logisticians can use as a support forecast tool in the disaster preparedness and response phases. The One Year Index is based on historical data from 63 disaster cases around the world, the logistical needs and the response from donors, humanitarian, military, and commercial actors. The aim of the index is to provide logisticians an estimate of appropriate quantity and type of prepositioned goods needed in the aftermath of a disaster type in order to better plan fundraising, shorten response lead-time, and ultimately make demand more predictable.

„The lack of coordination and collaboration between various actors involved in the humanitarian assistance continues to limit the efficiency and effectiveness of humanitarian logistics" (Majewski, Navangul and Heigh 2010, 29). The existing resources in the humanitarian sector are stretched due to the increasing number of disasters and simultaneous operations, creating a need for higher logistics capacity (Thomas and Kopzcak 2005; Majweski, Navangul, and Heigh 2010); the response will require more collaboration between actors (van Wassenhove 2006). The competition for donor funding is getting more intense, as donors are asking for more accountability and collaboration between agencies to avoid duplication of efforts on common services (Thomas and Kopzak 2005; Balcik et al 2010; Tatham and Pettit 2010). Donors are also increasingly attentive to preparedness

after realizing that poor investment in this stage leads to increased costs and supply chain vulnerability (Majewski, Navangul and Heigh, 2010). Humanitarian agencies therefore need to use their resources in a more efficient and strategic way (Thomas and Kopzcak 2005), and shift focus from ad hoc perspective and „fire-fighting mentality" in order to become more result-oriented (Tomasini and van Wassenhove 2009). The number of different actors involved in providing humanitarian aid complicates efforts to improve coordination (van Wassenhove 2006; Balcik et al 2010; Tatham and Pettit 2010). Just as commercial companies use mergers, acquisitions, and 3PL/4PLs to reduce the number of similar actors in the market or saving cost by focusing on core-competence, humanitarian organizations need to collaborate in order to reduce cost and the number of competitors for donor resources (Tatham and Pettit 2010). An approach in the right direction is the UN"s „Logistics Cluster" that removes duplication and increases collaboration and information sharing between UN agencies that provide similar services (Tatham and Pettit 2010; Majweski, Navangul, and Heigh 2010).

Majewski, Navangul, and Heigh (2010) summarize that organizations need to continue to improve their capacities, whether in-house or outsourced, and adopt innovative and forward-looking strategies. In their article, they recommend that humanitarian actors should continue to invest in key technology and human resources, increase capacity through partnerships, and implement measurement systems in order to increase efficiency and effectiveness.

2.4 Theoretical framework

In this chapter we have looked at literature within outsourcing, fleet management and the humanitarian sector. Theoretically, this thesis lies in the intersection between the three concepts described above. In recent years there have been some studies on fleet management within the humanitarian sector, but these have not applied outsourcing literature. In general, there was little evidence of outsourcing theory being applied to humanitarian research. The intersection that we speak of seems therefore to be a somewhat underdeveloped field of study.

Figure 16: Theoretical framework

We have seen that commercial companies often choose to outsource non-core activities with the aim of improving the performance of the firm. Humanitarian organizations are not profit-maximizing entities, which makes the application of outsourcing theory to this sector slightly different. They are also dependent on the funds provided to them by their donors. Outsourcing entails buying a service instead of investing in the capability to perform it in-house, and donors will thus influence the agencies" decision making process. If one transfers the rationale of outsourcing from the commercial sector to the humanitarian, it is interesting to see if it will yield performance improvement in terms of the number of beneficiaries reached. Our aim with this thesis is to bring new insights to how humanitarian organizations can evaluate the option of using external service providers and what the expected outcome can be.

3. Methodology

In order to have a clear research path it is important to have a structured research methodology. There are different types of strategy and design to choose from, but ultimately it is crucial to decide on the one that supports the underlying objectives of the study. The methodology guides the collection and analysis of data, and there are advantages and disadvantages of each approach. It details precisely how the research objectives are intended to be achieved, in other words, justifies the choice of method in the light of those objectives (Saunders, Lewis, and Thornhill 2009). It comprises the choice of research strategy, design, and method, as well as quality criteria, the approach to analyze the collected data, and to draw conclusions from them. Due to the iterative nature of the research process, the methodology chosen can help formulate and reformulate the research question(s), as well as modify the objectives of the study. The figure below shows an overview of the contents of this methods chapter.

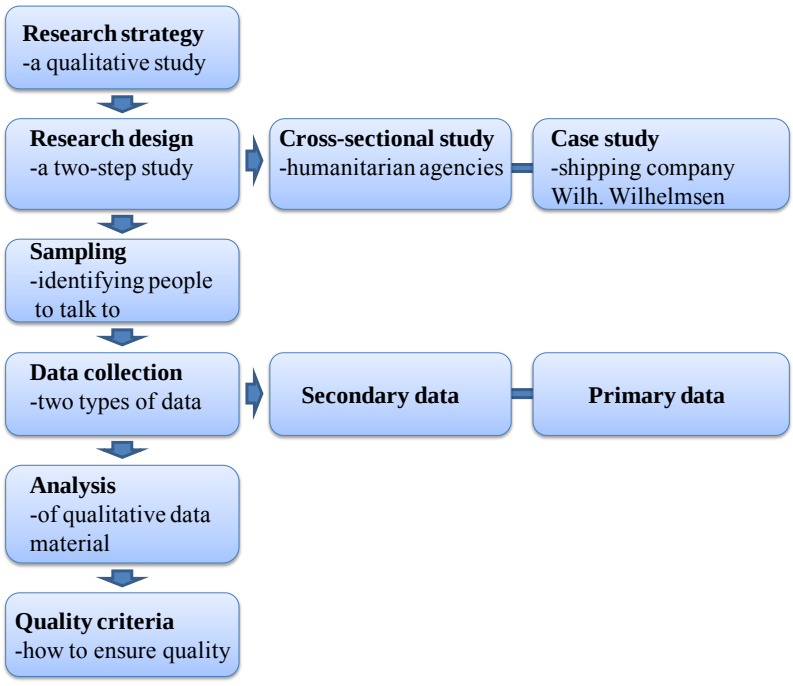

Figure 17: Methodology outline

3.1 Research strategy

Research strategy is „…a general orientation to the conduct of business research" (Bryman and Bell 2007, 28). This is generally divided into two categories: qualitative and quantitative research. These two strategies can be combined within a single study, something which is called "mixed methods". Researchers use this

to triangulate their findings, that is, cross-check their results. Grønmo (2004, 129) presents four aspects that characterize and distinguish qualitative and quantitative research strategies. Firstly, the choice of strategy is linked to the underlying purpose of the research questions. Qualitative studies will aim to give analytical descriptions of a given situation. They might have an aim to achieve theoretical generalization, but this might not relevant at all. Quantitative studies, on the other hand, will aim to achieve statistical generalizations, with the purpose to describe a larger population. One main reason why quantitative studies express data in the shape of numbers is to facilitate the use of statistical techniques. Secondly, the course of the research can be flexible or pre-defined. Qualitative studies are characterized by a large degree of flexibility. Adaptations can be made as the research progresses and experience is obtained. Quantitative studies are much more structured; all units are to be treated the same, resulting in little or no adjustment of questions according to different respondents. The third aspect concerns the researcher"s relation with the data sources. Qualitative studies are characterized by closeness and sensitivity, since the researcher often works directly with the data sources or participate in their environment. Quantitative studies, on the other hand, are characterized by distance and selectivity. The aspects of the sources that are to be studied are pre-defined, and the data collection and analysis can be conducted by others. The fourth and final aspect concerns opportunities to interpret findings. Qualitative studies give a better possibility to extract the most important findings and make relevant interpretations. In quantitative studies the interpretations get a more precise form. A structured design with a distanced and selective relation to the data sources results in a well-defined and uniform dataset.

Our review of existing literature gave us an indication that there is a general lack of reliable fleet data in most humanitarian agencies. Attendance at the Fleet Forum conference confirmed this; there are some "best-in-class" exceptions, but generally the agencies struggle to get an overview of their fleet"s metrics. This made it clear to us that it would be difficult to do a study based on numbers, and the result would most probably be inaccurate. The total population of humanitarian agencies that operate a fleet of their own is also limited. We expected that the number of respondents would be too low to make the study

statistically valid. We also wanted to have the opportunity to stay flexible and adjust the interview guide according to what type of agency we were talking to. This was because we were unable to find any previous studies about outsourcing of fleet activities, and thus we had no examples of earlier guides to build on. The choice of a qualitative research strategy therefore came very naturally for the humanitarian part of the research. Because of this, the most coherent choice was to also have a qualitative strategy for the LSP part of the thesis; our evaluation was that using mixed methods for these two parts would be like comparing apples and pears.

Saunders, Lewis, and Thornhill (2009, 127) give the following list of the emphasis of qualitative research:

- Gaining an understanding of the meanings humans attach to events
- A close understanding of the research context
- The collection of qualitative data
- A more flexible structure to permit changes of research emphasis as the research progresses
- A realization that the researcher is part of the research process, and
- Less concern with the need to generalize

The critique often faced by qualitative researchers concerns how the researcher‟s views on what is significant and important make the research too subjective. Prior to our data collection, we had initial conversations with two key practitioners within our field of study in order to make the choice of focal areas less subjective. These conversations formed a sound foundation for our later research. It is important to have structure when conducting a qualitative research in order to make it easier to replicate and in some cases generalize. We will elaborate more on this under the section “quality criteria”.

3.2 Research design

„A research design provides a framework for the collection and analysis of data“ (Bryman and Bell 2007, 40). This thesis studies two different units of analysis, and can therefore be said to consist of two parts. The first part looks at fleet management challenges and outsourcing practices in a number of humanitarian

organizations. The second part looks at an LSP, Wilhelm Wilhelmsen, and discusses the capabilities they have for providing fleet services. These two parts call for separate research designs, namely cross-sectional design and case study design.

3.2.1 Cross-sectional study

Cross-sectional research design is often called social survey design, but this is a confusing term because many associate surveys with questionnaires. Cross-sectional research design is usually used in quantitative research since its intention is to collect a range of quantitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of relationships. However, it also occurs in qualitative research when the researcher conducts unstructured or semi-structured interviews with a number of people (Bryman and Bell 2007). Cross-sectional design entails the collection of data on more than one case in order to gain more variation, at a single point in time. Variation is established only when examining more than one case. We seek variation in respect of organizations with different mandates and operating countries. We also hope to obtain variation between small and large fleets, as well as centralized, decentralized, and hybrid management structure, as defined by Martinez, Stapleton, and van Wassenhove (2011). A cross-sectional study can be used to determine the relationship between variables at the time of the study (Babbie 1990).The time aspect is important; subsequent research might find quite different relationships. Because we seek to establish the status quo in the humanitarian sector today, the single-point in time approach is appropriate. Our humanitarian data collection took place within the course of two months, which is short enough to be considered as one point in time.

3.2.2 Case study

Robson (2002), cited in Saunders, Lewis, and Thornhill (2009, 145), defines case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”. A case can be a single organization, location, person or event (Bryman and Bell 2007). A case study is particularly useful when wanting to gain a rich understanding of the research context and the processes

being enacted (Saunders, Lewis, and Thornhill 2009). Early conversation with representatives from WW suggested that delivering fleet services is expected to require a long-term cooperation project between WWL and WSS. When the research requires data collection from different sources that all contribute to a specific point in the context, the case study approach is useful (Cameron and Price 2009). In our study we will need to look at both the capabilities of WWL and WSS, as well as their experience with cooperating on projects and combining their resources. Another feature of the case study is that the focus of the study cannot be detached from its organizational context. This is also true for our case on WW; the provision of fleet management activities will have to be executed in interaction with other operational activities.

Case studies do not need to contain only one case. Multiple-case studies are frequently used to compare and contrast findings from different cases. Depending on the number of units analyzed the multiple-case study can resemble a cross-sectional study, but the two research designs differ in what the focus of the cases is (Bryman and Bell 2007). If the focus is on the unique contexts of the cases it is best viewed as a multiple-case study. If the focus is on producing general findings from a sample of cases with little consideration of each context, the study should be considered as cross-sectional. This is reflected in the two parts of our thesis; the case on WW aims to describe the service providing role, which is inseparable from the organizational context, whereas the study on humanitarian agencies aims to say something general about the humanitarian sector.

3.3 Sampling

Sampling is about identifying the people that need to be spoken to in order to obtain relevant information for the study. „A sample is a portion or a subset of a larger group called a population" (Fink 2003, 1). Where probability sampling is based on random selection and allows for statistical analysis, non-probability sampling entails an assessment by the researcher of who should be included in the study. A non-probability sample is a strategic sample that has been selected based on considerations regarding what units are most relevant and most interesting. Both the cross-sectional study and the case study in our thesis are based on non-probability sampling. Case studies are generally limited to only one unit of

analysis (Grønmo 2004), in our case the company Wilhelm Wilhelmsen. This one unit of analysis can be considered as a population in itself, with actors, actions, opinions or incidents as sub-units at a micro-level. Sampling in a case study can thus be based on a strategic selection of these relevant sub-units, in our case people with knowledge of the LSP function of the company. For the cross-sectional study we wanted to speak to people with logistical knowledge of running humanitarian fleets. The Fleet Forum conference in Geneva in April provided us with contact information to fleet managers in several humanitarian organizations. To draw a sample from this population of conference attendees can be called convenience sampling; the sample was purposeful and representative for the thesis at the same time as it was easily accessible.

3.4 Data collection

After the relevant subjects have been selected through the sampling process, the work of collecting data begins. We have collected both secondary and primary data for this project, and below we will describe what these two forms of data entail.

3.4.1 Secondary data

„Data that have already been collected for some other purpose, perhaps processed and subsequently stored, are termed secondary data" (Saunders, Lewis, and Thornhill 2009, 208). The advantage of using secondary data is that it saves both cost and time. Secondary data also make it possible to compare data over time (e.g., longitudinal studies). Both the humanitarian agencies and WW are international organizations with a worldwide presence; secondary data will be useful since we can avoid the cost and time spent on personally collecting data over a vast geographical area. If the data have been collected on request by a company/institution/government etcetera, the quality is usually high. However, there is no control over data quality, and one should keep in mind where data comes from and who it was gathered for, especially with commercially commissioned research (Bryman and Bell, 2007). The secondary data we will use is mainly found online. Examples can be conference reports (e.g., from Fleet Forum events), annual reports, fleet policies, and company and agency websites.

In the case study of Wilh. Wilhelmsen we selected and presented three organizations that are already providing fleet services to the humanitarian sector, in order to illustrate existing alternatives. These were the Riders for Health, IFRC, and RMA Group, all of which had representatives at the Fleet Forum conference. We chose these three to show the breadth of the existing offer; one small NGO, one large humanitarian agency, and one commercial provider. We tried to contact all three but could only make arrangements for an interview with one of them. The two others we looked at using material from their home pages. Another source of secondary information was a benchmarking study of Fleet Forum member organizations‟ fleet practices. This was carried out in April 2012 by the Fleet Forum and a non-profit organization called the Aidmatrix Foundation, headquartered in Irving, Texas, USA. The survey addressed general fleet information, road safety, environmental efficiency, cost efficiency and data capturing. We used the findings from this survey as a comparison to our own findings where it was relevant. We kept a few things in mind when using this secondary source however. Firstly, the number of respondents was quite small. Of the 30 member organizations that began filling out the survey, only 16 completed their response (See appendix 1). Four of these 16 respondents have also participated in our study. Secondly, it was said during the presentation at the conference that one agency, the Norwegian Red Cross (NRC), had delivered their response after the analysis of the data had started. Adding NRC into the analysis had resulted in visibly improved results for the survey in total. The Red Cross is known in the sector for having one of the better fleet practices, and because the sample was so small this one case was enough to visibly improve the results of the entire survey.

3.4.2 Primary data

In order to gain data and information about our research topic, and because of the nature of the qualitative research method, we have conducted interviews as a main part of our data collection. In qualitative research, the respondent‟s point of view is of interest as opposed to quantitative research where the researcher‟s concerns are more in focus (Bryman and Bell, 2007). There are two main types of qualitative research interviews: semi-structured and unstructured. *The semi-structured interview* makes use of an interview guide, in which there is a list of

topics to be covered, but the order can be changed and additional questions can be added according to the progress and flow of the interview. *The unstructured form* is very similar to a conversation, where the researcher asks only one question and then follows up on points that seem relevant. We consider the semi-structured form to be useful for our purpose. When making an interview guide it is important to ask questions that help answer the research question, but at the same time avoid making them too specific and asking leading questions.

Before starting our data collection we conducted two semi-structured interviews. These initial conversations we had with Rose van Steijn, Program Manager at Fleet Forum, and Alfonso Pedraza-Martinez, Assistant Professor at Kelley School of Business, Indiana University. We asked these key informants about humanitarian fleet management and outsourcing in the humanitarian sector. The conversations confirmed that there could be interest in the humanitarian community for a study on humanitarian outsourcing practices. The interview guides we used for these conversations (see appendix 2) also worked as "testers" for the development of the subsequently used interview guide. We were also in contact with Jurgita Balaisyte at the Humanitarian Research Group (HRG) at INSEAD Business School. INSEAD works with science within humanitarian logistics, and Balaisyte could confirm that although the HRG had done studies on humanitarian fleet management they had not looked into outsourcing of fleet. This further indicated that a study on this topic would be interesting.

Over the course of two months we conducted nine interviews with representatives from humanitarian organizations. The tenth respondent answered the interview guide per e-mail. Attendance at the Fleet Forum annual conference in Geneva in April was vital to get in contact with organizations. We also made an attempt to reach some humanitarian organizations that were not at the conference, but with only one positive result. This one organization was reached by contacting the Norwegian sister organization that forwarded us. Two of the contacted agencies did at one point confirm their participation in the research without responding to later communication from our side, thus not resulting in any interview. The following table shows the size of the resulting sample. See appendix 2 for a full list of all contacted agencies.

	Contacted	Participants
Fleet Forum participants	18	9
Other humanitarian agencies	4	1

Table 8: Overview of respondents

The participating agencies were Save the Children, World Vision International, International Organization for Migration, Tearfund, CARE Canada, Oxfam, UN Logistics Base, Catholic Relief Services, and UNHCR. We also conducted an interview with a logistician who had worked with different agencies, such as Danish Refugee Council and IFRC. This group contains respondents with relatively small, medium-sized and large fleets. Their mandate also varies, as well as their degree of centralization in fleet management. See table 10 in the findings from the cross-sectional study for a table with characteristics of the different agencies, and appendix 3 for interview guide. In order to gain insight to the existing possibilities for outsourcing humanitarian fleet management, we also conducted an interview with a commercial company, the RMA Group (interview guide is found in appendix 4). This company specializes in offering infrastructure solutions for businesses in emerging markets. All interviews were held over Skype, and the interview guide was sent to the respondents in advance. We were in all cases permitted to use a recorder. This allowed us to transcribe the interviews afterwards, something which facilitated both the interview situation and the data analysis.

Over the course of about one year we participated in several meetings where representatives from Wilh. Wilhelmsen were present, both at BI, at their offices at Lysaker and over Skype (See appendix 5). Some of these meetings were Contribute meetings; others were meetings where the agenda was to discuss the master thesis.

In March 2012 we used an interview guide to carry out an interview at Lysaker (see appendix 6). Present during this meeting was Vidar Hole, Project Logistics Director at WSS Europe, Bjørn Rud, Business Systems Manager at WWL, and Jon Halvard Bolstad Olsen and Anders Lenning, both trainees in Wilhelm Wilhelmsen at the time. This interview was also recorded, and the topics that were

discussed were the different activities involved in humanitarian fleet management, as well as their logistics provider capabilities. Throughout the entire work with the thesis we had e-mail contact with the two trainees, who helped us with questions and set up meetings. For a total overview of our conducted interviews, see appendix 7.

3.5 Analysis of qualitative data material

The collected data in this study will mainly consist of written texts in the form of interview transcripts. In comparison to qualitative data that can be analyzed using statistical techniques, there are no clear-cut rules about how qualitative data should be analyzed (Bryman and Bell 2007). The analysis of qualitative data is more flexible and it usually takes place in parallel with the data collection, gradually becoming the more dominant part as the research progresses (Grønmo 2004). The research question of the study will act as a guide to how the researcher should group and characterize the data material. The usual aim of qualitative analyses is to either develop hypotheses and theories, or create a thorough understanding of specific conditions. In accordance with our research question we can say that the latter is the purpose of our analysis, both in the cross-sectional part and in the Wilhelmsen case study.

Qualitative data material can amount to a vast number of pages with written text, and the purpose of the analysis is to reveal general or typical patterns in the material. To be able to do this, the text needs to be simplified. A typical way to do this is to use coding. A *code* is a keyword „…that can describe or characterize a larger section of the text, for instance several sentences or whole paragraphs" (Grønmo 2004, 246). Codes can be descriptive or interpretive. Descriptive codes are purely illustrative of the actual content of the text, whereas interpretive codes express the researcher"s understanding of the text. Examples of descriptive codes in our data material can be "donor requirements", "decentralized" and "government regulation". Examples of interpretive codes can be "positive attitude to outsourcing" or "resistance to change". In our data material there was a very natural divide into the different fleet activities, although we could see that some factors created challenges within several activities and that some challenges were interlinked. The questions concerning outsourcing and cooperation between

agencies were a bit more subjective and required us to read more between the lines to extract the opinions of the respondents. The codes helped us sort the information and extract the key findings for the discussions in chapter 6.

3.6 Quality criteria

Regardless of what type of research design that is used in the study, it is necessary to apply some common evaluation criteria to measure the quality and credibility of the research. The quality of the collected data material must be seen in relation to the underlying purpose, which is to shed light on a set of research questions (Grønmo 2004). The better the data material describes the research questions, the better the quality of the dataset. Data quality is therefore something that varies between different types of research questions; a dataset could for instance be suitable for describing differences between variables, but not for explaining why these differences exist, and vice versa. In qualitative research, internal and external validity as well as internal and external reliability are important criteria in establishing and assessing the quality of research (Bryman and Bell 2007). We look at these concepts in relation to both the case study on WW, and the cross-sectional study on the humanitarian sector.

Validity is a term that refers to the suitability of the dataset in relation to the research questions to be answered (Grønmo 2004). „Validity is high if the research design and the data collection result in data that are relevant for the research questions" (Grønmo 2004, 221). Compared to reliability, validity is a concept that is more extensive and less accurate. The scope and complexity of the term becomes apparent when we separate between the different types of validity. *Internal validity* concerns the extent to which the results are valid for the sample and the phenomenon being studied, in other words, causality between variables (Bryman and Bell 2007). There is a lack of internal validity if there are other variables, not covered by the study, that explain relationships. In our cross-sectional study we will look at the challenges faced by the humanitarian sector when managing a fleet of vehicles. Are the challenges caused mainly by donor restrictions, governmental restrictions, organizational factors or some other factor? The degree of internal validity will depend on us presenting findings without wrongly ascribing relevance to factors that do not cause problems. In

terms of the case study, we want to see whether the resources of Wilh. Wilhelmsen can provide solutions to the fleet challenges. This requires us to correctly identify the capabilities of Wilhelmsen and correctly apply these to the fleet challenges. *External validity* concerns to what extent the findings can be generalized beyond the selected setting that has been studied. The process of selecting participants to the research is thus crucial for ensuring external validity. As mentioned under the sampling section, we used the Fleet Forum conference in Geneva as a starting point for selecting interviewees for the cross-sectional study. Although this group of people was definitely interesting for us to talk to, it is impossible to eliminate the possibility that they gave us different answers than what non-participating logisticians would have. Participating at the conference could separate this group from the population as a whole by the mere fact that they chose to participate at a logistics conference. Also, it must be remembered that the humanitarian sector has different objectives and faces different challenges than the commercial sector traditionally does. Our aim is to provide insight to the humanitarian sector and our results are probably not transferable to other sectors, thus our external validity is weak. In terms of our study of WW, it is generally accepted that case studies do not yield findings that can be applied to other cases (Bell and Bryman 2007). This is because of their strong connection to the context of the entity being studied. External validity is therefore not much of a consideration in case studies.

Reliability is a term that concerns the trustworthiness of the research. Reliability is high if one, by using the same research design, gets similar data when repeatedly collecting data concerning the same phenomenon (Grønmo 2004). Evaluation of reliability in qualitative studies is influenced by the researcher playing a more significant role in the data collection compared to when collecting quantitative data. *Internal reliability* is the extent to which all members of the research team agree about what is observed (Bryman and Bell 2007). In our case, both researchers were present during all data collection, both in the cross-sectional part and in the case study. This made it possible to discuss any conflicting perceptions of what the respondents meant when they expressed themselves. *External reliability* regards to what extent different researchers will discover the same phenomenon when repeating the study, in other words, to what extent it can be

replicated. This is difficult in qualitative research since "…it is impossible to „freeze" a social setting" (Bryman and Bell, 2007, 410). To ensure the anonymity of the respondents in the cross-sectional study, transcripts of the interviews will not be attached to the thesis. We have attached a list of all people we have spoken to, both in WW and in humanitarian organizations, as well as the interview guides for the different conversations. This contributes to strengthen the external reliability.

Grønmo (2004) says that in the evaluation of the dataset"s quality, validity and reliability can be said to complement each other. At the same time, the two criteria are partly overlapping. High reliability is a precondition for high validity, but it is not a guarantee of high validity. A dataset can be reliable and still not be relevant for the research questions, in which case the information the dataset gives concerns other topics than the ones posed by the research questions. The measures we have taken to ensure validity and reliability in this study are summarized in the table below.

	Cross-sectional study	Case study
Validity	•Two initial conversations with key persons to identify problematic areas within fleet management •Attendance at Fleet Forum conference to learn about practitioners"challenges within fleet management •Adjustment of interview guide after the first few interviews •All interviews carefully transcribed by hand •Adjustments of research questions •A relevant sample of key persons with firsthand experience •Attempt to reach respondents who did not attend the Fleet Forum conference	•Interviews carefully transcribed by hand •Presentations of the thesis at Contribute meetings as the work progressed •Adjustments of research questions •Interview and conversations with people with good knowledge of the company
Reliability	•Both researchers present when doing interviews •Recordings of all interviews (except one written response) •List of all respondents with date of interview attached •Interview guides attached	•Both researchers present at interview and most meetings •Recording of interview and double set of notes from various meetings •List of all meetings with Wilhelmsen employees attached •Interview guide attached

Table 9: Measures to ensure validity and reliability

4. Cross-sectional study on humanitarian fleet practices

In the following chapter we will present the qualitative data material that we have gathered concerning humanitarian fleet practices and attitudes. The aim of this chapter is to facilitate answers to our two first sub-questions, namely;

(i) How are humanitarian fleets managed, and what are the challenges faced? And,

(ii) What are the current attitudes in the humanitarian sector towards outsourcing fleet management activities?

When applying a buyer-supplier perspective, the data presented here represents the demand side of fleet management. We are looking at the existing needs and practices of the potential buyers of fleet management solutions, in order to identify how a service provider can create an offer that is suited to meet these needs. We start by presenting findings on the eight fleet activities that we asked our respondents about in the interview guide, before going through the findings from the remaining questions concerning outsourcing, cooperation, and the future. Relevant results from the Aidmatrix and Fleet Forum survey have been used to complement our findings. Later, we present a relevant outsourcing project that is currently being implemented at a UN agency. The following table provides general information of our responding agencies and their fleets.

Humanitarian Organization	CARE	Catholic Relief Services	International Organization for Migration	OXFAM	Save The Children	Tearfund	UN High Commissioner for Refugees	UN Logistics Base	World Vision International
Headquarters	Geneva, Switzerland	Baltimore, Maryland, USA	Geneva, Switzerland	6 international HQs	Westport, Connecticut, USA	Teddington, UK	Geneva, Switzerland	Located in Brindisi, Italy	Federal Way, Washington, USA
Founded	1945	1943	1951	1942	1919	1968	1950	1994	1950
Webpage	www.care-international.org	www.crs.org	www.iom.int	www.oxfam.org	www.savethechildren.org	www.tearfund.org	www.unhcr.org	www.unlb.org	www.wvi.org
Annual Expenditure (2011)	about US $754 million	about US $820 million	US $1,3 billion	about US $1,1 billion	about US $600 million	about US $96 million	about US $280 million	Not found	about US $2,7 billion
No of Operating Countries	69 countries	96 countries	about 130 countries	92 countries	about 120 countries	> 50 countries	about 126 countries	supports 18 peacekeeping missions	about 96 countries
Fleet Management Model	Decentralized	Hybrid	Decentralized	Decentralized	Decentralized	Centralized	Hybrid	Centralized	Decentralized
Fleet Size	about 2,500 units	about 1,300 units	1,200 units	about 410 units	900-1,000 units	100 units	7,364 units	800 SDS'	11,000 units
Fleet Composition	Not found	Mostly 4x4s, and some trucks	Trucks, 4x4s, passenger, and ambulances	400 cars and 10 trucks	500 cars and 4-500 motorcycles	Mostly 4x4, some minibuses, three boats, one truck, and one amphibious vehicle. In addtion to these, they have quite a few motorcycles.	3 250 pass, terr, safety, and pick-ups, 504 trucks, 2 050 MCs, and 1 560 armr, buses, tank, cons, agri, spec, and dump.	98 trucks, 305 4x4, 56 enginering and material handling equipment, 65 buses	7 000 MCs, and 4 000 salon cars, 4x4s, trucks, farming equipment, and boats

Table 10: General agency information and fleets (Interviews, organization websites, and Martinez, Stapleton, and van Wassenhove 2011)

4.1 Fleet activities: Findings

The Aidmatrix benchmark survey found that 60 percent of the respondents express that their organization has a global vehicle policy that is supported by senior management, and 47 percent of these have also implemented it. For 27 percent of the respondents a global vehicle policy is still in progress, and the remaining 13 percent do not have such policy. In addition, 40 percent of respondents do not have an environmental strategy for fleet, while only 20 percent have one. 27 percent say that they are still working on planning such a strategy and the remaining respondents do not know. The results also show that some organizations are more advanced in their fleet management systems than others. 13 percent rate their current fleet management system as „poor", 47 percent as „moderate", and 27 percent as good. None rated it as „excellent", and 13 percent answered „unknown". Most seek to improve their current system or implement a new fleet management system that enables them to capture data and analyze it. The majority of the respondents see an opportunity to improve their overall fleet management and understand that it could positively impact their operational costs. Based on the survey results, there are significant opportunities to reduce costs, increase operational and environmental efficiency, and strengthen fleet safety.

In the sections that follow below, we will go through our findings from the data collection regarding eight fleet management elements: procurement, warehousing, transportation of vehicles, insurance and tax clearance, tracking, maintenance, safety and driver training, and disposal of vehicles. We have tried to accurately replicate the respondents" description of their fleet management activities. We have made extracts of information from the respondents so that we shed light on the factors that cause different challenges. Similar answers have been placed together in order to give a better overview of the different responses. When a respondent has given us a well-described answer, it has been used to elaborate further on the subject. Because the interviews were semi-structured, not all respondents gave the same amount of information on each question. For this reason, not all respondents will be mentioned under each activity. To ensure

anonymity of the respondents, we have in some places decided to not include the respondent"s number, but rather written "one respondent said".

4.1.1 Procurement

The acquisition of vehicles is something the humanitarian organizations can do locally, in the country of operation, or internationally. As we saw in our literature review, Martinez, Stapleton, and van Wassenhove (2011) defines three models for procurement; centralized, decentralized, and hybrid. Of our respondents, two organizations have centralized procurement, five organizations have decentralized procurement, and two use a hybrid form. The most used vehicle brands in the humanitarian community seem to be Toyota, Nissan, Mitsubishi, Land Rover and Ford, with Toyota as a clear number one. How the agencies procure vehicles affects importation issues, costs, lead times, and the degree of standardization of the fleet.

Respondent 7 said that the country programs decide where to source from, but if there are restrictions on import this can count in favor of buying locally. Respondent 1 also mentioned customs clearance to be a problem and said that it can affect lead time. From the point when one gets the authorization to start a purchasing process until the vehicle has arrived, 2-3 months may pass by. Speed of delivery in emergency responses was something respondent 6 mentioned as a challenge related to procurement. One respondent said they buy directly from the Toyota manufacturer in Japan, at base price. This requires them to purchase three to six months in advance in order to have the vehicles when they are needed. If an urgent need for vehicles arises, they have the option to buy from Toyota Gibraltar Stockholdings or from the Danish company Kjaer and Kjaer, for a slightly higher price. However, when there is a big emergency the whole humanitarian community is out to buy vehicles, and since everybody largely use the same brands the stockpiles easily run empty.

'So the crazy circumstances are that it can be cheaper and quicker to supply a vehicle from Toyota Gibraltar Stockholdings than for example to buy a Toyota Land Cruiser in Kinshasa and then have it

shipped to where we are working at the opposite side of the Congo'- Respondent 3

One respondent said that although they have a decentralized procurement function, any purchase over $5,000, which usually applies to vehicles, happens through headquarters. The program can however decide which brand and what type of car they want before they send the request. It is headquarters" job to identify global suppliers and, depending on price, timing, and flexibility, the vehicle will be bought either locally or at headquarter level. This respondent said they plan to change this system in the coming years, in order to become more focused and specialized in their vehicle procurement. Another respondent from a decentralized organization said they had a fleet with a diverse number of brands. They have global framework agreements with selected manufacturers, but the country programs can decide not to use these. Buying in-country can be up to 30-35 percent more expensive than buying internationally, so central procurement is something they want to reinforce in the time to come. At the same time, buying vehicles in-country is stimulating to the local economy and the organization wishes to do community development through their purchasing. Further, two respondents mentioned that there can be donor requirements attached to the funds designated for vehicle purchase. American donors can request American cars, European donors can request Europe-made brands, etcetera. This is something which complicates the standardization of the fleet.

One of the respondents with centralized procurement explained why they buy all major assets centrally. Firstly, the people in the field can have problems finding the right specification of equipment to meet their needs. Secondly, even in countries where there are local suppliers, the lead times can actually be longer and the price higher than buying internationally. Renting vehicles can be a temporary alternative if there are import problems or if there is inadequate funding to buy a whole vehicle. This is however an expensive solution and is not something that is available in all countries.

4.1.2 Warehousing

In this section we look at what the respondents said about their warehousing activities, meaning the prepositioning of vehicles. From the interviews it became clear quite quickly that warehousing was linked to the organizations" mandates, fleet size, and the donor funding.

Prepositioning is mostly used to enable quick response in emergency situations, and four respondents said that they preposition vehicles. Of these four, two respondents have a strategic warehouse, while the other two have a number of vehicles allocated to them for emergencies in stock at the manufacturer. Respondent 2 said that because they mostly conduct development operations, they do not see the benefits of having their own central warehouse for emergency vehicles. That is why the solution to have some vehicles stocked at manufacturer works best for them, since they can get them directly in an emergency situation. Respondent 3 mentioned that they used to have a central warehouse where they sent vehicles from, but they found it much easier and quicker to rely on the manufacturer to stock and ship vehicles for them.

The two respondents that said they have a central warehouse use them as buffers in emergency situations in order to shorten response lead-time. Since both respondents usually procure centrally, the procurement process can take up to a year, but by having the central buffer warehouse, the programs can have the vehicles within two or three months. When the vehicles are deported from the stock, they replenish the stock pile centrally in the next order to the manufacturer.

Five respondents said that they do not have vehicle warehouses. Respondent 1 said that it is difficult for them to have a warehouse since they do not have a centralized purchasing policy and that their own investment in vehicles would have to be very high. One respondent mentioned that since few donors will fund for prepositioning, having a warehouse is something that only larger organizations with spare funding and supporting logistics network should look into. Moreover, warehousing on a country level is usually not an issue. Once the vehicle has arrived and gotten all permissions, such as plate number and insurance, the vehicle becomes operational. In that way, "storing" normally means parking

outdoors or within a compound with general security guards. Finding secure parking and accommodation is always an issue, but organizations usually have security guards when they set up a camp or a compound.

4.1.3 Transportation of vehicles

In this section we cover what the respondents said about transport of vehicles. In general, we found that transport of vehicles usually takes place only once, from manufacturer to the country of operation. Donor and government restrictions are the usual reasons for the seldom movement of vehicles, as well as the cost involved in frequent transportation.

Transportation of vehicles from manufacturer to country is normally handled by the manufacturer or it is outsourced to a freight forwarder. Three respondents said that their vehicles are usually transported by their vehicle supplier, Toyota Gibraltar. The vehicles are usually delivered to a secure point; the organization"s country compound, the country customs, or a central warehouse.

Respondent 1 prefers Delivery Duty Paid agreements where the vehicles are delivered directly to the country offices by the provider. Normally this agency does not have the structure to undertake the transportation themselves, and if they do the respondent said that it is both time- and cost consuming. Usually they have an international call for tender and the supplier response differs; either local suppliers or international with or without customs and delivery included. Respondent 5 has four global agreements that cover different areas of the world. These are worked out with partner organizations that negotiate together in order to get the best prices on transportation of cargo and vehicles.

'It is very complex to get vehicles out of countries once they are in' - Respondent 3

From our experience from the interviews, international transportation generally takes place only once during a vehicle"s lifetime. Respondent 7 said that when the vehicles get imported they normally stay in-country for the life duration of the

vehicle. Respondent 2 said that this is because the programs usually own the vehicles as a part of their balance sheet; the vehicle is an asset belonging to the country of operation. Vehicles that are bought by donors that support specific programs are not moved around. However, vehicles that are bought out of the operating budgets of the country can be moved between country projects. Respondent 5 mentioned that in some countries the government restricts the export of vehicles, so it becomes very difficult to send the vehicles back and forth. Respondent 3 also noted that once a vehicle is no longer needed in a country it can be transferred to another country of operation, but that this has been quite a challenging thing to actually put into effect. They used to move vehicles to neighboring countries; however, lately there has not been any movement due to the complexity of getting vehicles out of countries once they are in.

4.1.4 Insurance and tax clearance

When it comes to insurance there are two types: third party and self insurance. Third party is required by international conventions and is taken out where the vehicles are registered. This type of insurance covers the other vehicle involved in case of an accident. Self insurance is a comprehensive insurance that covers the damage on the organization‟s own vehicles.

The respondents take out local third party insurance, which is a minimum requirement of most countries. Respondent 1 said that that is why they do not have international insurance, since they would still have to duplicate it with the local one. Respondent 7 mentioned that in addition to the local third party insurance, they also recommend the programs to insure fully comprehensive when it is a brand new vehicle. However, this would depend on whether it is economically beneficial to sell them in the local market after a few years and how much “wear and tear” the vehicles would have from the local conditions. Respondent 6 also handles insurance locally, and said that the challenge lies in ensuring adequate cover.

In addition, five respondents said that they complement the third party insurance with self-insurance. Respondent 2 and 8 said that they only buy the normal third party insurance up to the minimum standards which each country requires,

because they are self-insured. Respondent 3 said that self-insurance was the most cost effective way for them to insure their vehicles. In addition, Respondent 5 mentioned that having self-insurance is especially important in countries like Somalia and Afghanistan.

'The complexities surrounding customs, import, and export regulations are quite astonishing in some circumstances' – Respondent 3

When it comes to tax clearance, respondent 10 mentioned that import is a problem and very much related to the status of the specific organization. Respondent 9 said that they have an understanding with the host governments about diplomatic status, and thus do not pay taxes. Respondent 8 mentioned that this however depends on the country. For instance, in Kenya they have a tax exemption while in Uganda all NGOs have to pay full tax. As we have seen, tax clearance is something that can also be done by a freight forwarder taking care of vehicle transportation. Respondents 2 and 3 said that it is a collaborative endeavor between their staff and their freight forwarders.

Respondent 3 said that it sometimes can be unclear what the official way to bring vehicles into a country is. For instance, during the 2010 Haiti earthquake the respondent"s agency had vehicles stuck for 6 months because the customs department and government ministries were badly affected by the disaster. In addition, one respondent said that import can also be a problem for agencies in emergency situations if they do not have presence in a country from before. A good example of that is Tunisia in 2011, where many agencies were eager to aid fleeing refugees, but only a few had import duty-free status in the country. This resulted in that these agencies could not procure off-shore, even though they had gotten the funding to do so, due to the lack of an agreement with the government on tax-free status. Import and tax-clearance can thus affect performance significantly since it can hinder the aid.

4.1.5 Tracking

The monitoring of vehicles can be managed in different ways and with different level of detail. The basic form of fleet tracing is done by hand using logbooks, but there seems to be an increasing trend in the humanitarian community to use electronic devices to track vehicles. The majority of the Aidmatrix survey respondents, 67 percent, have implemented a fleet management system in order to capture data and track fleet assets. The data captured may involve maintenance records, odometer readings, mileage, registration, identification, inventory reports, and more. 13 percent were unaware whether they have such a system. Of those who have a system, only 26 percent of respondents said they use electronic devices in vehicles to capture the data. Among the respondents we spoke to, two said that fleet metrics were recorded manually, three said their organization had implemented electronic tracking devices, and yet three said that tracking devices are planned to be implemented or piloted in some operating countries.

Respondent 1 said that the organization places a logbook in every car and transfers the recorded data into Excel every month. They track mileage, average consumption of fuel, and maintenance activities for each vehicle each month. Respondent 3 also does a paper-based form of tracking, but in addition they use VHF radio, HF radio, and satellite phones. It is the logistics department of the given field location that is responsible for keeping track of the vehicles, and the tracking is also used as an emergency check. If a vehicle does not report in through radio or telephone within the time frame that is expected, the organization will start to explore what has happened to the vehicle. From headquarters the whereabouts and mileage of each vehicle is recorded in a basic spreadsheet. This also keeps track of ownership of the vehicle, that is, whether it was bought using internal funds or bought especially for the program by a donor. The senior logisticians deployed to the programs evaluate the road worthiness of each vehicle together with the central level.

Responding organization 8 has a self-developed vehicle management system that tracks vehicles by mileage and records the maintenance that each vehicle has had. This organization uses direct charge, which means that a donor pays for the usage of a vehicle when it utilized in a project that this donor supports. Respondent 8

said they are currently piloting tracking trough a satellite system in two countries. They hope the pilots will show improvements in terms of better fuel efficiency and reduction of accidents. The idea is to have one tracking system for the entire organization in the future. However, in some countries government regulations prevent them from introducing satellite tracking. Respondent 7 said that tracking by mobile phone satellite is planned to be tested in one their operating countries. The goal for doing this is to monitor the speed of the vehicle and make sure that it follows the route it is set to follow, thus making any private usage of the vehicle visible. Respondent 5 also told of plans to introduce satellite tracking. This will include geo-fencing, which sets off an alarm if the vehicle goes outside a certain area. Speed will also be monitored. If the vehicles get stolen the agency will be able to locate them. There is also an emergency panic-button in the cars that will be synchronized with this system. Respondent 5 said they also wish to control fuel through the tracking system, but earlier experience has shown that fuel consumption is extremely difficult to monitor at a detailed level.

Three organizations have started the implementing and operating phase of the electronic tracking devices. Respondent 6 said that they had experienced challenges in getting the country teams to buy into the concept of tracking. Respondent 9 said they kept track of how many vehicles are situated at each operating location from the central level. The electronic device installed also gave central level information about the age of vehicles and their mileage run. Respondent 2 was of the opinion that tracking vehicles is a critical part of fleet management. For this agency installing tracking devices had led to significant improvements in performance metrics. In one country the organization had seen the average mileage per month come down by 1,000 km. This had a huge impact, not only on cost, but also on risk. Speeding and driving outside of the planned route had also come down dramatically. Respondent 2 further said that the organization was not only using the tracking system as a way to monitor the drivers, but also as a way of recognizing them. When drivers know that their vehicle is tracked they know they are being looked after, and they have a reason to reject requests from others by telling them; „no, I cannot run errands for you" or „I cannot use the vehicle". In some countries the organization publishes the

information on each driver on a board. This way the drivers can supervise each other and give each other feedback.

4.1.6 Maintenance

Maintenance of vehicles was described by almost all respondents as a very challenging fleet activity, characterized as being "the big bottleneck" and "the big headache". Several factors were brought up that complicate the maintenance and repair of the humanitarian fleets. These factors can be interlinked and reinforce each other. How the agencies solve maintenance and repair problems seems to be very country-specific, making it difficult to have one standard approach. Sometimes the best solution is to have their own mechanics, other times it is better to use local workshops. The overarching and most prominent challenge is the sheer unavailability of proper service alternatives in many field locations.

'In the field you have to find a way to service and maintain your cars in the most professional way possible' – Respondent 10

Sudan was a country that was especially mentioned as a difficult place to receive proper maintenance; there simply are no authorized dealers of the car brands that are mostly used by the humanitarian community. Respondent 10 mentioned that the usual three-year warranty on the engine and transmission becomes impossible to keep when there are no authorized dealers in the country, or if these dealers are located too far from an operating area. It is not justifiable to drive a 1,000 km back and forth to have an authorized workshop service the vehicle. The result is often that the agencies use any available backyard workshop, give up the warranty and frequently receive poor quality service.

Respondent 2 presented three solutions to the lack of availability of maintenance. Firstly the NGO can invest in having its own facilities, secondly they can collaborate with other NGOs to create proper facilities, or thirdly the service providers can upscale themselves. Especially mobile workshops could be a future way for the service providers to extend the geographical reach of their service. The provider could then communicate to the agencies what area they would travel to each week and pre-book vehicle service in the field, rather than at the main

centers. One other respondent said they had experience using mobile workshops set up by NGOs, such as the German organization Technisches Hilfswerk and the Danish Refugee Council. Respondent 8 said they mostly did maintenance in their own garages, but are now planning to pilot an outsourced maintenance solution using the NGO Riders for Health in one African country. Respondent 5 said setting up their own workshop could be very expensive, and thought that it would be a better solution to somehow ensure that the service they get from local suppliers is good.

'Sometimes the local workshop is a guy with a toolbox, sometimes it is a fully functioning workshop' – Respondent 7

Some countries were mentioned especially as places where you could now find good maintenance alternatives, due to long-term humanitarian presence or permanent programs. The countries that were mentioned in this category were Kenya, Tanzania, Afghanistan, Iraq and Jordan. Respondent 10 said that the commercial companies that can provide maintenance internationally spend too long time assessing whether they can make a profit if they enter an area. Haiti was mentioned as an example; this was a big disaster and everyone knew there would be millions in funds coming in, yet it took the commercial companies two years to decide that they could do business here.

Only one respondent presented maintenance as an activity that was quite straight forward. This person said that Toyota Land Cruisers were the most utilized vehicle by the majority of the NGOs and that these cars had little electronics inside them to complicate maintenance. Depending on the context and the operating environment they normally also had the same break-downs and required the same additional maintenance. Respondent 2 however, mentioned that the vehicles were getting more and more sophisticated. This person"s experience was that the service providers were not training their mechanical staff well enough to keep up with the advanced technology of these new vehicles. It was also mentioned that in Africa, where very many agencies are operating, diesel is still quite dirty. As the vehicles get more sophisticated, dirty fuel continues to become a bigger problem and cause more damage to the car engines.

Several respondents mentioned spare part availability and management to be a challenge. Respondent 7 however, did not find availability of spare parts to be a problem as long as it had been planned properly. If genuine spare parts could not be found locally they could be sourced internationally. This respondent rather found bad planning and budgeting to be the key problems of maintenance. Vehicles are not taken off the road to be maintained when they are supposed to, and insufficient funds have been put aside for spare parts. The problem of maintenance is also tied to bad lifecycle planning for the vehicles. Programs buy new vehicles when they have the funding to do so, and donors are becoming more unwilling to fund the vehicle for the whole duration of a program.

Respondent 3 said that their approach to maintenance challenges was to have a senior mechanic in all operational programs, and sometimes also driver mechanics. These are responsible for doing the basic maintenance on the vehicles. For any additional maintenance and repair the aim is to use only authorized workshops. To secure the quality of maintenance, each vehicle comes into a program with a comprehensive set of genuine spare parts. These packages covers pretty much all the standard components necessary to service the vehicle over three years. Some vehicles operate in such remote places that when they have reached the program site they stay there for their life duration. Taking the vehicles out of these locations to do maintenance is not really an option. For these vehicles the servicing relies on the expertise of the senior mechanic.

4.1.7 Safety and driver training

Safety on the road was a topic that was thoroughly treated at the Fleet Forum conference, both as a development issue and as a preventer of efficient aid distribution. Adequate driver training is needed to mediate the challenges that traffic causes. There is a general lack of awareness around the term safety in many developing countries, not just for drivers but within many professions. It is also a problem that drivers get a lot of self-esteem, in a negative way, when they come in charge of a vehicle which has a value of more than the driver will earn in his whole life time. A driver license is no guarantee of good driving skills; in many places it can easily be acquired by purchase from the police or elsewhere.

One respondent‟s organization had developed a full driver training course that they had rolled out about six months ago. This began with a fleet safety campaign called a „fleet safety blitz‟ to raise awareness. A fleet safety sticker with driving principles on was introduced. This was to be placed in each vehicle where both driver and passengers could read it. This sticker had ten basic rules on it, like requirement to wear seatbelts all around the vehicle, prohibition to use mobile phone or drink and drive, etcetera. The driver training course consists of different levels where the drivers can upgrade and skill themselves. The levels contain a basic driving skills course, a security course, a defense and eco course and a first aid course. The idea is to create a career path for the drivers as well as make sure that the 3,000 or so full-time drivers that the organization uses hold a minimum skill standard.

Respondent 1 said they have a „security package‟ and that they employ their own drivers. They insist that the drivers they select can speak the local language. They use a written text for the drivers to demonstrate that they know the driving code, and they also ask for references from prior jobs. After that they do a practical test with some basic mechanics and driving in-field and on-road, and finally they go through the specific driving policies. Respondent 3 only selects drivers with a national driver‟s license and national driving experience. Before being employed the driver also has to complete a three-part test. The first part is an eye-sight test, the second part is a comprehensive practical test, which involves not just on-road and off-road driving but also daily maintenance checks, and the third part is a written test covering local road law and practice. If a candidate shows good attitudes but lack some experience, they can be given appropriate development training. Respondent 10 said he would normally try to recruit drivers from truck companies. His opinion was that these drivers generally have more experience and are more aware of their own behavior in the traffic.

Respondent 9 said everyone that is deployed to a country program from this agency gets some pre-deployment training, and this includes preparation in terms of traffic conditions. After that it is the programs‟ responsibility to train and educate drivers. Respondent 8 said they have a fleet security plan with basic

traffic and vehicle rules that the drivers must adhere to, but they do not perform any driver training in-house. Whenever possible, however, they will use an external provider to train the staff.

Respondent 3 said the organization had three ways to carry out driver training. Either the logistics manager or senior mechanic deployed to the field takes responsibility for it, or training takes place when someone from central level makes visits to the field. The last possibility, which happens more rarely, is to hire external providers to come in and undertake training. Sometimes there will also be free training available; Toyota Gibraltar have occasionally visited a country and given on-site training, something which has been considered very valuable. Two respondents said they had purchased driver training from an external company called RedR, (Registered Engineers for Disaster Relief) which for instance offered NGO staff training during the Haiti crisis.

Both respondent 7 and respondent 5 said their organizations have very little experience with doing driver training. Respondent 7 said that this partly was caused by donor constraints. Because donors only pay for a part of the lifetime of the vehicle, the country programs end up hiring cars, something which is both more expensive and makes driver training more difficult because the vehicles do not belong to the organization. Respondent 4 could tell of modules of driver training, but that the responsibility for these lies with the programs and there seemed to be little organizational enforcement on this subject. One respondent, number 6, was the only one to mention effective accident reporting and investigation as a challenge related to fleet safety. The challenge of accident reporting was more evident in the Aidmatrix survey; 60 percent of the respondents said that they track the numbers of accidents. More than half of these also said that they analyze that data in order to improve their road safety.

4.1.8 Disposal

Disposal of vehicles in the fleet should ideally take place when the cost of repair and maintenance exceeds the benefit of future use of the vehicles. Ways to dispose of a vehicle can be through selling, donating, or scrapping. An over-aged fleet tends to be less reliable, and can make the distribution of aid challenging.

Respondents to the Aidmatrix survey reported that the average age of their vehicles is 3.12 years old, and the average age of vehicles when they are replaced is 4.29 years. In our study, most of the respondents said they aimed to have a fleet with vehicles no older than five years. Local conditions must be taken into account, however, and factors such as donor constraints, government regulations and autonomy of national offices make standardization of this activity difficult.

'Procuring a vehicle is easy, but getting rid of it and selling it off on an auction for a good price, or at the right place at the right time for the best price, is a challenge' – Respondent 10

Respondent 1 said that a donor can be the decision-maker when it comes to what they do with a vehicle after a program has been completed. Sometimes the donor that funded the vehicle requires that it is given to another NGO that is going to work for the same donor on a similar project. The vehicles that are bought directly by the organization have no particular restrictions on them. Those vehicles are used to the end of their useful life, usually until the point when there is very little value left in them. The vehicles then get scrapped or sold for insignificant amounts to locals. Respondent 3 also talked about donor requirements related to disposal. Some donors have specific disposal regulations that the agency is obliged to follow, especially if they have funded the entire vehicle. This respondent also said they might have to give the vehicle back to the donor, or to another NGO in the locality. The most common situation, however, is that a vehicle is funded by three or four donors during the life of the vehicle, in which case it does not belong to any specific donor.

'... we are paying attention to the donor regulations to make sure that we are honoring the donor's wishes' – Respondent 3

If there is a market for it, respondent 3 said the vehicles would be sold on the open market and the returns would be put into their vehicle fund. Sometimes other NGOs will be willing to buy the vehicle if it suits their requirements. Yet other times the local government authorities will demand the agency to surrender the

vehicle to them at the end of its working life, which is normally set to be five years. On rare occasions the agency will transfer the vehicle out of the country if it is less than five years old and the program is closing.

'Donors are more and more unwilling to buy for a whole car. They only fund it for up to two years while the last of the vehicle may be five' – Respondent 7

Respondent 7 said that if there are no donor requirements it is the programs that decide how they can get the best return from the vehicles, whether that is by advertizing in the paper or arrange an auction. The time of disposal is very context-related; in a country with fairly good roads and easy access to maintenance, the vehicle can easily last 250,000 km or 7-8 years.
Respondent 10 presented unreliable access to funding as the main problem of disposal. Sometimes vehicles are bought at the end of program years if there is money left. If there is no money left in subsequent years, there will be no procurement of vehicles. The result is that vehicles that should have been replaced are continued to be used for far too long.

Respondent 2 said different methods for disposal were used by different programs in different countries. The most common procedure was to pool the vehicles and put out a tender notice. In some places, staff is given the option to buy the vehicles through the tender process. In other countries they use auctions to sell off vehicles, from an auction site at an action day. The guidelines on when to dispose a vehicle varies because of local conditions; in some countries it is three years, in some it is five, and in yet others it can be as much as seven. Respondent 4 also mentioned giving staff the opportunity to buy a vehicle when it is supposed to be replaced. This respondent said this created an extra incentive for staff to look after and take good care of the vehicle while it still belongs to the organization.

Also respondent number 9 said that it was the responsibility of the country programs to sell off vehicles at the end of their duration. In some countries they are refused to sell them, however, because they have been brought into the

country with a tax exemption and this can upset the local market. The common procedure in these cases is that they get sold to a bidder who takes the vehicles out of the country. The age limit is set to five years for light vehicles, ten years for heavier trucks and 15 years for trailers. The kilometer limit for light vehicles is set to 150,000. In general, the vehicles are now lasting longer because the standards and the technical specifications of the cars have improved.

Respondent 8 explained how the government gets a claim for the vehicle when it comes in for humanitarian support. The tax exemption normally works such that the local state pays taxes on behalf of the agency to the central government. This is how the government becomes part-owner. This respondent also mentioned that the donor that paid for the vehicle decides what the agency can do with it. If there are no regulations on the vehicle they will look for local partners that they can give it to; they normally do not get sold.

One respondent said they had supported the local police with vehicles in an operating area because they could not afford it themselves, in order to enhance security. These are vehicles that they never expect to get back or get any form of resell value from. Respondent 5 said they would wish to improve the resell value of their fleet, but the decision to sell lies with each separate program, and what they decide to do may not be optimal for the organization as a whole. There was a lack of incentives for the programs to dispose the vehicles when they have the optimal resell value. Staff turnover was mentioned by respondent 10 as a factor that affects vehicle lifecycle planning negatively. At one point somebody can decide that the fleet age will be five years, but two years down the line that person might be gone. The next person on the post might not consider fleet replacement in the same manner. In this sense, the lifecycle of personnel and staff is shorter than that of the cars.

4.2 Findings in views on outsourcing, cooperation and future challenges

The second half of the interview guide concerned the use of, and attitude towards, external service providers and how these could mediate challenges faced in the fleet activities. We also asked about what activities the respondents would like to keep in-house, how they cooperate with other agencies on fleet management, and

what they think will be challenges in the future. The answers are compiled in the sections below.

4.2.1 Current use of external service providers to perform fleet activities

Through the questions about the fleet activities we got responses that indicated what activities the agencies do themselves and what they have others doing for them. To make sure that we did not miss any use of external providers, and to learn more about who these are, we added a point in our interview guide where we asked directly about use of service providers. Almost all respondents re-mentioned maintenance here. Other activities that was said to be performed by others were not brought up here, however, such as freight forwarding or customs clearance. This indicated that these activities are viewed as part of a "package" when they are performed by others; more than being a result of a conscious decision to not to it in-house.

Maintenance is the main activity that the agencies hire external service providers to perform, either through local workshops, or authorized workshops where these are available. As we have seen in the maintenance section, the quality of the service received at the local workshops is often questionable. Two of the respondents said that maintenance is something they will do themselves as a general rule or if the size of the program is large enough. The rest of the respondents said that a local provider is the general way to solve this need, given that the standards are good enough. One respondent said the maintenance activity was outsourced because hiring, training, and supervising mechanics was overwhelming. It is a challenge for the agencies to run workshops of their own, and it is also very costly.

Leasing was mentioned by some respondents as a way to mediate lack of funding for whole vehicles. Leasing can be seen as complete outsourcing of the fleet, as the ownership of the vehicle is moved away from the user. One respondent said, however, that as of today it is not possible to have full-maintenance leasing in the NGO industry because the infrastructure is not good enough for companies to provide this.

'Most of the time, it is easier to get money for renting and leasing vehicles, rather than for purchasing' – Respondent 10

Vehicles can be leased either from a commercial service provider or through an in-house leasing program. The organization will then buy the cars through their own fleet department, and rent them out to the programs in different countries. Two respondents said they had already begun using leasing, and two organizations said this was planned to be tested.

Transportation of vehicles seemed in many cases to be part of the package one gets when one buys a car internationally from a dealer or a manufacturer. Transportation was therefore not something the respondents mentioned as outsourced, although they generally do not seem to be handling it themselves. We know two respondents have storage of vehicles at the manufacturer"s location but only one of these mentioned warehousing as an outsourced activity. Toyota Gibraltar keeps some vehicles in stock reserved for this organization, and would also do procurement of new vehicles on their behalf. Provision of spare parts and customs clearance were activities one other respondent mentioned as outsourced, although we know that several respondents can get customs clearance included when they buy vehicles internationally. To sum up, it seems to be that the term "service provider" is mostly associated with someone that can do service on the vehicle, that is, a maintenance provider.

4.2.2 Challenges mediated by outsourcing fleet activities

On the question of which fleet activity challenge that could be mediated by outsourcing, a total of six respondents mentioned maintenance and availability of spare parts. Respondent 8 said that maintenance would be the main part they would like to outsource. Respondent 4 mentioned that one way to ease maintenance would be if car companies could set-up their own brand workshops or authorized dealerships, especially in countries where there are many humanitarian operations.

'… we would take great interest if there was a leasing and maintenance scheme available to NGOs' – Respondent 3

Currently, respondent 3 has success in running an internal leasing scheme, but it does take up a lot of resource. The agency has recently tried to downsize the resources needed to run the scheme, but it has proven to be quite complex to get right. Therefore, they would be interested in a leasing scheme provider, so that they would not have to run it themselves.

Respondent 8 said that fleet management is not their core area and that they would outsource it if there was enough cost-benefit. Respondent 5 would also like to outsource their fleet management and have a third party take care of the office functions such as billing, tracking, and insurance. Respondent 7 could be interested in outsourcing many or even all of the fleet management activities, but that it would require the offer of a good service package. Currently, the respondent has not seen any decent offers with a complete service package for vehicles. Some companies have offered to take on much responsibility and liability, but in addition to being quite costly, the current terms and conditions were not liable. The respondent mentioned that the companies did not have the types of vehicles they wanted and that the services were always situated in the capitals, while most of their operations are in the field. This would mean that in order to maintain the contracted services, they would either have to do a 1,000 km round trip to go to the capitals or arrange the services themselves in the field. The respondent mentioned the NGO Riders for Health as a good example of a complete service where the NGO manages a fully leased package in West-Africa. If there was a similar offer the respondent would be eager to try it out. However, it is difficult to find a company that at the end of the day offers a service with a benefit to the NGOs.

Respondent 4 also mentioned that fleet management is something they could be interested in outsourcing, since the respondent feels there are not enough professional fleet managers in the humanitarian sector. This profession needs to be better recognized and the respondent suggests maybe modifying their contractual conditions in order to give more incentive to professionals to join the

humanitarian sector. In the future there may be some institutions that would train and prepare good fleet managers for the sector, but currently the respondent said that there is a lack of experts. Therefore, the work is not sustainable in the long run and cannot be outsourced.

4.2.3 In-house kept activities

When it comes to which fleet activities that should be kept in-house, four respondents said that they would not outsource the overall management and control of the vehicles. Respondent 1 said that unless a company or organization could ensure them that they could have a vehicle available in any place in perfect condition they would prefer to keep the control of the fleet in-house. Respondent 8 said that even though they do not consider fleet management as their core area, they would also keep it in-house if there is no commercial outsource provider, if it is too expensive, or if they are compelled to do it because of the operating environment.

'If you outsource everything then you will not become a professional or specialized in anything' – Respondent 4

Respondent 4 said that whatever possible to keep in-house is good for the sake of the self-sustainability of their operations. The respondent does not suggest to do everything themselves, but sees the benefits of being directly involved in projects since it gives certain experience and knowledge on how to deal with certain issues. If they do not have specialized staff in the organization, they would not be able to maintain the service level. In addition, their aim is to deliver services to their beneficiaries and when outsourcing, profit margins become incentives. However, the respondent said that if they can see the added value and better quality services for their beneficiaries, then they would outsource. But the respondent personally prefers to do it themselves since it permits specialization of their staff.

For respondent 3, insurance has been proven as a valuable thing to have in-house, because external providers are not able to provide the same level of service and reduced cost as they themselves can. Respondent 2 mentioned that procurement is

also an in-house function, except if one moved into a different finance option with leasing.

'The tracking of our vehicles is something that we need to be very closely engaged with, (…) because when things occur the need to respond rapidly is a critical factor in maintaining safe standards' – Respondent 3

Three respondents said that tracking is definitely an in-house activity for them. Respondent 2 also mentioned that the safety and driver training currently works well in-house and that they would not outsource it easily. Respondent 7 said that it is important for them to keep the same drivers since they are familiar with the agency"s operations and thus can contribute to the activities. For this agency, the drivers play a key role in the fund phase since they represent the agency in the field. They set certain standards, like speed limits and how to represent the organization, and therefore it is important for them to have the same staff on a long-term basis. However, the respondent mentioned that if they could have a leasing scheme where they kept the same drivers, this is something that could work for their organization in terms of outsourcing fleet management in general.

4.2.4 Third party requirements and evaluations

When responding to this question, one respondent pointed out the difference between an external service provider and a third party provider, and stressed the importance of fleets being an integrated part of the organization. Whether or not a provider can fulfill these needs is an important remark.

'The vehicles are used as an aiding task item (…), so the fleet is an integral part of the business itself, like your human resources, (…) and not part of supply chain management' – One respondent

When it comes to evaluating service providers, five respondents said that they would look into their availability of vehicles, the quality of their service, and the cost. Respondent 2 would look at the footprint of the service provider, whether

they can provide the services such as maintenance, fuel, and repairs at all the different places and areas the agency operates in. These three services are determined by the areas they operate from, so they would map and match where they are operating according to the activity footprints of the provider.

Respondent 8 would like to keep the ownership of the vehicles, but have a full service contract with a company at a per-kilometer charge. The respondent said that they are currently looking at the option to pilot a full maintenance outsourcing to the NGO Riders for Health. Respondent 3 said that they would require the same sort of level of service as they currently give in-house, but without them having to administer anything. The respondent said that they would be interested in a company that had the economy of scale to give them vehicles on a monthly lease basis that was cost effective. The provider would take care of procurement and replacement of vehicles, while the respondent"s agency would have to schedule the payments and recover those from donors. Respondent 1 also mentioned the availability and reliability of vehicles and being able to have vehicles in perfect condition in any given place as a criterion. They would also require a detailed invoicing so that it would be clear for them and their donors to see what services they are paying for. The respondent would also expect that the service provider came with alternatives in terms of providing vehicles in certain areas, maintenance, and control, which are the three most important points for this respondent.

Respondent 7 would evaluate the provider"s ability to offer a full package of services. The package could include maintenance, tracking, and insurance, guaranteed new vehicles, and even properly trained drivers, at a reasonable price, either a monthly lease or per vehicle. However, the respondent feels that the offers currently made are at a certain price and management fee, but if the vehicles break down in some locations, the commercial providers cannot offer services. In this case they would have to tow the vehicles back to get the contracted services in certain locations. Thus the respondent feels that "nobody" is offering a decent maintenance package and that it would be quite useful if a company could provide spare parts and maintenance at smaller locations as well as in capitals. Another challenge is that sometimes the charges are made by kilometer or per vehicle, and

other times the commitment is for a certain time. The respondent said that this is a challenge since their donors often do not want them to pay for the whole vehicle, thus making commitments difficult. For instance, if they would have to tie for 5 years with a provider and they only get funded for two, it does not give them the much needed flexibility.

Respondent 9 has a contractor evaluation report linked with maintenance which they evaluate four main criteria: contract compliance, adherence to scope of work (specifications), quality of work and material, and general compliance. Depending on the report and evaluations, they would renew or extend the contract with that provider. Respondent 10 also said that screening providers for their financial capability, but also their child labor policy and involvement with weapon manufacturing, for instance, is common. On a global level they would tender for vehicle frameworks and agreements and then screen the providers. These contracts normally last 2 or 3 years and then they are re-tendered or renegotiated. The provider evaluation would thus have be more detailed, looking at their capacity, preposition ability, and speed of delivery, etcetera.

4.2.5 Cooperation between agencies

Cooperation between agencies in terms of fleet activities appears to be very limited. Although we know that some of the responding organizations set up garages of their own in remote areas, only one respondent said to have provided maintenance for others. It is also apparent that most organizations use the same type of vehicles (usually Toyotas), yet nobody mentioned consolidation of procurement or shared supply of spare parts with other agencies. Cooperation seems in most cases to be limited to informal information sharing, also between agencies that are partners.

Respondent 1 was not aware of any NGO providing maintenance to other NGOs, but considered it to be an interesting scenario. If an agency has made an investment to have a strong workshop it would be “highly appreciated” by others and it could cover some of the costs involved in running the workshop. Respondent 2 said that there were weekly conversations between some NGOs about how they operate, the challenges they face, and how they solve them. There

are established relationships, but no provision per se of services to the others, although this was thought to be a possibility in the future. Especially in terms of maintenance, safety and driver training this respondent thought there would be closer cooperation. Respondent 3 also said that current cooperation was limited to exchange of information, although there had been some transfers of assets to a partner organization, including some training on the handed-down vehicles and the communication equipment that came along with them. Respondent 7 said the Fleet Forum was the common ground for sharing information with other NGOs, but apart from this there were also informal networks between logistics managers that share information with each other. Only one respondent answered directly yes about providing fleet services to other NGOs. This respondent said they provide fuel and assist with maintenance in some locations, particularly if they have an agreement with an international organization that is providing these services for them. They have also been supported in fleet activities by NGOs such as Danish Refugee Council, Norwegian Refugee Council, Technischen Hilfswerk, Swedish Civil Contingencies Agency (MSB) and GTZ, a German agency for technical cooperation.

4.2.6 Future challenges of humanitarian fleet management

Environmental issues were something that was given attention at the Fleet Forum conference. In the Aidmatrix survey, a total of 40 percent said that they were not able to track or are struggling to collect data on total mileage, fuel consumption, and carbon emission. However, of the 60 percent that do track, 87 percent are successfully capturing fuel consumption. Running a clean fleet was a current and future problem also brought up by respondent 3. This respondent said there is a wish to reduce emissions of the fleet, but poor access to clean fuel makes it difficult to swap to more fuel-efficient vehicles. They cannot buy vehicles with computerized engine management; if they put dirty fuel in these vehicles they would run the risk of complete fleet outage because the engine shuts the vehicle down. This has led them to continuous use of their high-emission vehicles. Another interviewee, respondent 7, expects that the vehicle manufacturers will adhere to new environmental laws on emissions and continue to manufacture more vehicles with computerized diagnostics. This respondent also mentions that dirty fuel in operating countries will make it difficult for the agencies to use these

vehicles. In addition, it will pose a new problem on the maintenance side; as the vehicles get more advanced it will be even more difficult to find skilled mechanics in the field and receive quality service. A third respondent that brought up environmental issues was respondent 4. This respondent said the humanitarian sector as a whole needs to reduce carbon emissions. It is not valid to say that because an agency runs a small fleet the impact of that fleet is small. There is a need to create a culture for it; driving around in a capital with a powerful 4x4 vehicle while and at the same time talking about the negative consequences of pollution sets a bad example. This respondent suggested that electrical cars should be used by representatives from the big aid agencies and the international community in order to set some good examples.

Two respondents brought up fleet costs as a future challenge. Respondent 1 said fleet is one of the core expenses, and there is an increasing pressure to reduce costs. There needs to be a better way to utilize vehicles and share them in order to optimize expenditures. Respondent 4 was also one to mention cost cuttings. This respondent‟s concern was how to reduce cost by cutting down on the fleet size without at the same time reduce the quality of the work performed. Respondent 2 said that the biggest future challenge would be to implement a common platform with a management system to collect data. It would also be an issue to analyze that data so that it can be transferred into management information that can be used by the organization to manage the fleet better. Also respondent number 5 mentioned technical challenges related to creating a system for fleet management, as well as how the users will accept the system. Finally, a security-related challenge that is on-going and expected to continue into the future is the risk of car-jacking and abduction. Respondent 3 said that in some locations security reasons make them unable to use their own robust vehicles to travel for long distances into remote areas. In these situations they instead need to use hired vehicles, and getting hold of these at an adequate quality is a challenge.

4.3 An ongoing outsourcing initiative: Fleet management at UNHCR

One of the organizations we interviewed for the cross-sectional study, UNHCR, had recently initiated a large-scale fleet management project. The project derives from a realization that the level of control of the fleet should be increased

considerably, and that there are great cost saving potentials. One of the sub-questions we aim to answer in this thesis is what the current attitudes towards outsourcing fleet management are. UNHCR is in favor of outsourcing fleet management and plans to find a suitable provider to cooperate with on this. Because it is of interest to us to see what considerations they have made and how they go about this initiative to outsource we choose to give this project a separate presentation.

The UN Refugee Agency (UNHCR) works to protect refugees and resolve refugee problems worldwide. UNHCR is a large organization with a staff of some 7,685 people (UNHCR 2012). They have a vast fleet of more than 7,000 vehicles spread out over a good 100 countries. The fleet is very diverse in its composition, comprising vehicles such as passenger cars, armored vehicles, construction vehicles, agricultural vehicles, and buses (Hov 2012). UNHCR estimates its annual fleet cost to be $50 million, in addition to an estimated annual acquisition cost of $25 million (Escribano 2012).

The project has recently been approved and thus many details have yet to be decided on. But the overall idea is to establish a sound way of running the fleet by centralizing several functions and subsequently outsource the management to an external service provider. The fleet project comprises four elements; 1) establishment of UNHCR Fleet Management Policies and Procedures, 2) establishment of a Fleet Management Unit (FMU), a fleet management software and a tracking system for all UNHCR vehicles, 3) establishment of a fleet fund for procurement of vehicles and reimbursement of monthly vehicle charges to the operations, and 4) establishment of a comprehensive insurance scheme for all UN vehicles including a self-insurance pool (Hov and McConnell 2012).

The new fleet management system will include an internal leasing scheme, where the different operations worldwide will be billed on a monthly basis according to the number of vehicles in use. The software will be implemented to help keep control of invoices related to this scheme, and to transfer information to the overall accounts of the organization. The project is highly inspired by the way IFRC manages their fleet, but UNHCR takes it one step further by outsourcing the

clerical management functions. The temporarily employed members of the Fleet Management Unit (FMU) are thought to either be released at the end of the project or be employed by the external company (Hov 2012).

The expected benefits of the fleet project are plentiful. First of all the leasing scheme will provide better control of the age of the fleet. The lifecycle of a vehicle is planned to end after about five years of use, and the operations will immediately be offered a new vehicle. The vehicles will then be disposed of in the most suitable way according to the location, and it is expected that this will result in higher resell prices. Because the leasing scheme will send invoices to its users the central FMU can become self-funded. Another benefit of the project is that budgets can be reallocated from the administrative function to the operational function. When you have a fleet of a certain size it takes a certain number of people to manage it. At the same time, humanitarian organizations are constantly measured on costs related to administration. It is therefore always an incentive to keep staff costs down. By outsourcing the fleet management to an external service provider you avoid staff costs and fleet management becomes an operational service that you pay for in order to operate efficiently in the field (Hov 2012).

An important prerequisite for outsourcing is that policies have already been established and that you know the details of the service you require. This is why UNHCR have decided to go through the process of centralizing functions and create the appropriate tools before looking for the right service provider. The cost of establishing and implementing the project is estimated to become approximately $2.8 million over the course of two years (Hov and McConnell 2012). The annual savings from implementing the project however, are estimated to become between $14-20 million (Escribano 2012). Furthermore, the project is supposed to create a foundation for implementation of other fleet related projects in the future, such as fuel management, and management of spare parts and maintenance.

Summary of cross-sectional study

In this chapter we have examined the demand for fleet services in the humanitarian sector by looking at the challenges involved and the current use of

external service providers. The activity that singled itself out as the most problematic area was the maintenance of vehicles. Maintenance was repeatedly brought up, to the extent that we wondered if the term "external service provider" was automatically associated with a provider that can do service on the vehicle, that is, perform maintenance. Other activities demonstrated different degrees of difficulties. We could see that some factors, such as government regulations and donor requirements, complicate different activities, creating a grid of cause-and-effect-relationships. We have also looked at the fleet project of UNHCR, and registered that their approach involves a centralization of the fleet management function before outsourcing can be realized. The findings from this section will be brought up in the discussion of the two first sub-questions in chapter 6.

5. Case study: Wilhelm Wilhelmsen Shipping Company

In this chapter we will look at the "supply side" of fleet management. The case we look at is that of the logistics service provider role of Wilh. Wilhelmsen, in order to see whether they have what is required to provide fleet services for the humanitarian sector. The purpose of this section is to create a foundation for answering this thesis" third sub-question:

> *(iii) What can a global logistics service provider, with extensive resources and experience in providing supply chain solutions, offer in terms of humanitarian fleet management activities?*

We will first identify where the LSP role lies in the WW Group, before we go on to look at their resources and capabilities according to Barney"s (2011) classification. Further, we look at the experience Wilhelmsen has with the fleet management activities that we interviewed our respondents in the humanitarian sector about. Finally, we look into three companies that already supply the humanitarian with fleet services, in order to shed further light on what capabilities are crucial when operating in this sector.

5.1 Logistics provider role of WW Group

Initial meetings we had with representatives from WW Group in connection with the Contribute research project suggested that a potential involvement in the humanitarian sector would be a joint project between WWL and WSS. This is

because the logistics service provider capabilities are distributed between these two companies in the WW Group. In the following section we will go through the different services offered by WWL and WSS.

5.1.1 Wilhelm Wilhelmsen Logistics (WWL)

As mentioned, WWL is a joint venture between the Swedish shipping company Wallenius Logistics AB and Wilhelmsen Ships Holding Malta Ltd (2wglobal 2012). The core activities of Wallenius are ownership and management of vessels, whereas the core business of Wilh. Wilhelmsen is international liner activities. Since the merger of the operating activities of the two companies in 1999, WWL has developed into one of the world"s leading roll-on/roll-off (RoRo) carriers. The service offer lies within five areas:

(i) Ocean Transportation

WWL operates a modern fleet of about 60 pure car track carriers (PCTC) and (RoRo) vessels. The vessels are built to house 6,500 cars or car equivalent units (CEU). The PCTCs have 13 decks where six of them are movable to allow for more flexibility in storage of high and heavy rolling cargo. The RoRo vessels have six decks and can accommodate all types of cargo including containers, static load and rolling cargo.

(ii) Terminal services

WWL operates terminals in eleven strategic locations of the world, situated in Europe, Asia and the United States. At these locations cargo can be efficiently handled, stored and forwarded by road, rail or short-sea feeder connections. The terminals are equipped with communication and information systems that allow WWL to keep exact track of cargo, whether it is situated in stock at the terminal or on board any of the vessels.

(iii) Technical services

At 30 locations worldwide WWL is able to deliver technical services in order to ready the vehicle or rolling equipment for the relevant marketplace. These services include repairs, storage management, pre-delivery inspections and accessory fittings. The technical services can be delivered both in WWL managed

Vehicle Processing Centers (VPC) and at the customer in-plant VPCs (see figure 18 below). Technical services can also be procured from strategic partners in areas where WWL themselves are not established.

(iv) Inland distribution

The inland distribution of vehicles and rolling equipment is managed through a combination of WWL"s own trucking fleet, dedicated subcontractors and independent operators of several modes of transportation. The inland distribution network allows WWL to fulfill the „from factory to dealer" policy. Figure 18 below shows the reach of WWL"s inland distribution.

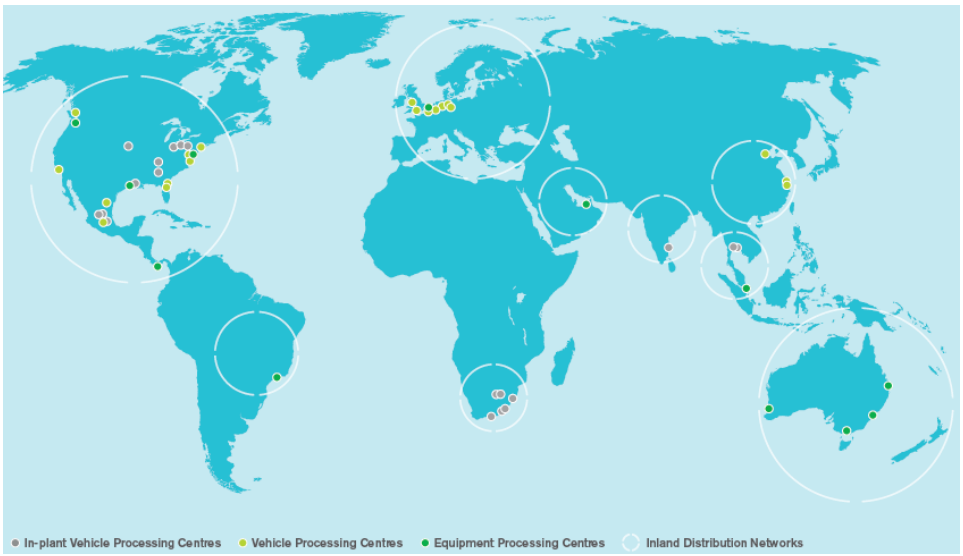

Figure 18: WWL inland distribution and technical services (WWL 2012)

(v) Supply Chain Management

The services mentioned above can be put in combination with supply chain management (SCM) activities in order to provide full "manufacturer to dealer" solutions. The SCM activities include order planning, tracking, performance reporting, payment administration, and procurement and contracting. WWL presents their SCM as a tool to reduce costs, improve reliability and increase control for the customer.

5.1.2 Wilhelmsen Ships Service (WSS)

Wilhelmsen Ships Service (WSS) calls itself the world"s leading provider of marine products and services, focusing on delivering improved vessel operating efficiency. In 2011, WSS made 214,000 product deliveries to 24,000 vessels and handled 54,000 port calls. The company offers safety products and services, Unitor products, Unitor and Nalfleet marine chemicals, ship agency services, and maritime logistics.

Safety products and services enhance safe vessel operations and include: fire, rescue and safety services, chemical services, welding training, refrigeration training and environmental protection agency (EPA) training. *Unitor products and chemicals* include a broad range of fire, rescue and safety equipment, welding and refrigeration equipment, as well as spare parts, gases, cleaning, and maintenance chemicals. WSS has more than 120,000 refillable refrigerant cylinders in constant circulation worldwide, and is the world"s market leader in environmentally acceptable marine chemicals. *Nalfleet marine chemicals* include the full range of water treatment chemicals and test kits.

Ship agency handles shipments and cargo. In 2011 WSS was named Ships Agent of the year at Seatrade Middle East and Indian Subcontinent Awards (SMEISA) for the second year in a row (WSS 2012), and it possesses the largest network of ships agents. The Ship Agency Service Agreement involves that every customer is assigned a single point-of-contact, a Global Agent, to overlook and coordinate their global port-calls and receive consistent service world-wide. Through the use of electronic disbursement accounts, predictable pricing, and one single bank account, WSS provides their customers with easy access to operational details and efficient cash transactions. WSS ship agency offer the following ship agency services: (i) full agency, (ii) protective agency, and (iii) husbandry. The services are supported by a web-based operations system that ensures a globally uniform service delivery. The *full agency* service involves the pre-planning of port calls. *Protective agency* ensures that the customers" interests are taken care of, for instance monitoring vessel operations at port and follow-ups on expenses. *Husbandry* services involve the repair and attendance to the management and equipment, and other concerns of the ship. The WSS ship agency also provides

global business solutions and canal transit. The global business solutions involve the management of customers‟ non-essential agency related tasks that are outsourced to WSS. Outsourced tasks may for instance involve services related to appointment of agents and reporting of cargo objects and time scheduling.

The *Maritime logistics* division provides a range of commercial and operational services, both project and more long-term activities. The services include: project logistics (consulting, planning cargo handling, and management of operations) of nontraditional cargo (e.g. sailboats, airplane wings, or military cargo), warehousing, distribution, liner agency, and non-vessel operating common carrier (NVOCC) and freight forwarding (including sea-, land-, air-freight). Maritime logistics offer end-to-end transport of goods and services, meaning that they can undertake a small part of an operation or conduct the whole logistics from manufacturer or warehouse to end destination for a specific cargo.

In our literature review we saw that there are three categories of logistics companies (Virum 2006). After looking at the services WWL and WSS provide, we can characterize Wilh. Wilhelmsen as a category I, II, and III LSP. The asset-owning and single-shipment characteristics of a category I company are exemplified by the vessel ownership and liner shipments of WWL. The consolidating activities of a category II company are exemplified by the terminal services, tracking systems and inland distribution services of WWL. The category III, or 3PL, characteristics of Wilhelmsen appear in the supply chain management service of WWL, as well as in the manufacturer-to-end-destination service of Maritime Logistics in WSS. WSS is also able to perform whole shipments for clients using only the transportation modes and assets of the suppliers in their network, thus also giving Wilhelmsen some characteristics of a 4PL company.

5.2 Resources and capabilities

We have seen in the literature review that there are three theoretical outsourcing frameworks hat can be used to argue for a decision to outsource; transaction cost economics, resource based view and network theory (Selviaridis and Spring 2007). TCE theory promotes outsourcing whenever there can be cost benefits.

One prerequisite for using this theory is that one has a fairly clear picture of what the current costs are. Our impression of humanitarian fleet management is that there is generally little overview of consolidated costs for the fleet, due to lack of tracking and decentralized management models. We therefore do not think this theory is best suited for decision making regarding outsourcing in a humanitarian setting. NT promotes tapping into the network of the LSP to both draw benefits from it and enhance it. Considering the scope of our thesis, we think it would be too comprehensive to look into the extensive network of Wilhelmsen. The theory we choose to apply to shed light on the third sub-question is therefore RBV. The following section will look at the resources and capabilities of Wilh. Wilhelmsen, both in terms of financial, physical, human and organizational capital (Barney 2011) and directly in terms of fleet activities.

5.2.1 Financial capital

WW"s operating profit is quite stable, ranging between $150 million (2007) at the lowest and $292 million (2011) the highest in the last five years (Wilhelmsen 2012). In 2011, the group achieved a net profit of $143 million, compared to $13 million in 2010. The group"s financial strength allows them to be selective; if a contract requires too big safety risks in order to be delivered at a competitive price, the project will be rejected. Unlike many other transportation providers, Wilhelmsen can set up and control an entire distribution chain using only their own offices. Many other transportation providers purchase services from other providers in order to give their customers an end-to-end logistics solution, which means that their end price offered usually includes both their own and the sub-providers" margin. As Wilhelmsen can control the entire distribution, they can charge a price containing a single margin, before splitting it with the offices later on; avoiding the "margin on top of margin" method. Price is a very important factor and Wilhelmsen is not the cheapest supplier in the market (Rud 2012). However, since they are associated with quality they often get more assignments from clients than they choose to accept.

5.2.2 Physical capital

According to the company itself, it is the network it operates that is WWs main competitive advantage (Hole 2012). This network manifests itself through the

local presence the WW Group has throughout the world. WSS can service 2,400 ports in 125 countries, and has about 400 offices around the world with their own employed agents. Connected to each of these agents are local networks of suppliers and cooperating partners, and sometimes even competitors (Rud 2012). This qualifies them to be the largest maritime network in the world (Wilhelmsen 2012). WWL has about 50 offices of their own, but they also utilize the offices and the local knowledge of the WSS agents.

Other physical capital is the fleet of vessels owned by WWL and its sister companies. The vessel fleet is a capital intensive resource and vessel procurement is time-consuming. WWL‟s vessel specifications enable them and their customers to be flexible in terms of RoRo cargo and other heavy bulk cargo, such as yachts and windmills. In addition, the WW Group has access to warehouses and yards in some locations, but these are mostly rented. This is both because there can be governmental restrictions to ownership in port areas and because price fluctuations can be unpredictable, making ownership less attractive (Olsen 2012).

5.2.3 Human capital

Another aspect of their service offering is their human capital in terms of individual knowledge throughout the firm. WWs local presence and knowledge is one of the most important aspects of their service. They are able to compete on price and provide quality as a standard because the customers‟ cargo is often handled solely by Wilhelmsen, with a contact person in each location (Olsen 2012). Through the network, the group can tap into any human capital needed for a specific project or contract, providing their customers with the right competence for any problem or need.

With 150 years of experience in the maritime sector, Wilhelmsen has gained knowledge and good customer relations with many segments. One segment where Wilh. Wilhelmsen has a leading position is the military market. It is the world‟s leading provider of sea transportation for military equipment (Rud 2012). Cooperating with the military has given Wilh. Wilhelmsen good knowledge of operating in demanding areas where infrastructure is poor and safety is an issue.

The local offices with knowledge of local conditions have been valuable for establishing the current position in the military market.

5.2.4 Organizational capital

Wilh. Wilhelmsen as a brand name has a strong position in the market because of the company"s long history and focus on quality of delivery (Hole 2012). When operating globally, the company applies Norwegian standards for safety and is careful to behave ethically correct. WW obtains their good reputation based on their service quality and success rate. They do not undertake projects that compromise their predetermined quality standards (Hole 2012). The group therefore sports low damages, both to people and cargo, ultimately strengthening the company"s organizational capital.

The strong organizational culture within the group allows for better cross-company cooperation. Even though the group consists of many diverse daughter companies operating with different clients and at different parts of the world, there is still a strong Wilhelmsen identity that they all share. If for instance someone is faced with a big challenge, "everybody" is eager to support each other since they are all part of the same family (Hole 2012). In addition, the way WSS has organized their ship agent service by having one global point of contact for each client, supports the organizational culture. This is mainly because it allows for a joint effort on a client"s behalf, but also because it strengthens the sense of belonging to one global family.

Another form of organizational capital is Wilhelmsen"s green profile. Their 2011 Environmental Report states that despite an increase in cargo transportations and more sailings that in 2010, the fuel consumed per cargo transported (g/tone nm) decreased by 1.6 percent, showing a more efficient vessel operation than ever previously reported. In addition to the vessel operations having a strong green profile, WWL"s terminals are environmental friendly (Rud 2012). Wilhelmsen has also managed to obtain a green profile in the marked by providing more environmentally friendly services to their clients. Their customers have the choice of optimizing a transportation route with regards to price, lead time, or CO_2-

emission (Rud 2012). This service has emerged through interactions with clients, corresponding to their demand.

5.2.5 Combining resources

When considering resources and whether they create a competitive advantage or not, it is important to remember the benefit that lies in combining of resources. The more the resources are combined, the stronger the competitive advantage is. For instance, Wilh. Wilhelmsen"s good reputation and extensive network are advantages in themselves, but it is the synergy that exists between them that creates a sustainable competitive advantage, and ultimately gives the company the position it has in the maritime market.

Wilh. Wilhelmsen has many shared resources, such as vessels, knowledge, insurance and offices, among others. By sharing the same vessels for different service activities, for instance, they are able to utilize economies of scope by decreasing the cost per nautical mile. Although there is extensive cross-usage of resources within the WW Group there is no central coordination of activities between the companies. It is the people that are involved in each separate project that have the responsibility of implementation. These people are often put together from different companies because of the competences they have (Rud 2012). It is important for the quality of operations that coordination is done by those involved in a project, that are close to and familiar with the local area (Hole 2012).

The cooperation between WWL and WSS on Volvo Ocean Race, a worldwide sailing competition, is an example of how the companies combined resources in a common project. WWL was one of the partners of the competition and provided vessels for the transportation, while WSS was responsible for the logistics for the equipment of the organizers and the different competing teams (Rud 2012). Usually one company has the project manager role, while the other works as a sub-provider (Hole 2012). If there is a client that wants cargo delivered "all the way", WSS is usually responsible for planning the inland and last-mile distribution, with storage capacity on land, while WWL takes on the sea freight (Olsen 2012).

In the same manner that WWL and WSS take on different roles in different operations; other actors in their network can be both competitors and cooperating partners. For instance, in a recent tendering process for a big contact, there were five companies involved in addition to WWL. WWL was chosen as the preferred supplier, but in order to deliver as promised, they now have to buy services from the same companies they were competing against (Rud 2012). This is another example of how WW‟s skills and capabilities reside both within the boundaries of what it controls through ownership, and within its access to the resources of others, provided through interfaces.

5.3 Wilhelmsen fleet management capabilities

As mentioned previously, any potential involvement in humanitarian fleet management from Wilhelmsen‟s side is likely to be a cooperation between WWL and WSS. To highlight whether Wilhelmsen can use its capabilities to contribute to humanitarian fleet management we had an interview with four employees from these two divisions. At this meeting we discussed the different fleet activities, from procurement to disposal, as well as previous cooperation projects between the two divisions. Complementing information was also extracted from the Wilhelmsen web pages.

In terms of *procurement*, Wilhelmsen is quite professional. WWL alone does procurement for about $4.6 billion a year within different goods and services. However, procurement of vehicles takes place on a rather random basis. When the need arises to buy vehicles, specialized global teams are put together to assist the person who is responsible for the purchase at the location in question. There are experienced procurement personnel situated in all the different divisions. The company thinks they are able to achieve good prices in any location of the world, and that this competence easily can be transferred to sourcing and procuring vehicles for humanitarian organizations (Rud 2012).

Transportation of vehicles by ocean freight lies at the heart of the WWL service offer, and through the network of WSS any mode of transportation can be utilized. In terms of transportation of general relief items, Wilhelmsen thinks its

contribution could be greatest in the second and third response-phases that have a long time-horizon. However, in terms of fleet management it is the immediate response-phase that is most interesting, because vehicles are among the first supplies to be brought into a disaster area. In addition, it is mainly the vehicles that are moved from one location in the world to another that are interesting for Wilhelmsen. International transportation of vehicles can allow Wilhelmsen to bring the vehicles through the ports where they have technical centers. It is in these locations Wilhelmsen can be able to do *maintenance* and repairs on the vehicles. Wilhelmsen would use a combination of ocean freight and air freight in the case of an emergency. In the first days and weeks of the response the vehicles would have to be flown in, and sub-sequent supplies of cars could come by low-cost ocean transportation. The company claims that it has sufficiently good freight-forwarding capabilities to offer the immediate shipment of vehicles into a disaster area just as efficiently as any other logistics company (Rud 2012).

In terms of *insurance* there is an affiliated company under Wilhelmsen Ship Management (WSM), called Wilhelmsen Insurance Services (WIS). WIS offers marine insurance services for ship owners, including inviting tenders and marine claims handling (Wilhelmsen 2012). This company is situated at Lysaker, Norway, and is a part of the vast resource base that the WW group possesses. In terms of *disposal* of vehicles, this is not an activity Wilhelmsen has much experience with, as they have limited ownership of vehicles themselves. What they do have experience with is disposal of vessels through scrapping. This is an activity where they maintain a green profile in terms of how they handle oil and other hazardous materials present in the ship. Any disposal of humanitarian vehicles would be done according to the required policies, and it is the opinion that Wilhelmsen should be able to perform this activity (Rud 2012; Hole 2012; Olsen 2012). In terms of *safety* Wilhelmsen puts down a great effort to have high standards of risk management. WSS has extensive experience with transportation of cargo for the American military in areas where security is a challenge. In these areas Wilhelmsen can demonstrate low damage to both drivers and cargo. They try to use the available technology and methods to reduce risk, resulting in a reputation for high quality and reliability of delivery (Hole 2012). Finally, in terms of *warehousing* of vehicles, Wilhelmsen offers many solutions. At their

terminals and at their Vehicle Processing Centers (VPC) WWL can store a great number of vehicles, mostly by outdoors storage capacity, but in some locations also by indoors warehouse capacity. WSS has warehouse capacity throughout the world for storage of different goods such as gas cylinders (2wglobal 2012; Olsen 2012).

5.4 Existing providers of fleet services to the humanitarian sector

In order to contrast the resources of Wilh. Wilhelmsen with the demand for fleet management we will in the following section present three organizations that currently supply fleet services to the humanitarian sector. These three organizations are the small NGO Riders for Health, the Global Logistics Service (GLS) of the large humanitarian organization IFRC, and the commercial fleet and infrastructure company RMA Group. Riders for Health and IFRC are presented based on secondary sources, and RMA is presented based on an interview with a company representative.

5.4.1 Riders for Health

Riders for Health is a non-profit social enterprise that operates in seven African countries. They employ approximately 300 local people and manage about 1,300 vehicles, most of these motorcycles. Riders focuses on reliable transportation to bring health care to people living in remote areas where distances, terrain, poverty and lack of transport alternatives prevent them from reaching health care centers. Health workers mobilized by Riders for Health made health services more available to 12 million people in 2010. This NGO has vehicles and management of vehicles as their sole focus, and base their work on the notion that vehicles must be reliable at all times (Riders 2012). Riders received the Best Transport Achievement Award at the Fleet Forum annual conference in 2012, for their collaboration project with the Ministry of Health in the Gambia.

Riders for Health can provide maintenance both in their workshops and on an outreach basis, which means that technicians will travel to the field to do service on location. Their zero-breakdown policy is based on regular, preventive maintenance. They have experience with working in projects for ten years without a single vehicle breakdown. In Zimbabwe, Riders provide driving and basic

maintenance courses, as well as fleet manager training. In addition to working with health authorities, Riders have experience with providing fleet management to humanitarian organizations. In Nigeria, Riders operate seven workshops throughout the country. These workshops service a total of 120 vehicles used by international and local agencies, such as UNICEF, UNDP and WHO. From 2000 to 2006, Riders managed 40 Nissan vehicles for WHO in the Democratic Republic of Congo. In 1993-94, Riders operated 600 motorcycles in Ghana for the Save the Children Fund program (Riders 2012).

5.4.2 IFRC's Global Logistics Service

The Global Logistics Service (GLS) focuses on supporting and increasing the IFRC"s and its 187 member National Societies" logistics capacity, as well as providing logistics services on a non-profit basis to third parties in the humanitarian sector. GLS builds on 90 years" experience of delivering humanitarian logistics services, and operates in more than 80 countries. Their key service offerings involve procurement and transportation, warehousing and handling, pre-positioned stock, comprehensive insurance cover, and fleet services. GLS provides these services through a worldwide network that consists of three regional logistics units (Kuala Lumpur, Panama, and Beirut), two logistics hubs (Las Palmas and Nairobi), a Global Fleet Base and logistics unit (Dubai), secretariat headquarters in Geneva, and a pool of logisticians in emergency response units (ERUs) that can be deployed at operational level around the world (IFRC 2012).

GLS, through the Global Fleet Base in Dubai, manages a fleet of over 1,000 vehicles worldwide. Since 1997, GLS has been providing a self-sustained and non-profit Vehicle Rental Program (VRP) which involves renting vehicles on a monthly basis (IFRC 2012). The vehicles can be equipped with radio equipment and recovery kits, as well as they can also provide motorcycles, forklifts, generators, and even motor boats. Due to their size and capacity, GLS is able to achieve competitive prices on vehicles, up to 15 and 20 percent less than a commercial provider. The VRP also includes full insurance on vehicle, driver, and passenger, as well as driver training, fleet management support (e.g. eco-driving, optimized vehicle use, and planning), and access to the IFRC web based fleet

management system, Fleet Wave. Since 2006, GLS has trained over 200 drivers and instructors worldwide.

GLS has also established a Clean Fleet Strategy with the aim of reducing CO2-emissions by 18 percent on its fleet. The strategy involves training drivers and fleet managers in eco-driving, as well as advocating for the use of environmentally friendly vehicles and low-sulphur fuels in countries where they operate.

5.4.3 The RMA group

The RMA Group has headquarters in Bangkok, Thailand, and is a company that designs and implements automotive and infrastructure solutions in emerging, post-conflict and complex markets around the world. They provide these services for governments, NGOs and private-sector companies, such as in the mining and oil and gas sectors. Their number of employees counts a total of about 5,000, stationed in about 40 countries (RMA 2012). Within the automotive sector, RMA can supply and modify vehicles for companies that need specialized fleets. They have strategic partnerships with auto manufacturers, and in terms of the aid sector they are the sole dealer for Land Rover, and one of two dealers for Ford vehicles. On a yearly basis they supply approximately 11,000 vehicles (Jones 2012). Some of the other services they provide lie within supplying infrastructure projects, heavy equipment, power generating systems and facilities management, as well as solutions and support systems for logistics, land transport systems, maintenance support, contingency operations, and training and mentoring programs (RMA 2012). In terms of governmental development support, RMA for example supplies vehicles to the FM Security Forces and the police force in Afghanistan, funded mainly by the US government. An example from the aid sector is a workshop that RMA now operates in Haiti, which maintains the 418 vehicles IFRC have stationed there (Jones 2012).

5.4.3.1 Fleet services provided to the aid sector

In addition to supplying the vehicle in itself, RMA has developed a list of value-added services and after-sales support. In order to customize the vehicles to the customer‟s needs and operating environments they are an approved modifier for

Ford and Land Rover vehicles. Pickups are today made to be utility vehicles, with 60 percent on-road and 40 percent off-road use. By modifying the vehicles they can be made more heavy and durable, and thus better fitted to operate under challenging conditions. The automotive conversion facilities are located in five countries, and there are parts and distribution facilities in free ports in Thailand and Dubai (RMA 2012). When a vehicle is modified they will look at the total integrity of the vehicle by going through dynamics testing and adjusting the suspension, thus maintaining the warranty of the vehicle. RMA has a full product development department with employees that used to work for Ford and Toyota, and thereby regard themselves as being closer to a manufacturer than an accessory fitter. As an alternative to purchasing a vehicle, RMA also offers leasing. Leasing is a financial tool for the humanitarian organizations, but it is also a way to package all the control elements together and centralize the control of the sourcing of vehicles (Jones 2012).

In terms of maintenance, RMA offers contract maintenance both through local dealers and through designated workshops that they set up for organizations. When they manage the workshop they also take care of the spare part supply chain, and they give a fixed price service. In addition to the two vehicle brands they are suppliers of, they can offer spare part supply for brands such as Mazda, Chevrolet, GMC, Toyota, Mitsubishi and Tata. RMA also offers pre-fabricated service garages to be used in remote locations. These containerized mobile service facilities can be prepared and shipped within 30 days, as well as transported and assembled on-site within a few days. Another after-sale service they provide is a 24/7 technical support helpline. If they are not able to support the customer over the helpline they can dispatch a technician to the location in question. Where there is no in-country representation they can fly in technicians (RMA 2012).
In terms of the other fleet activities that we have identified and interviewed our respondents about, RMA has different degrees of experience. Because they supply the sector with two frequently-used vehicle brands, they do not offer procurement services. The perception is that it would be challenging to keep a clear line between the two services, and that they could easily be accused of being biased. In terms of warehousing, they have a strategic inventory of non-modified vehicles ready for shipment anywhere in the world within 48 hours. Transportation of the

vehicle to the customer‟s location is handled by RMA‟s logistics division. A global insurance program with different options is offered through Clements International. RMA generally does not offer driver training, but it has occasionally happened. They do however provide full training for technicians, where they take people from level one to level four-technicians over a period of four years. Driver training is something they hope to offer more of in the future, as it has a big and fast impact on operating efficiency and cost. Regarding disposal of vehicles, this is not an activity RMA has been very active in, although for some of the vehicles they lease out they are responsible for it. There are problems related to offering this as a guaranteed price-service. The service provider needs to make sure all costs are covered and a margin is made. It is uncertain what the demand for such a service would be if the agencies believe they can achieve a better price by selling the vehicles themselves (Jones 2012). Finally, RMA offers a web-based fleet management software which can be used to keep track of vehicle maintenance scheduling, inventories, fuel consumption, repair histories, labor tracking, and other metrics. A GPS-linked satellite tracking system can be connected to this software system (RMA 2012). The system can be provided as a service in return for a monthly fee. The agency will then not be required to buy the entire system, and they will not need to spend money on staff for system monitoring (Jones 2012).

5.4.3.2 Other aspects of being involved in the market for fleet services

The RMA Group is one of the significant individual organizations providing fleet services to the humanitarian sector. Existing alternatives to using the RMA Group is to deal directly with the manufacturers, which some organizations manage to do, to use Toyota Gibraltar Stockholdings or the Danish company Kjaer Group, or deal with some smaller service providers. It is also an option to use local dealers, which many organizations do, due to their decentralized fleet practices. According to the company, their advantages compared to their competitors are their broad infrastructure that allows them to offer in-country after-sale support, their representation of multiple brands, and their capabilities within vehicle modification. The organizations they supply come in all sizes, both small and large, and it is not a prerequisite that the organization has a centralized form of fleet management; in some organizations they have contact with fleet personnel at

headquarter level and in other they have contacts at regional level. These organizations operate all over the world, but as a majority of aid distribution happens in Africa, there is a special focus here. The main challenge RMA faces is to persuade the organizations to make use of the after-sale services. Many have little or no fleet management procedures in place. In the organizations that do not have this it is a challenge to persuade senior managers that this is an activity they need to engage in. Many regard fleet management as a cost, when it is actually a way of controlling and reducing costs, although it requires the creation of some positions. Getting a budget allocated so that fleet management can be put on the agenda requires a great deal of persuasion. Another challenge is that in-country programs are not incentivized to look at fleet management solutions and do not feel it is their responsibility. In terms of differences in mandates between commercial companies and humanitarian organizations, this is not regarded as a problem. There can however be embargos on countries that constrain the service provider from supplying the country. These must be adhered to, but the problem can be solved by going to the organization or authority that imposed the embargo and request an exception. Finally, it is important to write a contract where the roles and responsibilities of the agency and the supplier are clearly expressed, as well as establish a routine for reports and feedback. Although the external company is a partner, it is still a service provider making recommendations, and there should be a fleet manager that retains the role of decision making on behalf of the organization.

Summary of case study

In this part of the study we have looked at Wilh. Wilhelmsen as a potential supplier of fleet management services for the humanitarian sector, as well as three existing suppliers. We found positive attitudes from Wilhelmsen‟s side regarding their ability to deliver all the fleet activities to the humanitarian sector. The three existing suppliers we have looked at share a key feature in their ability to deliver fleet services in the locations where their clients operate. In chapter 6, discussions and conclusions, we will use the findings from this case study as a base for discussing the fit between Wilhelmsen‟s resources and the requirements of the humanitarian organizations.

6. Discussion and conclusions

In this chapter we aim to answer our three research sub-questions based on the literature review and our findings from chapters 4 and 5. This chapter is therefore divided into three, where we discuss each of our sub-questions. We will first present the different challenges humanitarian organizations face with regards to fleet management. Secondly, we look at their current attitudes towards outsourcing fleet activities and what the demand for such fleet services is. Thirdly, we discuss what a logistics service provider can offer in order to fulfill those demands through outsourcing. Finally, based on the outcomes of our sub-question conclusions, we will provide an overall conclusion to our main thesis research question, namely: *How can outsourcing of fleet management activities influence humanitarian logistics?*

6.1 What are the challenges faced in managing humanitarian fleets

Our research findings show that there are many different fleet management challenges that humanitarian organizations face.

As explained in the methodology chapter, we have used descriptive coding in order to reveal these patterns and extract our key findings. As shown in the following table, some challenges affect multiple fleet activities, but these also reinforce each other.

Challenges	Causes
Spare parts and maintenance	Unavailability is the biggest challenge. Linked to operating conditions, standardization, planning and cost.
(Lack of) standardization	Leads to high maintenance and spare-parts cost and vehicle down-time, decentralization, and aging fleets
Lead-time	Often long time from procurement to use of vehicle, vehicle down-time due to maintenance and spare parts unavaiablility
Tax status	May restrict import/export of vehicles and disposal alternatives
Donor funding	Constrains flexibility and standardization of fleet policies
Operating environment	Unstable and rural areas affect fleet usage and lifetime and cause complexities concerning maintenance and spare-parts
(Level of) autonomy	Linked to agency mandate, reenforced by donor and government restrictions. Causes lack of policy standardization and resource pooling
Fleet cost	Viewed as overhead cost, often based on estimations
Fleet metrics	Difficult to track and implement due to high levels of automony and lack of standardization
Dirty fuel	Restricts vehicle type and efforts for environmentally-friendly fleets. Causes maintenance issues and alters disposal policy
Ownership	Different ownerships present in one organization due to vehicles being acquired through purchase/funding/leasing/hiring
Security issues	Affects where vehicles can operate and the type of vehicles used. Caused by operating environment
(Lack of) resource pooling	Caused by government and donor requirements, as well as high levels of autonomy in agencies
(Lack of) professionalism	Humanitarian logisticians are very experienced, however, the lack of professionalism affects implementation of fleet policies and learning, as many processes are based on guesstimates and previous experience
Safety issues	Cause the need for insurance and driver training
Mandate	Different mandates call for different fleet management. Affects fleet usage and the need for preparedness.

Table 11: Challenges affecting fleet management activities

All humanitarian organizations operate within the humanitarian space (van Wassenhove 2006) and with many governments this grants them a duty-free status. We have found that the duty-free status provides both benefits and challenges. The benefits include lower procurement and importation cost, as well as shorter lead-times for vehicle delivery. However, the status constrains movement of vehicles since governments may restrict vehicle exportation when tax exemption has been given. Some governments see it as having ownership in the vehicle when providing tax exemption, thus the process of exporting a vehicle tends to be complex and time-consuming, and in some cases, not possible. As a result of this, transportation of vehicles cross-border tends to take place only once during a vehicle"s lifetime, during importation to an operating country. The seldom movement of vehicles is also a result of the level of autonomy and the mandate of a humanitarian organization. Our respondents mentioned that it is not

common to transport vehicles cross-country and cross-program due to decentralized characteristics of some agencies and unaligned budgets. Our findings thus show that the inability to move vehicles due to government regulations and high levels of autonomy constrain vehicle disposal methods and cross-country vehicle usage/resource pooling.

The literature review points out earmarked donor funding as a challenge in the humanitarian sector. It leads to high levels of autonomy/decentralization, and lack of standardization, preparedness, and resource pooling (Thomas and Kopczak 2005; van Wassenhove 2006; Jahre and Heigh 2008; Tatham and Pettit 2010). Our findings confirm this as many respondents mentioned that donor requirements often limit their ability to standardize fleet policies (type of acquired vehicles, method of procurement and disposal, and preparedness). The lack of standardization increases maintenance cost and vehicle downtime due to lack of spare parts. The fact that fleet management is often viewed as an overhead cost, by both donors and humanitarian logisticians, is also a reason for the underinvestment in standardized fleet policies and preparedness.

Actual fleet cost is challenging to track; few agencies are able to track actual cost and many base operational decisions on cost estimations and guesstimates by experienced logisticians (Thomas 2003; Everywhere, Jahre, and Navangul 2011). The ability to track fleet cost on a detailed level is related to the level of program autonomy in a humanitarian agency. Decentralized fleet management implies that there is little to none central management and standardization of fleet activities/policies (Pedraza-Martinez et al 2011), thus tracking actual fleet cost is difficult as the county programs may operate in very different environments.

Complex operating environments is a characteristic of humanitarian logistics (Thomas 2003; Thomas and Kopczak 2005; van Wassenhove 2006; Balcik and Beamon 2008, Jahre and Heigh 2008; Tomasini and van Wassenhove 2010). The diverse terrains and the lack of infrastructure in rural areas cause the need for field vehicles. Difficult operating environments result in vehicle downtime and higher cost due to unavailability of maintenance and spare parts. Our findings show that due to different “wear and tear” on vehicles, the operating conditions alter the

time of disposal, making standardization of fleet policies difficult. The availability of proper maintenance and genuine spare parts is the challenge that almost all of our respondents were most concerned with.

The operating conditions are also linked to road safety and security issues. Our findings show that there tends to be challenges concerning road safety awareness in some operating countries, which some of our respondents are trying to mediate through proper driver training and adequate insurance. In unstable operating environments, security issues are a challenge to fleet management. They affect the aid efforts, as they may restrict where humanitarian organizations can operate, and what type of vehicles they need to have in place, in order to prevent theft and car-jacking. Our findings show that the unavailability of "clean" fuel is a challenge also derived from operating conditions. Dirty fuel restricts efforts to use environmentally-friendly vehicles, as they tend to be more sophisticated and only run on cleaner fuel. Dirty fuel also causes more maintenance on vehicles, due to frequent break-downs, and thus often alters time of disposal.

The literature and our findings show that fleet management challenges depend on the mandate of humanitarian organizations and thus how and what for the fleet is used for. There is a need for more standardization of fleet policies in order to run more efficient and effective fleets. Donor funding and government regulations set the framework of fleet activities. They both facilitate and constrain fleet standardization for humanitarian organizations. The unavailability of maintenance and spare parts is the biggest fleet challenge as it causes vehicle downtime and increases cost. The literature review and our findings show that there is a need to mediate challenges by increasing standardization and donor flexibility, as well as finding new ways to collaborate in the humanitarian sector.

6.2 What are the current attitudes in the humanitarian sector towards outsourcing fleet management activities?

It was clear to see from the respondents we talked to that maintenance is something they are eager to outsource. This is also the activity that most frequently gets outsourced, whenever there is a decent provider available. The availability of good maintenance solutions are however scarce in many operating

locations, with the result being that many organizations perform this activity in-house. Procurement did not seem to be an activity that the organizations would want to outsource; either because they have framework agreements with manufacturers and manage to consolidate procurement themselves, or because decentralized procurement practices prevent them from standardizing this activity. We have also found that disposal is an activity that is low in demand, due to vehicles being donated away locally, vehicles being a part of a country office‟s assets, or because of export restrictions that prevent the consolidation of vehicles for sale. Transportation of vehicles to an operating country was not thought of as an outsourced activity, although apparently it gets handled either by the manufacturer from which the vehicle is procured, or by a contracted freight forwarder. However, outsourcing is about having someone performing a task that was previously performed in-house (van Weele 2010). In that sense, international transportation has not been outsourced, it has merely been, and continues to be, sourced from outside the company. Driver training was another activity that was not considered in outsourcing terms, although some buy it as a service when it is available. The same seems valid for insurance; it seems the organizations mostly purchase the insurance they need locally. The decentralized fleet management model as well as different local environments appears to make standardization of this activity difficult. Among the respondents we talked to, the majority did not store vehicles in any way, but we learned that keeping vehicles in the supplier‟s stock was an available solution. This offer is an outsourced version of warehousing, and allows the agencies to preposition vehicles without much investment.

We got an indication that leasing, which is a way to outsource the ownership of the vehicle, is becoming more popular. We have seen that an argument for an organization to outsource can be to limit investment in physical assets, as well as limit the risks involved in owning such assets. However, in terms of the agencies, leasing seems to be used mostly as a tool to centralize control of the vehicles and mediate lack of donor funding, rather than being a result of an “outsourcing” mindset. If there had been a greater availability of fleet service providers situated in the same locations as the humanitarian organizations, the question of outsourcing versus in-sourcing would perhaps be put more on the agenda.

In the literature review we have seen that to decide whether an activity should be performed in-house or outsourced it can be considered along two dimensions; the strategic importance of the competence involved in performing the activity, and the degree of competitiveness in performing it (van Weele 2010). Running a fleet of vehicles is not a core competence involved in humanitarian aid and development work, and this is also something that was expressed by our respondents. The level of competitiveness in performing fleet management is therefore low. At the same time, reliability of the fleet is of very high strategic importance to the performance of humanitarian operations. Using the outsourcing matrix, we can thus see that fleet management is an activity that should be "smart sourced" by cooperating long-term with a supplier that can perform the function while the organization retains control of the process. This was also seen in the answers to what the organizations would like to keep in-house. Most respondent would like to retain overall management and control of the fleet. We have looked at the outsourcing project of UNHCR in separate, and we see that also this organization aims to maintain a form of overall control of the fleet.

If we conclude that the humanitarian organizations should "smart source" their fleet management, we have seen that the degree of intensity and the scope of the services to be outsourced guide the type of alliance the organization should build with the LSP (Zinn and Parasuraman 1997). Because we know that fleet is of high strategic importance, the degree of intensity should not be in the lower end of the scale. An "extensive" alliance is therefore not recommended. Depending on the number of activities that are outsourced to the provider, the alliance could be either focused or integrated according to this framework. If the organization decides to outsource only one activity, for instance fleet maintenance, they should try to build a focused alliance with the provider. If several fleet activities are outsourced together, the solution would be to create an integrated alliance.

Drawing a conclusion based on all the findings we can say that the attitude is in favor of outsourcing maintenance, and in disfavor of outsourcing procurement, disposal, tracking, and overall control and decision making regarding the fleet. Some of the remaining activities get outsourced without there being a particular

"outsourcing rationale" behind it. We found a very little degree of skepticism regarding external companies having different "objectives" than the humanitarian organizations, as well as limited fear of losing internal competence. The "outsourcing" mindset does not seem to be as prevalent in the humanitarian sector as in the commercial sector, but we think one significant factor contributing to this is the lack of availability of service providers in the areas where they are required.

6.3 What can a global logistics service provider, with extensive resources and experience in providing supply chain solutions, offer in terms of humanitarian fleet management activities?

This part of our thesis aims to illustrate whether a global LSP with extensive capabilities and a vast set of resources can meet the demand for fleet services in the humanitarian sector. The supplier we have looked at, WW, is not currently operating in the humanitarian sector, but has a positive attitude to this being something they can supply. To illustrate the match between what they can supply and the demand for fleet services we will compare with some providers that are already involved in this market.

Maintenance marked itself as the fleet management activity where the demand for external providers was the largest. WW can deliver technical services on vehicles in a total of 30 Vehicle Processing Centers (VPC). The maintenance they perform in these locations is light repairs and accessory fittings, as the vehicles they deal with are mainly brand new. Looking at Africa, WW has six VPCs, all situated at the southern tip of the continent and all situated at the customers" in-plant location (see figure 18, page 87). If WW is to use these VPCs for maintenance of vehicles, it would require cooperation with a humanitarian organization that operates in locations that lie fairly close to these VCP. The requirement for maintenance that we have seen in the cross-sectional study is very area-specific. The main problem for agencies is that there are no sound maintenance alternatives in the local areas where they operate. The Riders for Health focuses specifically on this challenge by offering to drive out to the clients" locations to do maintenance, or set up workshops at their clients" locations. The RMA Group also offers to dispatch technicians to the customers" locations, and their offer also includes flying in mechanics where there is no local presence. It seems that for WW"s part, the

ability to deliver maintenance services where the client is situated would be crucial. It is also important to remember that the humanitarian vehicles frequently operate in harsh conditions. Another capability that the RMA Group considered to be critical for their service provision was their authorization and ability to modify vehicles, in order to make the vehicles more suitable for the operating conditions. It thus seems that the demand for technical services both within vehicle maintenance and modification extends beyond what WW currently offers.
In our literature review we saw that some areas of the world have high human vulnerability due to high occurrence of disasters (see figure 14, page 34). The areas that marked themselves as especially prone to disasters were large parts of Africa, as well as some parts of Asia. WW has a vast global presence with local offices all over the world. However, when comparing the global presence of WW (see figure 3, page 16) with the map of human vulnerability, we see that the majority of their offices are situated in areas where vulnerability is low. Their presence in Africa, where the majority of humanitarian efforts take place, is limited. In Asia, however, WW has a larger number of offices, and their inland distribution service also covers a larger share of this area (see figure 18, page 87).

We have seen that WW does procurement for great amounts on an annual basis, and there was confidence that WW could consolidate and negotiate competitive prices when procuring vehicles. Our findings from the cross-sectional study showed that there was not significant demand for outsourcing of this activity. The impression we got from the humanitarian agencies was that they either have cost-efficient procurement solutions in place for vehicles, or that decentralized fleet management prevent them from standardizing this activity, something which makes it more difficult to outsource to a LSP. Both the GLS and the RMA Group supply vehicles on a leasing basis, and we have found that this alternative for procurement of vehicles is becoming increasingly popular. Leasing out vehicles requires the service provider to make capital investments in vehicle assets. WW has limited ownership of vehicles, but we have seen that they are in a sound financial situation. If they found this to be an interesting service to provide, they would have the financial means to make the necessary investments.

International transportation of rolling cargo is a core service that WW offers. In the cross-sectional study we saw that the agencies had either framework agreements with freight forwarders, or transportation was arranged by the manufacturer of the vehicle. There is good opportunity for WW to engage in the tendering processes for these contracts, but it would require them to offer a competitive price. WW mostly compete on price when they can deliver more integrated services. Generally, we found that there was little movement of vehicles across international borders. Government restrictions often make it difficult to export vehicles once they have been imported into a country. Few organizations are therefore able to move the vehicles around as they please. This limitation of movement is a factor that contributes to make disposal of vehicles another activity that is low in demand from external providers.

Warehousing of vehicles is another activity WW is capable of doing in the places where they have terminals. In the response phase of an emergency they would also be able to use their network to efficiently distribute vehicles from the warehouse to the location in question. From our respondents in the cross-sectional study we learned that prepositioning of vehicles in strategic warehouses is by far something all humanitarian agencies engage in. This is related to the fact that there is little movement of vehicles in and out of countries, but it is also due to prepositioning being a back-office cost that it can be difficult to make the donors see the benefits of.

Based on the discussion above, we can conclude that although WW has a large pool of resources through what they own themselves and what they can access through their network, they are not in an immediately fortunate position to provide fleet management services to the humanitarian sector. The extensive global presence they have and their network of local suppliers will be their key features for establishing a fleet service, but investments would still be needed in order to increase proximity to the client. Conversations we had with WW representatives suggested that the humanitarian organization they could find it interesting to cooperate with would have to be an agency with a fairly large fleet. Our findings confirm this view, as there is little international movement of vehicles in the smaller organizations. We would also say that the chosen

organization preferably should have a centralized model for fleet management. If WW would like to make an initial entrance into the fleet market without investing too much from the start, we would recommend cooperation with a service provider that is already operating in this sector, for instance the RMA Group. Another possibility could be to initiate a cooperation strategy with Toyota, which is one of WW"s major customers for sea transportation of rolling cargo. Toyota is the major provider of vehicles to the humanitarian sector, and if this customer relationship could be extended it could provide WW with an entrance to this market. On a more long-term basis they can choose to make their own investments and expand the service offer.

6.4 Discussion of the overall research question

Our intention with this study was to make a connection between outsourcing literature, fleet management literature and humanitarian sector literature. The intersection between these three concepts seemed to be underdeveloped in the literature and we therefore wanted to bring more insights to how humanitarian organizations could apply an outsourcing strategy in their fleet management.

In the literature review we saw that outsourcing is the strategic use of external specialized service providers to carry out functions that are seen as non-core to the business (Rushton and Walker 2007). We found that fleet management is of high strategic importance for the humanitarian agencies, at the same time as it is not a core capability. A smart-sourcing option will allow the agencies to keep overall control of the fleet while at the same time access the knowledge, physical assets and technology of the service provider (van Weele 2010). We also saw that outsourcing a function often entails a divestment of the assets and knowledge required to perform the function. Maintaining a certain degree of knowledge regarding the activities that are outsourced is important to mediate the technical, commercial, contractual and performance-related risks involved in cooperating with an external logistics provider, as described by van Weele (2010). The smart-sourcing alternative is a way to mediate this loss of internal knowledge, as the organization is still closely involved in the decision-making processes.

In this thesis we have also looked at how a large, global LSP that is specialized in supply chain solutions could perform fleet activities in the humanitarian sector. We found that presence in the areas of the world where human vulnerability is high is vital to provide this service to humanitarian organizations, as these are the areas where agencies often operate. Africa and Asia are areas where it is especially important to have a presence, either through a subsidiary or through a network of suppliers. The LSP we looked at, Wilhelm Wilhelmsen, was not found to be in obviously fortunate position to provide humanitarian fleet management, however, they posses key features that could make it an interesting service to provide if they invest in their fleet capabilities or find a partner to collaborate with.

A critical success factor when outsourcing is that the partners share common goals and have compatible interests (Selviaridis and Spring 2007). We have also seen that humanitarian organizations strive to balance the principles humanity, neutrality and impartiality, which constitute the humanitarian space (van Wassenhove 2006). Regardless of this, we found very little skepticism regarding external service providers having a profit-maximizing aim, for instance if the provider is a commercial company. However, an assessment of the fit between the partners‟ organizational cultures would be recommended before engaging in a close collaboration.

In terms of what type of cooperation a humanitarian agency should build with an external logistics provider we identified focused and integrated alliances as possible options. A “focused” alliance, where the provider performs few activities (Virum 2006), seems to be manageable in agencies where fleet management is decentralized. However, if the scope of service is broader and the goal is an “integrated” alliance, a centralized model for fleet management seems to be more appropriate to make the outsourcing relationship successful.

We found that fleet management in a humanitarian setting is subject to a range of challenges. Not all of these challenges are related to lack of resources or capabilities. Government restrictions, donor requirements and complex operating environments are challenges that will not be solved by achieving access to the

resources of external logistics providers. Thus, outsourcing is no "golden" remedy that will solve all the challenges faced in fleet management in the humanitarian sector.

Based on the discussion above and the discussions of the sub-question, we conclude that outsourcing of fleet activities could have a positive effect on the efficiency of humanitarian logistics. Outsourcing seems to be a means to improve logistics professionalism in the humanitarian sector. However, outsourcing is a strategy that should be approached with caution, so as to not end up with a failed buyer-supplier relationship. Finally, we would also like to add that we see a great potential for humanitarian organizations to cooperate more on fleet management activities in the field. Consolidated efforts are limited today, and could facilitate fleet operations in areas where there are little or no service providers available.

6.5 Limitations and recommendations for further research

The theoretical field of this study, outsourcing of humanitarian fleet management, has not been greatly discussed in the literature, and there is a good opportunity for more studies within this area. Our study consisted of two parts, combining two research designs by having one cross-sectional study and one case study. By choosing to focus on only one of these designs, we think there is an opportunity to go deeper into how fleet management is carried out in practice. Further study on how humanitarian agencies select their service providers and how they relate to them in contractual terms could be interesting. We would also recommend a case study on how to implement a fleet management model. The UNHCR"s ongoing project of centralizing and outsourcing fleet management is in this respect a relevant example that could be examined in closer detail, preferably as a longitudinal study. This could provide insights to how an agency should best implement an outsourcing strategy, and what challenges that could be expected to occur in the implementation phase.

In our cross-sectional study we have talked to one single respondent from each agency. We asked a broad range of questions, and the answers that we got will naturally reflect the opinions of the respondent in question. We therefore think

that a case study of a humanitarian organization on their fleet practices could give a broader and more detailed picture of the challenges of running a humanitarian fleet. We also think this approach could facilitate access to reliable numerical data, and could result in a quantitative study.

Regarding our case study, this part of the thesis looks into the specific context that Wilh. Wilhelmsen operates within. Case studies are normally not generalizable, and one should bear in mind that the results we found regarding Wilhelmsen may not be valid for another logistics service provider. For a better comparison between demand and supply of fleet services, we suggest that a future study could combine an in-depth study of one humanitarian agency combined with an in-depth study of one logistics service provider. This would facilitate a far more detailed comparison than the one we have arrived at in our study.

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8. Appendices

Appendix 1: Overview of Aidmatrix benchmarking study participants

-Catholic Relief Services (CRS)	-OHCHR
-International Medical Corps.	-OSCE
-IOM	-Oxfam GB
-IFRC	-United Nations Interim Force in Lebanon (UNIFIL)
-ICRC	
-Medair	-UN WFP
-Marie Stopes International	-World Food Programme (WFP)
-Médecins Sans Frontières (MSF)	-World Vision
-Norwegian Red Cross	

Appendix 2: Detailed overview of contacted agencies and participants

	Contacted	Participants
Fleet Forum Members	Catholic Relief Services	X
	Danish Refugee Council	X
	IFRC	
	IOM	X
	Marie Stopes International	
	Medair	
	Merlin	
	OCHA	
	OSCE	
	Oxfam	X
	Riders for Health	
	Save the Children	X
	Sustain International	
	Tearfund	X
	UNHCR	X
	UNLB	X
	WFP	
	WVI	X
Other	CARE Canada	X
	MSF Supply	
	Norwegian Refugee Council	
	Norwegian Red Cross	

Appendix 3: Interview guide: Humanitarian agencies

1. About the agency and its fleet:

1.1 What is your position in the organization, and how many years have you been employed?

1.2 Can you briefly describe what your organization does?

1.3 How big is your fleet and what is its composition (trucks, 4x4s, specialized vehicles etc.)? What do you use it for?

2. Fleet management activities:

Activities	Challenges
a.) Procurement	
b.) Warehousing of vehicles	
c.) Transportation of vehicles	
d.) Insurance and tax clearance	
e.) Routing and tracking	
f.) Maintenance of vehicles	
g.) Fleet safety and driver training	
h.) Disposal of vehicles	

3. Outsourcing

3.1 Which of the fleet activities listed above do you have service providers doing for you?

3.1.1 Whom do you buy these services from (commercial companies, other NGOs, local companies?)

3.2 Do you prefer long-term contracts or case-based contracts with commercial service providers, and why? Any examples?

3.3 Which of the challenges do you think could be mediated by outsourcing the respective fleet activities?

3.4 What activities do you think should be kept in-house and why?

3.5 What would you require from a third party service provider?

3.5.1 What criteria would you evaluate?

4. If there is time left

4.1 Do you provide any of these services to other NGOs?

4.2 Do you participate in any logistics cooperation with other NGOs or companies?

4.3 What do think will be the future challenges with humanitarian fleet management?

Appendix 4: Meetings with representatives from Wilhelm Wilhelmsen Group

Date	Meeting place	Attendees (in addition to us)	Type of meeting
01.04.2011	BI	BR, JO, NL, HvD, IH, MJ, KN, ALO, KHW, Philip Swendson from WSS, Gaute Berge from CBS	Contribute
26.04.2011	Lysaker	BR, VH, JO, MJ, KN, ALO, KHW	Contribute
28.04.2011	Lysaker	JO, ALO, KHW	Thesis meeting
11.05.2011	Skype	BR, JO, HvD, MJ, KN, ALO	Contribute
22.06.2011	Skype	BR, JO, HvD, NL, MJ, ALO	Contribute
03.08.2011	Lysaker	BR, HvD, MJ	Thesis meeting
08.08.2011	Lysaker	BR, MJ, KN, ALO, KHW	Thesis meeting
15.09.2011	Skype	JO, AL	Thesis meeting
21.09.2011	Skype	JO, AL, NL, MJ, KN, ALO	Contribute
09.11.2011	Skype	BR, AL, HvD, NL, MJ, KN and ALO, Jarrod Goentzel and Marie-Eve Rancour from MIT	Contribute
11.01.2012	Skype	BR, IH, NL, MJ, KN, ALO, KHW	Contribute
07.02.2012	BI	BR, IH, AL, MJ, KN	Thesis meeting
16.03.2012	Lysaker	BR, VH, JO, AL	Thesis meeting
30.05.2012	BI	BR, HvD, IH, MJ, KN, ALO, KHW	Thesis meeting

Initials:
BR=Bjørn Rud, WWL
JO= Jon Halvard Bolstad Olsen, WWL/WSS
AL = Anders Lenning, WWL/WSS
VH = Vidar Hole, WSS
NL = Natalia Leonard, Everywhere
HvD = Hetty van Doorn, Everywhere
IH = Ian Heigh, Everywhere
MJ = Marianne Jahre, BI
KN = Kaustubh Navangul, PhD BI
AOL = Anders Leinaas Olafsen, master student BI
KHW = Kristin Heien Wiberg, master student BI

Appendix 5: Interview guide: Logistics role at Wilhelm Wilhelmsen Group

1. Strategi og verdiskapning:

- Har Wilhelmsen en differensierings- eller kostnadsstrategi? På hvilken måte?
- Hvilke konkurransefortrinn skaper denne strategien?
- Hvilken posisjon har Wilhelmsen i det maritime markedet?
- Hvordan skaper dere verdi for deres kunder?
- Hvordan vil du beskrive WSS sin verdikjede?
- Hvordan vil du beskrive Maritime Logistics sin verdikjede?
- Har du eksempler på typiske logistikkoppdrag for Maritime Logistics?

2. ARA: aktører, ressurser og aktivitieter:

- Hvilke aktører finnes i markedet; konkurrenter, kunder, leverandører?
- Har dere noen samarbeidspartnere utenfor WW Group? Hva innebærer dette samarbeidet?
- Maritime produkter i WSS: hvem er leverandørene, og hvordan er forholdet med disse? Hvor blir produktene produsert?
- Hvordan evaluerer dere potensielle prosjekter og hvilke kriterier må være oppfylt for at et prosjekt kan anses som lønnsomt?
- Hvilke ressurser har dere og hvilke av disse deler dere med andre? Stikkord: "pooling"
- Hvilke ressurser anser dere som viktigst for deres "performance"?
- Hvilke aktiviteter utfører Maritime Logistics? Eksempler?
- Koordinasjon: hvordan blir aktivitetene i WSS sine forskjellige underselskaper koordinert? Er det noen som jobber spesifikt med koordinering?
- Kan dere gi oss en oversikt over Wilhelmsen sin nåværende „local presence" og de aktivitetene som utføres ved de ulike havnene?

3. Under følger ulike elementer av (humanitær) flåtestyring av kjøretøy. Hvilke av disse har dere erfaring med, og i hvilken grad og sammenheng?

- Procurement (innkjøp)
- Warehousing (lager)
- Transportation (transport)
- Maintenance (vedlikehold)
- Fleet safety and insurance (sikkerhet og forsikring)
- Administration (planlegging og koordinering)
- Disposal (salg)

I hvilke av disse områdene har dere styrker eller svakheter? Eksempler?

Hvilke av de overordnede elementene ser dere for dere at dere kan utføre for humanitære organisasjoner? Hvordan vil dere bruke nettverket for å gjøre dette?

I hvilken grad er dere erfarne med tidsspress, i forhold til å måtte levere raskt?

Hvilke av disse aktivitetene ville krevet et samarbeid med WWL og i hvilken grad ville samarbeidet vært mulig?

Har du eksempler på tidligere samarbeidsprosjekter mellom WSS og WWL?

Ytterligere spørsmål:

- Fra Gautes intervjuer vet vi at Maritime Logistics samarbeider mye med det militære. Har dere gjort dere noen tanker rundt hvorvidt dette kan være et problem for samarbeid med humanitære?
- Vidar har sagt i intervju at tiden ML har til rådighet for å bedømme lønnsomheten av et prosjekt er årsaken til at en del oppdrag blir takket nei til. Hvordan tenker dere å løse dette med tanke på den korte tiden de humanitære har til rådighet?
- Er fremdeles 50 -70 prosent av ML operations outsourced? Til hvilke suppliers?

- Area of improvement: project logistics central headquarters. Har dere opprettet dette? Er dette forbedret og hvordan fordeles profitt mellom de fire ulike regionene?
- Fra intervju med Johan Ostnes: De humanitære kan bruke brokers. Kan dette bli sett på som et hinder for å bygge langsiktige relasjoner med en humanitære organisasjon?

Appendix 6: Interview guide: RMA Group

1. About the company:

1.1 What is your position at RMA Group, and how many years have you been employed?

1.2 Can you briefly describe what your organization does?

1.3 What are your main resources as a service provider?

2. Fleet management activities:

2.1 Can you describe, in detail, the different fleet management activities you provide (for NGOs)?

2.2 For each of these activities, what are the challenges you have to work with?

2.3 Are there other fleet activities that you currently do not do but consider doing?

2.4 Are there yet other activities that you see the agencies struggle with?

3. About the „market"

3.1 What position do you have in the humanitarian fleet market?

3.1.1 Who are the alternative service providers?

3.2 What added value do you provide to the customer compared to other service providers?

3.3 What are the general characteristics of your customers (size, mission, geographical presence etc.)?

3.3.1 How big is your humanitarian customer base?

3.4 What type of contracts do you have with your customers?

3.5 Can the legal status of the NGO stop them from using you as a service provider? How do you solve this?

3.6 What fleet activities do your customers want to keep in-house?

3.7 What are the goals for the future development of your involvement in the humanitarian market?

3.8 What do you think will be the future challenges of humanitarian fleet management?

Appendix 7: Overview of conducted interviews

Date	Respondent	Organization	Title	Interview form	Duration of interview
03.01.12	Rose van Steijn	Fleet Forum	Program Manager	Skype	41 min
25.01.12	Alfonso Pedraza-Maritinez	Kelley School of Business, Indiana University	Assistant professor	Skype	30 min
16.03.12	Bjørn Rud Vidar Hole Jon H. B. Olsen Anders Lenning	WWL WSS WSS WSS	Business Systems Manager Project Logistics Director Trainee Trainee	In person	1h 30 min
30.04.12	Andreas Reisinger	Various	Logistician	Skype	50 min
03.05.12	Naomi Bourne	Save the Children UK	Head of Logistics and Procurement	Skype	33 min
07.05.12	Lado Gvilava	IOM	Global Logistics and Program Coordinator	Skype	47 min
10.05.12	Noel O´Reilly	UNLB	Manager Central Maintenance and Repair Section	Skype	56 min
11.05.12	Lukas Nel	WVI	Director Fleet (global)	Skype	41 min
14.05.12	Ketil Hov	UNHCR	Chief of Business Support Section in Supply Management Service	Skype	58 min
05.06.12	Tim Moyle	Oxfam UK	Oxfam GB Global Fleet Manager	Interview guide answered by e-mail	N/A
13.06.12	Philip Jones	RMA Group	Aid and Development Director	Skype	42 min
13.06.12	Ruben Naval	CARE Canada	Emergency Response Program Manager	Skype	41 min
19.06.12	Nathan Beard	Tearfund UK	Disaster Management Team - Technical Officer	Skype	1 hour
22.06.12	Syon Niyogi	Catholic Relief Services	Deputy Regional Director - Management Quality	Skype	34 min

ID-nummer: **0857552**
: **0914039**

BI Norwegian Business School

Preliminary Thesis Report

Study Program:

Master of Science in Business and Economics
Major in Logistics, Supply Chain, and Networks

Humanitarian Fleet Management
–Improving Humanitarian Logistics Performance through Outsourcing

Date of submission:
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Name of supervisor:
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Content

Introduction

The development of humanitarian logistics as a field of research came to a turning point after the 2004 Indian Ocean Tsunami and the following criticism of the management of the crisis. Later major disasters such as the 2010 Haiti Earthquake and Pakistan Floods have continued to spur interest in humanitarian logistics operations. The humanitarian literature today has more than doubled compared to what it was around the time when the Indian Ocean Tsunami hit. The studied topics range from performance measurement to customer service, facility location to vehicle routing, and agility to the application of lean concepts (Kovacs and Spens, 2011). A recurrent theme in today"s literature is the differences between humanitarian and commercial supply chains (Pettit and Beresford, 2009) (Overstreet et. al., 2011) (Kovács and Spens, 2007). Some claim that the two sectors differ sufficiently to make well-developed concepts from the commercial literature inapplicable to the humanitarian context (Pettit and Beresford, 2009). Everywhere, Jahre and Navangul (2011) claim that the assumption of major differences between humanitarian and commercial logistics is exaggerated, and that demand can be predicted despite the uncertainties caused by natural disasters. One business concept that has been greatly elaborated on in recent years is outsourcing. Commercial companies outsource in order to focus more on their core competences (van Weele, 2010). So far, a thorough examination of outsourcing practices in the humanitarian setting has not been conducted. We want to look further into this and narrow down the scope by focusing on outsourcing of fleet management activities, one element of humanitarian logistics.

Our thesis will be a sub-project to an extensive development and research project called “Contribute” that has been going on since 2010. The project is a co-operation between BI, Everywhere Humanitarian Response and Logistics Services, and Wilhelm Wilhelmsen ASA (WW), a Norwegian shipping company. WW has participated in the project to learn more about the humanitarian sector and discover ways in which they can improve logistics in the sector by providing their services. WW"s daughter company Wilhelmsen Ships Service (WSS) is especially interested in looking into fleet management practices today. We want to use WSS as a means to apply our findings in the humanitarian market to a logistics provider currently not operating within that market.

Research Question

Literature on how humanitarian organizations can use third party logistics providers (3PLs) to improve logistics operations performance is limited. Humanitarian logistics consists of many elements, but we want to look at one specific part of it; fleet management. Our overall research question is thus:

How can humanitarian logistics performance be improved by outsourcing fleet management activities?

In order to answer this, there are several sub-questions that need to be answered. These are the following:

- What are the challenges of humanitarian fleet management and how is this managed today?
- What are the current practices on outsourcing in the humanitarian sector?
- What characteristics do humanitarian organizations evaluate when choosing third party logistics providers?
- How can a third party logistics provider evaluate business opportunities in the humanitarian market?

Objectives and relevance of the thesis

The objective of our study is to contribute to more understanding of outsourcing in the humanitarian sector. This will be exemplified by looking at fleet management practices. There are three angles of approach to describe why our proposed research is relevant; one empirical, one practical and one cross-sectoral. Empirically, the topic of fleet management in the humanitarian sector has not been greatly elaborated on. As far as we have seen, there are no studies on the use of 3PLs by humanitarian organizations. The most recent and extensive study of humanitarian fleet management was conducted by INSEAD in 2010 (Martinez, Stapleton, and van Wassenhove, 2010). This was a multiple case study of fleet management practices for 4x4 vehicles in four humanitarian agencies. Although the study is instructive in terms of showing the link between fleet management and aid delivery performance it does not mention outsourcing. With this research being the most updated within the field, we conclude that our thesis will have

empirical relevance. Practically, the challenges of fleet management are something humanitarian aid workers are facing and dealing with on a daily basis. In 2003, this lead to the founding of Fleet Forum, an interagency association dealing with humanitarian fleet challenges (www.fleetforum.org). The aim is to improve the logistics of their operations it is in practitioners‟ interest to learn more about the potential benefits of outsourcing. Fleet Forum has shown interest in a study on outsourcing of fleet operations (conversation with Rose van Steijn, Project Manager at the Fleet Forum). The cross-sectoral justification of our research topic is the growing attention from logistics service providers. Increasingly, commercial companies as well as large humanitarian organizations are noticing the opportunity to provide logistics solutions to the humanitarian sector. In order to grab this business opportunity the companies need knowledge of the market and the context in which they have to perform.

Previous research and existing literature

In this section we will elaborate on the literature that is relevant for our research question and we have focused on three concepts for the purpose of the preliminary literature review; humanitarian logistics, fleet management, and outsourcing. This literature review is restricted in that sense that we probably will find more relevant literature to further describe and highlight our master thesis topic.

Humanitarian Logistics

Humanitarian logistics is defined as “the process of planning, implementing and controlling the efficient, cost-effective flow and storage of goods and materials as well as related information from the point of origin to the point of consumption for the purpose of alleviating the suffering of vulnerable people. The function encompasses a range of activities including; preparedness, planning, procurement, transport, warehousing, tracking and tracing, and customs clearance” (Thomas and Kopczak, 2005, 2). In addition, van Wassenhove (2006) defines “humanitarian logistics as the process and systems involved in mobilizing people, resources, skills and knowledge to help vulnerable people affected by disaster”. In a humanitarian context, disaster can be natural or man-made as well as rapid or slow onset. The humanitarian sector is facing a growing range of challenges and crises such as long term conflicts (Darfur), pandemics both new (diabetes) and old

(HIV/AIDS), and devastating natural disasters (Japan and Haiti) (Whiting and Ayala-Öström, 2009). Some humanitarian organizations focus on development aid (long-term response) and others on disaster relief operations (short-term response), as well as there are some that respond to both types.

The humanitarian sector distinguishes itself from the business sector by focusing on developing capabilities to respond to high-impact events with unpredictable resources. In addition, humanitarian logistics take place in very different settings and are faced with the unknown (Overstreet et. al., 2011). The nature of disasters, with high uncertainty, risks and complexity with regards to the breakdown of physical infrastructure, lack of communication systems, numbers of actors involved, and social and political upheaval, makes it difficult to plan and set up supply chains that are able to deliver emergency goods and services in an efficient manner (Tomasini and van Wassenhove, 2010).

Humanitarian organizations operate with global supply chains. According to Jahre and Heigh (2008), there are three types of humanitarian supply chains. The permanent supply chain is proactive since it includes as many standardized processes and activities as possible due to the highly unpredictable circumstances. The emergency supply chain is unstable and unpredictable because it is developed by deployed specialist teams who set the activities up. Finally, the project supply chain is usually a predictable supply chain. It requires local presence and market understanding since it essentially consists of a locally managed set of resources, and is typically set up in the recovery phase of a disaster or in preparation for a possible event. In relation to supply chains, Lee (2004) states that they need to be agile, adaptable and aligned in order to obtain a sustainable competitive advantage. The article is intended for commercial companies and their supply chains that are facing an increased global competition from other supply chains; however the theory can be applied in a humanitarian context as well. The main aspect of being agile is to respond to sudden shifts in the market, such as disasters. Adaptability considers taking advantage of new opportunities in the market. Lastly, alignment means that companies need good relationships with their providers in order to combine resources and the customer base and deliver more efficiently. Humanitarian organizations are often considered exceptional at being

agile and adaptable, however the lack of alignment, "coordination and collaboration between various actors involved in humanitarian assistance continues to limit the efficiency and effectiveness of humanitarian logistic" (Majewski, Navangul, and Heigh, 2010, 29)

Unfortunately, even though humanitarian organizations are facing challenges on a daily basis, sophisticated coordination mechanisms, such as those seen in commercial supply chain management, are not currently seen in the humanitarian sector (Balick et al. 2010). For many humanitarian actors, the focus is "on short-term direct relief rather than investment in such systems and processes that might reduce cost or make relief more efficient in the long term" (Whiting and Ayala-Öström, 2009, 1082). The performance of humanitarian logistics is connected to the preparedness of the organizations (Jahre and Heigh, 2008). Moreover, according to Whiting and Ayala-Öström (2009), humanitarian logistics is essential to aid for several reasons and it should not be neglected because:

- logistics support to delivery is crucial to the effectiveness and speed of response for humanitarian programs
- logistics can generate the most costs due to procurement and distribution, it is a critical part of the relief effort
- usually it is the only data that can be analyzed and used post-event

However, most often the critical reason for the neglecting of logistics is due to donors and their limited understanding of the importance of humanitarian logistics. According to Jahre and Heigh (2008), present long and short term funding models are divided into tied and untied donations depending on the donor"s specifications. Donors tend not to realize that the scope of humanitarian logistics is "extensive, spanning all geographic regions and encompassing all elements of supply chain management, including planning, training, procurement, warehouse management, transport, distribution, tracking, monitoring and evaluation of performance" (Majewski, Navangul, and Heigh, 2010, 11). Due to the nature of the aid agency funding structures, most of the resources are devoted to tangible and visible efforts such as front-line assistance. Back-office functions such as infrastructure and processes suffer from a lack of allocated funds (Thomas and Fritz, 2009). They are more likely to fund money for key personnel, tangible

assets and specific programs, and fail to recognize the importance of logistics and long term investment in infrastructure and preparedness. Further, donors are preoccupied with response aid and focus on outcomes which enforce the lack of strategic importance placed on logistics from not only donors, but at organizational level as well (Sandwell, 2011). Fortunately, there are some donors that are increasingly attentive to preparedness after realizing that poor investment in these stages lead to costs and supply chain vulnerability (Majewski, Navangul, and Heigh, 2010). Donors are asking for more accountability and the humanitarian sector has shifted the focus from an ad hoc perspective and a fire-fighting mentality, to become more result-oriented (Tomasini and van Wassenhove, 2009). However, there are still issues regarding shortage of trained and experienced field logisticians that can contribute to more professionalism in the humanitarian sector. Logistics experience and qualifications have lower priority than humanitarian experience and personal characteristics, and together with the absence of any real career path, contribute to high turn-over rates among logisticians. As most projects are funded separately, field staff turnover can be up to 80%. Thus, much tacit knowledge is lost from the organization when an operation is completed (Thomas and Fritz, 2009). Currently, logistics accounts for 80 per cent of disaster relief efforts (Sandwell, 2011), and an improvement should be on the humanitarian agenda considering the savings that can be made and what these can be used for (e.g., staff, relief items etc.). One area of humanitarian logistics that can be improved is fleet management.

Fleet Management

Finding a general definition of fleet management has proved to be difficult. The main focus of fleet management in general is the administration of a company"s fleet (e.g., replacement strategy, investment etc.), fleet operations (e.g., maintenance, fleet depreciation etc.) and cost management; administration cost, unit cost management (e.g., fuel, tires etc), and personnel cost (e.g., training, salary etc.) (Galletti, Lee, and Kozman, 2010). Depending on the business, the fleet usually comprises either ships, trucks, vehicles or a combination of these. Most humanitarian organizations use trucks for the distribution of the tangible aid; and 4x4 vehicles are frequently used for the last mile distribution due to poor infrastructure in many beneficiary countries. Last mile distribution in

humanitarian organizations tends to be more complex than for commercial businesses, due to the diverse landscape and working conditions during this last stage delivery of a humanitarian supply chain. "Transportation is the second largest cost to humanitarian organizations after personnel" (Martinez, Stapleton, and van Wassenhove, 2010, 404). Last-mile delivery remains one of the most problematic areas for humanitarian logistics and the needed improvement goes beyond the scope of humanitarian actors" resources (Majewski, Navangul, and Heigh, 2010).

Field vehicle fleet management (Field VFM) is defined as "decision-making on repositioning and load assignment for groups of transportation means operating in job locations remote from regular facilities, offices etc., to optimize performance" (Martinez, Stapleton, and van Wassenhove, 2010, 404), and there is little current knowledge about Field VFM in humanitarian operations. According to Balcik et al (2008), 4x4 vehicles are mostly used to move personnel, but also last mile distribution, and it includes transportation of relief items, coordinating staff or delivery of services (e.g., medical staff), and personnel and materials to development programs (e.g., water sanitation, building schools and hospitals).

Humanitarian fleet vehicle management is perhaps one of the most challenging aspects due to the lack of funding and a clear organizational strategy. According to Martinez, Stapleton, and van Wassenhove (2010), there are three types of fleet management models;

- Centralized models have a centralized budget for fleet management
- Decentralized models have a national budget where the country offices manage their fleet; and
- Hybrid models combine elements of the centralized and decentralized models

Further, there are six different areas that fleet management comprises. These are procurement, transportation, maintenance, fleet safety and insurance, administration, and disposal (Martinez, Stapleton, and van Wassenhove, 2010).

When it comes to *procurement*, the article has found that standardization of vehicles helps to improve management of the fleet. It for instance makes maintenance and repair easier when all vehicles can use the same spare parts. Both ICRC and IFRC use two suppliers, Toyota and Nissan, to avoid dependency on one supplier. Centralized, decentralized, and hybrid models affect how procurement is handled. In IFRC, ownerships of the cars are held by the central agency, and vehicles are later leased to national societies at a monthly rate. In WVI, which uses a decentralized model, vehicles are purchased by the national society when the need arises and vehicles are not available from ongoing programs. In terms of funding, it has been found that earmarked donations should be avoided because they affect the coordination and performance of the fleet negatively.

Some humanitarian organizations focus on development aid, others respond to disasters, while some conduct both, and different focus results in different needs. The need for *transportation* is greater and more time sensitive when responding to disasters. Frequent movement of vehicles requires frequent registration in new countries and vehicle registrations can take up to six months. Tax free status is also an issue; either humanitarian organizations have international tax free status or they have to apply for it in each country. This is time consuming and complicated with regards to for instance border clearance which is also an operational challenge. Long distances and remote locations cause problems regarding spare parts, and thus *maintenance* is an issue in humanitarian fleet management. It is time consuming and difficult to obtain. There is also a need for the drivers to have basic mechanical skills to perform simple maintenance, since there is a shortage of professional mechanics in the field. *Insurance and fleet safety* is also an important concern due to the fact that accidents occur mainly because of poor driving skills and traffic security, but also due to poor infrastructure in remote locations. There is a great need of good driver skills and safety, since it usually takes a long time to recover when an accident does occur. When it comes to *administration*, a good IT system facilitates good fleet management and route optimization. ICRC and IFRC use the Fleet Wave system which compiles data of all vehicles currently in the fleet, and it enables them to reduce their fleet size by 15 per cent, 80 vehicles less, through route optimization.

Unfortunately, many agencies lack data bases and/or the funding to purchase such a system.

In addition, *discharging* old vehicles is a problem and it is common to use vehicles after the decided lifecycle is over. At a point during a vehicle"s lifecycle the costs of maintenance and repairs outweigh the benefits of the continued use of the vehicle. Disposal of the vehicle should therefore take place before this point is reached. If the vehicle can be re-sold the salvage value will act as a cost reducer that lowers the total cost of the fleet. In developing countries the second hand market for vehicles are generally quite substantial, giving cars that have run less that 200,000 km the possibility of a relatively large resale value (Falit and Fenton, 2008). Martinez, Stapleton, and van Wassenhove (2010) found that a recurrent timing for disposal and replacement of vehicles was after 5 years of usage or 150,000 km, whichever comes first.

Disaster occurrence is growing faster than the capacity of the humanitarian sector and the resources of donors, and the need for humanitarian assistance gains importance. Humanitarian organizations therefore need to "continue improving their capacities, whether in-house or outsourced, and adapt to innovative and forward-looking strategies" (Majewski, Navangul, and Heigh, 2010). However, there are some important remarks to be made about outsourcing.

Outsourcing

Humanitarian action has three principles; humanity, neutrality, and impartiality (Tomasini and van Wassenhove, 2009), and together they create the humanitarian space which humanitarian organizations work within and strive to maintain the balance between. This is a role they are obliged to fulfill in order to retain trustworthiness and sovereignty, with regards to accessibility and negotiation skill with politically instable governments and sensitive conflict areas. These three principals are also important to attract funding. This role is crucial to maintain and is infused throughout the entire operation, however it becomes more complex when cooperating with commercial actors who do not necessarily understand the boundaries and the enormous responsibility that it entitles for every decision. Thus, in order to successfully have a partnership or outsource, humanitarian

organizations need to ensure that this role is fulfilled by the cooperating commercial actor(s).

Outsourcing can be defined as "the decision and subsequent transfer process by which activities that constitute a function, that earlier have been carried out within the company, are instead purchased from an external supplier" (van Weele, 2010, 162). There are multiple reasons for outsourcing, and these can be either tactical and/or strategic. The first can be to reduce costs and operating costs, to free up internal resources, and to better manage processes. While strategic reasons include increasing flexibility and efficiency, gaining access to resources that are not available internally, and sharing risks. This normally allows businesses to concentrate more on their core capabilities, but also to cooperate with suppliers that are better in some fields of expertise. All these reasons underlie one overall objective; to improve the overall performance of the outsourcing firm and increasing revenues by enhancing the company"s value propositions to its customers (van Weele, 2010). In the humanitarian perspective, the improvement of overall performance and the increasing revenues will mean a better allocation of resources (monetary and human capital) in order to be able to provide aid to more beneficiaries (customers).

A common concern regarding outsourcing logistics services in general is the possibility of losing control of the operations since a third party will be responsible for the services. For humanitarian organizations this concern becomes greater, since the logistics is a major part of the response. To put it dramatically, if a delivery is late in the commercial sector it may result in loss of profit, but in the humanitarian sector it may result in the loss of a life. However, a partnership could derive from outsourcing and it could benefit both the commercial and the humanitarian sector.

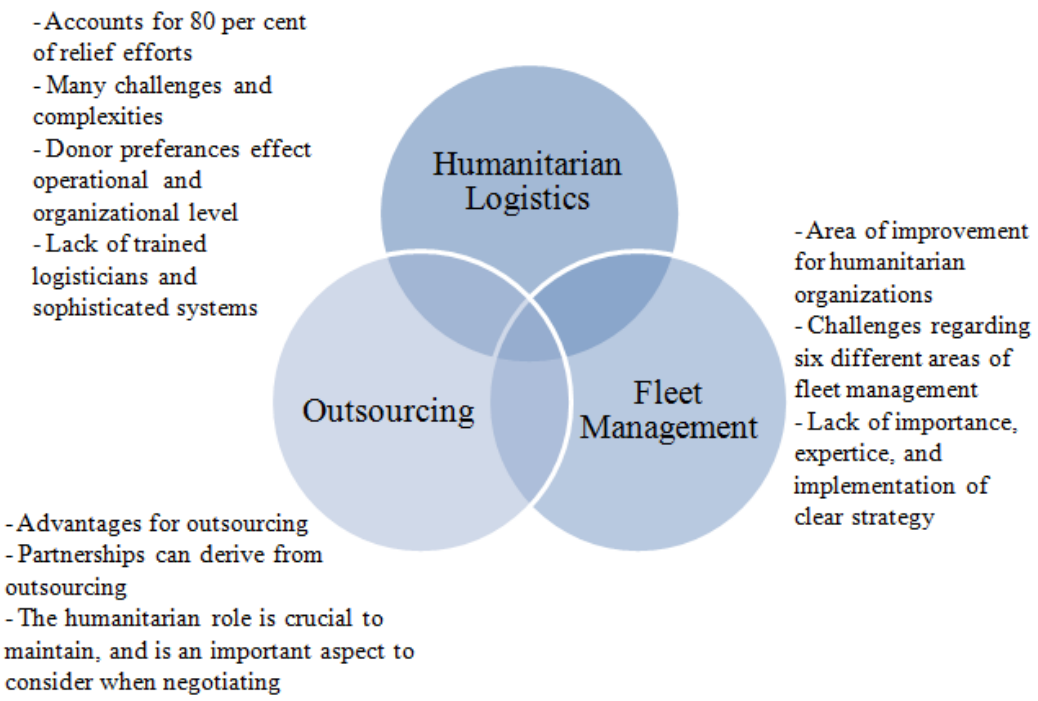
Many companies are looking for ways to demonstrate good corporate citizenship through responsible actions. Companies are today moving away from the notion that just giving cash or in-kind donations is contribution enough, to establishing longer-term partnerships with the humanitarian sector. Though there are risks involved with cross-sector partnerships, the beliefs are that benefits will come to

both business and society (Tomasini and Wassenhove 2009). When driven by internal company values and the need to enhance reputation and image, corporate social responsibility programs have lead to increased employee satisfaction, recruitment, and retention (Thomas and Fritz 2009). A survey of the employees of TNT, the large, Dutch logistics provider, showed that 70% of the staff felt more engaged in the company and took more pride in their workplace because of the partnership initiative with WFP. In 2004, TNT also featured at the top ten list of desirable employers in Europe, mainly due to their alliance with WFP.

Partnerships between the humanitarian and the commercial sector have the potential to exploit the core competences of both parties and can lead to improved disaster preparedness and increased corporate brand awareness (Tomasini and Wassenhove, 2009). Humanitarian organizations are increasingly realizing the resources, expertise and technology that businesses can offer. At the same time, companies are discovering what they can learn from the humanitarian organizations, especially about agility and adaptability under difficult circumstances, a core feature of humanitarian organizations. The hindrances to successful cross-sector partnerships stem mainly from cultural differences between the two sectors. In a 2005 survey of 25 IHOs the following five challenges proved to be the most apparent: Lack of mutual understanding, lack of transparency and accountability, level of commitment, roles and responsibilities, relationships management.

Brief summary of literature review

The literature review leads us to the following key points:



Proposed Methodology

In order to have a clear research path it is important to have a structured research methodology. There are different types of strategy and design to choose from, but ultimately it is crucial to decide on the one that supports the underlying objectives of the study. The methodology guides the collection and analysis of the data, and there are advantages and disadvantages of each approach. It details precisely how you intend to achieve your research objectives, in other words, justifies your choice of method in the light of those objective (Saunders, Lewis, and Thornhill, 2009). It comprises the choice of research strategy, design, and method, as well as quality criteria and the approach to analyze the data collected and to draw conclusions from them. Due to the iterative nature of the process, the methodology chosen can help formulate and reformulate the research question(s), as well as modifying the objectives of the study.

Research strategy

Research strategy is "a general orientation to the conduct of business research" (Bryman and Bell, 2007, 28). This generally gets divided into two categories;

quantitative and qualitative research. In quantitative approach the theory guides the research, while in qualitative the theory results from the research. Our review of existing literature reveals a lack of research within humanitarian fleet management, and especially within the use of 3PLs in the humanitarian sector. The knowledge of humanitarian outsourcing practices seem to lie mainly in the heads of practitioners within the sector without having been properly documented. Apart from single case studies describing bilateral partnerships between a commercial company and a humanitarian actor, our literature review did not identify any review of cross-sectoral cooperation. The reasoning for outsourcing activities, that is the questions why/why not and what, have not been adequately discussed. This lack of research limits the commercial logistics providers‟ possibility to assess business opportunities in this sector. Our research aims to provide a better understanding of an underdeveloped field of study; thereby the qualitative method will apply.

Saunders, Lewis, and Thornhill (2009, 127) give the following list of the essence of qualitative research:
Induction emphasizes:

- Gaining an understanding of the meanings humans attach to events
- A close understanding of the research context
- The collection of qualitative data
- A more flexible structure to permit changes of research emphasis as the research progresses
- A realization that the researcher is part of the research process, and
- Less concern with the need to generalize

In the school of qualitative reasoning the aim is to understand a social environment by examining the interpretations of that environment by its participants (Bryman and Bell, 2007). The qualitative researcher tries to depict the world through the eyes of the people being studied by describing the context in detail and emphasizing how separate events over time interconnect. The critique often faced by qualitative researchers concerns how the researcher‟s views on what is significant and important make the research too subjective. Prior to our data collection, we will have initial conversations with key practitioners within our field of study in order to make the choice of focal areas less subjective. These conversations will form a sound foundation for our later research. It is important

to have structure when conducting a qualitative research in order to make it easier to replicate and in some cases generalize. We will elaborate more on this under the section „quality criteria".

Research design

"A research design provides a framework for the collection and analysis of data," (Bryman and Bell, 2007, 40). The purpose of the study determines whether the research is explanatory, descriptive or exploratory. While the explanatory study seeks to find a relationship between variables, the descriptive seeks an accurate profile of a situation. When the research aims to clarify the understanding of a problem and to seek new insights, it is an exploratory study (Saunders, Lewis, and Thornhill, 2009). The aforementioned purpose of our research indicates that our study can be classified as exploratory.

Cross-sectional

Cross-sectional research design is usually used in quantitative research since its approach is to collect a range of quantitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of relationships. However, it does occur in qualitative research when the researcher conducts unstructured and semi-structured interviews with a number of people (Bryman and Bell, 2007), as we intend to do. Cross-sectional design entails the collection of data on more than one case in order to gain more variation and at a single point in time. This will make us able to make finer distinctions between cases, as we know that there are variations in the humanitarian sector when it comes to both outsourcing and fleet management. In addition, we seek to establish what is the status quo in today"s marked in order to facilitate cross-sectional relationships. The single-point in time approach is thus appropriate.

It can be argued that a case-study could be a more appropriate design for our research. Robson (2002), cited in Saunders, Lewis, and Thornhill (2009, 145) defines case study as "a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence", and they are particularly useful when wanting to gain a rich understanding of the research context and the processes

being enacted (Saunders, Lewis, and Thornhill, 2009). However, a case study requires going in-depth in a few, chosen cases whereas we want to examine multiple relevant cases from two different sectors making it more generic.

The course of our research goes through two stages. The first stage is to develop an understanding of current outsourcing practices in the humanitarian sector, especially within fleet management, and logistics providers" capabilities to provide such a service. This examination will happen through multiple sources as we intend to inquire humanitarian and commercial actors, as well as interagency initiatives. In the second stage of our research process we want to apply our findings to a logistics provider that is currently not operating in the humanitarian market but has an interest in entering it. Our engagement in the "Contribute" project has put us in contact with Wilhelm Wilhelmsen, and their daughter company Wilhelmsen Ships Service is interested to know whether they can deliver fleet management services. WSS will serve as our medium to apply out findings in stage one, in such a way that they can draw conclusions regarding this business opportunity. Their resources will be compared with the resources of the 3PLs already offering services to see whether WSS is capable of doing the same. We will also see if WSS can find solutions to the challenges in the sector in a better way than what is done today. The progress will not follow a straight line, but will rather take an iterative course. WSS will be valuable source of input prior to and during the exploration of the market. Thus, the two stages will run parallel to each other. By applying our findings we will portray how cross-sectoral relationship can improve management of fleet operations in the humanitarian sector. However, if there should be any changes with the involvement of WSS then we will make the second stage of the thesis more generic.

Data collection

Secondary data

"Data that have already been collected for some other purpose, perhaps processed and subsequently stored, are termed secondary data" (Saunders, Lewis, and Thornhill, 2009, 208). The advantage of using secondary data is that it saves both

cost and time. Secondary data also make it possible to compare data over time (e.g., longitudinal studies).We aim to study elements of two different sectors, including companies with headquarters located around the world; secondary data will be useful since we can avoid the cost and time spent on personally collecting data. If the data have been collected on request by a company/institution/government etcetera, the quality is usually high. However, there is no control over data quality, and one should keep in mind where data comes from and who it was gathered for, especially with commercially commissioned research (Bryman and Bell, 2007). Some secondary data are openly available to the public and other are company-specific and meant for internal use only. In those cases access to the data must be negotiated. The secondary data we will use are mainly found online, but some we need to get directly from the organizations. Examples can be conference reports (e.g., from Fleet Forum events), annual reports, driver logbooks and fleet policies, company and agency websites and internal reports.

Primary data

Interview

In order to gain data and information about our research topic, and because of the nature of qualitative research method, we will conduct interviews as a main part of our data collection. In qualitative research, the respondent‟s point of view is of interest as opposed to quantitative research where the researcher‟s concerns are more in focus (Bryman and Bell, 2007). There are two main types of qualitative research interviews; semi-structured and unstructured. The semi-structured interview makes use of an interview guide, in which there is a list of topics to be covered, but the order can be changed and additional questions can be added according to the progress and flow of the interview. The unstructured form is very similar to a conversation, where the researcher asks only one question and then follows up on points that seem relevant. We consider the semi-structured form to be useful for our purpose. When making an interview guide it is important to ask questions that help answer the research question, but at the same time avoid making them too specific and asking leading questions.

Currently, we have already conducted a semi-structured interview with Ms. Rose van Steijn, Program Manager at Fleet Forum. We created an interview guide

consisting of topics such as her background, current operations of Fleet Forum, humanitarian fleet management, and outsourcing in the humanitarian sector. In addition, we made sure to send her the interview guide prior to the interview, so that she would be aware of what the intentions of the interview were and giving her the opportunity to prepare. We found the use of tape recorder and transcription better than taking notes during the interview, since we were able to be more active and attentive with the responder. Also, recording the interview gives us the ability to go back and review the interview itself. We intend to use the same process for our future interviews, where we will modify the interview guides as we progress with our interviews.

Quality criteria

Regardless of the type of research design it is necessary to have some common evaluation criteria that will be used to measure the quality and the credibility of the research. In qualitative research internal and external validity as well as internal and external reliability are important criteria in establishing and assessing the quality of research (Bryman and Bell, 2007). Internal validity concerns the extent to which the results are valid for the sample and the phenomenon being studied (cause and effect). There is a lack of internal validity if there are other variables, not covered by the study, that explain relationships. We will for instance try to identify the reasons why humanitarian organizations choose not to outsource to 3PLs. Is the reluctance caused mainly by lack of trust, donor restrictions, or some other factor? We will develop an understanding of the context through several conversations and interviews, enabling us to better extract concepts from our observations and strengthen the internal validity. External validity concerns to what extent the findings can be used as a guide for what can happen in a different setting. We are conducting a research on a sector that has different objectives and faces different challenges than the commercial sector. Our aim is to provide insight to the humanitarian sector and our results are probably not transferable to other sectors, thus our external validity is weak. Internal reliability is the extent to which all members of the research team agree about what is observed. In our case, both researchers will be present during all data collection and analysis which makes it possible to discuss any conflicting perceptions. External reliability regards to what extent different researchers will

discover the same phenomenon when repeating the study. This is difficult in qualitative research since "it is impossible to „freeze" a social setting" (Bryman and Bell, 2007, 410). However, we will document all interviews and conversations making it easier for other researchers to obtain the same information.

Schedule

We use a Gant chart to illustrate the whole process for our research project. The chart gives us an indication on how we would continue with the research project. We intend to complete our literature review and methodology by the end of February. However, we acknowledge the fact that this is a continuous process and that modifications can be made after as well. As mentioned previously, we have already conducted an interview and in the coming months we will pursuit with our data collection. Ms. Rose van Steijn has introduced us with two relevant respondents, Mr. Rigoberto Giron, President at Azkarta Crest Corporation and Senior Consultant at Sustain Global Partnership, and Ms. Tracy Badcock, Vice President Marketing and Communications at Overseas Lease Group, Inc., with whom we will initiate contact as soon as possible. In addition, we have planned to interview key persons from Wilhelmsen Ships Service, Contribute, and different logisticians from humanitarian organizations.

We assume that we would be able to deliver the final drafts in June, giving us a two month buffer, even though the final dead-line is 1th of September.

	Jan	Feb	March	April	May	June	July	Aug	Sept
Preliminary hand-in	15.jan								
Literature review									
Methodology									
Conduct interviews and other data collection									
Analysis of data									
Write first draft									
Write final draft						30.jun			
Deadline									01.sep

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Appendices

Appendix 1: Abbreviations

VFM: Vehicle Fleet Management
WFP: World Food Program
WSS: Wilhelmsen Ships Service
WW: Wilhelm Wilhelmsen
3PL: Third Party Logistics Provider