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**The Effect of “Make versus Buy” on Backsourcing Decision:
Case Study on Air Freight Operations**

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Tämän tutkimuksen tarkoituksena oli selvittää, olisiko ulkoistettujen lentorahtipalveluiden takaisin veto oikea päätös tutkimuksen kohdeyritykselle. Tutkimuksen kohteena on huolinta-alan yritys, joka on tällä hetkellä ulkoistanut lentorahtipalvelunsa, mutta nyt yrityksellä olisi kuitenkin sopiva tilanne näiden palveluiden takaisin vetoon. Tutkimuksen teoria keskittyy ulkoistamiseen ja sen purkuun, sekä ulkoistetun palvelun takaisinvedon kokonaiskustannuksiin. Itse tutkimus on tehty haastattelemalla lentorahtialan ammattilaisia.

Tutkimustulosten perusteella voidaan päätellä, että kohdeyrityksen tulisi itse alkaa tuottaa lentorahtipalveluita sen sijaan, että ne ostetaan alihankkijalta. Kulut tähän prosessiin ovat pienet, ja se on yksinkertainen toteuttaa. On kuitenkin huomioitava tämän olevan iso strateginen muutos yritykselle, jolloin prosessi on valmisteltava hyvin, jotta myös riskit voidaan minimoida. Erityisen haasteellista yritykselle voi olla relevanttien henkilöresurssien löytyminen kyseisen prosessin johtamiseen. Työn rajaukset huomioiden tutkimuksen lopputulokset eivät välttämättä ole yleistettävissä kohdeyrityksen ulkopuolelle.

ABSTRACT

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The purpose of this study was to find out whether backsourcing of air freight operations would be the right decision to do for the case company on this research. The case company is a forwarding company who has outsourced their air freight operations, but now it would be an ideal situation to backsource. The theory of the research focuses on outsourcing and backsourcing issues as well as to the total costs of backsourcing. The research was conducted by doing interviews for professionals on air freight business.

Based on the results can be concluded that the case company should start to operate the air freights themselves instead of buying the service from supplier, as the costs for backsourcing are low and the process is easy to conduct. However, as it is huge strategic step for the case company, good preparations should be established as it also mitigates the possible risks. The biggest challenge for the company might be finding the relevant human resources to lead the project. When taking into account the study limitations, the outcome of the research might not be generalized to other companies.

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ABBREVIATIONS

3PL Third-party logistics (service provider)

IATA International Air Transport Association

ISSSP IATA Settlement Systems Service Provision

PSSC Product service supply chain

RBV Resource based view

SLA Service-level agreement

SOSC Service only supply chain

SOW Statement of work

TCE Transaction cost economics

TCO Total cost of ownership

VAS value-adding services

VRIN Valuable, rare, inimitable, nonsubstitutable

1 INTRODUCTION

The topic for this thesis has been an on-going issue for the case company, and therefore it was a natural decision to choose this as the research issue. As an outcome, the study focusing on back sourcing was planned and implemented with the case company owners.

Backsourcing as a term is simply explained; it means the process of bringing once outsourced activities back to the company. (Law 2017, 1; Bogнар & Kotlarsky 2012, 79). Companies can outsource almost everything, which means that the possibilities for backsourcing are almost limitless. Companies can backsource the manufacturing of physical products as well as production of intangible services, which is the case in this research. The case company is planning to backsource part of their logistics services, which are currently outsourced. This concerns the total air freight services that the company offers, as they want to control the whole supply chain themselves, and not rely only on the suppliers.

The main decision behind the backsourcing-decision is the “make or buy”. Companies should always focus on their core competences and outsource the rest. The purpose of this study is to find out whether “make” would be the right decision to do, instead of buying. The main theory will be focused around the “make or buy” doctrine, including the total cost of ownership which is important for the case company, as for them the core information is related to the costs. In case the cost of the backsourcing will be too high, the company needs to reconsider their overall strategy, especially regarding the backsourcing. After introducing the research results to the case company, they can make the decision of the backsourcing and start the process in case they decide to proceed.

Overall the thesis is made to be as practical as possible, as it will be in concrete use for the case company. Therefore, the thesis is focusing only on three main theories which are strongly related to the research issue, and these are analyzed with the research results.

1.1 Background of the study

Before starting the thesis project, it was clear that the purpose was to conduct a research, which would theoretically support the learnings, but also be a real-life case benefitting a company. After being in contact with the current employer, the idea of the topic sketched little by little. The case company has been having a thought of back-sourcing its air freight operations already for a while, but they do not know where to start, or is it even worth to start the process. Currently, the air freight operations are outsourced to other forwarders.

1.1.1 Logistics outsourcing

Gjurov et al. (2014, 104) defines logistics as a set of activities which are part of the planning and relocating the materials to allow the products and services to be available for each party in the supply chain, and especially to the end customer. By having well operating logistics and supply chain, the costs are lower, and the better satisfied all the parties in the supply chain are. Companies often tend to outsource logistics, as it is not the core business for shippers. The more complex the shipments are, the more likely the logistics is outsourced to third-party logistics providers. Companies are looking for cost reductions and flexibility by logistics outsourcing, as well as better service for their customers. Logistics outsourcing can be a significant part of company's strategy, and therefore the partners are carefully selected. (Ng et al. 2017, 29). The case company is partly on the same position than their customers, as they have outsourced part of the logistics to other trusted forwarders, which are specialized only on air freight. Air freight has been such a minor part of the total turnover for the case company, that it has been more reasonable to outsource it. Outsourcing is always a conscious decision for a company not to carry out the certain activity themselves, even though they have the possibility for it (Kaipia and Turkulainen 2017, 114). Even though this has been a good solution for the case company, their position is changing, as they are constantly increasing the number of air freight shipments. Therefore, the back-sourcing has become a contemporary issue.

1.1.2 Air freight

As the name tells, air freight means freight which is delivered from point A to point B by airplane. Air freight is the fastest delivery mode, but also the most expensive one. Therefore, air freight is often used in situations, in which the timetable is the most important factor in the shipment, and not the cost. Companies send lot of spare parts by air freight to keep the manufacturing processes running on factories, as well as other materials which are a necessity. Some companies benefit air freight by keeping low inventory by fast order and delivery times (inventory in-transit / order-cycle time reduction). (Logistiikan Maailma 2018)

By air freight, it is possible to reach destinations which otherwise would be difficult to attain. Also looking from the security aspect, air freight is the safest shipping mode due to the security checks and licensed and audited operators. However, there are restrictions also on air freight, as there are size and weight limits on air cargo. Some of the cargo is delivered by normal passenger planes, but there are also cargo aircrafts delivering only freight, which can take bigger and heavier cargo than normal passenger airlines. Due to its expense, air freight is often used only on special cases, but there are certain industries which are known to be regular air freight shippers. Especially hi-tech, pharmaceutical and energy companies use air freight often for their deliveries, as well as food industry which is specialized on fresh foods. E.g. salmon is a popular export product from Northern countries to far destinations by air freight. (Logistiikan Maailma 2018).

1.2 Research issue

The company is in a situation, where they should make a strategic decision whether to backsource or not. The make or buy is not a dilemma for the company, it is more of a choice of a better option. There are many different aspects that the company needs to think about, but the main issues are the total costs and opportunity for value growth, which then again very possibly would lead to higher profit. In case the company decides to backsource, they need to have a strong vision of what they are doing and why. All the risks need to be analyzed, but there are also certain things

that the company cannot influence, e.g. market situations which directly affects the business. The market fluctuations always need to be noticed, but if the company has a strong strategy and the decision is based on research, the risk is easier to bear.

In case the company decides to backsource, it is not just a simple step to take back the operations and cut the co-operation with current air freight partners. The company must request for IATA-rights and fulfill different requirements to be accepted and qualified as air freight forwarder. The company needs to be well-prepared for the project, and therefore it is important to know what these requirements are, and if they can fulfil them. There are direct and indirect costs related directly to this process, which need be calculated into the total costs.

Backsourcing is said to become a new trend in the future, and it is important to understand the possibilities, but also the risks that comes along. Backsourcing is often referred as a term also to insourcing. Insourcing is shortly defined by Cabral et al. (2014, 366) as a “decision to reincorporate activities formerly transferred to external actors”, which is basically the same than backsourcing. However, in this project the term “backsourcing” will be used instead of insourcing. To backsource, company must have internal labor to operate the insourced functions, but as an outcome the company gains better control of their processes and competencies. The backsourcing decision can include transferring all the outsourced operations back in-house, or only particular elements. This allows the company also to create a new governance structure, and that way discover new possibilities. (Bals et al. 2016, 496).

According to Nagpal (2015, 55) as deep research of backsourcing has not been made yet as to outsourcing, and there is not much case evidence on how successful the backsourcing has been (Bognar and Kotlarsky 2012,79). Outsourcing failure is often the primary reason for backsourcing. Another reason for backsourcing can be external or internal changes in the company, which drives the company towards opportunities. (Law 2017, 2), or simply the expiring of the outsourcing contract (Kavan et al. 2008, 51). In this case, there is not outsourcing failure nor changes in the company. It is more of a want to create added value for the customers and gain competitive advantage against the competitors. This is a strategic step from the

company side, that has been under consideration already for a while. The back-sourcing would cause both internal and external changes in the company, as well as affect the different networks where the company belongs to. Therefore, the company wants to conduct a research to support their decision.

1.2.1 Research questions

The main research question should include variables from value growth and back-sourcing. The case company should find out from the research, whether the bringing operations back in-house would be more valuable for them than the current outsourcing solution. The value can be determined by tangible or intangible measurements. Especially the monetary value is important for the company, as they are here to make business, and to stay on the market, they need to make profit. Therefore, it is important to realize what the total costs would be related to the back-sourcing, and what is required from the company. Another aspect that the company is trying to achieve by back-sourcing, is to improve their operations, and create benefit for the whole supply chain, and that way also bring even better service to the customers. It would be interesting to know, how the customers would value this improved service. Not to forget, there are always certain risks accumulated when starting something new. When recognizing and acknowledging the risks, they can be minimized often by already being aware of what could happen. The risk mitigation is an important part of the company's strategy and should be regularly evaluated. These before mentioned issues are the main concerns that the company has of this make or buy question, and the answers to the following main research question and sub-questions should help the company in the decision-making.

Main research question: *What kind of added value back-sourcing of air freight operations create?*

Sub-question 1: *What kind of resources are needed for air freight back-sourcing?*

Sub-question 2: *How does added value improve the company's market position?*

Sub-question 3: *What are the risks related to back-sourcing?*

The purpose of this research is to find out the answers to these questions, and that way create good general view of the whole back-sourcing process. By having all the facts available, it is left to the company management to decide whether the back-sourcing would be worth to do or not.

1.2.2 Case company introduction

The case company for this research is Finnish privately owned forwarding company AHA Logistics Ltd. The company is established year 2010 in Vaasa, and nowadays they have another office in Helsinki. In Vaasa they have seven employees, and two in Helsinki. The company's slogan "always ahead" tells about the business idea of thinking forethought on behalf of the customers and giving the best possible service. The company is always trying to find the best possible solution and treats the shipments as their own.

AHA Logistics is a third-party logistics provider (3PL) offering forwarding services (import and export around the world) as well as training and consultation. AHA Logistics handles all type of shipments; from small deliveries to huge and demanding projects with special transportation needs. Even though the company operates from Finland, they have global agency network, by which they also get multiple assignments. With the help of the agents, they can reach any world destination.

For customers, AHA Logistics is their outsourcing partner, as they are taking care of their customers' import and export freights. Then again, AHA Logistics itself is buying wide range of services from their partners, e.g. from carriers, trucking companies, port handling companies as well as from other forwarders. AHA Logistics does not own any equipment or warehouses, all that is outsourced as the expertise and knowledge is their core business.

AHA Logistics is aiming for moderate business growth, and so far they have managed well to accomplish it. Year 2016 the turnover was 5,3 million euros (Kaupalehti 2018), and this year there is hopefully growth again. In order to grow and gain more market share, the company must make strategic decision concerning the

air freight. In case they succeed, the outcome would enhance the company's position against the competitors, and hopefully be profitable decision on long-term.

1.3 Thesis structure

Thesis is divided into two main chapters; theory, and the empirical part focusing on the research results and analysis. The theory is focusing on three main aspects; total cost of ownership, transaction cost economics and resource-based view. Also, in the beginning of the theory part will be discussed the main issues regarding the make or buy-decision. That gives an overall idea of why it is an important matter for companies, especially when thinking about the business strategy. Backsourcing will also be discussed as part of the make or buy, as it is an outcome of "make" decision.

Transaction cost economics as a theory base is giving an insight of what activities the company should produce in-house, and what should be outsourced. Resource-based view is supporting transaction cost economics when thinking about what kind of resources there are available to support the producing in-house. E.g. if the company is lacking know-how on certain area, it supports the decision to outsource that certain activity. Not only to think about the strengths and the weaknesses that the companies have, it is important also to realize the total costs on the making, and vice versa in outsourcing.

The actual research is based on interviewing air freight professionals and on secondary data available from IATA's database. The theory part is supporting the research and the questions asked from the interviewees. On empirical part the results of the interviews will be introduced, as well as the secondary data from IATA will be detailed. The final chapter is focusing on the discussion and analysis regarding the results of the research, which are supported by air freight data of the case company. Finally, suggestions based on the research results will be given.

2 MAKE OR BUY, A STRATEGIC DECISION

Logistics is a good industry example, in which each action made can have long lasting influence on different parties in the network. Therefore, the decisions need to be carefully made and planned long-term. The global supply chains are already a norm, as globalization has brought this world and the nations together, likewise also companies and industries. The Asian economies especially in Far East has brought internationalization as well as export and import into a new level. (Gereffi 1999, 37-38). Therefore, constant development and new ideas and strategic decisions are needed to stay on top of the business.

The company strategy often consists of different focus areas, of which supply chain management is one. Customer-driven supply chain strategy focuses mostly on meeting the supply and demand, as well as lowering the costs and improving the customer satisfaction. These can be achieved by systematic review of the market, and by responding quickly to the possible changes, as well as making long-term plans. The supply chain actors should also act reliably and be aligned in meeting the customer needs and creating common strategies. (Madhani 2017, 7-8, 13). These are only a few things to mention, but it is to remember, that all actions companies make, aim finally for customer value creation.

Value as an objective is nothing new, but only starting 1990s and continuing 2000s, this became an interesting issue among the researchers. The modern approach; customer service logic on value creation explains that value is created by the customers themselves when they use the goods or services provided to them. (Grönroos 2008, 299). Grönroos (2006, 319) also differentiates services as “value-supporting process”, while goods are “value-supporting resources”. Basically, the service given is helping the customer to perform the best possible way in their everyday practices. Companies aim to create positive value for the customer, in other words, making the customers satisfied. Value can be measured by monetary terms e.g. in profit, but it also creates intangible measures such as trust, affection, comfort and easiness on use. (Grönroos 2008, 300). The following chapter is discussing the importance of make or buy from a strategic viewpoint, and how it affects the company. Also, the aspects of service procurement and supply chains will be explained.

2.1 Purchasing in service supply chains

Purchasing is an essential part of each company's business strategy. Vitasek (2016, 128) mentions how different researches show, that the percentage of revenue spent on suppliers is between 40 to 80 on most of the companies. That is a high percentage, and basically means that one-half of the sourcing is used on services. Therefore, the importance of business and sourcing management cannot be underestimated.

Some of the studies show that companies think purchasing services is more difficult than purchasing goods, and one unanswered question which strongly divides opinions, is the issue of whether the service sourcing is much different from buying goods or are they alike. (Rooks et al. 2017, 1). The low number of researches related to service buying supports the claim that they are much different. An analysis made of the Journal of Supply Management reveals that during its first 35 years, there was under 10 articles about service purchasing. (Rozemeijer and van der Walk 2009, 4). Luckily, there will be a change in the future as the topic has gotten more and more attention during the recent years.

Grönroos (2008, 300) simply explains service being a process in which the service provider does something to assist the other in everyday practices. Rooks et al. (2017, 1) defines service as "the object of exchange", and as a "perspective on value creation". Many divides services as intangibles and goods as tangibles, but it is not that straightforward. Sometimes the line can be thin, and it is difficult to differentiate products from services. Take a hotel for example; is the hotel room tangible physical object that the hotel offers, or is it a service? Among the intangibility, the main characteristics for services are said to be heterogeneity, simultaneity and perishability. (Rozemeijer and van der Walk 2009, 3). Those differentiate from typical product characteristics, and therefore many researchers claim, that product procurement strategies cannot be directly applied in service purchasing. What comes to logistics and service procurement, it must be remembered that each purchase affects also others, as the supply chain and the network can include various parties.

Gjurov et al. (2014, 105) describes supply chain as a logistics pipeline, in which different parties work together to achieve a common goal, which usually is to have

an efficient production flow. However, in supply chains the movement is not only physical; if there is a product transferred from party to another, it is also a service provided to the receiver. Choi (2015, 685-656) differentiates service supply chains to “service only” supply chains (SOSCs), and to “product service” supply chains (PSSCs). In SOSCs the product is a pure service, such as telecommunication and internet. In PSSCs the product is physical, but still clearly connected to provided services. Logistics is PSSC, as the service is intangible, but strongly related to the physical product movement in the supply chain. Billington et al. (2004, 1) describes the service supply chain management as following: “Supply chain management is the management of information, processes, goods and funds from the earliest supplier to the ultimate customer, including disposal.” That is a good explanation which suits perfectly also for logistics supply chains and services. There are various service providers on the field of logistics; e.g. carriers, trucking companies and airlines who work directly with shippers, but they work also with forwarders to whom the logistics can be outsourced. Therefore, logistics services supply chain can be almost anything from few pieces to long chain including multiple actors. Figure 1 shows an example what the supply chain can be from shipper’s perspective.



Figure 1. Logistics supply chain model

On figure 1 the supplier and subcontractor as well as the shipper are the manufacturers, but the manufacturing is also a service to the shipper. Logistics provider then offers the logistics service, which might be bought from another service provider. There are usually many actors handling the shipments before it reaches the end customer, but sometimes the supply chain can be also simple. The supply chain can be as short as delivering small package directly from the manufacturer to the end customer by courier.

From the forwarders perspective, the view looks a bit different. Forwarder cannot know how many subcontractors the shipper has, and how long the supply chain already is before they get the shipping order. Then again, the shipper does not see how many suppliers the forwarder has. As an example, the forwarder might buy trucking from their supplier, who has outsourced part of their services, as often small trucking companies cannot serve the whole country by their own equipment. In typical air freight shipment, the trucker picks up the goods from the shipper or its supplier and delivers them to airport to a warehouse to be checked, from which it is delivered to the final terminal. Before loading and delivering to the airplane, the security checks will be done. Many of the shippers are not aware of all these procedures as they are not visible for the shipper. This is a good example reminding, that there are numerous parties involved before the cargo departs from its origin country.

Andersson & Normann (2002, 3-7) remind how the focus on selecting suitable carriers or advanced logistics services are usually on “preparation and identification of requirements, provider selection and negotiation, and monitoring provider performance”. Overall the purchasing of the services, and especially logistics services has become more complex over the years, as also the shipments have complicated. The wide range of services available and outsourcing has pushed the purchasing of logistics services more towards a strategic decision. However, this does not only concern logistics, it applies the procurement of all services. The service purchasing has its own aspects that need to be taken into consideration, from the supplier’s as well as from the customer’s perspective. Therefore, it is important to understand what implications each action cause, especially if the business strategy is to provide added value and gain competitive assets on the market.

2.2 Reasons behind the make versus buy decision

The main strategy and goal that the companies often have, is to maximize the profit, minimize costs and still deliver extra value. At the same time businesses tend to have a habit of power play, as each buying company wants to be able to control its

suppliers. (Keith et al. 2016, 18). However, the emphasize should be on basic questions on how to source and get enough information on the markets and create efficient supply strategy. (Hallikas et al. 2011, 145). Often the strategic decisions on supply management starts from the make versus buy issue. When companies decide to buy, it means that instead of delivering the service or product themselves, they decide to outsource it to suppliers. Dabhilkar (2011, 5) states the reasons for outsourcing often to be cost reductions, quality improvements, saving time, being more flexible and enjoying the suppliers' innovativeness. Cost reductions are often achieved by outsourcing the unproductive activities and focusing on the core assets. Generally, the choice of a supplier also brings cost savings, as the total costs of the supplier performance need to be reviewed and compared. By outsourcing the company can also respond more quickly to customer and market preferences, especially if the switching costs are low. The more there are suppliers, the less there is uncertainty and companies can react fast to any fluctuations. Supplier can also provide innovativeness to buyer, which would not otherwise be available. Skilled and diverse workforce can be the asset of the supplier, which brings added value for the whole supply chain, not only to the buyer. If the outsourcing was the right decision to do, the supplier performs the outsourced activity better and faster than the outsourcing party would do. (Ghosh and Kroes 2010, 126-127).

2.2.1 Motivation for logistics outsourcing

Even though the reasons for outsourcing as a principal are the same, there are also industry specific motives. Logistics itself is already a source for competitive advantage, and therefore the outsourcing of logistics is often a critical decision for the company. Behind the decision there is usually internal and external motives, such as product, network and process-related factors, but the motive can also be on having difficulties to perform the logistics activities in-house, or in the need of special knowledge. The external motives often refer to the current market situation and to the pressure to perform better. Another important aspect is the total cost, as it is

critical to understand the cost/service trade-off, and what the alternative “make” option would cost in comparison. (Selviaridis and Spring 2007, 128-129). Whatever the decision is, to outsource or not, it should have positive outcome.

According to Selviaridis and Spring (2007, 129), the outcomes can be classified into three categories; strategy-, finance- and operations-related. In case of outsourcing, the strategic alliance made between the parties in the supply chain is supposed to improve the competitive position on the market, achieve new and faster performance levels, as well as satisfy the customer better. (Bagchi and Virum, 1998, 191). The third-party logistics providers, as any other outsourcing partners are said to expand the scale and scope of the operations for their customers which gives the company better possibilities to focus on their core competences, and at the same time benefit of the supplier’s services. (McIvor 2009, 45). Often the outsourcing is also a cost competitive option, however it is commonly difficult for the shipper to realize what the costs are in-house. Logistics providers have larger scale of suppliers in their use, which the shipper might not realize and understand the full potential. (Selviaridis and Spring 2007, 125, 128-130).

However, sometimes the logistics outsourcing is rather seen as a risk, and if that is the case, then the “make” option would suit better the company needs. It has been reported, that outsourcing might lead to poor performance (Gelderman et al. 2011, 168), and invisible supply chain, in which the feedback is not transparent. The more there are actors, the bigger there is a chance that the logistics problems never reach the shipper, and their business might suffer from that. Another aspect that the shippers are worried about it, is the service providers’ lack of knowledge of their products. It is true, that the more customized and specialized the product is, the more difficult it is for any outsider to understand all the product qualifications and functions. In that case, the shippers often rely on one trusted partner, instead of enjoying the economies of scale among the logistics providers. (Selviaridis and Spring 2007, 129-130).

2.2.2 Added value as a part of company's strategy

Outsourcing is often seen as a value-adding option for the companies. Added value can be both tangible and intangible. It can be measured in money, but also in intangible ways, e.g. in customer satisfaction, as often the value adding is an emotional benefit felt by the customer (Chernatony et al. 2000, 47). If thinking first about the functional value, Glaser et al. (2002, 823) states "added value is the difference between the (comprehensively accounted) value of a firm's output and the (comprehensively accounted) cost of the firm's output". Chernatony et al. (2000, 40) defines the value to be "trade-off between customers' perceptions of benefits received and sacrifices incurred." Customers expect to get high quality, and value for their money. However, the price is not always the most decisive factor, as the quality can be more decisive factor than the low price. A study made by Chernatony et al. (2002, 47, 53) shows that money savings and better quality are the first things when thinking about adding value, whereas the monetary value is more seen as a short-term issue, and quality as brand improvement as a long-term aspect. The same study also shows, how it is vital in brand building to create added value, as it enhances the customer experience and fulfils the company objectives.

As the value adding is strongly connected to outsourcing activities, it can be also seen as a strategical decision to gain competitive advantage (Chernatony et al. 2000, 39). Grönroos (2008, 299-300) states how the company has an opportunity for creating added value while the customer is using the provided product or service by interacting with them. This logic differs from the customer service logic and is therefore called as a provider service logic. This gives the company an opportunity to adjust their strategies by meeting the needs of their customers in ever-changing market conditions. VAS (value-adding services) is a term describing the additional services provided besides the basic offerings, that create added value (Hubbard et al. 2016, 171). That can be almost anything related to the core service, e.g. in forwarding it can be additional tracking made for the customer or any other extra service that the customer is not expecting. From the aspect of supply chains, the value can either grow in the chain, or decrease. If all the parties are committed to providing additional value and gaining competitive advantage, it is easy to make the change. However, it needs only one actor who is not filling their part. Therefore, in case of

competitive advantage, companies might face the make versus buy issue if they notice disruption in the supply chain. If the company believes the outsourcing decision has failed, the option is either to change the supplier, or backsource.

2.3 Backsourcing as an option

Backsourcing seems to be a contemporary issue worldwide, but especially in the IT-industry. However, the first notable backsourcing case is from the banking industry, when J.P. Morgan Chase decided to bring back in-house their IT-services, help desks and data centers and end their outsourcing contract with IBM. (Bognar and Kotlarsky 2012, 79-80). IBM has faced similar issues also with other financial institutes, e.g. Bank One (merger with J.P. Morgan) and Halifax Bank of Scotland decided on the beginning of 2000s (Nagpal 2015, 54). Though, the outcome of J.P. Morgan's backsourcing was not a success. There was mistrust among the employees due to the lack of management after the employees returned from IBM to J.P. Morgan, which eventually led to low working motivation. Finally, the company had to lay off 12 000 employees when merging with Bank One (Bognar and Kotlarsky 2012, 80). This case example shows, that the backsourcing decision can be a failure too, and it is possible to go from outsourcing failure to a backsourcing failure. To avoid these problems, the possibilities and risks of outsourcing and backsourcing need to be fully considered.

In consideration to the company strategy, the backsourcing decision needs to be carefully made, as it requires time, skills and planning for the organizational change. Reintegrating the knowledge and progressing new capabilities and competences is not simply made and is usually costly (Bognar and Kotlarsky 2012, 79). Often before the backsourcing is made, there has been substantial changes in the company management level, and the company might have had changes by mergers and acquisitions. Besides those factors, the originally made outsourcing might have been a failure, and the selected supplier has not been performing as expected. (Nagpal, 2015, 54; Law 2017, 2; Bognar and Kotlarsky 2012, 81). The outsourcing failure can refer to many things, but often it is related to costs, which might be something else that was expected. Sometimes the vendor might have too opportunistic behavior, or

the problems occur because of poor contract made between the parties. (Law 2017, 2; Macinati & Young 2012, 774). Sometimes the back sourcing can also be purely a strategic decision. (Bognar and Kotlarsky 2012, 81). A study made by Deloitte Consulting shows that 70% of outsourcing customers have negative experiences, and 25% of the customers decided to backsource. (Kavan et al. 51, 2008). That is a high percentage, which refers to unexpected issues in outsourcing. The table 1 below summarizes the outsourcing reasons that many authors describe and commonly agree to.

Table 1. Summary of reasons for back sourcing

Reasons for back sourcing	Authors
Outsourcing failure	Nagpal (2015); Kavan et al. (2008); Law (2017); Wong (2008)
Company external / internal opportunities	Nagpal (2015); Kavan et al. (2008); Law (2017); Wong (2008)
Contract issues	Nagpal (2015); Kavan et al. (2008); Law (2017); Wong (2008); Macinati & Young (2012)
Loss of control	Bognar & Kotlarsky (2012); Macinati & Young (2012)
Poor service quality	Bognar & Kotlarsky (2012); Leidner & Whitten (2006)
High outsourcing costs	Bognar & Kotlarsky (2012); Leidner & Whitten (2006); Macinati & Young (2012)
Change in company strategy	Law (2017); Wong (2008)
Power play and politics	Wong (2008); Law (2017)
Vendor's opportunistic behaviour	Macinati & Young (2012); Law (2017)

Kavan et al. (2008) and Law (2017) are highlighting especially the contract issues and internal or external opportunities as the main reasons for back-sourcing. The total cost is essential in contracts, as the contract does not show how much there can be indirect costs involved in the outsourcing, as well as the costs might get higher. Additionally, there might be other extra costs that the outsourcing party could not have been prepared for. The poor service quality might be a part of the contractual issues too. The outsourcing party has certain expectations to the outsourcing provider, and if they are not fulfilled, there becomes gap, which can be directly referred to poor service quality. That occurs often from poor responsiveness, acting unprofessionally and having delays in deliveries. The lack of the vendor's know-how can also cause break-down of the contract, but vice versa, the outsourcing provider can also cause lockdown situation for the vendor, if they have better know-how than the outsourcer. (Bognar & Kotlarsky 2012, 81; Kavan et al. 2008; Wong 2008, 106).

The power relationships are most commonly switched, when the company faces internal changes. It has been researched, that new managers are three times more open-minded towards new effects, than the old ones. The top management has an important role in planning of the strategy, and therefore, changing the management as well as other company environment issues encourages the back-sourcing decision to be made. What comes to the external drivers, changes in the company structure are most vital regarding the back-sourcing. After mergers and acquisitions companies often face a situation where they need to change their strategy and re-evaluate their operations. By changing the company structure, they might also gain new skills and competitive advantage, which determines which operations are to be outsourced, and if something could be brought back in-house. Also, the change in vendor company's structure might affect the back-sourcing decision. The new management of vendor might re-evaluate their contracts, and that way cause the termination of a relationship. Figure 2 describes the back-sourcing decision from both the vendor's and the outsourcing party's side. (Bognar & Kotlarsky 2012, 81; Wong 2008, 104-106).

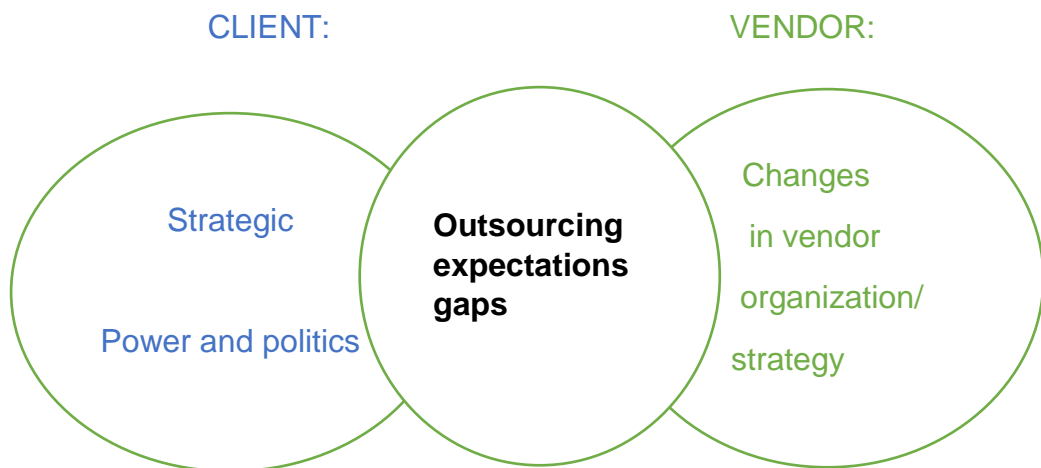


Figure 2. Client and vendor involvement motivating backsourcing decision (Wong 2008, 107)

Even though there would be failure in outsourcing, companies often feel that after they have chosen to outsource, there is no turning back, and therefore there is a high threshold to backsourcing. This is called as an outsourcing lock-in. No matter even though the outsourcing can be proved being mistake, the company might already have lost their control and production experience which makes it difficult to take the operations back in-house. (Law 2017, 1-3). The research made by Law (2017, 2) shows that after outsourcing lock-in, the companies face organizational crisis, which leads to emergency backsourcing, and finally to proactive backsourcing. The figure 3 describes this continuum.

Process phases:

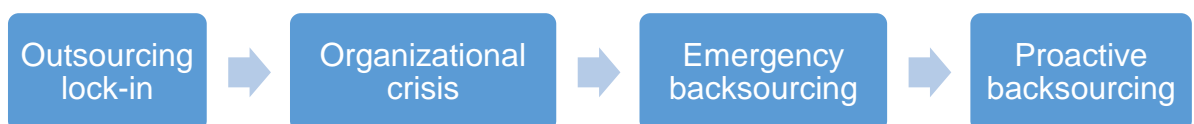


Figure 3. Overview of the four-phase backsourcing process (Law 2017, 5)

Law (2017, 9) found out, that the more the company needs to have control over the supplier, the more difficult it is to break the outsourcing path. However, if the outsourcing is a failure, backsourcing as an option is more attractive if the failing affects both, the company's internal and external stakeholders. Also, if the company has

earlier experience on integration and is capable to produce the outsourced good or service in-house, backsourcing is easier to implement. It can be said, that even though the company decides to outsource, it would be advisable to maintain the production capabilities in-house, as it helps in monitoring the outsourced activities (at some level) and enhances the process of the backsourcing. If the backsourcing decision appears to be a success, the managers who favored that decision will most probably gain power advantage among the management.

It has to be remembered, that backsourcing decision always affects two parties; the vendors that are offering the outsourcing services, and the outsourcing parties who buy the service/product. Therefore, it is essential to choose the outsourcing partners well. For vendors, backsourcing is a failure of their services offered. It is important for them to recognize the reasons, why the buying company wants to backsource the once outsourced operations, as it can be a lesson learned for them. That helps the vendors to re-negotiate the terms with existing customers in case there is a risk of backsourcing and attract more new customers. (Wong 2008, 102). To avoid backsourcing from happening, many companies execute service level agreement to control the vendors and maintain the certain level on outsourced activities. That is one way of reviewing the outsourcing contracts. (Wong 2008, 107; Nagpal 2015, 55). Service-level agreements can include many things such as time frames, number of deliveries to be made within certain time, quality measurements and customer satisfaction. (Ismail et al. 2013, 1530-1531). However, the agreements need to be carefully made and continuously reviewed and updated, as also the market needs change over time. If the service levels are not met on the agreement, and the service provider is not showing any signs of improving their services offered, it becomes necessary to negotiate whether the contract should be terminated, and the goods or services outsourced should be brought back in-house. At this point, it is critical to realize whether the changing of outsourcing partner would be the best option, or alternatively backsourcing.

There are many aspects that need to be taken into consideration; especially the governance type and the characteristics of the outsourced goods or services. Even though service level agreements are said to be a good tool for measuring the suppliers, Ledyard (2015, 30, 37) reminds that SOWs (statements of work) as well as

SLAs are made by the buying company, not by the one delivering the service, and therefore the expectations can sometimes be unrealistic. When making the SLAs, the metrics cannot be too wide either. It is important to understand the line of what is not causing extra work for the supplier for achieving the metrics required, while they could purely focus on providing the service which is their core competence. The SLA parties need to negotiate which metrics are useful and can be executed, as well as utilized on the buyer's side.

In case the contract with vendor will be terminated, that should be well planned and seen as a project for the company. (Nagpal 2015, 55-57). Bhagwatwar et al. (2011, 170-172) have outlined how companies should proceed with the backsourcing process. Firstly, it is important to inform the outsourcing contract partner, as the purpose is not to ruin the business relationship. In some cases, the contract has to be terminated, and to avoid penalties or other related charges, negotiations with the vendor are needed. Most important is the knowledge transfer. If both companies have documented all outsourcing related information, such as track of the employees transferred and details of other certain activities done, it makes the process easier. Often the backsourcing is handled by certain team, which can consist of management team. They have a critical role in bringing back both the activities and employees in-house, as well as re-negotiating with the vendor. Neither the stakeholders cannot be forgotten, as the backsourcing often impacts the whole network. The management team is responsible for keeping all the parties informed, as well as their own employees. If there occurs any problems, they are most likely to be related to security issues. Both the vendor and the backsourcing company needs to think how to protect their businesses, even though there has most probably already been excessive amount of information exchanged between the contractual parties. If terminating the contract, both parties should bear in mind, that even though there is not a contract anymore, the confidentiality obligation is still valid. Backsourcing should neither influence the daily operations in the company. All the processes should continue as before, and therefore it would be good to implement the backsourcing step by step. That way the employees would adjust to the situation,

and there would not be system errors or other problems. However, each backsourcing process is unique, and therefore these steps cannot be generalized, but can be seen as a guideline for companies to be adjusted to their own backsourcing project.

All in all, outsourcing and backsourcing should not be seen as an enemy for the companies, as they can both be an opportunity to create something new, and enhance the business. When making long-term plans, the make or buy will always play a vital role in the company strategy, but companies need to be encouraged in making the difference and stepping out of the “old norms”. However, companies need to learn when to make the step to solve the make or buy “dilemma”, and therefore it is vital to understand certain theoretical patterns that companies can reflect to their current situation.

3 THEORETICAL FRAMES FOR MAKE OR BUY

Schiele and Steinle (2008, 5) remind how the company's basic intention is always to perform better than its competitors. That can be measured in different ways taking into account both the company's internal and external assets. The company's core know-how is always the most essential asset for the company and should never be outsourced. The core business can be a tangible product which is manufactured by the company, or it can be a service e.g. IT-service or other which includes professional skills. Earlier the theory of outsourcing was clearly stated as if the decision is to buy, companies should strive for competitive market forces, which works fine in simple cases, but probably not on a longer time span. The more complex the outsourced product is, and especially if it is a service, the company often becomes dependent on the supplier and the switching costs becomes high. (Vitasek 2016, 129). This is not what the companies should do. Many outsourcing literatures are highlighting the theories of transaction cost economics (TCE) and resource-based view (RBV) as a base for the make versus buy decision. These are said to be the most important theories to which the decision should be based on, and therefore the focus will be on these approaches. However, even though these theories have gained remarkable success among the researchers, it is important to look on the criticism also. Each theory should be considered by both its positive and negative aspects, so that the full picture can be understood.

3.1. Transaction cost economics

Williamson has made a pioneer work called as transaction cost economics (TCE) on outsourcing and make versus buy decision. Williamson is a Nobel laureate who understood the flexibility of contracts and business types between the parties and saw sourcing rather as a continuum than a single transaction. (Ledyard 2015, 86-87). TCE model is used when determining the governance structure and trying to find out which activities should be made in-house and what should be bought. The TCE basis is that companies should choose that governance type in which the transaction costs as well as partner opportunism are at their lowest, while they still fulfill their part of the contract and makes frames for handling any possible threats. TCE

framework is trying to explain why there are different levels of efficiency among the corporations, and how the different transaction attributes (asset specificity, uncertainty and frequency of transaction) affect the corporations' activities. (Sheu et al. 2012, 4463). Asset specificity is referring to the level of dependence, as it is seen as the "measure of nonredeployability". Uncertainty is describing how vulnerable the transaction is, and frequency refers directly to the occurrence of the transactions. (Alard et al. 2013, 244).

Williamson's TCE model is emphasizing the role of long lasting partnerships, and the win-win situations. Ledyard et al. (2013) are calling this type of outsourcing as a vested sourcing, in which both parties are fully committed and working towards common goals. Even though according to many researchers this is the governance type for companies to try to achieve, there are also other governance types which helps in making the make versus buy decision. The below figure 4 is showing the different governance types, which will be explained more detailed in this chapter.



Figure 4. A continuum of outsourcing solutions (Vitasek 2016, 129)

3.1.1 Market

Williamson calls the continuum of sourcing as a hybrid model of markets and vertical integration. (Blomqvist et. al 2000, 1; Vitasek 2016, 129). Markets refer to a free-market forces, and the opposite is corporate hierarchies. Free-market forces pushes the suppliers to compete against each other on the lowest prices and best service. That makes the business and relationships easily detached, as the switching costs

are low and there is a high number of suppliers available. The suppliers cannot be controlled, and the contracts (if any) are often regular contracts following the contract law norms. Also, high-powered incentives are part of market governance type. (Sheu et al. 2012, 4463). Market type does not require huge devotement from the buying company and enables them to focus on their core competences. (Vitasek 2016, 130). The market option motivates the supplier to sell more and more, as in the basic transaction model the more they sell, the more they get revenue. This pushes the outsourcing party to a situation in which they take the full risk of keeping the supply and demand on balance. (Ledyard et al. 2013, 134).

3.1.2 Corporate hierarchies

On contrary, the corporate hierarchies are the type of sourcing in which the product or service is made in-house, and the service or product is not a standard which everyone can copy, which refers to high asset specificity. Therefore, the possible supplier is creating remarkable value for the partner, and the contracts are carefully written and binding the both parties. (McIvor 2009, 47). Therefore, the contracts are highly valued, and changes cannot be done without an approval from both sides. On hierarchy, low-powered incentives are applicable, and there is high administrative control due to the few number of suppliers, if any. (Sheu et al. 2012, 4463). On hierarchy, control is very important as the loss of that enables the suppliers misconduct, which the buyer needs to avoid to maintain its stronger power position. It cannot be said which one is better, hierarchy or market model, as the companies and their products vary, but most important for each firm is to recognize their core competences and focus on them. Core competences should always be made, and rest to be bought. Finding the right balance between the governance structures can be difficult, and indisputably most of the scholars highlight the importance of hybrid models and leaves corporate hierarchies and markets to less attention.

3.1.2 Partnership

On the middle there's a hybrid, which is also called as a partnership, collaboration, networks or contracts depending on the author. According to Ledyard et al. (2015, 93), the ideal situation for partnership is when the internal expertise is not high, and outsourcing is an opportunity to save costs and resources. Partnerships are formed by having individual contracts, and the partner choice is clearly a strategic decision for both contracting parties. (Blomqvist et al. 2000, 1). Detailed and fixed contracts are binding the both parties and securing them from opportunistic behavior and other relationship related risks. (Sheu et al. 2012, 4463). Ledyard et al. (2015, 96) reminds how partnership is a long-term collaboration, in which both companies need to have certain mindset and support each other. The positive outcomes of successful collaboration can be e.g. innovativeness, value growth, improved performance and better effectiveness. When both parties are fully committed, there is a suitable environment for continuous improvement and new approaches, as well as finding new methods for conducting certain processes.

Mistakenly companies often think that their work is done after signing the contract, when that is only the beginning to a long-term relationship. For collaboration, the suppliers are carefully chosen and measured, and buyers expect to receive value-adding services. Therefore, before signing any contract, companies should focus on doing their groundwork well, as well as understand the potential supplier's business and give them comprehensive picture of what the buying company is doing. (Ledyard et al. 2015, 91). On negotiations phase, besides the cost also the quality of offered service matters. There might be different reasons why certain suppliers are chosen; e.g. the other might have better rate than the other, but the other might have faster delivery times. Below the figure 5 is showing the different governance types which represent seven different sourcing options.

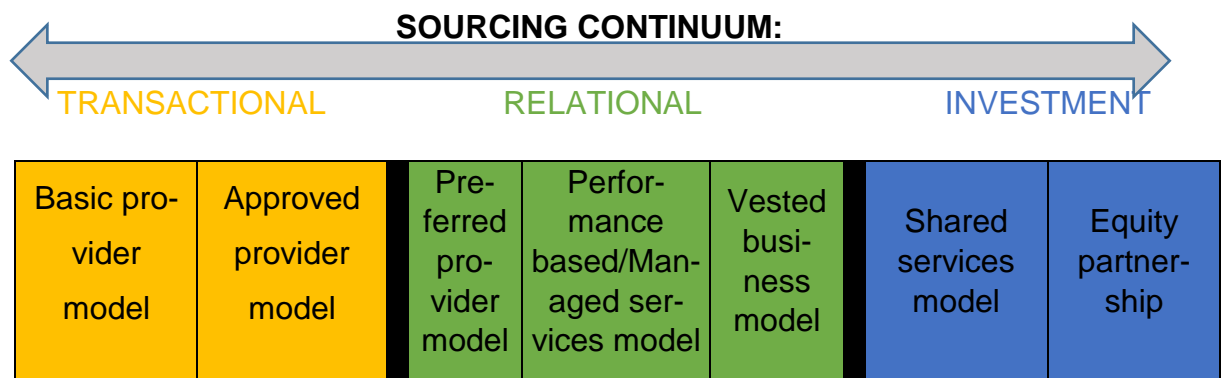


Figure 5. Sourcing continuum (Keith et. al 2016, 56).

The transactional model refers on TCE to the “market”, relational to “hybrid”, and investment to “hierarchy”. **The basic provider model** is the simplest purchasing option, which is used on standardized low-cost goods. These are available for everyone, and their price is standard, as there is no need to negotiate because of large number of suppliers available providing the same type of readily available goods or services. **The approved provider** is already pre-qualified meeting certain standards, but often the number of suppliers is still large. Therefore, there is competition between the suppliers on low rates, and switching costs are low. The suppliers are trying to differentiate from others, and the differentiation might come e.g. from cost, quality or location. There might be common master agreement under which the suppliers operate, or there might be as well separate contracts made. These suppliers are not always audited, as it depends on the buying company what is their policy. However, the supply chain is easier to trace and control when using approved suppliers. (Vitasek 2016, 132-133).

On **the preferred provider model**, the buyer and the supplier have already a contract which can be long-term, and both work towards common goal. The supplier is providing added value for the buying company, and they might have unique differentiators on services which separates them from other available service providers. The qualification can be made based on e.g. previous experience and performance, certificates (such as ISO or others) and cost control. The benefit for the buyer in using preferred supplier is the streamlining of the buying process, as often multi-year master agreements are used, and the buying process is still simplified. (Vitasek 2016, 134).

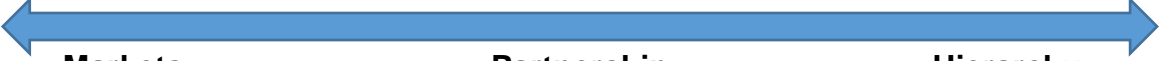
When heading towards even more long-term and service level agreements, **the performance based/managed services model** is the one to use. There is a certain quality level that the supplier needs to achieve to fill in the expectations, and there are price negotiations preceding the contract signing. The supplier will be regularly audited and measured, as there will be sanctions in case the certain service level is not achieved. The buyer is constantly striving for improvements, and there is strong collaboration between the service provider and the buyer. When forming even deeper relationship between the supplier and the buyer, we are talking about the **vested sourcing business model**, which is said to be the most ideal for both parties. This is a real collaboration in which both parties are truly committed to work towards common good and shared value. There is a mutual trust and common understanding of the desired outcome. Both the buyer and the supplier need each other to achieve the outcome, and therefore these relationships usually last long. The ideal situation for vested is when the buying company needs innovative objects that they cannot achieve themselves or using transactional sourcing models. Vested sourcing is a strategic decision for both the buyer and the supplier, and improvements on business performance in all areas are expected. (Vitasek 2016, 134-135).

When moving towards the make decision (hierarchy/investment), **the shared services model** is a typical arm's-length solution, in which the purchasing is often centralized. The company might backsource or develop the capabilities themselves, e.g. creating subsidiaries. The subsidiaries can be therefore called as internal suppliers. The internal supplier is often referred to preferred providers model, and the company can outsource variety of operations to the subsidiary or other. When moving even more towards the investment/hierarchy, on **equity partnership** the company creates legally binding entity by e.g. buying their supplier, by creating a subsidiary or other joint venture methods. This is a rather costly option for the company, but they can control the supply as there is not the "buy"-option anymore when the product is made in-house. This can also be a high risk for the company, as well as an opportunity. (Vitasek 2016, 135-136).

Blomqvist et al. (2002) goes through by detail which of the partnership modes suit best in different situations. This is based on the transaction costs such as bounded rationality, opportunism, information impactedness, frequency of transactions and

asset specificity. Therefore, e.g. market option suits best for the company when there is no uncertainty and the product is not complex, there are many partners available and there is no need for specific investments. However, if the bought product has any complex features, the company might need to re-think their sourcing strategy. (Vitasek 2016, 136).

Each governance type has their own typical benefits, which should be noticed when thinking about the right sourcing option. As the table 2 below shows, the partnership naturally combines the best parts of both, the markets and hierarchy, as they are opposites. Even though partnership is said to be the best option, it is not easy to manage. Depending on the partner, the collaboration might function without any problems, or it can be a problematic relationship from which is hard to get away. Mutual trust and common goals makes the partnership work long-term, and that is what companies should go for, but this is always case dependent. (Blomqvist et. al 2002, 9).



Markets:	Partnership:	Hierarchy:
+ economies of scale	+ focus on core competencies in the value chain	+ economies of scope
+ lesser risk	+ ability to coordinate disperse knowledge	+ economies of scope through learning
+ less investment in specific assets	+ ability to create incentives for coordination e.g. trust	+ effective management and control through ownership
+ increased flexibility	+ risk sharing through separate ownership of assets	+ cost-efficiency through economies of joint ownership
+ increased variety	+ investments in relationship-specific assets	+ competence-enhancing innovation
+ high-power incentives	+ communication and information sharing	+ exploitation of monopoly power
+ efficiency through fierce competition	+ improved quality	+ efficient internal communication network
	+ shorter time-to-market	

Table 2. Benefits provided with different governance structures (Blomqvist et al. 2002, 9)

The main point is to understand the transaction costs which affects the make or buy decision. Transaction costs occur almost on each action that the company makes, as there are always hidden costs which are not that clearly recognized. (Vitasek 2016, 130). Transaction costs often include the costs related to search, planning, negotiating, monitoring and enforcement. (Blomqvist et al. 2002, 3). Transaction costs might rapidly grow without even noticing, and therefore it is important to keep the right balance in outsourcing. This leads to a question of total costs of ownership, which the companies need to realize when planning their sourcing strategies.

3.2 Total cost of ownership

Ledyard et al. (2013, 22) are stating that Deloitte study has shown the most common reason for outsourcing to be cost reductions. That being the only valid reason for outsourcing and selecting the supplier can lead to catastrophic consequences, as there is high probability of trade-offs in service or quality, or even both. That is not creating any long-term value for the buyer or the customer, and in the end-game the savings are not remarkable. In worst scenario the outsourcing providers disappear as they get annoyed of constant price reductions. (Ledyard et al. 2013, 28). Understanding the big picture on the costs is challenging, but also rewarding for the companies. When understanding of what the company is paying for, they can make better strategic moves and possibly gain better market position.

Total cost of ownership (TCO) is said to be the pre-work before transaction costs economics and is strongly related to that theory. Ellram (1995, 4) defines TCO shortly as a “purchasing tool and philosophy which is aimed at understanding the true cost of buying a particular good or service from a particular supplier”. TCO includes numerous different variables taking into consideration all the costs that are related to that certain product or service. It can include both direct and indirect costs e.g. from transportation, inspection, replacement, equipment, labor and inventory (Ellram 1995, 4; Hartman et al. 2017, 365). Often the visible price which is the direct cost of purchase is described as the “tip of the iceberg.” Below on the figure 6, is seen the University of Tennessee’s view of what the TCO can consist of. Even the hidden costs can be braked down to smaller pieces, and this is only a simple example of what the costs can include.

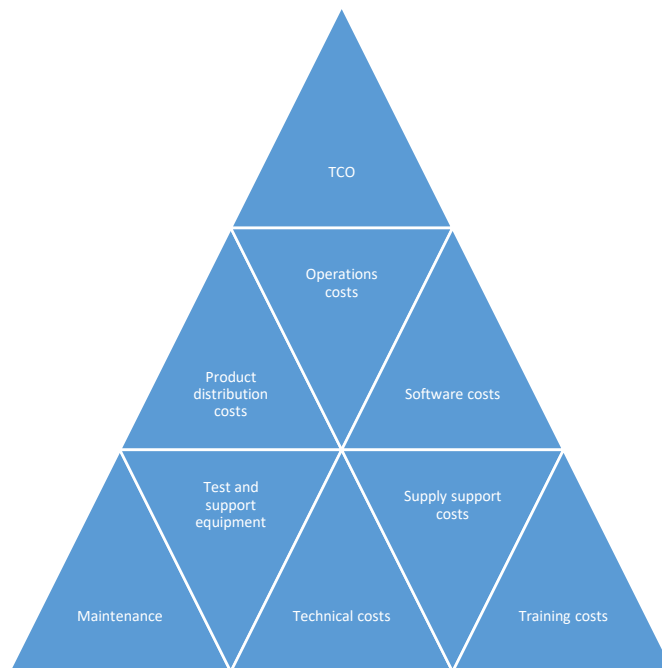


Figure 6. Total costs of ownership (Ledyard et al. 2013, 125)

Often the companies do not recognize what is needed in order to get the full picture of the costs. Ledyard et al. (2013, 125) introduces the spend analysis which gathers together the total spent on “what, from whom, and for a certain commodity or service, across varying geographical/organizational units”. There are four main objectives introduced by Ledyard (2013, 25), which digs into the cost structure;

1. Develop and organization-wide view of spend that is comprehensive, detailed and accurate.
2. Identify opportunities for reducing total costs across the organization.
3. Establish a spend baseline against which to measure and compare future activity.
4. Prioritize initiatives for further analysis and implementation.

In ideal situation, the companies follow the 80/20 rule on cost analysis. That is stating that “80 percent of the total spent is contained in 20 percent of the total transactions.” There are always errors on data which are often based on estimations, which needs to be taken into consideration for the total costs.

TCO is an important theory model for the case company, as they want to know all the occurring costs if they decide to backsource. There are numerous different approaches on how to use TCO, and some say that TCO cannot be directly used on evaluating services cost. However, each firm has their own primary use of TCO model (Ellram 1995, 9), and it is important to make a price breakdown to evaluate if there is something that the company is considering to “pay for nothing”, and where the savings could be made. Figure 7 describes well how TCO-model can be used alongside the TCE, as the costs is a significant decision criterion for companies in outsourcing decision.

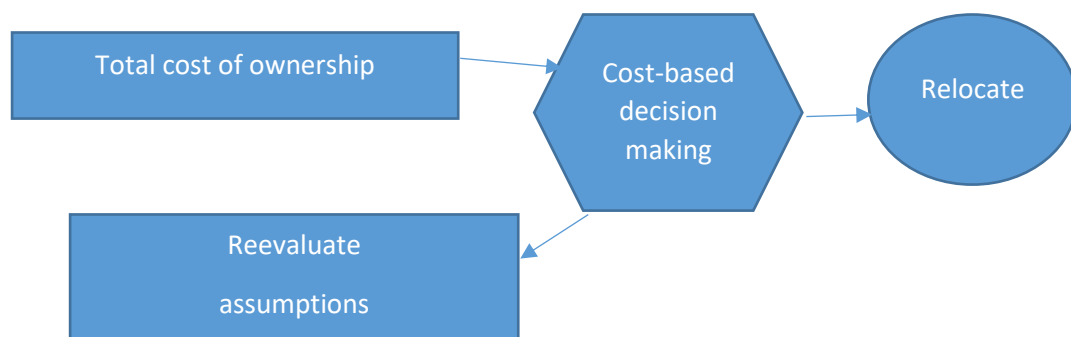


Figure 7. Cost-based decision-making approach (Hartman et al. 2017, 365)

Important is to realize the full cost of each transaction, as well as on larger scale e.g. project costs such as back sourcing. The difficulty is to find the right approach to find the cost structure, and not only thinking about the company itself, but the whole supply chain which can be sometimes almost impossible to do. (Hartman et al. 2017, 365). The more there are actors, the more there are hidden costs. Hartman et al. (2017, 365) emphasizes how essential it is to understand how much information is needed to gather the full picture of the total costs and is it even possible. Costs reductions is definitely one of the trigger points for companies to think about the outsourcing decisions, but there are also other factors such as quality and reliability. The company need to consider which one of the decision-making factors matter the most and is the right decision on long-term plans. Sometimes even though the quality and reliability would cost more, it might be more advantageous option cost wise on long term, as the company can have long-lasting rela-

tionship with their partner and avoid high switching costs and keep customer satisfied. It must be kept in mind, that total cost does not only refer to monetary value, but also to other value-creating things.

3.3 Resource based view RBV

Another theoretical aspect that can be used when thinking about the “make or buy”-decision, is the resource-based view RBV. The main point is to explain the linkage between company’s competitiveness, resources and capabilities. (Immonen et. al 2009, 8). Amit and Schoemaker (1993, 35) define the resources as “stocks of available factors that are owned or controlled by the firm”. This can be physical assets such as materials and equipment, but also intangible resources like know-how, patents, network and information systems. (Barney 1991, 101). Resources are transformed as final products and services by using the different assets that the company have. (Amit and Schoemaker, 1993, 35). Capabilities, as the name already tells, are the company’s ability to utilize the resources. Capabilities may consist e.g. from reliable services, innovations, flexibility and the following of market trends. Differing from resources, capabilities are said to be used by humans, as there is lot of information exchange included in deploying the company capabilities. Capabilities are also said to be often evolved at the firms’ functional areas, or by mixing the company resources. (Amit and Schoemaker 1993, 35). The figure 8 below is describing what kind of characteristics the company’s resources and capabilities should have. In summary, Amit and Schoemaker (1993, 38) highlight that the more difficult the resources and capabilities are to buy, sell, substitute or imitate, the better. As well, the more firm-specific, durable and scarce the strategic assets are, the more valuable they are.

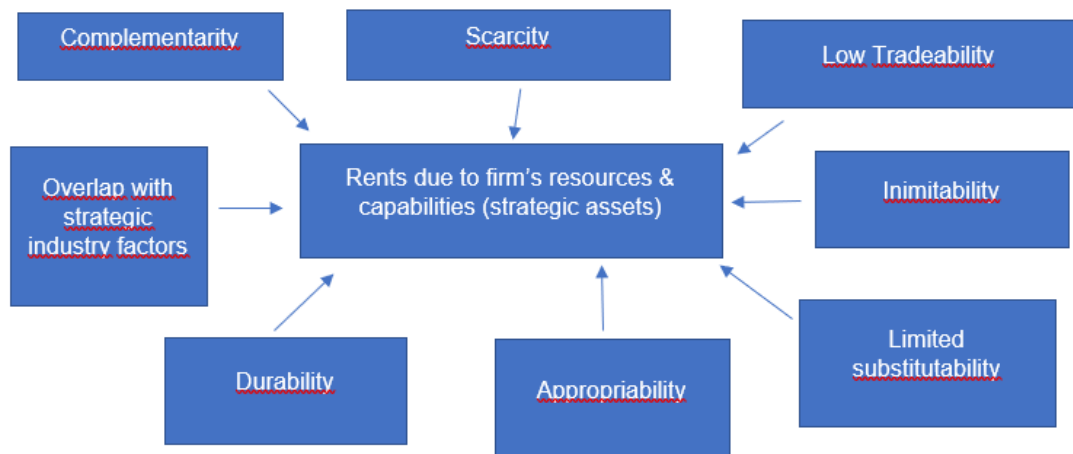


Figure 8. Desired characteristics of the firm's resources and capabilities (Amit and Schoemaker 1993, 38)

The resources and capabilities in use are said to be the company's competitive advantage. However, the company must have a strategy on how to use the resources and capabilities to gain value and implement something that the competitors have not yet made. The purpose is to create a strategy that is different to imitate, and by that create a long-time competitive asset. (Barney 1991, 102). Though, not each company can achieve these sustained competitive assets. According to the researches, the firm resources should have four attributes (VRIN) to make it successful and unique; valuable, rare, inimitable and nonsubstitutable. Valuable resources make the company more efficient and effective, but not each company should have the same resource so that it could be called rare. If the asset is easy to copy, it is not inimitable. Even though the resource would be the same than the others have, the company should have something unique in it to call it valuable. Nonsubstitutability implies that "there must not be strategically equivalent when they each (resource) can be exploited separately to implement the same strategies". Therefore, the competitor cannot copy the idea, and the strategy stays unique and valuable for the company. (Barney 1991, 106-112). Each company should bear in mind this theory, when thinking about if they have the competitive asset that the others do not have. If they do, then the decision of make or buy is easy to make.

On logistics industry, the tangible resources are distributed among the different parties on the supply chain, but the knowhow is each company's unique asset that

cannot be transferred to another, and the service (=knowledge) is given only against payment. The physical resources in logistics often refers to equipment such as trucks, vessels, airplanes and warehouses. These are costly to buy and sustain, and therefore forwarding companies rarely own any physical assets. Therefore, it is important to foster the relationships with the partners in order to keep their valuable asset (often the service given) on the highest possible level. Another valuable resource that the logistics providers might have is their IT-system. The system helps the company to maintain control on their activities, and it often makes the service easier to conduct if the IT-system supports the activities in a best possible way. Also, human resources are important in logistics, as people are the source of know-how and they are the ones conducting the work and giving the service. (Karia & Wong 2010, 52-54).

After realizing the full potential of the resources and capabilities that the company have, it is important to know how to manage them. The long-term strategy and regular check-ups maintain the full control of the assets, as well as helps the companies to realize the potential risks which might be directly or indirectly linked to the resources and capabilities. The following chapter is focusing on realizing and managing the risks related to the supply chains and back sourcing.

3.4 Risk management

Often when outsourcing, the company is first facing a “honeymoon-situation” with their new supplier. Everything is “rise and shine” in the beginning, until the satisfaction of offered services is starting to decline. The options for the service provider is either to improve their service level and meet the constantly growing demands or keep the services and costs at the same level and take the risk of partner switching them to another supplier, or even taking the decision to backsource. (Ledyard 2015, 34). In case of back sourcing, the decision affects the whole supply chain and all of the stakeholders. Therefore, there are certain risks that should be noticed related to supply chain management.

3.4.1 Supply chain risks

There are various definitions for supply chain risk management, but Hallikas et. al (2016, 2) use the following: “the identification of potential sources of risk and implementation of appropriate strategies through a coordinated approach among supply chain members to reduce supply chain vulnerability”. Overall the companies often follow typical pattern in risk management, which includes the identification of the risk, risk assessment, and based on that the decision of following actions to be made, as well as follow-up. The risk itself can be internal or external, and the impacts can be seen time-wisely e.g. as delays on shipments, or as a loss of profit and on quality. (Hallikas et. al 2016, 2-4).

When identifying the risks, it is important to understand the big picture, and to realize the certain risk areas. Ledyard et al. (2013, 136) introduce six typical areas, in which the risks occur; business/programmatic, technical, funding, process, organizational and stakeholder. These areas form together a risk summary, which is providing an overview showing the connection between the certain risk areas. The business risk can be almost anything, but when referring to programmatic risk, it points out the risks in timing. E.g. delays in deliveries is a potential risk, which often occurs because of a reason caused by outsider, that cannot be affected. E.g. technic might break and cause more delays, as well as there might be funding issues. Often if one party in the supply chain is having financial troubles, the problem will be multiplied, and the other parties might suffer long-term losses. Processes might need to be adjusted or even changed to new ones, as well as there might be organizational changes which causes problems for the company. Stakeholder change is an issue that the company cannot control; the stakeholders might change over time, or their focus change. Whatever is the reason, the company must accept the variation and adjust to the situations. Companies must understand that all of these risks are possible, but they can be ranked from unlikely to very likely, as well as by their severity. This prepares the company for bearing the risks, and if possible, mitigating them. (Ledyard et al. 2013, 137).

Companies must remember, that risks evolve and change over time, and therefore risk mitigation is a never-ending process. By mapping the risks, companies can write

down the actions for decreasing each risk and create strategic risk management tools. Often the risk management starts simply from understanding the supply chain characteristics as well as the strengths and weaknesses. Before knowing these aspects, any improvements cannot be made, nor the risks cannot be identified and managed. (Ledyard et al. 2013, 138; Christopher 2005, 239). Christopher (2005, 237) is using a formula on viewing the supply risk level:

$$\textit{“Supply chain risk = Probability of disruption x Impact”}$$

The difficulty on estimating the risks is the relation of occurrence and impact. If the impacts would be catastrophic but the probability is small or vice versa, which one is a higher risk to the company? (Christopher 2005, 237). There is no simple answer for that, as each risk needs to be separately viewed and evaluated. As each supply chain will face turbulence no matter how good the risk mitigation tools are, it is important to the supply chain is able to recover fast and get back to its normal state. Christopher (2005, 254) states that the open communication which can also be referred as “supply chain intelligence” is the most important tool to share the information between the parties and help the recovery process. That requires full commitment from each of the parties, as well as shared strategy on risk mitigation and equal responsibility. If the activities are not visible for others, it causes delays on the risk identification. To be able to keep the open communication and share the risks between the parties, it is suggested that supply chains should have their “continuity teams”, in which board-level executives would maintain the risk register and keep the information flow between the parties. The communication should go all the way from the bottom of the supply chain to the other end as the figure 9 below shows, and never underestimate the importance of minor details. When the risks are faced together, there is more power to mitigate them and create a resilient supply chain. (Christopher 2005, 242-253).

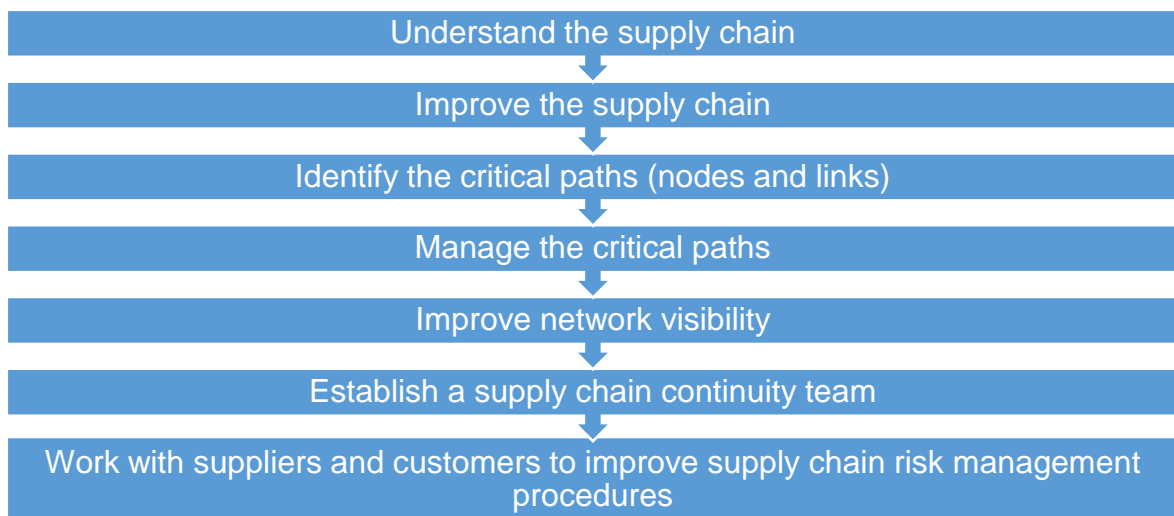


Figure 9. The supply chain management process (Christopher 2005, 242)

To conclude Christopher's (2005, 242) figure above, without understanding all the processes in the whole supply chain it is impossible to make any improvements nor identify the problems. To upgrade the systems and harmonize the supply chain actions, visibility among the supply chain actors is essential. Mitigating the risks in the supply chain should be an on-going process affecting all supply chain members, including the customers. With continuous feedback from their side problem can be better noted and resolved, which saves time and money from all of the parties. It should be a priority for all the parties in the supply chain to create seamless co-operation, but as the supply chains transform constantly, there is also constant issues to solve.

3.4.2 Backsourcing risks

Many authors focus on the outsourcing risks, but as backsourcing is not that much researched topic, the risk management has not yet gain remarkable attention. Often it is stated that the backsourcing reasons are the same than in the first place for outsourcing, but the possible risks cannot be directly assimilated. Bhagwatwar et al. (2011, 167) states that the biggest risk in backsourcing is in knowledge transfer, as it cannot be known how well the knowledge is documented, and what can be transferred from the service provider directly back to the buyer. Knowledge transfer is long and complex process, and there are often barriers such as physical distance,

lack of communication and management issues. Therefore, when making the outsourcing contract at the first place, it is important to specify what will be transferred, and how the information will be stored and documented. That also helps in keeping the good relationship between the service provider and the buyer, which makes the process easier and speeds it up. Kotlarsky et al. (2017, 8) remind how financial issues might become a surprise in backsourcing. As high and unexpected costs are often the reason for outsourcing failure, the company might have opportunistic behavior on the costs when backsourcing, but it is important to realize the total costs also on that option. There might be hidden and sudden costs that the company has not realized, as well as the labour costs might become high due to the knowledge transfer, especially if the company's asset are the employees and their knowhow. Kotlarsky et al. (2017, 8) points out also how the relationships with the stakeholders might change, as well as the balance in power relationships. That might lead to situations where the partners become closer, or they might take more distance. This brings up new opportunities, but also threats.

Hartman et al. (2017, 2016) reminds that neither backsourcing or outsourcing are permanent decisions for the company, as regular evaluation is needed to understand when to switch the strategy. By keeping track on the total costs, understanding the company capabilities and focusing on the changing market trends, there are better abilities to make the change from outsourcing to backsourcing, or vice versa. This helps the companies to reduce transaction costs and gives flexibility. Despite on making the effort to understand what is best for the company, overcoming the risks might be challenging, as not all of the risks can be identified beforehand. Each backsourcing case is unique and has its own characteristics, and therefore different cases cannot be directly compared. Company's risk management is playing an important role when backsourcing, as it is not an easy task to identify what kind of problems might arise, and what could be the consequences. Preventing the risks from happening makes the process easier, as well as supports the backsourcing process.

3.5 Summary and criticism on TCE and RBV

TCE and RBV have faced also criticism over the years. Some argue that it is possible for companies to gain competitive advantage by not having all the four VRIN capabilities, as the markets and economics change constantly. Therefore, companies should be able to adapt change, and be regularly ready to invent new assets. (Barney et. al 2001, 627). RBV is also said to focus only strategically on value creation, and not on single transactions. Neither time horizon and direction of influence are the strongest parts of RBV and TCE. (Immonen et. al 2009, 35-36). TCE model does not either recognize the power relationships between the buyer and supplier, which is nowadays extensively researched topic. McIvor (2009, 47) is stating that there are research gaps in TCE. He highlights the lack of positive relationship between the hierarchy and influence of frequency; some studies show that uncertainty is reducing the level of hierarchical governance type, while others say that uncertainty increases it. Shou et al. (2012, 4464-4465) highlights that even though the company would be in a situation in which all the transaction attributes support the “buy” option and that sourcing type would seem to be suitable at that point, the outsourcing decision does not automatically guarantee a success for the company. Therefore, the decision should always base on a knowledge and long-term strategy, as that makes it possible to maintain the satisfactory level on outsourcing. Alard et al. (2013, 244) are focusing on the same issues; they are claiming that TCE is neglecting the knowledge-based view which also enhances the level of company operations. They also bring up a suspicion whether the TCE model does or does not pay off the companies, as there is much of controversial discussion among the researchers. Despite of the criticism, TCE, RBV and TCO should be noted as informative theory-base for the make or buy and backsourcing questions. It is important to realize that the researchers do not always agree, and while others are supporting the already existing theories, there are always the ones that want to prove them wrong.

Even though there are different opinions among the scholars what the company resources and capabilities should be so that the company is successful, most important is to recognize and realize the potential the company have by utilizing the resources the right way. There are also companies who have all the resource given

and ready to be used, but they just do not know how to use them and are not taking the full benefit. Then there are also companies who does not realize what their resources are and are destroying the business. Most dangerous combination is to be too opportunistic, and not understand the total cost of ownership.

4 EMPIRICAL PART

This chapter is focusing on discussing the research methods, the results and analyzing them based on the theory. The research has been following the steps described on the figure 10, and at this point there is the data gathering, analyzing it and presenting of the results.



Figure 10. The five-stage research process model (Handfield et al. 2002, 420).

First, the research methodology will be introduced, and after that the findings are presented. The findings are first focusing on the interview results, as well as to the ISSSP manual. Finally, the total cost of ownership will be presented in detail. The discussion and conclusions include the main results of the study, and future suggestions for the company.

4.1 Research methodology and data collection

The purpose of the study was to gather as much information as possible for the case company regarding the back sourcing and applying the IATA-rights. The best practice to gather that information was to conduct qualitative research based on interviews. Qualitative data is usually collected by interviews, focus groups, observation and document or audio review (secondary data). The purpose why qualitative method often is chosen, is to generate information from certain phenomena, and by this method often more in-depth results can be achieved. (Betancourt et al. 2016, 192). According to Bandyopadhyay (2014, 124) qualitative research is mainly used on market research as well as in management and organizational studies. Qualitative research does not have mathematical attributes, and Bandyopadhyay highlights the usage of qualitative methods especially on problem specific issues. Qualitative

research often answers to questions “why” and “how”, which are in main role on this specific research, as well as allows diversity in the answers likewise in the questions. When considering an interview, there might pop up issues that the interviewer had not even thought about and allows the researcher to gain more information on that specific issue. However, even though the number of data source is less in qualitative research than in quantitative research, it is still often more time consuming, as the analyzing of the data requires more time and effort. Also, the actual time used for making the research is often more as in quantitative research, as the researcher is not needed to be present, and he or she has to prepare and conduct the interviews, observation or any other qualitative method used.

The problem on qualitative study is generally on reliability issues; how to get the interview answers fully documented, and how to present the questions so that they do not lead the interviewee to certain answers. Even though the interviews would be recorded, there is still place for misunderstandings and to a variety of different ways to interpret certain text. (Betancourt et al. 2016, 192). It is much about the relationship between the interviewee and the interviewer; the better they know each other, the more reliable the results are as there are few misunderstandings.

In this certain study, the interviewees were carefully chosen with the case company owners. The purpose was to gather information from different sources representing different areas on air freight and forwarding. Therefore, the most important sources chose to be the company’s current partner in air freight forwarding, as well as other airfreight specialists. The case company has not had direct contact earlier with the airlines or IATA-organization, so it was also important to approach them and find out more information from their viewpoint of the freights and applying the IATA-rights. Finally, the interview was conducted to these parties:

- Company owners
- Airfreight specialists:
 - o Case company’s current air freight forwarding partner
 - o Air forwarding specialist from forwarding company
- Airline representative (Finnair Cargo)
- IATA (by e-mail)

Besides the interviews, another important tool for the company is the total cost of ownership-model, which represents the estimation of the costs regarding the back-sourcing. The costs for the air cargo handling have been received by asking competitive quotations for comparison from two actors on that particular field of business.

Finally, **IATA Settlement Systems Service Provisions – Cargo (ISSSP)** handbook was used as a secondary data method. Secondary data is a qualitative study method finding and observing information through already existing data. The reason why secondary data is often used research method, is because the data is usually easily accessible, and the researcher can find specified information that he or she is looking for. (Church 2001, 32-34). The ISSSP summarizes important information related to the IATA-membership programmes, and how the CASS-system functions. This is a good handbook for the company to be read carefully through step by step before applying the IATA-membership, and to be kept as a working tool if there is something unclear with the CASS system.

4.2 Findings

On the following subchapters the interview results will be unwrapped. The results will be divided by focus groups, first discussing the air forwarding specialists, then the company owners and last the airline representative as well as the IATA e-mail interview. Also, other findings from IATA's webpage and ISSSP handbook will be reviewed.

4.2.1 Air forwarding specialists

The first interviewee was freight manager from Freightgate c/o Groundpower. He has been working on logistics and forwarding since year 1992, and he has done air freight export, import and sales. The interviewee is responsible for pricing, operative work, as well as invoicing. He has also own-life experience on applying the IATA-rights for forwarding company, which was useful regarding the information gathering.

The second interviewee is also air forwarding professional who has been working with air freights for the past six years. In the interview the first interviewee will be referred as “interviewee A”, and the second interviewee as “interviewee B”.

Value:

Both interviewee A and B agreed that most valuable for the customers in providing air freight services is the easiness of the total service offered, as almost never the air freight is only from place A to B by plane; it often includes also the pick-up from the supplier as well as the delivery to the end customer at the destination. That way the customer can get all these services from one place, and the forwarder can control the shipment from the beginning till the end, which is a clear asset. Interviewee B also pinpointed the price benefit the customer gets by using the forwarder as they can get better rates as a forwarder, than as a single customer with single shipment.

Regarding the airlines represented in Finland, both interviewees confirmed that only couple of airlines (such as Finnair and Lufthansa) are represented directly in Finland, and others are represented through agents. By agents there is wide range of airlines available for cargo purposes, but interviewee B pointed out that even though the booking process with them is rather easy, the difficulties often come to a picture if there are any problems. Interviewee A also reminded that it requires experience to know how to narrow the airlines to be used for certain shipments to certain areas, as they have different connections/routings and different size planes. Most important is to find few reliable partners that can be used frequently, as it makes the work easier and improves the service when the communication between the airline and forwarder is also fluent.

Pricing:

Regarding the pricing issues, interviewee B did not comment, as it is classified as confidential information, but he confirmed that the more there is volume, the better rates there are available. Interviewee B also confirmed, that the more there are regular shipments (regular number of shipments and regular schedule/destination) the better rate the forwarder can have, but this need be negotiated separately by each case. The size of the forwarder does not affect the rate. However, it is natural that

the bigger the forwarder is, the better chances they might have for regular shipments, in comparison to smaller forwarder who has fewer shipments in total.

Basically, the airlines/agents give standard pricing lists to all the forwarders, and the rates are the same for everyone. Most of the airlines handle their invoicing through IATA, which means that IATA sends an invoice of all the air freights once a month, usually in the middle of the month. That means that you can have 45-60 days payment time, as the invoicing is also from the previous month. That is a clear benefit for the forwarder, as they get to receive the payment from customer before needing to pay the freight.

The rates usually remain the same approximately six months, as airlines give out summer and winter rates due to different scheduling on winter- and summertime. The rates the airlines give are always net prices, and if there are special rates IATA has rules and regulations that need to be followed.

Backsourcing:

The interviewee B was not familiar with the applying of IATA-rights, so these answers are based on the interviewee A. Firstly, there are two different kinds of IATA-memberships; CASS Associate and the so called full membership EACP Intermediate. The interviewee A recommended to apply for the CASS, as the EACP applying process is more demanding, and the CASS membership is enough for new business. The time estimation for applying the membership is 3-4 months, and the application needs to be sent to IATA office to Spain. IATA requires bond, which often is from few hundred to few thousand depending on the company size. Most important information was that it does not affect the rates or issuing the air waybills whether the company has CASS or EACP. Interviewee A's opinion was, that the forwarder should preferably have approximately 50 export air freight shipments per month, and turnover of few tens of thousands euros in order to make it worthwhile and economical to apply the IATA membership. There are probably lot of variation on the opinions on this, and it is a shame that only one answer was received.

On CASS, the company is not required to have training/certificates for the employees, while in EACP there are certain trainings that few of the employees need to have. The risk regarding this is the personnel know-how, as the person handling the

air freights needs to be professional and know what he or she is doing. It requires good knowledge on the rules and regulations, as well as knowledge of the airlines and overall supply chain on the air freight. IATA is careful on following all the rules and regulations, and for example the package sizes need to be exactly correct, otherwise there might be penalties, and in worst case the company might be blacklisted by the terminal.

Regarding the known shipper-status, it only has an impact on the security check, not on the freight rates. Both interviewee A and B confirmed that to have the known shipper status, the whole chain from the shipper to the forwarder's warehouse has to be known as "clean", also the trucking company handling the pick-up. However, when the whole supply chain is having the known status and there is lot of freight, there will be cost savings from the security check payments. The cost for security check can be lower, or it is 0 euro depending on the airline when the supply chain has the known status, and not all of the cargo will be security checked. There are not many shippers who has the known shipper status, and it has to be applied from Trafi. Trafi is granting the licences also for regulated agents (forwarders and other cargo handling companies). According to Trafi "the approval of security measures gives the company a defined security status, which provides added value also to its cooperation partners and interest groups. The approval is valid throughout the European Union." To apply the regulated agent status, the company has to appoint a person in charge of a security to whom will be done background check, and who has to do cargo security training. If the company passes the inspection and fulfils the requirements, they will receive the regulated agent status. From Trafi's webpage can be checked the list of currently regulated agents, and the list holds 82 companies, including the biggest forwarding companies in Finland as well as few trucking companies and the official Posti of Finland and Åland. (Trafi 2018).

The last question regarding the actual handling of air freights such as labeling and warehousing was only asked from interviewee A. He told there are multiple service providers, and he recommended one company, from which the first quotation was requested after checking that this company might be a suitable partner for AHA Logistics.

4.2.2 Company owners

For the company interview, the owners were interviewed. They are both working daily in the office with the shipments, so they know the current issues and company situation also from the employee's point of view. The main reasons why the company wants to backsource the air freight are; 1) to have the fully control of the air shipments from the beginning to the end, and 2) to have more competitive rates on air freight. The owners also see that there is a need for this kind of company on the market, who takes full responsibility of the shipments and try to find the best solution for each case from the beginning to the end. The air freight business is also constantly growing, not only for the company, but also on overall freight forwarding business. So far, the company has not had enough time and resources to start the back sourcing project. Therefore, it is important to get the thesis results to see whether it is worthwhile for them, and how much does it cost.

Regarding the value point, the company owners believe that as a company they will enhance their/employee knowhow, and that way provide better service for the customers. Additional value also comes from being able to have the full control of the air freight shipments themselves. Regarding monetary value, this would naturally bring more profit to the company, and put the company into a better market position as they would be a newcomer on the air freight forwarding, and that way gather new potential customers. For the customers they could get better rates, better service, better controlled shipments and full control of the shipment movements. This would also enable faster service, as the schedules and bookings could be done by the company right away, and not being dependent on others. As the employees' knowhow grows, that also serves the customers better.

The company is aware of the fact, that back sourcing requires time and money, but if it turns out by this research to be economical, then the company is ready to start the process as soon as they find professional person to lead the project and air freights. The company is planning to have one person responsible for the air freight business, which requires full commitment to the task. The person would be the one making the relationships with the new customers as well as new partners. Probably

this would require also training for this chosen person. Anyhow, this gives huge potential to the company to grow their business and become more known among the customers, as there is totally new market for them with new potential customers. These new customers might not only bring air freights to the company, but also other shipments when they recognize the company and all the services they provide. Besides the new customers, this new service also gives better options for the already existing customers, as the company has strong service skills and own way of doing things, which basically means giving the full service to the customers, what they often value the most.

Company sees as the biggest risk of being aware of all the rules and regulations, as they are not fully familiar with all the principles. Therefore, it is important to find a professional employee to handle the business and take care of the air freights. The fact is, that also the global market situations change time by time, and there might become downturns which is always bad for business. Also, it is not known whether the air freight business is globally growing, or what the situation will be in the future. Companies are more and more aware of the environmental issues, which might have an effect on the decision to use air freight, but once again, air freight is used when something is needed really urgently such as spare parts, and so far, there is not invented faster way than using air freight.

Regarding the number of the suppliers, the company representatives says it will grow as they will have direct contact to the airlines and to the agents instead of handling everything through another forwarder. Also, they will have suppliers related to the actual handling of the cargo such as storing and labeling etc. However, also couple of suppliers will be left out, as they are not needed anymore when the company starts to process air freights themselves. That clearly affects the relationships, but overall the outcome with the company partners and supply chain members will be positive, as they can bring more business to all the parties in the supply chain.

4.2.3 Airline representative

There was an opportunity to interview Finnair's Cargo Area Sales Manager as the representative for airlines. Of course, he is only representing Finnair, and the answers are based on their common practice. First, it must be noted, that the answers related to air freight rates concern only the export freights from Finland, as the air freight has to be always booked from the exporting country. For example, if AHA Logistics has import freight from China, the rate needs to be checked and booked from China. Overall, the cargo rates are available only for IATA members in Finland and Europe, which is a common practice. Finnair is neither making any contracts directly with the freight forwarders; instead they give out twice a year (winter and summer) rate sheets for forwarders, and the rates are the same for everyone. The rates are net prices, and overall in order to get better rates, you need to have approximately 1000kg freight weekly to certain destination. Also, when there are single shipments which are over 1000kg, the rate can be asked separately if there would be possibility to negotiate on the price. However, the less there is space on airlines and the more urgent the shipment is, the more it always costs. Also, it affects the rate whether the packages can be top loaded or not, or whether they have overlength. It does not affect the freight rate whether the forwarding company is regulated agent or not, it only affects on the security check rate. On Finnair, the security check for non-regulated forwarder is EUR 0,10/kg, and for regulated it is zero euros. (Finnair cargo terminaalihinnasto 2018). Before there was commissioning system on airlines; the more you booked the more you got commission back in the end of the year, but nowadays that is illegal.

The interviewee advised, that after the company has received the IATA membership, they could agree a meeting with him in order to get to know Finnair as a company and vice versa in order to get the rate sheets and become Finnair's freight partner. Invoicing is once a month through CASS-system (IATA). It is good that the company also knows the insurance policy for airlines, as often the customers ask how much airlines cover for the insurance if something happens, and what is the a) customer's and b) airline's responsibility.

4.2.4 IATA

IATA service center was interviewed by e-mail, and the answers were clear and easily understandable. Also, the IATA webpage's frequently asked questions (FAQ) gave some help, as there could be found the same issues that the company was wondering.

Most important for the company was to understand the difference of the memberships to find out which membership type suits them best. The FAQ gave the following answer:

"The EACP is the IATA European Air Cargo program and covers the entire relationship between a freight forwarder and its airline partners. A CASS Associate membership only regulates the settlement process between the two parties accepting the application of the same remittance rules NOT Applicable in Canada." (IATA FAQ 2018).

The IATA service center also explained very well the differences between the membership types, and the benefits for both. The answers from the service center can be read more detailed from appendix 5, but to conclude the reply, the biggest difference is on the cost and on the usage of IATA logo. The "full membership" EACP Intermediary/IATA Cargo Agent brings the international recognition for being listed on IATA's directory as official agent, and there is privilege on having IATA's brand support and the usage of IATA logo. However, EACP also requires two valid certificates in *Dangerous Goods Handling* and two initial air cargo handling such as *Air Cargo Introductory Course* (or equivalent). This is of course only regarding the companies that handle dangerous goods, but it would be unusual for forwarding company to refuse from dangerous goods. The costs for EACP are the following:

- Non-refundable application fee: CHF 1550
- Registration Fee: CHF 385
- Annual Fee IATA Intermediary: CHF 465
- Ombudsman Commission: CHF 95

→ The total application fee is CHF 2.495,00.

For the simpler membership type “CASS Associate” there are not that high requirements, and the membership is rather easy to apply. However, CASS members are not allowed to use the IATA logo, and they are not listed by IATA as their official agents. Still, forwarders participating CASS can use CASSlink, which is a database/software for collecting data of the air shipments and issuing the invoices. For CASS there is only annual fee of CHF 465, and the application process time is approximately one month, when in EACP Intermediary it is almost two months. In CASS membership, neither the DGR certificates will be checked.

IATA representative could not tell from the company point of view which would be better, CASS or EACP, but she suggested that CASS is always easier to apply than EACP Intermediate, and the company can always apply for the EACP Intermediate whether the CASS is not enough. Therefore, the CASS would be easy to begin with.

4.2.5 ISSSP manual

In addition, IATA settlement systems service provisions – cargo handbook (ISSSP manual) regarding the CASS membership was reviewed. ISSSP Manual for cargo can be found on IATA’s webpage for all public, giving details regarding of the “governance structure and the IATA division IDFS (Industry Distribution and Financial Services) that manages CASS.” The manual is also an informative package on CASS Service Provisions explaining how the system works, and what are the common practices and procedures for the users.

IATA introduces themselves as “the acknowledged world leader in providing distribution services to the transportation and tourism industries.” CASS system is a payment settlement service provided by IATA to airlines and other partners, including the freight forwarders. CASS was implemented in 1976 in Japan and is nowadays used in 78 countries. In 2008, sales worth of \$28 billion was settled via CASS. Closely related to CASS is functioning IDFS, Industry Distribution and Financial Services Division which is responsible in IATA for air cargo transportation documentation, dangerous and special goods management as well as the automation of air

cargo. IDFS makes recommendations to Cargo Services Conferences in order to constantly develop the air freight industry.

The basic intention of CASS is to simplify the payments between the cargo intermediaries and carriers, as well as providing improved service system for the parties. CASS has two independent systems, CASS-Export and CASS-Import and Terminal Charges (CASS-ITC), which can be used separately or together on country-by-country basis. IATA mentions as their mission for the CASS to be 1) Cost-efficient settlement service provider and 2) value-added service provider enhancing the customer experience. IATA lists also number of benefits of using the CASS system, which can be found from the appendix 5. Most of the benefits are related to the cost savings as well as easiness provided to the forwarder by using the CASS system. Surprising was the benefits mentioned relating to the sales and improved market position, as that was not the first thing coming into mind when thinking about a system that IATA is providing.

How the CASS works in practice?

The CASS-Export system is based on the data on air waybills. AWBs are to be submitted as a copy or in electronical form to CASS by the carriers, and that way CASS creates the invoices to the agents. The invoice gathers together payments to all used carriers, as one total amount. Agents have the option to receive invoices to different accounting offices if needed. In case there is a dispute on the invoice, there is approximately two weeks' time to solve them, as usually the invoices are made two weeks in advance of the remittance day. When the invoice is due, the agent makes the payment to CASS's hinge account, from which the payment goes to each carrier separately. The CASS-ITC works by the same principle than CASS-Export. ISSSP explains that by meeting specified criteria company can become a recipient, but this is not current issue for the case company, so this will not be handled more.

SCHEMATIC OF HOW A CASS OPERATES

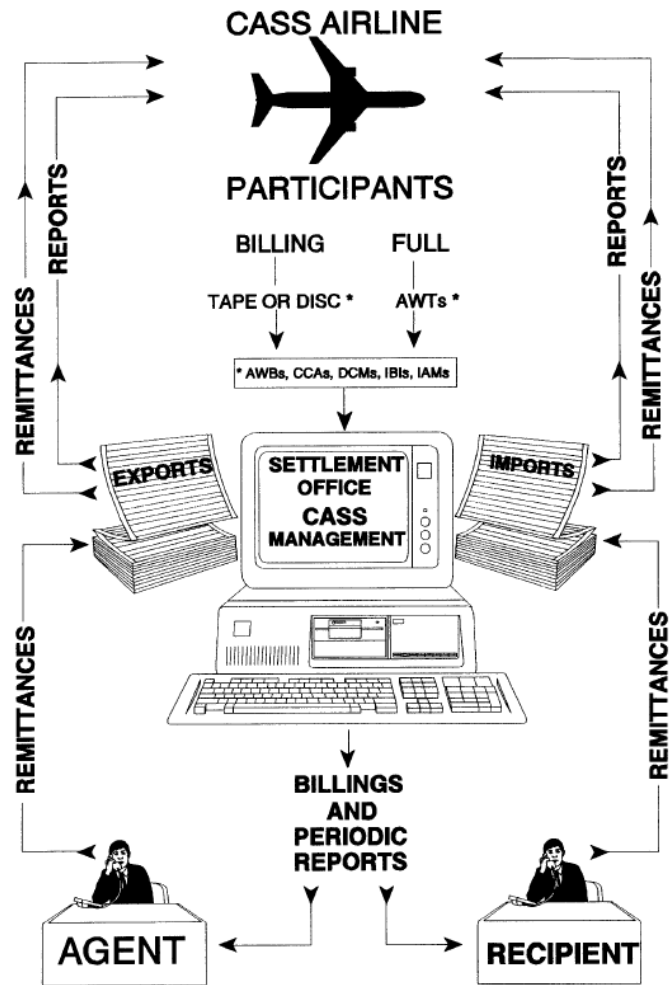


Figure 11. Schematic of how a CASS operates (ISSSP 2012, 18)

SCHEMATIC OF HOW CASSLINK OPERATES

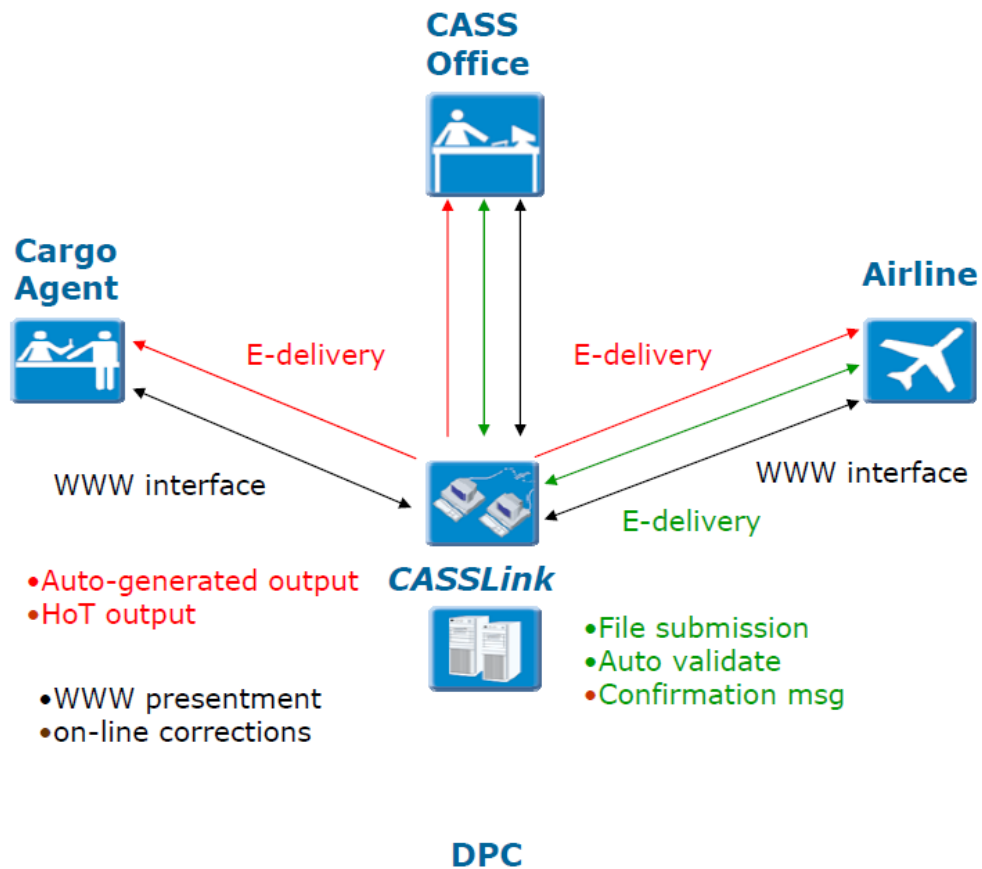


Figure 12. Schematic of how CASSLink operates (ISSSP 2012, 19)

Being an IATA cargo agent bring also responsibilities. The listed issues mentioned by IATA (appendix 6) are mostly related to the correct use of the provided documents and issuing the air waybill. There are also financial responsibilities such as paying the invoices on time, which is the most important one, as IATA can terminate the contract if the invoices are not paid accordingly.

From the below figure 13 can be found an example on invoice made through CASS. The invoice gathers together freights from different airlines used, and it is paid monthly to IATA. It is important to make the payment according the due day, as IATA is very strict with their rules and deadlines. The ISSSP gives detailed information also on the AWB issuance. However, that is not either the main issue on this study, so it will not be studied further. (ISSP Cargo manual, 2012).

SAMPLE CARGO SALES INVOICE/ADJUSTMENT

IATA CARGO ACCOUNTS SETTLEMENT SYSTEM - UNITED KINGDOM CARGO SALES INVOICE/ADJUSTMENT INVOICE NR0403.02.001111
 AGENT: A B C SHIPPING LTD AIRLINE: X Y Z AIRLINE TAX POINT DATE: 07 APR 041
 CENTRAL HOUSE THAT ROAD AIRLINE HOUSE, AIRLINE WAY
 SOME FALCE COUNTY SOME COUNTY
 CURRENCY : GBP
 VAT REGISTRATION NR: 1111111111 VAT REGISTRATION NR: 2222222222
 IATA NUMERIC CODE:99-9 5057/000 4 CURRENCY:GBP BILLING PERIOD: 01-MAR-04 31-MAR-04 PAGE:11

AWB SERIAL NUMBER	SP IN	ORDERS	WEIGHT	PREPAID CHARGES	COLLECT CHARGES	COMMS	INCENTIVE	NET AMOUNT BEFORE TAX	TAX	EXEC	AGENTS
TAXABLE			WEIGHT VALUATION CHARGES	OTHER VALUATION CHARGES	OTHER VALUATION CHARGES	DUE AIRT CHARGES	DUE AGENT			DATE AWB	INFORMATION
11111111		LHRAOP	552.0	1159.20	112.40	0.00	0.00	609.20	106.61	040324	XXXXXXXX
			552.0	1159.20	112.40	0.00	0.00	609.20	106.61		
ZERO RATED											
22222222		LQWVUL	56.0	182.00	25.40	0.00	9.10	81.40	0.00	040309	AGTRFF133
33333333		LQWVUL	10.	50.	18.50	0.00	2.50	53.50	0.00	040316	AGTRFF 333
SUB TOTAL CARGO			66	232.66	43.3	0.00	11.60	134.9	0.00		
GRAND TOTAL			618.0	1331.86	156.30	0.00	69.56	748.10	106.61		

Figure 13. Sample cargo sales invoice/adjustment (ISSSP 2012, 35)

By taking a closer look into ISSSP there are many details that the company needs to be aware when starting to use the CASS, but in case they find a professional who is already familiar with the system, it will not be a problem. By studying the CASS the system seems rather simple, but it is always a different point of view to read a theory, and use the program in practice. Overall, the IATA service center has been helpful and important source of information regarding this study. When the actual time comes to apply for the IATA membership, in case there are any issues the service center is available for help and it is possible to get service also in Finnish.

4.2.6 Total cost of ownership & analysis

The total cost of ownership is showing the amount that the company is “losing” money in back-sourcing. The costs are gathered by comparing two competitors, and the table 3 shows the approximate average on the costs. This means that the costs are not exact but gives a good overall idea. This is a good starting phase from which the company can begin to negotiate, when it is actual. It is good to keep in mind, that the costs should be seen more as an investment than as costs. Some of the costs are based on monthly costs such as the salary, and the directly shipment related costs are variable costs depending on the shipment weight and volume. Also, the company has to pay the yearly fee to IATA, but there is not any separate joining fee when becoming the CASS-member. The cost for the recruitment is one-time costs, based on that the employee is once chosen and will be working for the company for permanent time.

Table 3. Total cost of ownership regarding back sourcing

Employee salary	EUR 2500/month
Incidental costs approximately 21% of the salary	EUR 525/month
Fixed costs per month:	EUR 3025/month
Recruiting process (15h)	EUR 300
IT-costs	EUR 4000
Total “one-time” costs	EUR 4300
IATA CASS membership cost (yearly)	EUR 403/year (based on rate exchange 5.6.2018)
Terminal handling	EUR 0,045/kg
Transfer to airline’s terminal	EUR 0,06€/kg min. EUR 10/shipment
Terminal rent	3-5 days free, after that EUR 12 + EUR 1/m3/day
Warehousing	EUR 0,42/m3/day
Security check	EUR 0,05/kg

The salary is based on requirement group D, the employee being independently responsible of handling even the challenging shipments, and having eight years working experience. The salary is given recommendation/minimum salary negotiated by Erto, Union of Private Sector Professionals, and for an employee working in Helsinki office. It has to be noted, that the salary is only a recommendation, and might vary depending on the employee knowhow and whether the employee will be working in Helsinki or in Vaasa office. Social security, unemployment and health insurance contributions are part of the salary’s incidental costs that the employer is responsible to pay monthly. (Vero 2018). Those vary by the age of the employee, but it can be calculated that the costs are average 21% as per person for the employer. These additional costs do not include any fringe benefits that the company offers.

Overall the recruitment cost is based on the working hours used for the recruitment process multiplied by the hourly salary (calculated on average EUR 20/hour). The estimation of hours used to the recruitment is 15, including making of the job advertisement, going through the applications, doing the interviews and choosing the becoming employee. This calculation is based on the assumption, that the company would find suitable person from first recruitment try. Another one-time cost is the investment to IT software which enables the company to issue air waybills. That

investment is rather high cost, but as the company is already on planning phase of implementing their own IT-program to support the daily work, this could be included in it. Another option for the case company is to use excel for making the air waybills, in case they want to save money. It is not convenient, but it is possible in the beginning, especially when there is not that huge amount of air shipments yet.

Besides the fixed costs and one-time costs, there are many variable costs that the company need to take into account. These costs occur in each shipment sent, and they vary by the size of the package. The highest the costs are, when there is a small package and the minimum amounts will be charged. Regarding the delivery to the supplier's terminal, each employee handling the air freight shipments need to take into account, how many days the package can stay at the terminal without extra costs. Some customers have lack of space on their warehouses and want the goods to be picked up as early as possible, but that makes the case company to bear the terminal rent costs, which is not economical. However, the package should be also on time at the terminal, so that there is enough time to conduct the security check and labeling, as well as the delivery to the airline's terminal.

As the case company does not have own warehouse, this brings a new possibility that the company can offer to their customers, if they need temporary warehousing for a short time. However, this is not the core business to provide warehousing services, but now this is easily available in case there would be a sudden need for his kind of use.

Overall, the variable costs are rather moderate. It is not known, whether these costs can be negotiated with the suppliers, or are the costs always the same for each forwarder. If the rates can be negotiated, it is even better for the case company. It requires preciseness to calculate the air freight rates to cover the variable costs, and to set the fixed rates for the customers regarding the terminal handling. There might become also sudden costs, which are not considered on the calculations. It would be recommended for the case company to make case example calculations in order to find routine on setting the rates and finding the right price level. Especially when looking for new customers, it is essential in the beginning to quote good rates, as the first experience is often the one that is remembered and determines the company image.

The CASS-membership fee is rather low and belongs to the company's administration costs, but it should still be covered by the profit gained from air freight shipments. Otherwise it is only additional cost for the company. On the recruiting process, the company has to think beforehand about the salary they are ready to pay, so that they know what kind of employee they are looking for, and with what kind of experience. There can be huge difference on yearly level on the salary, which also brings pressure to increase the air freight shipments. Also, the shipments and the profit should develop with the respect to the amount of salary, so that the company is not facing a situation where the costs are bigger than the profit. Therefore, it is good to carefully prepare the budget regarding the air freights from the starting point, and not only starting from the beginning of the following year.

The costs seem overall bearable, and the company should not face any financial issues due to the back sourcing. The low cost structure supports the decision to backsource, and the clear structure helps in calculating the prices and the fixed terminal costs for the customers. Both quotations will be given to the company owners, so they can compare them and make calculations.

5 DISCUSSION AND CONCLUSIONS

5.1 Main results

Overall the results of the interview were not surprising, as there were certain assumptions made, which were met when the interviews were made. Naturally, there was also lot of new issues, as well as things that the company had thought differently. Therefore, it is good that lot of attention has been paid to this study, before starting the actual process of applying the IATA rights, as this a good channel for the company to find out all the needed information at once.

Based only on the interview results it is difficult to make any assumptions, as the answers need to be compared to the company's current situation. What is most interesting from the economical point of view, is the comparison of the costs to the company's turnover and number of the air freight shipments. From the below figures can be seen that the air freight shipments have constantly been growing and taken bigger part of the turnover. However, year 2015 was the best with 10,30%. while last year 2017 was 8,80%. It is expected that the company will reach at least the 10% also year 2018, or even grow the share of air freight. What is interesting, is that interviewee A gave an opinion of having approximately few tens of thousands of turnover per month for air freight, in order it to be economical to apply for the IATA membership. Even on the years with the lowest share on turnover, the case company has reached this number. Already when looking at the current situation on year 2018, it seems that there will be growth on air freight. The case company is constantly increasing their number of customers, which directly affects the number of air freight shipments, as each new customer brings new type of business opportunities for the company.

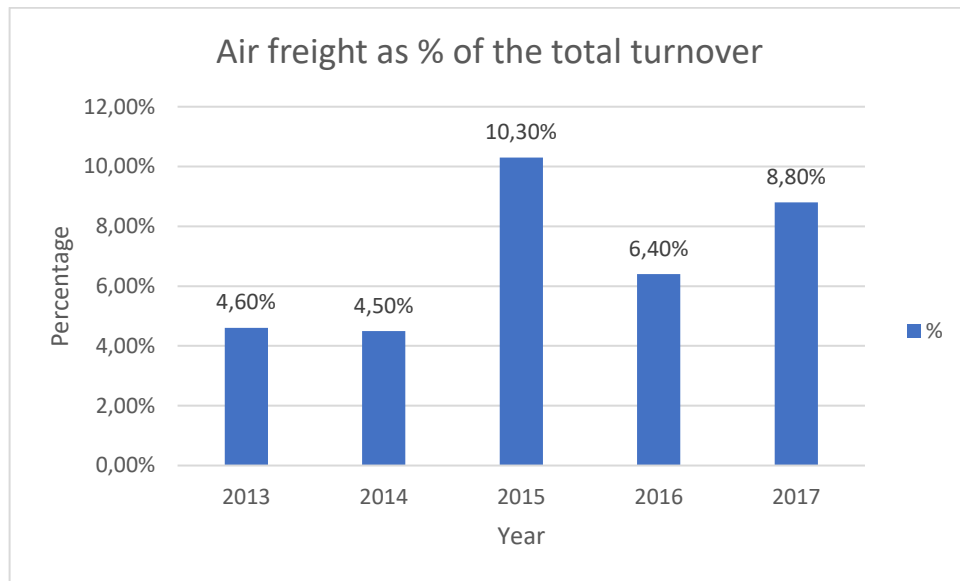


Figure 14. Air freight as % of the total turnover

When comparing the number of the air freight shipments, years 2015 and 2016 have been rather similar, but on year 2017 the number has rapidly went up to 142 shipments. Clearly, the number of import air freight shipments (IMPAIR) is much smaller than the export air shipment (EXPAIR). The reason for this is, that most of the import customers use sea shipments instead of air shipments. Air shipments are usually used only when the shipment is urgent, due to the high cost. This is definitely something that the case company should pay attention to and try to grow the number of import air shipments. However, that is not the easiest task as the import prices are not something that the company can affect to, as the bookings need to be made from the origin country using their agent's rates. This means that the company should have close co-operation with their agents and try to get the best rates available for getting regular customers. What is interesting, is that year 2017 the number of kilograms by import is higher than the amount in export. Still, the number of import freights is smaller than the number of export. Basically, the import freight shipments have been huge by their weight, and the export shipments have been smaller shipments but more frequent.

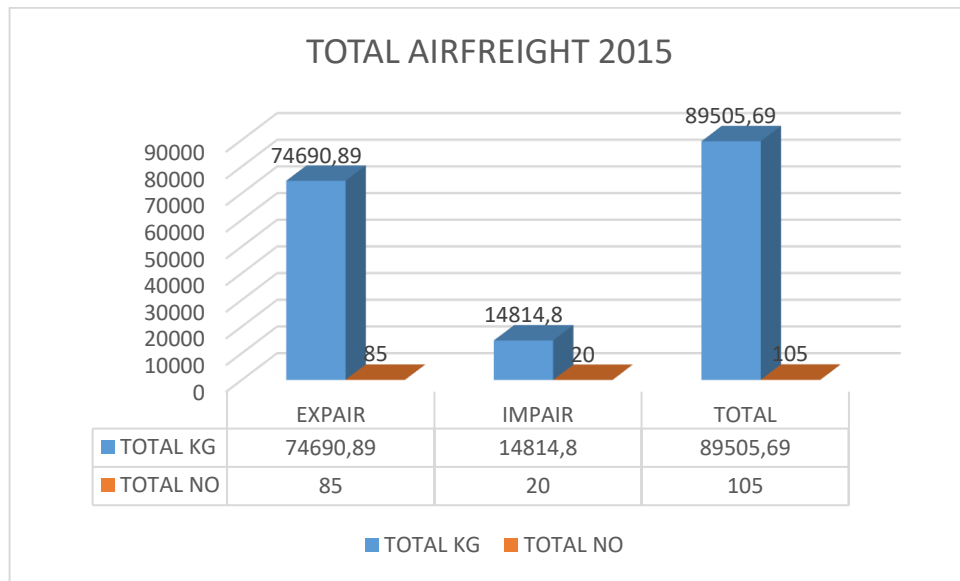


Figure 15. Total airfreight on year 2015

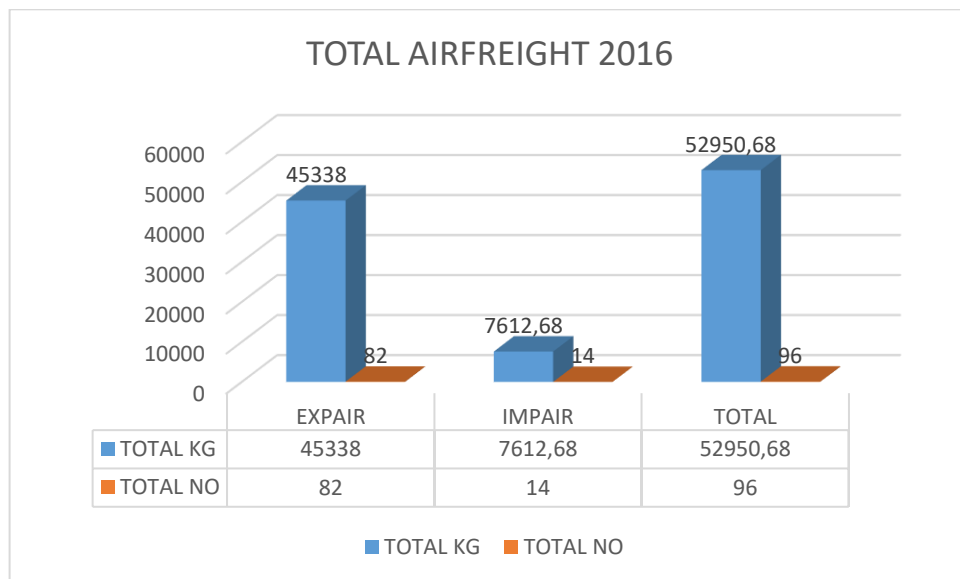


Figure 16. Total airfreight on year 2016

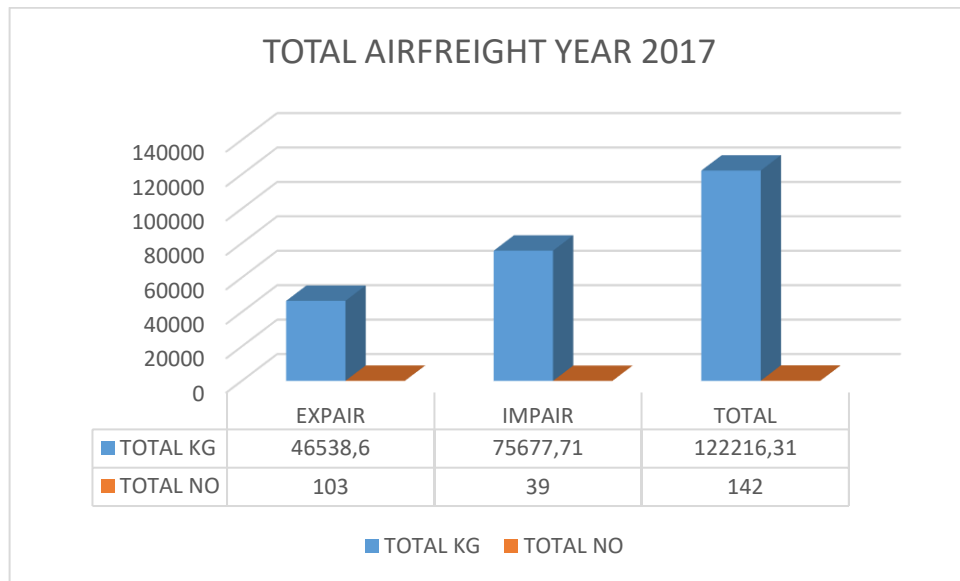


Figure 17. Total airfreight on year 2017

Another interesting fact is the comparison of total kilos on export between the years 2016 and 2017. Year 2016 the total was 45 338kg, and on 2017 the amount was 46 538kg, so the difference is rather insignificant. But significant is the difference on the total number of shipments. Year 2017 there was 103 export shipments, while on year 2016 there was 82. This means, that year 2017 the shipments have been smaller than on year 2016. That is notable when thinking about the working hours used for the shipment. Generally, can be said that if the export air shipment is normal shipment, it takes the same time for each shipment to handle and issue the documents whether the shipment is 100kg or 1000kg, but there is huge difference on the profit. It is more unprofitable to make lots of frequent small shipments, than do bigger shipments with more volume and weight. However, it is not possible to choose what kind of shipments to issue. But, this is again something that the company can think about when trying to find new customers especially on the field of air freights.

Though, it has to be noted, that these figures regarding the total airfreight as kg and numbers does not show the ultimate truth. In air freight, the chargeable weight can be different than the actual weight of the shipment, depending on the dimensions. The chargeable weight is calculated as cubic meters (cbm) multiplied by 167kg. Whichever is the biggest, the chargeable weight or the actual weight, will be the

weight used in invoicing. Therefore, the number of charged kilograms can be bigger than the kilograms marked on our figures.

Another things that distorts the results, is that the company separates the air freights to export and import shipments, but there are as well projects, which also include air freight shipments. Due to the huge number of data, it is impossible to divide from the projects which of them has been air freight shipments, and which of them something else. For the years 2016 and 2017 the project shipments were went through and air freight shipments separated, but the numbers are not 100% reliable as the shipment data is difficult to read and separate. The shipments under the dimensions of “projects” that could clearly be recognized as air freight shipments, had all together 3595,30 kg, and the number of shipments was 11. Year 2017 the total kilos for air shipments under projects was approximately 3310,90 with the number of 12 shipments. This does not make huge difference on yearly basis, but it is good to bear in mind that often huge projects include many air freight shipments.

Table 4. Air shipments under projects

Year	Kilograms	Number of shipments
2016	3595,30	11
2017	3310,90	12

The year 2018 looks so far promising, as the below table shows the number and kilograms of shipments form January till end of May. This means, that most probably at least the number of export shipments will double, and there will be more import shipments as well. Hopefully also the kilograms will be at least doubled, so that the result will be bigger than last year. However, when thinking about month wise, the number of shipments is not that high.

Table 5. Air shipments on year 2018 between 1.1-31.5.

	Kilograms	Number of shipments
EXPAIR	20957,90	49
IMPAIR	3939,88	11
Total	24897,78	60

When thinking about the overall costs, the biggest cost for the company is the salary for the new employee. If thinking about the number of the air freights, the new employee need to focus also on other shipments than only on air freights, as there is not enough workload for full-time employee with the current amount of shipments. That compensates the salary costs, as the employee can handle also other type of shipments and sales which covers the costs. It is not calculated how the back sourcing affects on the profit of the shipments, but it should stay at least on the current level. Therefore, the company has to be careful when choosing the partner for the terminal operations, and when negotiating the salary of the new employee.

Overall, the costs are not an issue regarding the back sourcing. Company needs to check their costs structure on the air freight shipments and based on that modify their rates offered to the customers. It probably needs practice before the right price level is found, and therefore it is good to pay attention already from the beginning to the overall costs.

As the reason for the back sourcing is not failure on the outsourcing, it affects positively on the costs. Proactive back sourcing is the most suitable back sourcing type, which gives the opportunity to plan the process well ahead and minimize the costs. It also gives the opportunity for the company to have larger number of suppliers available, as currently the case company is dependent on the two actors and from their suppliers, when after back sourcing they can choose themselves the airlines they want to cooperate with. That lowers the switching costs and opens up new possibilities for the case company. Back sourcing also creates economies of scale for the company and increases the flexibility which is one the case company's assets.

However, back sourcing increases the risks temporarily, when the company has to bear the business risk directly, and not share it with their supplier. This emphasize the overall risk management and risk mitigating processes, which the company need to determine. On choosing the partner for the terminal operations, supply chain risks need to be identified, and possible suppliers rated before issuing contract with new partner. It is good that the interviewee A could recommend a supplier, which helped starting the bidding process. When comparing the most typical risk areas in supply chains to the interview results, there was not much similarity found. The reason might be that air forwarding is such a specific business area, and it cannot be

generalized. However, as said, the risks evolve over time, and therefore it is important to constantly observe how the business markets change and develop.

When analyzing the backsourcing decision from the resource-based viewpoint, the company has the needed resources for the backsourcing process. As the company owners stated, they have not started process because of the lack of time and resources, but this research made has conducted lot of needed information which supports the starting of the backsourcing project. The company is no longer dependent on not knowing how to proceed, they only resource lacking currently is the workforce. Therefore, they have the capability to conclude the backsourcing. The case company has already entrenched their position on the market and is a strong competitor in the forwarding business. Company can also provide the VRIN attributes, which supports the processes and operations, and strengthens the company. Backsourcing would only enhance the already existing VRIN attributes, and most possibly also create new ones. Understanding the new possibilities and managing the processes requires constant effort from the company management. Backsourcing is also a huge strategic decision which affects the company long-term, and therefore the company strategy has to be re-evaluated.

Overall the research results are well informative and supporting the decision-making regarding the backsourcing. The theory is well aligned with the results, except regarding the risks, but also there can be brought up few issues that are risky for all businesses. Businesswise the economical risk always exists, and there are issues that can be affected such as the service level and pricing, but there are also issues that cannot be affected such as the market fluctuations and market trends. This is however a risk that the company has to bear, and does not only apply to air freight, but to all of the freights. It takes courage to make huge strategic decisions, but in this case, the outcome will hopefully be only positive.

5.2 Answers to the research questions

The answers for the research questions were rather easy to conclude based on the research results. The interviews made supported the research questions, which

helped to analyze the answers, and brought different views to the replies. Only main points are gathered to the research question answers, as the empirical part itself is focusing more comprehensively to the research topic and the issues discussed.

Main question: What kind of added value backsourcing of air freight operations create?

There are several positive issues that the backsourcing brings for the case company. First, there is monetary value gained by possibly finding new customers, and that way increasing the profit. Second, backsourcing creates stronger market position for the company, as this is a new business for them and provides new opportunities. Third, the backsourcing improves the total knowhow among the employees, which is the company's strongest asset. This brings more value also for the whole supply chain, both to the suppliers as well as to the customers and end customers for the shipments. This is highly valuable for the company, as the service given to customers is superior, and backsourcing improves it further.

Sub-question 1: What kind of resources are needed for air freight backsourcing?

The main resource needed is the expertise, which can be gained by providing training for the employees, as well as finding the suitable person to lead the backsourcing project. Another important resource needed is the reliable long-term partner for the terminal operations. As this is a new business for the case company, they do not have earlier experience from these suppliers available. There are also high switching costs which makes it important to find the right partner at once.

Also, financial capital is needed from the company. The costs for the backsourcing are not huge, and if so wanted, the company can save on the software costs if they do not want to invest on that in the beginning. The highest costs comes from employing a new person, as well as from the software program if company decides to purchase one.

Sub-question 2: How does added value improve the company's market position?

As the company owners mentioned, backsourcing brings more visibility and stronger market position for the company. They are no longer dependent on their suppliers, and the whole supply chain becomes more visible. That way the company has better control over their shipments, which helps the managing of the supply chains.

Sub-question 3: What are the risks related to backsourcing?

The main risk is clearly related to the knowhow, as all the interview sources were highlighting the rules and regulations which are to be followed, and that it is the employee's responsibility to understand what he/she is doing. If there is not the needed high-level knowhow, the company reputation suffers, and it might affect negatively for the business. Therefore, it is vital for the company to find professional employee to work on the air freight sales and operations.

Another, but smaller risk is related on finding new customers. It cannot be expected that the company finds rapid growth on air freight, and probably that is not even the purpose, but it would be ideal to increase the business step by step. This requires perseverance, and sales effort from the company. As handling the air freight shipment directly with the airlines is new for the company, maybe it would be wise to start first promoting the air freights to the already existing customers, and after finding the working routine, start the sales process also for new potential customers.

5.3 Suggestions for the case company

Based on the research results and looking from the strategic point of view, the backsourcing can be recommended to the case company. The current market situation is favourable, and as the company owners said, there is a market niche for this particular kind of service business. As a newcomer on the market, the case company can highlight their knowhow and promote their new air services for new and existing customers. Though, this requires first finding the most suitable professional to start to sell the service and his/her professionalism.

Economically thinking, there is no reason why the company should not backsource. Even though air freight is not the core business for the case company, there is enough shipments each year so that it would be economical to backsource. The case company do not need to rush to find new customers, as the financial capital required for back sourcing is not huge. They can start the back sourcing process without the pressure to push the sales, and that way improve the processes and increase the business step by step, with providing high quality service without interruptions.

All in all, the company should start to pay attention to this back sourcing issue, and keep ears and eyes open for the new possibilities. The company owners need to familiarize with all the rules and regulations and invest on the software by which they can issue air waybills, or possibly start with simple excel files. The only stumbling block might be the process of finding suitable employee to lead the back sourcing project. The recruitment of a new person for a small team is never too easy, and that is way it would be good to start to think about the suitable person in time, preferably before the back sourcing even comes actual. There is no reason for the company to postpone the back sourcing, and hopefully they manage to do this strategic step ahead as soon as possible.

5.4 Limitations

The study was limited to a few things. First of all, the number of the interviews made was limited due to the time, and due to the difficulty to find professionals to answer to the interview. This issue was known before starting to make the interviews, but it came as a surprise that eventually it was difficult to find even two or more people to reply for the interview. There were few good candidates, but most of them were working for competitors which is understandable that they did not want to reply, and in some cases, the company will become a competitor after receiving the IATA membership. Another issue with the interviews was the reachability of IATA customer service. The first choice was to call to them, but the customer service could not be

reached by phone. However, the interview by e-mail was more informative than assumed, and overall the same information could be gathered by e-mail than was supposed by phone.

It has to be kept in mind, that the total cost of ownership is only an estimation, and the company is much dependent on the market fluctuations which cannot be predicted far ahead. There might become more competitors, or simply the air freight business might face downturns. The company is also dependent on its customers, and they cannot affect if their customers' business faces struggles.

On theory-wise, the research is focusing only on the make or buy-doctrine, whether the company should decide to backsource or not. Therefore, this study is only to support the future actions, and does not measure the outcome of the decision. Also measuring the risks from the theory point of view was rather difficult, as back sourcing has not been studied that much. Especially the outcomes of back sourcing are still unstudied issue, and in any case, can only be applied to each certain back sourcing case independently. Also, there is not that much criticism on transaction cost economics and resource-based view, which shows only one "side" of the theory, and not taking into account whether the theory is applicable to all circumstances or not.

5.5 Further research

As this research is only focusing on the back sourcing from the viewpoint of what should be done and how, the further research could be regarding the issues faced during and after the back sourcing. It would be interesting if the case company would document how much resources the whole back sourcing project finally has taken after they are done with it. From the financial statements can of course be seen how the back sourcing affects on the expenses and profit, but it should be compared to the investments used. It would be also interesting to see, how much time it requires overall to get the processes operate smoothly. For sure it takes some time to find first the new employee and handle the whole application process. After receiving the membership, it requires lot of time and effort to create the relationship with the new supplier providing the terminal services. Most probably in the beginning there might be communication errors and other misunderstandings. Overall, this will be a

long learning process for the whole company, and for having proficient business operations, lot of time and patience is needed.

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APPENDIX 1

INTERVIEW: Air Forwarding Specialists

1. Please introduce yourself, background and what you do currently?
2. In your opinion, what kind of value it brings to provide air freight services directly as an airfreight forwarder instead of buying the services from another forwarder, from the viewpoint of:
 - Customers?
 - Company?
3. In your opinion, how much you need to have freight (e.g. in kg) in order it to be economical to handle the air freights directly and apply IATA-rights?
4. What kind of resources are required from the company to apply IATA-rights?
5. How does the volumes affect the rates?
6. What kind of rates small and medium size companies can get?
7. In your opinion, how does it affect air freight forwarding that most of the airline agents and service centers are not represented in Finland?
8. In your opinion, are there any risks (especially in the beginning) related to attaining the IATA-rights and starting to operate the freights directly? What are the biggest risks, especially in the beginning (after back-sourcing)?
9. What would you estimate that how much time will it take to apply the IATA rights?
10. What kind of practical effects does it have in the air freight forwarding whether the forwarder has known shipper status or not?
11. What would you suggest, how could the case company coordinate warehousing, labeling etc. in Vantaa? Can you suggest any good partners? (Question only asked from interviewee A)

APPENDIX 2

INTERVIEW: Company Owners

1. Please tell about the background why the company is thinking about backsourcing air freight services? Why the company has not done this earlier?
2. What kind of value you believe backsourcing brings
 - To the company:
 - For the customers:
3. What kind of resources you think are needed, and is the company ready/prepared for this change?
4. How you think backsourcing affects the company's market position?
5. Do you believe you can get more customers by backsourcing, and why?
6. What type of risks you believe are related to backsourcing?
 - How will you handle and mitigate the risks?
7. How does backsourcing affect the number of suppliers (more or less than currently)?
8. Do you think backsourcing affects your relationships with company partners/supply chain members, and if yes, how?

APPENDIX 3

INTERVIEW: Airline representatives

1. Are the cargo rates available only for forwarders having IATA-rights?
2. What kind of contracts and agreements are required for getting the rates?
Does the company need to know the freight volumes before getting contract?
 - Is there some kind of commission system?
 - How long-term the contracts usually are?
3. Does it affect on the rates whether AHA as forwarder has the “known shipper” status or not?
4. How much cargo (in kg) should the company have in order to get competitive freight rates? How does the freight volumes affect the rates?
5. When can you get special rates, i.e. depending on the size/kg?

APPENDIX 4

INTERVIEW: IATA Customer Service (e-mail)

- What is the difference of being "full" IATA-member, or only CASS-member?
- What documents are required from the company in the applying process? Do you need financial statements etc?
- What are the requirements (overall) for a company for receiving the IATA rights, and how long is the applying process?
- What are the costs for the memberships?
- What means the CASS requirement of "Articles on incorporation of the company"?
- Can "agreement approved by sponsoring carrier" be from any airline?
- If we apply only CASS, how does it affect on DGR shipments? Can we still send them?
- The case company is a small-size forwarding company, would you recommend rather applying for the CASS membership than EACP?
- If CASS associate is enough membership to work on air freights (as forwarder), why would companies apply for the full membership/EACP Intermediary?

APPENDIX 5

IATA Customer Service Reply; Benefits and costs of different membership types. Source: IATA Customer Service

1. IATA Cargo Agent / EACP Intermediary

Benefits

- Rights to Annual IATA Certificate
- Free Annual copy of Electronic version of Dangerous Goods Regulations
- Access to IATA trainings at reduced rates
- Participation in CASSlink (for countries with CASS operation in place)
- Free Basic Subscription to 'CargoLink Directory' (for countries with CASS operation in place)

Requirements:

- Online Application form completed
- Trade licence
- Articles of incorporation of the company
- Current financial statements (Profit & Loss Account and Balance Sheet)
- Two (2) valid certificates in *Dangerous Goods Handling* and two (2) initial air cargo handling such as *Air Cargo Introductory Course* (or equivalent)

(ONLY EACP INTERMEDIARIES)

In case your agency does not handle dangerous goods, kindly note that you can still become a registered EACP Intermediary without sending the *Dangerous Goods Handling* certificates. Just providing the attached Non-Handling DGR Declaration properly signed and filled out, plus two Dangerous Goods Awareness certificates.

This e-Learning course is available in the following link: <http://www.iata.org/training/courses/Pages/tcgp40.aspx>

- **Costs:**

- Non-refundable application fee: CHF 1550
- Registration Fee: CHF 385
- Annual Fee IATA Intermediary: CHF 465
- Ombudsman Commission: CHF 95

The total application fee is CHF 2.495,00.

2. CASS Associate

Benefits

- IATA Code
- Participation in CASSlink

Requirements

- Articles of Incorporation of the company (which means company registration documents naming the company owners as well as their shares of ownership)
- Original Direct Debit Mandate from (if applicable and chosen by Agent as a preferable payment method)
- Agreement approved by a sponsoring carrier (IATA did not confirm whether any airline can be sponsor, but the company's forwarder told it could be airline)
- Payment of the registration and annual fees. In the course of the accreditation process, a relevant payment advice will be created and provided to you. Please do not pre-pay the fees.

The application process will take approximately 50 working days for the EACP Intermediary/IATA Cargo Agent and 30 days for the CASS Associate.

Cost: only annual fees (same as for EACP that is 465 CHF)."

APPENDIX 6

Benefits and Responsibilities on using the CASS system

Source: (ISSP Cargo manual, 2012)

Benefits of using the CASS system:

- Significantly improved cash flows;
- Better financial controls and reduced exposure to losses from agency failures;
- Reduced distribution costs;
- Reduced airline accounting and administration costs;
- Improved access to markets and better sales potential in foreign countries;
- Better sales and marketing intelligence;
- More targeted sales efforts;
- Improved ticket and air waybill data quality and availability;
- Neutral and impartial management;
- Simplified and more integrated systems interfaces;
- Standardised systems and data files;
- Facilitates the introduction of new technologies;
- Elimination of duplication of data entry;
- Centralisation of error handling
- Application of current technology justified by economies of scale;
- Standardisation of automated procedures and forms;
- Production of industry standard invoices;
- Simplification of remittance: Agents pay one amount covering payment to all Carriers:

Carriers receive one amount covering payment from all Agents;

- Elimination of duplication of data entry. Agents and Carriers using their own systems may deliver or receive sales and standard invoice information in electronically readable form;
 - Simplified error handling;
 - Handling of remittance irregularities conducted impartially, using standard rules, without discrimination;
 - Enhancement of financial control and improvement of cash flow;
 - Provision of reliable and up-to-date sales statistics;
- Supervision of processing by an IATA employed ISS Manager.
- Stock Management using CASSLink.

Responsibilities:

- The correct issue and use of AWBs and administrative forms;
- The submission of completed AWBs to the CASS Airline concerned when delivering consignments ready for carriage;
- The safe keeping of AWBs and administrative forms;
- The receipt of the CASS office's billings;
- Timely and full remittance of all amounts in the currency of the CASS office's billings.