

Otto Heiska

# Improving quality and operational reliability through organizational change

Case Lufthansa Cargo

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<p>This thesis is based on an organizational change project initiated by Lufthansa Cargo management and Swissport Cargo Services management in late autumn 2014. The idea of the project was to improve the quality and operational reliability of an outsourced Lufthansa Cargo dedicated service unit. The unit operating under Swissport Cargo Services in Helsinki airport was to be restructured and redeveloped to better suit the changed operational environment.</p> <p>The purpose of this thesis is to present the current operational setup of the service unit and the function in detail as well as the needed organizational changes. The issues with the current setup relate to compromised operational reliability, which directly affects the level of quality. The thesis will give detailed insight in reference to the air cargo industry to further clarify the service unit's concept.</p> <p>Based on the initiative of Lufthansa Cargo management the author of this thesis began conducting a research whether the current setup of the unit was the cause for the issues raised. To analyse the current organizational setup a tool known as McKinsey 7s framework was used. With the help of the 7S model also the new organizational structure was designed. The implementation of the new organizational structure was done in reference to Kurt Lewin's three-step organizational change model.</p> <p>The outcomes of the thesis were measured on both quantitative and qualitative measures. The service units quality is measured on Lufthansa Cargo specified quantitative Key Performance Indicators. Data from all the relevant KPIs in reference to unit's function was collected before and after the change to determine the outcome of the organizational change. The qualitative research was done with a questionnaire relating to the success, which was given out to all relevant employees of the unit.</p> <p>Based on the quantitative KPI measures the organizational change was a success but the qualitative questionnaire suggested that it was only partially a success. The qualitative research suggests that the change is only partially complete and more resources have to be allocated. The author suggests that the addition of resources has to be further studied and new qualitative KPIs developed to provide more accurate quality data.</p>	
Keywords	Air cargo, quality management, organizational change, 7S framework, process change, structural change

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## Abbreviations

A2A	Airport to Airport
AWB	Air Waybill
C2K	Cargo 2000
D2D	Door to Door
DEP	Flight Departure
EDI	Electronic Data Interchange
FAP	Flown as Planned
FTKO	Freight tonne-kilometres offered
FWB	Electronic AWB
GHA	Ground Handling Agent
HAWB	House Air Waybill
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
KPI	Key Performance Indicator
LAT	Latest Time of Acceptance
LCAG	Lufthansa Cargo AG
LF	Load Factor
MAWB	Master Air Waybill
MOP	Master Operating Plan
NFD	Notification of the Consignee
R4C	Ready for Carriage
RCF	Received from Flight
RCS	Shipment Received from Forwarder
SCS	Swissport Cargo Services Oy
SGHA	Standard Ground Handling Agreement
SLA	Service Level Agreement
SONG	Service Operation Group
STD	Scheduled Time of Departure
TOA	Time of Availability
ULD	Unit Load Device

## 1 Introduction

During my placement at Lufthansa Cargo AG (LCAG) I have been involved in a project concentrating on an organizational change within an outsourced service concept. In the current setup, LCAG purchases all the operational air cargo handling management, load planning and optimization from an external service provider and does not operate its own in-house operational organization. The change process seeks to develop the structure of the service provider's LCAG dedicated organizational unit to a more efficient and operational reliable level, which in turn would enhance the quality.

The project is a joint effort of LCAG and Swissport Cargo Services Oy (SCS), which is the service provider for LCAG in Helsinki. The new structure and processes of the re-developed unit are jointly developed to make the organizational change process as transparent and efficient as possible. The quality of the services supplied for LCAG are measured against KPIs and other agreed upon quality indicators on a monthly basis. All KPIs produce numerical data that can be accurately compared with each other to produce further analysis. As the core research for the thesis, I will study the effects of the organizational change within the service unit. In the organizational redesign phase, the amount of personnel assigned to the unit will be analysed as well as the structure of the organization and its core processes, to determine the needed areas of change.

The present organizational structure is analysed in reference to an organizational analysis model known as the 7S framework. With the model the issues of the current organizational structure are recognized and a new organizational structure developed. The organizational change process is analysed through a change model known as the three-step model.

As the project is completed and the new organizational setup is finalised, comparisons can be made between the old and the new setup to determine how the new unit has been able to tackle the issues present in the old organizational model. With the new organizational structure and processes in place the success of the change will be analysed through quantitative KPI data and qualitative survey data. The increased quality and operational reliability, if reached, has a positive economic effect on both LCAG and the SCS as both can offer better services for their customers.

## 2 Company profiles

### 2.1 Lufthansa Cargo AG

Lufthansa Cargo AG (LCAG) is a wholly owned subsidiary of Lufthansa Group. Its main business is to operate scheduled and charter air cargo services using its own freighter aircraft fleet capacity and all of the cargo capacity of Lufthansa passenger airlines and Austrian Airlines passenger aircraft fleet. LCAG has a fleet of 21 all cargo aircraft, 16 MD-11F and 5 Boeing 777F. 50% of the cargo transported by LCAG is transported on-board its own freighter fleet. The other 50% is transported on 340 Lufthansa Group passenger aircrafts (including also the passenger aircraft fleet of Austrian Airlines, which is a subsidiary of Lufthansa Group). LCAG is a global cargo airline that operates to over 300 destinations all over the world. Its organization is spread to all continents excluding Australia and Antarctica. The main base of operations for LCAG is located in Frankfurt, Germany where also the headquarters is located. Munich and Vienna are its secondary bases. LCAG is also a major shareholder in its own with a 50% share of the German cargo airline Aerologic GmbH, a 49% share of courier solutions company time:matters GmbH and full ownership of Jettainer GmbH a company specialising in logistics management of containers and pallets (Lufthansa Cargo, 2015).

LCAG employs approximately 4500 people around the world. The organization of LCAG is lead from Frankfurt but it has a divisional organization structure. All the different geographically regions have their own area director in Frankfurt part from the area director of Asia & Pacific located in Singapore and area director of North America present in Atlanta. All areas are further divided into regions, Helsinki being part of the Nordic countries and Baltics region led from Stockholm (Lufthansa Cargo, 2015).

The air cargo industry is a very dynamic business environment that reacts strongly to both local and global economic trends. Local presence and knowledge are crucial so that the reaction to changes remains swift and efficient. This is clearly visible in the way Lufthansa Cargo's organization is setup. As an example, the Finnish and Baltic organization is lead from Helsinki and the regional management of Nordic countries and Baltics is lead from Stockholm. This is of utmost importance as all air cargo markets are very dynamic and constantly changing, local knowledge and experience is a must. In some sense, the organizational structure can be considered heavy, as management level is spread outside headquarters. This however is logical based on the fact that local knowledge cannot be centralized in such a dynamic industry.

## 2.2 Swissport Cargo Services Finland Oy

Swissport Cargo Services Finland Oy (SCS) is part of Swissport International Ltd., which is a global airport and aviation service provider offering a wide range of ground operation related services. Among these are Ground Handling, Cargo Services, Travel Services and Aviation Security. It operates in 45 countries and serves 265 airports. In Finland, Swissport offers its wide range of customer's ground handling, cargo and travel services. It employs 820 people all located in Helsinki Airport. Part of the SCS organization relevant to this thesis is the Cargo Services Unit, which provides LCAG ground handling agent services (Swissport, 2014).

## 3 Air cargo logistics chain

Before going more specifically into the details of service agreement between LCAG and SCS and the agenda of this thesis, it is in order to explain the structure of the default air cargo logistics chain. In the current air cargo market, the business is structured in a way that cargo airlines such as LCAG and most of its competitors are in contact with freight forwarders instead of the initial shipper of the cargo transported. In addition to this, there are so called integrators, which are companies involved directly with the initial shipper and handle the transportation solely under their own brand and often have functions that in traditional air cargo are offered by separate companies in house (Boeing, 2015). Integrators include companies such as DHL, UPS and FedEx. In this case, the business model is different, as explained above. The forwarders are the main customers of cargo airlines and in turn the initial shippers are the customers of the forwarders. This traditional business setup is still the prevalent one; however the integrators who have traditionally transported smaller shipments have widened their service concepts to serve a broader range (Morell, 2011).

With the parties involved in a typical air cargo logistics chain defined, it is in order to also define the steps that lead into the physical transportation of cargo. Before any cargo is transported, there has to be a need for the transport and this is created through international commerce between the initial exporter and importer. When the parties involved face this need, a forwarder is contacted. The forwarder receives information regarding the nature of the transportation, which often means information about the time frame and cost range as well as about the nature of the goods. Based on the in-

formation gathered the forwarder contacts a cargo airline to inquire what kind of transport alternatives can be offered for the underlining goods and transport need. When a commercial deal is completed between the forwarder and the cargo airline, the shipment is booked for the chosen transport routing by the airline and the shipment is prepared for transport and needed documents are issued by both the initial shipper and the forwarder. As the documents are issued also a contract is made between all parties involved, with this contract done the chain may begin (Morell, 2011 p.152).

### 3.1 Ground handling infrastructure

The basic infrastructure air cargo needs to function is airports. As the name of the transport method clearly indicates, it is the transportation of tangible goods by air and the relevant infrastructure needed is present at airports that are capable of air cargo handling. The main infrastructure for air cargo handling is a cargo terminal. Cargo terminals act similarly to those of the passenger transport industry. The terminal is used to process the cargo intended for transport in such manner that it is ready for carriage (Morell, 2011 p. 153).

### 3.2 Ground handling agent (GHA)

Ground handling in the air cargo logistics chain is a vital part. It is a service provided to airlines by companies' known as Ground Handling Agents (GHA) that specializes in ground handling procedures. Ground handling consists of all the operations taking place in the airport after the forwarder delivers the cargo to the point where it is loaded to the aircraft delivering the cargo. These services include loading and unloading trucks, acceptance for air transport, security screening, document processing, and preparation for aircraft loading and transport to and from the aircraft (Morell, 2011 p. 167-168).

### 3.3 Ground handling process

Before the cargo can be accepted for transport, it needs to go through a handling process. This process is executed inside the cargo terminal. The handling process includes unloading the cargo from the previous method of transport, which in the case of Swissport is from trucks or other vehicles, acceptance of cargo according to International Air Transport Association (IATA) standards and according to the standards of the transporting airline, preparing the cargo for air transport and transporting the cargo to and from the aircraft. These four parts form the section of ground handling in the air

cargo logistics chain (Morell, 2011 p. 168). These key-processes can be divided into sub-processes that will be explained more in detail as well as, looked from both export and import point of view. The following sections will focus more on the export air cargo process, as it is more relevant for the purposes of this thesis.

At the cargo terminal of SCS at Helsinki Airport, the unloading and loading of trucks is done through a truck dock. When a truck transporting cargo intended for export through air cargo arrives at the facility, firstly the driver of the truck reports to the so called Service Point (SP). At the SP, the truck is recognized by the cargo agents as having arrived at the terminal and hence viewed from the Finnish customs point of view to the point of exit upon export (Finnish Customs, 2015). It is very important for the carrier airline that the cargo arrives to the export facility on schedule. All parts of the process have a set time to secure the feasibility of the transportation within the given transport time frame. After the vehicle in question has arrived at the facility and has been registered to the relevant systems the cargo bound for export is unloaded.

The cargo acceptance process begins after the unloading process. In the acceptance process, the cargo is compared in reference to the appropriate documents issued for the shipment. In air cargo, the main transportation document is the Air Waybill (AWB). The AWB acts somewhat like a "ticket" for the shipment as it tells all relevant information about the shipment such as the shipper, consignee, weight, volume, the number of pieces, the contents of the shipment and the transportation routing. The AWB can be divided into two sections, the Master Air Waybill (MAWB) and the House Air Waybill (HAWB). The MAWB is identical to the AWB and the forwarder issues the HAWB of which there can be several, one for each individual shipment, which has been consolidated under the same MAWB. Each HAWB acts as a designated shipping document for each of the shipments consolidated under the MAWB bound for the same transport routing (Morell, 2011 p. 155). In the acceptance, the GHA checks that the issued documents match the physics of the cargo delivered to the terminal. This process involves the weight, volume and other measurement controlling of the shipment, which have to be in compliance with the documents issued for the shipment. In addition to the physical control of the shipment, all other data such as shipper, consignee and contents of the shipment are controlled to determine that the cargo is exactly what the documentation implies. If the cargo is classified as special cargo, such as dangerous goods as per IATA regulations, live animals, valuable, vulnerable or perishable goods; special checks are needed before the cargo can be accepted for transport. If any de-

viations are identified, corrections have to be made either to the physical shipment or the documentation of the shipment (Morell, 2011 p. 168).

After the cargo bound for air transport has been successfully accepted for air transport, it will go through security screening, where the whole shipment will be either screened through x-ray or other measures will take place to secure the safety of the shipment. When the security screening is done, the shipment will be stored in a warehouse or alternatively directly moved to a designated area within the warehouse facility, where it is allocated for either Bulk or Unit Load Device (ULD) loading (Morell, 2011, p.168). Bulk load stands for the loose load in the aircraft hold; it is the load that is loaded into the hold without any loading devices and is fastened and secured inside the hold with straps and nets. ULD load is cargo that is loaded inside a specially designed ULD-container. Cargo is fastened and secured inside the ULD and the ULD itself as a whole is loaded into the aircraft. ULD can refer to a container or a pallet (Morell, 2011, p.162). The ULDs that LCAG uses in Finland are AKH, AKW, PKC and PMC, first two are containers and the latter are pallets (LCAG ST Info, 2015).

After the cargo is either built-up into a ULD or allocated for bulk load, it will be prepared for transport to the aircraft. This transport takes place with ground transport vehicles such as tractors or other specialized airport ground vehicles. The transport takes place approximately one hour before the schedule time of departure (STD) of the flight and the cargo is loaded on board the aircraft by the ramp handling, which is responsible for all the operations taking place at the designated area where the aircraft is parked (Morell, 2011).

### 3.4 Load planning and optimization

The previous sections defined the physical cargo ground handling operations performed by GHAs at airports worldwide. The complete process involves other very important processes as well; among them is the load planning and optimization. Load planning and optimization is the process, in which a plan is created, based on the estimated cargo load booked on a certain flight. The planning process aims to use up all the space given to transportation of cargo, in a way that would minimize the amount of unused space on a flight. The main measures that are used to represent a carrier performance in the air cargo industry are the Freight tonne-kilometres offered (FTKO) and the Load Factor (LF).

Load factor is a measure indicating the ratio of the current load in reference to the total offered freight capacity of the aircraft (EEA, 2015). It is a ratio often represented by a percentage figure, normally representing the average LF for a certain type of aircraft, scheduled route or time period. Freight tonne-kilometre offered is another widely used measure that is produced by multiplying the total amount of freight tonnes carried on-board a flight by the distance flown. This performance indicator is often used to indicate the total amount of cargo capacity used on all routes flown during a certain period of time (ICAO, 2015). LCAG uses these measures in its annual report; presenting a figure of 12.5 bn. tonnes FKTO and a LF of 69.7% (Lufthansa Cargo, 2015).

#### **4 IATA Cargo 2000**

The bases of LCAG quality management are the IATA Cargo 2000 (C2K) standards. LCAG is one of the founding members of the quality initiative formed under IATA. The C2K was started in 1997 as an IATA interest group determined to find a way to jointly improve overall industry quality through jointly developed and agreed upon quality management system that involves airlines, forwarders and other industry operators. It is the most significant industry-wide tool that takes into account all key stakeholders in a joint global air cargo performance management initiative (Ground Handling International, 2015). The C2K quality management system now adapted by many major industry players is based on the initial idea of sophisticated shipment planning and monitoring for air cargo shipments based on the common business processes and the milestone definitions. Through C2K key industry operators collaborate to improve the standards and overall process quality in a way that will benefit the air cargo customer in all segments of the air cargo logistics chain (IATA, 2014).

##### **4.1 C2K quality management system**

In the centre of the whole C2K quality management system is the Master Operating Plan (MOP), which is a unique system that creates a route map for each individual shipment monitored against the C2K standards. In the route map, all pre-defined milestones are monitored against the MOP created when the shipment is booked. If the shipment's transportation time frame is changed before the first milestone on the MOP is reached, the MOP will change according to the changes made. The MOP is finalized when the first milestone on the MOP is reached. There are different types of MOP under the C2K quality management system, Airport-to-Airport (A2A) and Door-to-Door (D2D). The difference between the two is the width of the MOP. A2A is on MAWB level,

initiated when the shipment is delivered to the airport as the D2D is on HAWB level and initiates when the shipment leaves the initial shipper (IATA, 2014). This thesis will focus on the A2A type of MOP, as it is the basis for the quality management in place at LCAG in Helsinki (IATA, 2015).

#### 4.2 Master Operating Plan (MOP)

The participants of the Cargo 2000 initiative created the C2K MOP as a platform that supports the implementation of the C2K quality management system. All the relevant processes based on the point-of-view taken are described in the MOP. The MOP is multifunctional in a sense that it can be implemented in detail on the section most relevant for the party seeking to benchmark its operational quality compliance in reference to the C2K quality standards. In the following figure, the whole width of the MOP platform is presented. MOP can be applied for the whole length of the air cargo logistics chain, starting from the activities between the initial shipper and the export forwarder and reaching the activities between the import-forwarder and the final consignee (IATA, 2015).

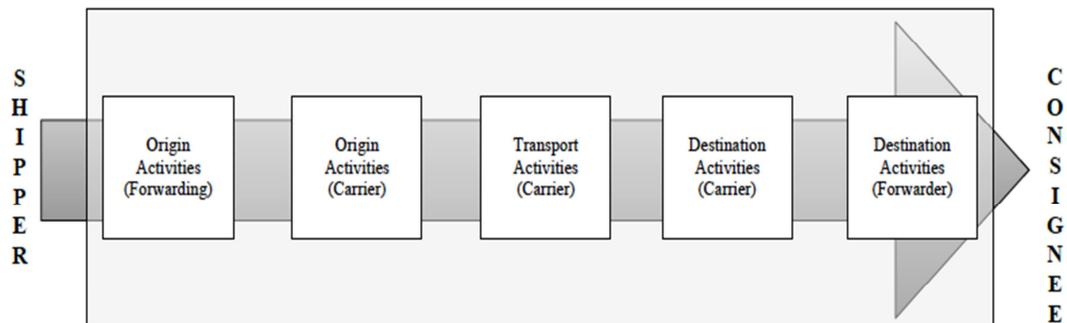


Figure 1 (IATA, 2015)

The A2A MOP (now only referred as MOP) is the MOP in place at LCAG in Helsinki. The MOP in question emphasises the milestones that are the responsibility of the carrier or its suppliers such as GHAs. In reference to Figure 1, these activities are under the Origin Activities (Export), Transport Activities and Destination Activities (Import).

In Figure 2, the C2K milestones of the MOP in place at LCAG in Helsinki are illustrated in detail. The MOP focuses on milestones located in between origin activities and destination activities in reference to Figure 1. All the milestones represent a specific part of

the carriers' key processes, designed to break down a lengthy chain into more manageable blocks. The data the milestones produce is rather technical, and is not as such information that is shared with the customers. The information produced is mainly used to produce data for Key Performance Indicators (KPI) for internal quality management.

Milestones communicated to the customer are the Latest Time of Acceptance (LAT) and the Time of Availability (TOA). The LAT and TOA represent pre-determined time given to every air cargo shipment after the initial booking is finalized. The LAT tells the customer the latest possible time of acceptance at the origin airport when the initial routing is still feasible and valid. The TOA in turn is the latest time of availability of the transported goods at the destination airport (IATA, 2015).

#### 4.2.1 FWB – Electronic AWB

FWB indicates the part of the MOP when the forwarder sends the carrier the electronic AWB or alternatively delivers the paper AWB. The forwarder is responsible for the timeliness, quality and system compliance of the electronic AWB message or alternatively the correctness of the documents delivered. Often the electronic messages do not fully substitute the documents needed for the transportation, in which case the FWB delivers only part of the documents needed and the rest come with the shipment in paper form (Lufthansa Cargo, 2006).

#### 4.2.2 RCS – Shipment received from forwarder

RCS indicates the part of the MOP where the shipment and paper form documents, if needed, are delivered to the carrier. The forwarder is responsible for the on-time delivery of the cargo to the facility of the carrier or the facility of the GHA that represents the carrier. The RCS represents the same point in time as the LAT; which is the latest time of acceptance for the cargo to be compliant with the set MOP. The RCS marks the point of the MOP when the responsibility over the cargo in transit swifts from the forwarder to the carrier (Lufthansa Cargo, 2006).

#### 4.2.3 DEP – Flight departed

DEP marks the departures of the flight where the shipment and all its necessary documents needed is loaded on board. All have a give Scheduled Time of Departure (STD) according to which the timeliness of a flight is based on. If a flight does not leave according to schedule, all the set milestone dates are postponed accordingly. The GHA is

responsible that the cargo is ready for carriage (R4C) according to the schedule, when the shipment is received from the forwarder according to the set time defined in the MOP (Lufthansa Cargo, 2006).

#### 4.2.4 RCF – Received from Flight

RCF is the first milestone at the destination station after the flight to the destination has been completed. It indicates that the cargo has been received by the carrier of the GHA representing the carrier from the flight that transported the cargo to its destination. RCF is set after every flight, meaning that it is a milestone of which there can be several on a single MOP if there are more than one flight on scheduled for the transportation routing. The GHA is responsible for the timeliness of the RCF milestone, if the shipment is not complete, is damaged or the flight does not arrive on schedule the RCF time will be amended accordingly (Lufthansa Cargo, 2006).

#### 4.2.5 NFD – Notification of the Consignee

NFD is the milestone that is to be set when the cargo has been handled by the carrier or the GHA representing the carrier. At the time of the NFD, the cargo is ready to be picked up by the consignee who is often the import forwarder. The GHA is responsible for the timeliness of the NFD as long as the MOP has not been amended due to schedule of other irregularities on route to the destination (Lufthansa Cargo, 2006).

#### 4.2.6 DLV – Delivery of Cargo

DLV is the final milestone on the A2A MOP. It indicates the point in time when the shipment has been delivered to the consignee specified in the transportation documents such as the AWB. The timeliness of the DLV milestone is not the responsibility of the carrier or the GHA representing the carrier. It is the responsibility of the import forwarder that is in charge for the logistics chain after the air transport (Lufthansa Cargo, 2006).

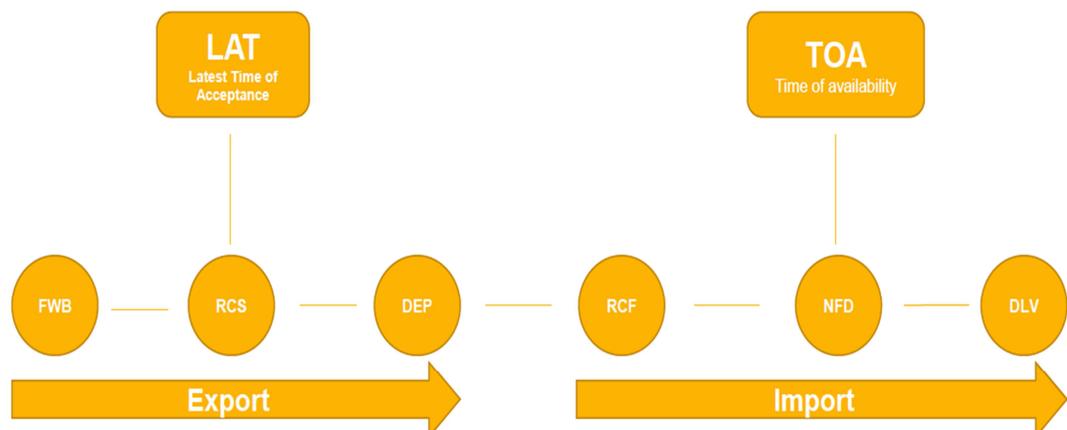


Figure 2 (Lufthansa Cargo, 2015)

### 4.3 Flown As Planned (FAP)

Flown as Planned is a quality measuring milestones that is not directly part of the MOP. It indicates the follow through of a planned flight route that has a crucial role on the timeliness of the given transportation schedule. If a shipment does not follow its pre-determined flight schedule, it is not flown as planned and can have a negative effect on the timeliness of the delivery schedule and therefore cause a delay of transportation. FAP is one of the most important C2K quality KPIs measured (Lufthansa Cargo, 2006).

## 5 Standard Ground Handling Agreement and Service Level Agreement

The following section will focus on the general agreement present in aviation industry that IATA has standardized and which is recognized within the whole industry as the default agreement templates when contracting ground operations between GHAs and airlines.

### 5.1 Standard Ground Handling Agreement (SGHA)

The services GHAs provide worldwide for airlines are specified by a standard agreement known as the Standard Ground Handling Agreement (SGHA). SGHA is a document that is standardized by IATA. All carriers and GHAs that are part of IATA use this agreement as a basis when contracting their ground handling operations. The SGHA specifies all ground operations in extensive detail, which the contracting parties agree upon (IATA, 2015).

The SGHA is divided into three parts, which are the main agreement, Annex A and Annex B. The main agreement is divided into twelve articles determining the underlying framework of the conditions. With these conditions contracting parties confirm that they comply with all applicable domestic and international laws as well as the IATA regulations. The twelve articles are specified in Appendix 1. The Annex A of the SGHA describes the services that can be contracted by the parties under the SGHA. Out of these the contract between the parties is amended with the Annex B that specifies which services out of the ones mentioned in the Annex A are part of the contract and how these services will be produced. There is also a simplified version of concluding the agreement in which the parties do not have to prepare the Main Agreement and Annex A in a traditional manner. It is sufficient to use an alternative Annex B in place of

the Main Agreement and Annex A that includes a preamble indicating that the Annex B is governed by the provisions of SGHA. The preamble also ensures that the Annex B is prepared duly in accordance and conformity with the Main Agreement and Annex A.

*“This Annex B is prepared in accordance with the simplified procedure whereby the Parties agree that the terms of the Main Agreement and Annex A of the SGHA of January 2013 as published by the International Air Transport Association shall apply to this Annex B as if such terms were repeated here in full. By signing this Annex B, the Parties confirm that they are familiar with the aforementioned Main Agreement and Annex A.” (Swissport: IATA SGHA, 2013)*

## 5.2 Service Level Agreement (SLA)

The SGHA signed between LCAG and SCS uses the simplified format specified in the Annex B of the IATA SGHA. It is in compliance with the SGHA main agreement and the Annex A, however these are not fully included in the agreement between SCS and LCAG. In the agreement there is an appendix called the Service Level Agreement (SLA) where the handling operation SCS provides for LCAG is specified in detail. The requirements that LCAG has for SCS included in the SLA can be divided into three categories, which are EDI requirements, Handling times and Service guarantee / Target agreement. The EDI (Electronic Data Interchange) requirements describe what is demanded from the GHA system for it to be compliant with LCAG. LCAG requires the GHA to have a system that is compliant with IATA standardized Cargo Interchange Message Procedures (Cargo-IMP). Cargo-IMP is an electronic messaging system that has been created based on existing processes to support the IATA initiated transition to a paper-free environment of air cargo documentation. (IATA, 2015) The second section of the SLA specifies in detail the handling times set by LCAG for SCS. With set handling times LCAG regulates the time frames within which all of its cargo must be handled on the ground. These times differ based on the characteristics of the product as well as based on the special requirements of the products. The GHA has to comply with all the given times frames. The third section known as the Service guarantee / Target agreement specifies in detail all the performance evaluation tools and quality management measures LCAG has in place. These are tools that LCAG uses to evaluate and control the performance and quality of the services the GHA produces for LCAG. The performance evaluation tools and quality control measures can be divided into several sub-sections, but the most relevant are the LCAG Operational Performance Indicators and the Local Performance Indicators (Lufthansa Cargo, 2015).

### 5.2.1 LCAG Operational Performance Indicators

The Operational Performance Indicators that LCAG bases its operational performance quality management on are the IATA Cargo 2000 standards that were specified in detail in section 5. In the SLA, LCAG defines Flown as Planned (FAP) and Notification of the Consignee (NFD) as the main Operational KPIs that are the most important of the IATA C2K milestones that are monitored. Out of these KPIs LCAG produces a monthly quality report that assesses the GHAs performance in reference to IATA C2K. The set monthly target compliance percentage figures are 98% average for FAP and 98.5% for NFD (Lufthansa Cargo, 2013).

### 5.2.2 Local Performance Indicators

The local performance indicators are a large variety of different local operational quality indicators that all have a target percentage set. Among these are quality management KPIs that monitor the GHA export and import cargo handling process compliance in reference to the set LCAG set standards. Majority of these are KPIs that are related to the overall LCAG standard requirements regarding the contracted GHA. Monitoring of the acceptance process compliance, shipment storage, cargo load preparation and ULD management, GHA staff trainings and IATA regulation are among these. The KPIs emphasised in this thesis are the quality of documentation compliance and the booking quality assurance (BQA). The documentation quality is as the previously mentioned KPIs a percentage target, of which GHA is supposed to meet on a monthly basis, for documentation correctness it is 100%. The BQA is a KPI that tells whether the GHA has in the acceptance process controlled the actual weight and volume against the shipment data. The BQA is a measure that directly indicates the load planning and optimization process. The target percentage for monthly BQA is 98% (Lufthansa Cargo, 2013).

### 5.3 Quality monitoring – Bonus / Malus Chart

The quality monitoring is done on a monthly basis using a report known as the Bonus / Malus Chart. It is a report produced by LCAG measuring GHA monthly performance in reference to the quality KPIs mentioned in the SLA. All of the KPIs have a determined value, which indicates the importance of the KPI in reference to the overall monthly performance of the GHA. The monthly performance of the GHA is converted to a EUR figure, which is either positive or negative, based on the monthly performance. If the result of the Bonus / Malus is positive, a bonus is paid out to the GHA by the airline and

if the result is negative the GHA pays out a Malus sum to the airline. (Lufthansa Cargo, 2015) The quality monitoring KPIs specified in the SLA and measured on monthly basis with the data of the Bonus / Malus – quality monitoring system, are the KPIs which will be the main measurement tools when the success of the organizational development efforts are measured (Lufthansa Cargo, 2013).

## **6 Operational service setup at LCAG Helsinki**

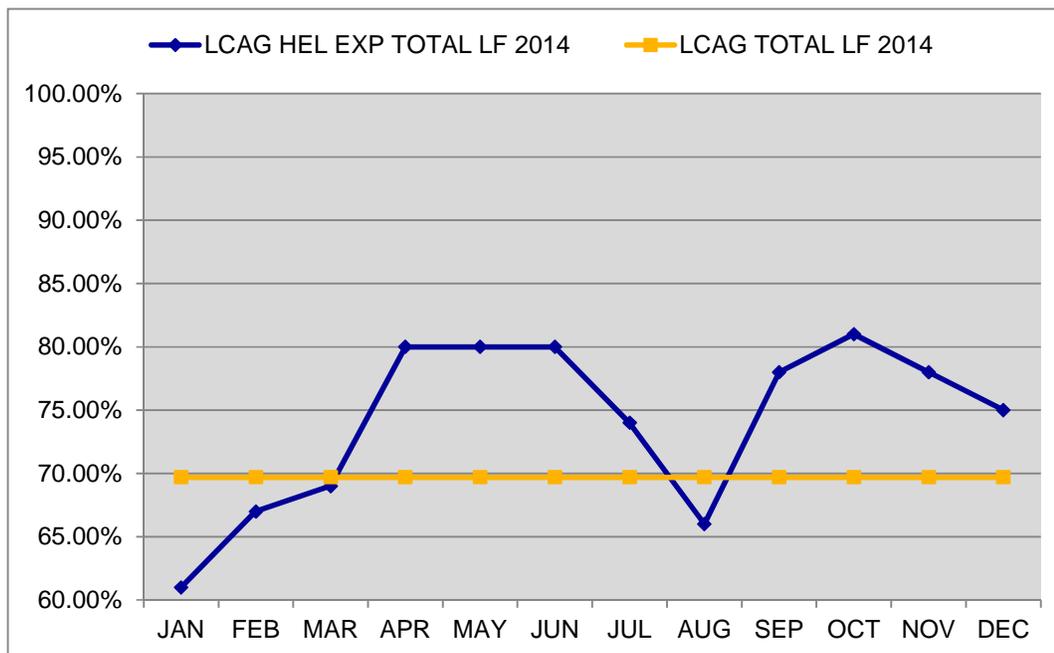
In many respects, the operational service setup for Helsinki is unique to the LCAG global network. Nowhere else in the LCAG network is the setup of the services provided by the GHA as comprehensive as in Helsinki. In addition to the standard handling agent services such as cargo acceptance, special cargo checks and flight preparation, SCS provides LCAG a service in form of a team consisting of two specially trained individuals and one back up. The team produces load planning and optimization services as well as acts as the primary contact for customers after the cargo has been accepted for transport. The team is known as the Service Operation Group or simply as per the abbreviation SONG. The team optimizes the planned load for all LCAG passenger flights (PAX) scheduled road feeder services (RFS) and all-cargo flights (CGO). LCAG has scheduled daily PAX flights to Munich and Frankfurt, as well as several scheduled RFS frequencies to both Munich and Frankfurt. In addition to the PAX and RFS services, LCAG contracts capacity from an all-cargo aircraft operated service to Frankfurt every weekday. This setup forms an optimal route and capacity setup for export cargo out of Helsinki (Lufthansa Cargo, 2015).

### **6.1 Service Operation Group (SONG-Team)**

Load planning and optimization is often a process that a carrier conducts in-house within its own organization by trained professionals of the demanding field. This difference is what makes the SONG-team setup unique. The current SONG setup produces the SONG service during weekdays on an office hour basis. As they are employees of SCS, performing tasks for LCAG, they are situated within the SCS Cargo Terminal and have direct access and possibility to supervise the whole LCAG export and import cargo flow going through the SCS terminal. In addition to the load planning and optimization, the supervision of the export and import operations is the main function of the SONG-team. The individuals who are part of the current setup of the SONG-team have significantly broader knowledge of LCAG processes, systems and practices than the

standard flight agents that are engaged with the daily flight preparations operations of LCAG flights. The team has responsibility over the daily LCAG operations, ensuring that operational capability at Helsinki stays on required level through regular management of LCAG load material and ULD supply as well as corresponding to RFS and all-cargo flight suppliers (Lufthansa Cargo, 2015).

SONG-team is in close contact with the LCAG sales organization to maximize the capacity utilization and in turn avoid overbooking on routes where capacity is already used or is not available. At the other LCAG network stations, the sales agents and GHA flight agents share the load planning and optimization function that the SONG-team performs in Helsinki. This standard setup has not however resulted in as high quality performance and rapid operational adaptability as in Helsinki (Lufthansa Cargo, 2015). SONG-team acts as an external part of LCAG Helsinki organization, acting on the behalf of LCAG in all operational customer contacts using the LCAG brand. Through this setup, the customer is serviced in all matters by the same LCAG brand image. This setup also enables the sales agents of LCAG in Helsinki to concentrate purely on sales related functions that positively benefit the overall sales targets. The following graph illustrates how the SONG unit positively affects the cargo LF of LCAG export flights out of Helsinki. The blue line represents Helsinki and the yellow the yearly average of the whole LCAG network (Lufthansa Cargo, 2015).



Graph 1 (Lufthansa Cargo, 2015)

## 6.2 Issues with the current setup and redevelopment plans

The current operational setup at LCAG Helsinki serves well the quality standards that LCAG has set; yet there are areas of improvement that have raised the need for redesigning the SONG-team concept to be an even more comprehensive and tailored service for LCAG. The issue that led to the discussion between the SCS and LCAG operational management is the operational reliability of the SONG-team and quality measured on quality KPIs. The quality data gathered by LCAG for the first three quarters of year 2014 suggested that the team's quality in light of the LCAG set quality requirements could be increased. As the team currently consists of two individuals and one ad hoc back-up agent, it seems that the team's special skills and function are centred within a too small group of individuals. This leaves the team quite vulnerable to unforeseen changes in the manpower, such as sick leaves. The team had in numerous cases during the year been not able to fully comply with its tasks due to shortage of manpower and increased workload. The other major issues pushing the need for change are the increased amount of customer contacts and irregularities due to cargo volume increases and increased amounts of special cargo in need of special handling management. These developments have put the current team setup under a workload that is difficult to handle without effects on LCAG overall quality (Lufthansa Cargo, 2015).

## 7 Identifying the organizational issues

Due to the above-mentioned issues, LCAG and SCS began in the fourth quarter of 2014 the process of redesigning the SONG service concept. Before this organizational change process can be initiated, the issues raised by LCAG have to be analysed in more detail to identify the effect these issues have on the overall performance of the SONG-team. As mentioned before, the problems the current team is facing are related to quality and operational reliability. With the new team LCAG hopes to achieve reliability, adaptability and improved quality when measured against the defined KPIs. Until the cause that is behind the current teams issues is solved no organizational change can be defined. To help recognize the overall effect of the quality and reliability issues a model that helps in this process has to be defined.

### 7.1 McKinsey 7 S framework model

Models to analyse organizational issues or organizational change are plenty but only a few analyse an organization quite as comprehensively as the 7S framework model de-

veloped by McKinsey & Company. The 7S Model developed by McKinsey & Company consultants Tom Peters, Robert Waterman and Julien Philips in the 1980s is a model that seeks to demonstrate how the seven pre-defined hard and soft elements of an organization have to be aligned for a company to reach a level of sufficient effectiveness. It is an organizational analysis model that is a helpful tool when trying to determine the issues behind the need for a change. If an organization is facing a problem, the model argues that the reason for this stems from the fact that one of the seven areas is not at the same level or has not developed with the same pace as the other areas, thus hindering the organization from performing as well as it could if the areas would be aligned and the common superordinate goal would be reached. When organizations apply changes to any of the seven areas the model highlights that a comprehensive study to the effects of a change in one area to all of the other areas must be conducted as all of the seven areas are interconnected and changes effects them all. The model sees that problems within the seven organizational areas are something that disrupts the balance of the organization, thus changes performed act as forces that seek to restore the balance within the organization (Waterman et al., 1980).

The seven elements are divided into two different areas, hard and soft. The difference between these areas is the way they are identified and managed. The hard areas are strategy, structure and systems; these are often areas within an organization that can be easily recognized due to the fact that they are usually well established and clearly structured. Organizations often have a clear strategy of how the business it engages in is done and around that the organizations structure and systems are built. These are all areas, which can often be easily measured. The truth however is that the strategies and actual common practices do not always match. This is why the model highlights other important areas of an organization that cannot be disregarded in the event of change. The soft areas listed in the model are style, staff, skills and superordinate goals; these are areas that are not as easily measured and structured, as they are often qualitative and do not always reflect the official strategies and policies of an organization (Cawsey et al., 2007)

The model was considered ground breaking in the field of organizational theory during its initial publications during 1980s and remains to be a widely used tool in practice and in academic institutions to this day. Its kind of transformability allows scholars from either economist or sociologist backgrounds to apply it and focus on either the hard or the soft areas (Kaplan, 2005). It has not been without critic either, an issues raised is that the model does not consider environment as being one of the areas of the organization, which might in some cases exclude a force that influences the organization indirectly. In this case the absence of a separate environment component is not as crucial as the organization in question operates in a highly regulated industry, leaving no room for clear environmental influence (Cawsey et al., 2007).

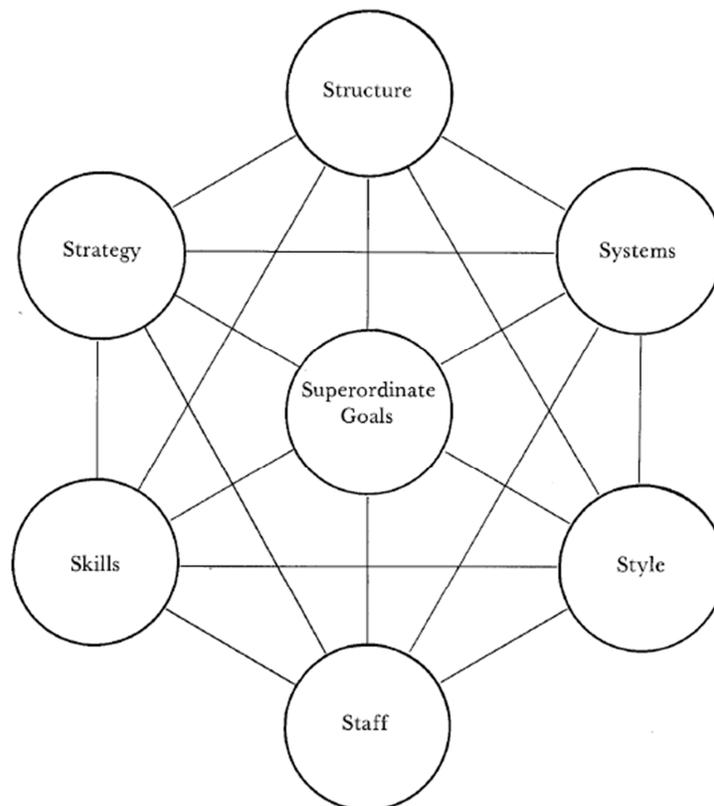


Figure 3 (Business Horizons, 1980)

The meaning behind these areas of the organization is for the most part almost self-explanatory, but this is not the case for all. Before the 7S model can be used for organizational analysis one must comprehend what all of the areas are about. The hard areas, as they are often called, are the basics of almost all models trying to somehow explain how organizations work. All organizations have a structure, strategy and systems. Structure relates to how the organization is structured and how it can affect the change process. Strategy stands for the plan that the organization has created to reach the

goal it has set for itself and how it can be relevant in reference to the change initiative. Systems are the means that it seeks to reach this goal set in the strategy, all the processes and technologies in place. These can include all the formal processes that the organization has setup as well as all the informal actions that are done and are somehow directly or indirectly connected to the change initiative (Schwering, 2003).

The soft areas are what the 7S model introduced as new areas to classic organizational analysis. They are not often seen as being as vital as the above-mentioned hard areas. The model is rather old but holds through still today, as most organizational analysis or change models focus on more quantifiable areas such as strategy and structure. The three soft areas of the model are present at all organizations, but are not as often seen as originators of change. Skills refer to all the knowledge within the individual's part of the organization. Skills can be something that is gained through training or a more unique ability as for example innovation. Staff refers simply to all the people employed by the organization or otherwise directly associated with it. Style tells about the style the organizational management has, and with what characteristics the organization fulfills the tasks it has. In the middle of the model is the seventh S; it is known as superordinate goals, which is something that is often considered almost intangible due to its self-evident nature. It is the basic reason an organization engages in business, a reason to all that an organization does if you will (Waterman et al., 1980).

All these seven areas within an organization are directly linked to each other, some slightly more clearly than the others. However the model's basic idea lies in just that, if something is wrong all of these areas have to be considered before a solution can be found. The model is an excellent tool to do an in-depth comparison on the current state of affairs in an organization and the desired state (Singh, 2013)

## 7.2 Applying the 7S model

The 7S model was found to be a useful tool when trying to analyse issues as it gives a comprehensive picture about all the different areas that work together towards the common goal that the organization has. It is especially helpful since it takes into account a rather broad number of areas that many models of organizational analysis disregard. When applying the 7S model to this case, we could pretty rapidly rule out several of the areas, as they were not the reasons for the issues the current SONG-team

service concept was facing. Strategy, which is often in the centre of organizations, was not seen as an area that would need improvement or change. The unit has a clear strategy to produce high quality ground handling management services for LCAG with well-trained professionals. This is an adequate strategy and does not need to be changed. Style that defines the way the organization is lead does not play a central role, as the team is its own organization within a bigger organization and self-manages itself to a large extent. The superordinate goals in the centre of the model is not directly linked to this case, as it is a basis for the whole business and the business as such functions well, thus it can be left unaltered.

The areas needing change were recognized after strategy, style and superordinate goals were ruled out. The structure of the SONG-team concept was identified as being below the level it should reach based on what LCAG sees to be fit for such an important service. The team consists of only two employees that are backed up by one additional employee, which is not an adequate structure due to the increased amount of special tasks and workload. In addition, the staff area is seen as not at an adequate level. The team's two full time members do not always manage to do all the tasks assigned to them during the hours they work and if they try to manage everything, the quality of the operation can be compromised due to high pressure. With the recognition of the issues with structure and staff, it became evident that the two current employees within the SONG-team concept possess a large variety of LCAG specific special skills that only they can utilize within the SCS organization. The knowledge behind these skills has to be more evenly distributed in order for a higher level of operational reliability to be achieved. The skills are directly linked to the system area of the organization, as most of the special knowledge possessed by the two employees is LCAG software and process knowledge related. With the 7S analysis on the areas in the organization that needs to be altered were identified. In the next section, redesigning process will be explained in detail.

### 7.3 Redesigning the SONG-Team – applying the findings

The findings of the organizational analysis made with the application of the 7S model reinforced the apparent need for an organizational change within the SONG-team concept. The findings of the 7S model clearly defined the gap between the actual and ideal situation. The present organizational structure is hindered from performing to its full potential due to evident lack of balance in mainly the areas of structure and staff and

through the interconnectedness of the all the seven areas as the 7S model argues, also in the areas of skills and systems. With the areas defined a clear action plan has to be setup to reinforce the problematic areas within the organization and restore the equilibrium within the areas of the organization (Schwering, 2003).

LCAG and SCS operational management backed up by the analysis results began drafting an action plan which would correspond to the issues recognized to have a negative effect on the performance of the SONG-team organization. The drafting of a consistent action plan for the identified problem areas was introduced in Randolph Schwering's article that gave a good insight into the practical application of the original 7S model (Schwering, 2003). As mentioned earlier the most clearly distinguishable problems are the structure and staffing. The organizations performance has decreased due an evident disequilibrium in workload and manpower. The teams increased amount of specials handling management tasks and other irregularity management tasks have grown significantly. As the 7S model suggests an issues within a certain area must be mitigated with a counter force that would balance the area back in reference to the other areas. In light of this the first action taken was to assign more manpower into new organizational structure, which would help the team to handle all the tasks assigned with adequate quality and increase needed operational reliability. With the additional staffing, which was during the process decided to be 2 additional employees, adding up to four in total, the first clear action was developed.

As a new structure was one of the main goals of the new organizational structure, it was the next issues to be addressed with the action plan. As the decision of the staff increase already made, it was clear that the team could now adopt the new broader set of responsibilities, taking over most of the tasks related to LCAG from the standard flight agents. With the initial change to the amount of staff also the hindering aspect of lack of structural suitability present with the old two-man structure was resolved. The resolving of both the staffing and structural issues with only one clearly defined practice demonstrated the clear interconnectedness of different areas within an organization and proves the models argument relating to it.

After the actions to reinforce the areas of staff and structure were defined the areas of skills and systems were addressed. As the hindering force within the area of skills that according to the 7S model keep the organization unbalanced is the fact that the special knowledge of the present SONG-team employees is centred around two distinct em-

ployees. This poses a significant threat to the operational reliability of the team, as only a small proportion of the knowledge is commonly available. To tackle this issue a counter force action was developed to balance the skills area of the organization with the rest of the organization. This would be achieved with sharing of the special knowledge to all the teams' new members, so that all of them would be able to complete all of the team's tasks to a sufficient level. This would also decrease the possibility of any unintended knowledge vacuums cause by unforeseen shortages to manpower and increase operational reliability.

The systems area was the last that needed to be addressed according to the organizational analysis conducted earlier with the 7S model. The systems area is clearly related to the skills area within the organization. As most of the LCAG specific knowledge is related to LCAG internal software, databases and processes the sharing of knowledge through trainings would resolve also this issue and act as a counter force that would balance it in reference to the other areas of the organization.

With clear actions defined, LCAG and SCS came to the conclusion that the organizational change is feasible and that the steps defined above would indeed help to resolve the issues also on a practical level. After the action plan was complete the implementation phase of the organizational changes was ready to commence. As the team will go through significant changes also the name was changed to LH Cargo Team to better describe the new setup. In the following section the actual course of the implementation of the new organizational structure is explained in detail.

## **8 Defining the organizational change process**

When assessing the change process, it is clear that it cannot be defined under a single type of organizational change. The change will affect the structure of the organization, the functions of the organization as well as the goals of the organization. The structure of the organization will change with the additional manpower assigned to the new LH Cargo Team and also due to the new multitasking function of each member of the team. Multitasking will allow the employees to be assigned to any of the LH Cargo Team's new tasks and not only the previous tasks previously assigned to the SONG-team. The function of the organization will change as after the redesigning phase is completed, it will not only include the functions of the SONG-team, but also the flight preparation of all Lufthansa flights during the office hours the team is on duty. With the

new functions the workflow of the new organization will change considerably when compared with the old structure. The goals of the organization will change as the team is expected to produce services of increased quality as well as to expand the usage of the expert knowledge possessed by the former SONG-team members over the whole span of LCAG operations after the redesigning is concluded.

Studying change in an organization is often done through models developed into represent the changes occurring within an organization. Models representing organizational change, the process leading to it and how the change is assessed are very different and developed to model different kinds of organizations and change processes. Organizations differ by their functions, goals and structure and thus also the change occurring must be managed differently. It is important to understand the type of the organization the change is taking place before an organizational change model can be adequately chosen. A commonly used tool for categorizing organizations and to find differences in them is to use metaphors to represent the characteristics of the organizations. Metaphorical characteristics are found in Gareth Morgan's work, where he defines eight different types of organizations. The four most common of these organization type metaphors are machines, political systems, organisms and flux and transformation (Cameron & Green, 2009, p.99).

Out of these metaphors, the *Machine* is the most representative in case of the SONG-team and future LH Cargo Team. According to the metaphor an organization such as a *Machine* is seen as very clearly structured with clear processes that work towards a pre-determined end. Such organization has explicit job roles and it works efficiently internally as well as externally with other parts of the organization. It is a part of a bigger organization that contributes its share by fulfilling the given function. However, the machine metaphor does not apply to an organization that works freely or innovatively by creating something new, as *Machine* is developed to do certain tasks, which fits this case very well (Cameron & Green, 2009, p.100).

After the characteristics of the organization are defined in order to determine how the organization functions, the next step in the change definition process is to determine the types of change that are needed in the organization to reach the planned outcome. Organizational changes that will take place within the SONG-team have characteristics of both structural change and process change; which can be classified as follows.

### 8.1 Structural change

Structural change within an organization is often triggered due to influence external to the company. The external influencer can be the customer, stakeholder, shareholder or the authorities. Structural change is something that can be initiated on all levels of an organization from the operative to the managerial tier. It is also a very inclusive term as almost any change can be categorized as structural change. As structures can be found in all entities, changes implemented in basically any entity can be seen as a structural change. We can classify simple changes such as implementing a new guideline imposed by the authorities as a change affecting the structure of a certain structured function as easily as we can classify the restructuring of a service concept to better fit the customer needs as structural change (Harvard Business School Press, 2005).

### 8.2 Process change

Process change is much more specific type of change occurring when compared with structural change. Process change is based on the presumption that a specific process or various processes need to be altered to reach the required change. Such change is often closely related to the ways an organization or a unit produces a service. With process change, the core processes are redesigned to meet the new objectives redefined by the initiator of the change. Under the term process change, the changes made are often linked the changes to workflow and work processes. Process change seeks to change a fault recognized in an existing process as well as create new improved processes that can replace the existing one and deliver a product or a service that better meets the requirements of the customer (Harvard Business School Press, 2005).

### 8.3 Organizational change model - Lewin's Three-step model

Taking into account the underlining above-mentioned factors, a model that supports the implementation of the needed changes has to be defined in detail and ensured that it follows a clear structure. A model that applies to organizational changes in an organization having the characteristics of a *Machine* as described by Gareth Morgan's metaphors of organizational structure is Lewin's three-step model developed by Kurt Lewin in 1951 (Cameron & Green, 2009, p.110). The three-step model for organizational change developed by Kurt Lewin is one of the cornerstone models of modern organizational change management. The model follows a fairly simple process of three steps, which represent the stages in the change process and are known as Unfreeze, Move

and Refreeze. The model's methodology comes from the theory that an entity has to be broken down to the basics before it can be reformatted to something new (Clegg et al., 2011).

The first step of the change process is known as Unfreeze. It represents the step where the target organization needing change is familiarized with the up and coming changes and how the way of operating will change and why the status quo must change. This step is necessary to keep the level of transparency and communication between the management and the operational level high throughout the change process. This helps to mitigate any resistance to change, which may occur in organizations that have a clear structure and processes that it follows, as is the organization in question (Cameron & Green, 2009, p.110-111).

In the second step of the process, known simply as Move, the concrete organizational changes are made. These changes can be basically changes of any kind, but in most cases either process or structural changes are in question. In this case it is both, as the processes within the organization change as well as the structure of the organization with the introduction of new manpower. This step is the most time consuming as this is where the new ways to operate are learned. It often occurs in the same environment or in an environment that is very similar to the old operating circumstances. The first positive or negative signs are viable in this stage in reference to the adaptation process towards the new ways to operate (Cameron & Green, 2009, p.110-111).

The final stage of the process is called Refreeze. Refreeze takes place after the change process is complete and the new ways to operate and the new organizational structure have been adapted by the organization effected by the change. As the methodology suggests, the changed organization is ready to be refrozen after the changes have been implemented and adapted. After the three-step model, the process has been completed and the further monitoring of the change can begin (Cameron & Green, 2009, p.110-111).

Lewin's three-step change model is very good change management tool due to its clarity and practicality. It does not itself given out the tools to affect change but combined with an efficient organizational analysis tool to recognize the needed areas of change and changes to be made it is an excellent way to implement any kind of changes (Levasseur, 2001).

In the following chapter the implementation of Lewin's three-step model will be compared against the change process that takes place at SCS within the organizational and process restructuring of the SONG-team service concept into the new LH Cargo Team concept.



#### 8.4 Applying Lewin's three-step model – implementing changes

The changes needed in this case were determined well in advance before the steps presented in Lewin's model were concretely taken. This is a common course of action in a well-structured organization with several individual parts functioning together as larger machine like an entity, as mentioned earlier in reference to the Gareth Morgan's organizational metaphor theory. In the planning process leading initially to the unfreeze step as described by Lewin's three-step model, the issues of the current organization were analysed and a course of action was chosen. An external party to the SCS organization raised the initial need for an organizational change, namely the customer LCAG. The issues raised were centred on the need to strengthen the operational reliability of the team, bring all LCAG related operations under the expertise within the SONG-team expertise and to produce increased quality. The concrete change was to regroup the tasks involving LCAG operation provided by SCS under a single specialized team formed around the old SONG-team concept with greater manpower.

After the planning process was complete, the new organizational structure and new processes needed to reach the required changes were laid out; the first step of Lewin's three-step model was initiated. Firstly, the intentions were communicated to the individuals involved within the SONG-team and the ones that were chosen to be part of the new team. With the introduction of the new organizational structure the need for the organizational change was explained to the individuals involved and how it would affect their work. Even though the manpower increase from the former SONG-team setup to four full-time members was significant, the team is still rather small, which requires the whole organizational change to be transparent. Transparency was reached with the empowerment of all the team's members into sharing their own area of expertise to the other members of the team. With these actions, all of the new teams members can be trained to complete all of the team's tasks and stronger operational reliability can be reached.

At the beginning of November 2014, the second phase in the three-step model was initiated with the implementation of the new LH Cargo Team replacing the old SONG-team concept and taking over the flight preparation function from the SCS general flight preparation department. The move step of Lewin's organizational change model marked the beginning of the concrete changes within the organization, lasting for five months from November 2014 to March 2015. This period was designed to be a training

phase for the LH Cargo Team during which it was monitored with the same quality KPIs but given some additional support from the LCAG internal organization. This support was not operational which would lead to biased quality figures; it was merely to provide the new team additional support in training and process development.

The third and final phase in Lewin's three-step model marking the completion of the organizational change process was initiated in April 2015. During this stage, the structure and process changes were fully completed and implemented increasing the manpower of the team with approximately two full employees' worth and giving it a designated team leader working both fully as an operational team member as well as a supervisor. By the time of the symbolical refreezing phase, all of the four members of the new organizational setup were trained during the five months prior to April in each other's respective tasks and expertise shared. With this the organization will enable its full multitasking potential and gain the needed level of operational reliability that has direct effect to quality.

## **9 Outcomes of the organizational change**

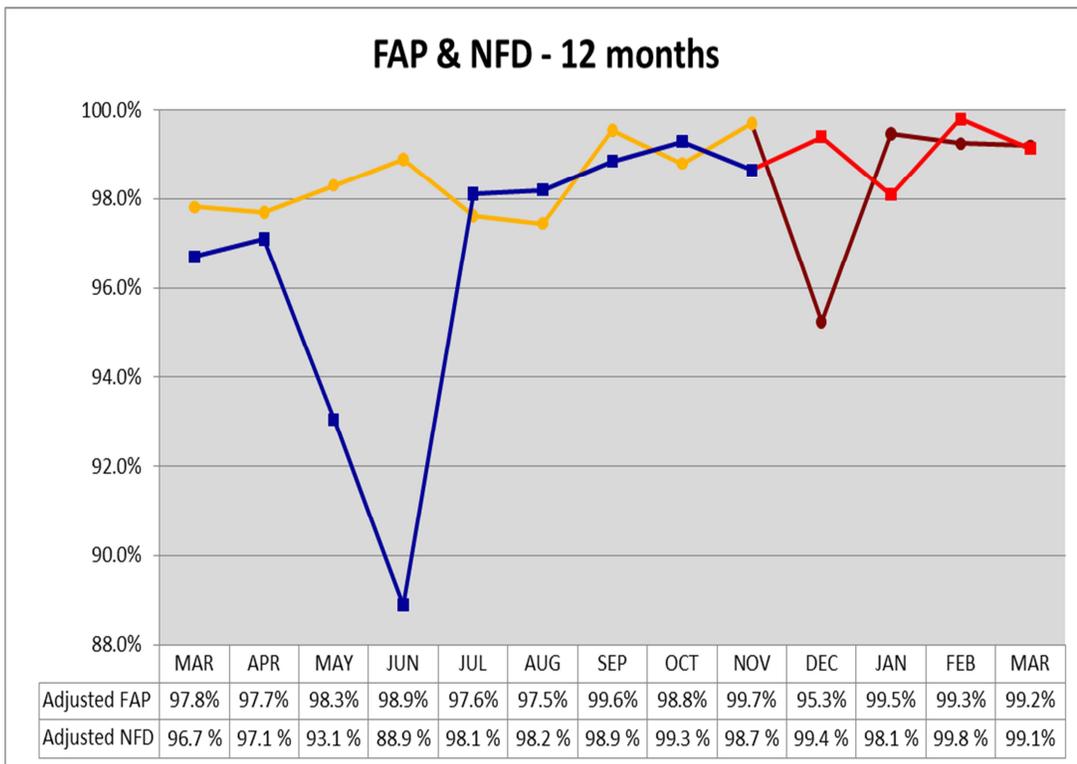
In this section, data from before and after the initial change process was commenced is presented to demonstrate in reference to the LCAG defined quality KPIs how the organizational change process has reached its target of increased quality and operational reliability. In addition, a questionnaire given to all of the four employees will be analysed to determine whether the employees see the change as a success.

### **9.1 Cargo 2000 KPIs**

The C2K KPIs that are the most relevant in assessing the quality of a GHA are FAP, NFD and RCS. Out of these FAP and NFD reflect directly how well the former SONG-team and the new LH Cargo Team perform in the tasks assigned to them by the SGHA contract between LCAG and SCS. FAP and NFD data is measured and processed on a monthly basis by LCAG based on SCS operational compliance.

A data set time range of 13 months was setup for this research. The blue/burgundy line represents the adjusted NFD and the yellow/red line represents the adjusted FAP during a 13-month period ranging from March 2014 to March 2015. The colour of the lines changed in November 2014, which marked the beginning of change process and the beginning of the move phase in Lewin's three-step process. After the change process,

the NFD and FAP quality figures have not shown any drastic changes. However, the percentage figure for both NFD and FAP has been since November 2014 on average over 99% compared with an average 98% (excluding the DEC FAP and JUN NFD, due to force majeure conditions) before the change.



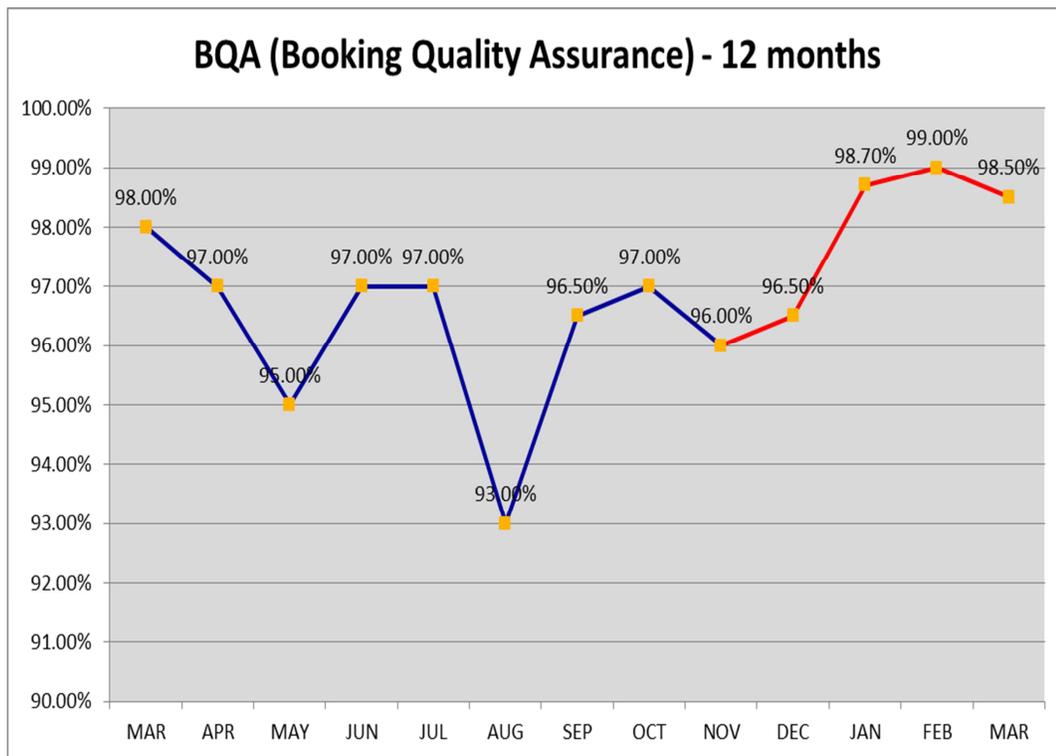
Graph 2 (Lufthansa Cargo, 2015)

### 9.2 BQA - Booking Quality Assurance

The Booking quality assurance (BQA) quality measure represents the quality of LH Cargo Team's ability to monitor and report any deviations between the booked shipments and the physical shipments received. The measure seeks to ensure that every shipment that is accepted into air transport through the GHA is what the documents indicate, with this optimal circumstance for efficient load planning and optimization is assured to a high degree.

The BQA data set time range follows the same pattern as the NFD and FAP data sets, from March 2014 to March 2015. The blue/red line representing the BQA is blue before and red after the change process was commenced. The figure shows a steady increase since November 2014 and follows a common development path for successful

change of first decreasing slightly and then increasing steeply. The average BQA was 96.3% before and 97.8% after the change process began.

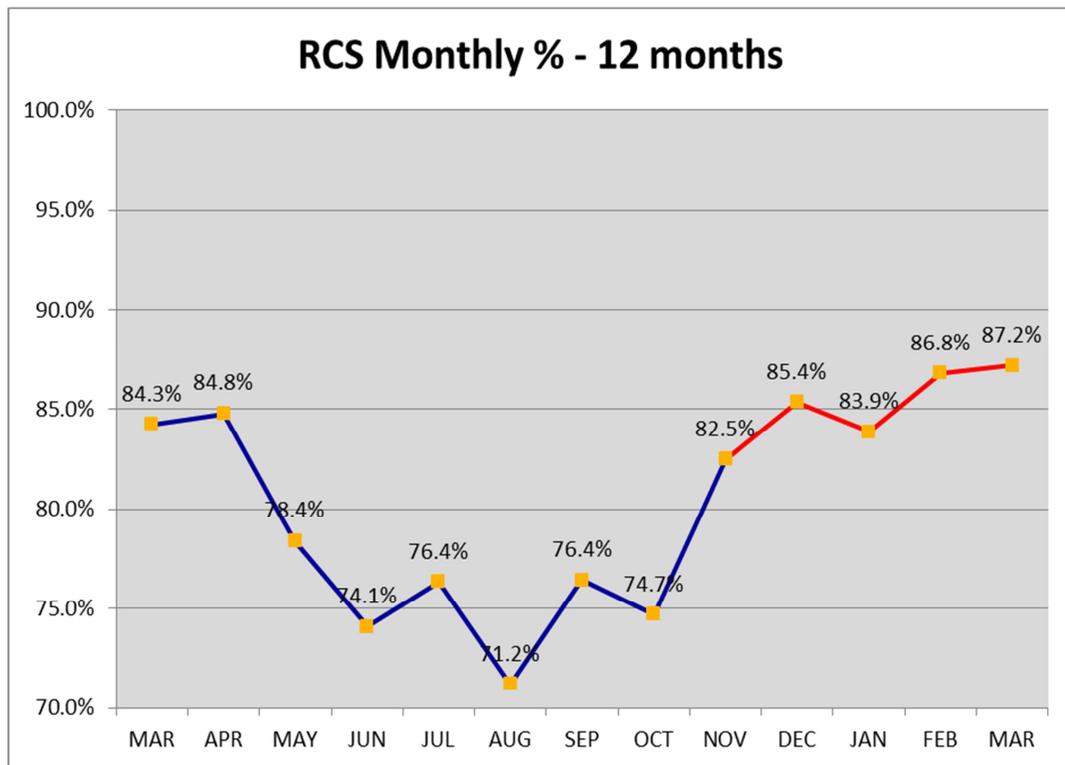


Graph 3 (Lufthansa Cargo, 2015)

### 9.3 RCS – Received from Shipper

RCS that stands for Shipment Received from Forwarder is one of the quality KPIs and part of both IATA C2K MOP and LCAG SLA. In this context, it however does not measure whether the shipment was received in time from the forwarder, it only measures whether the SCS acceptance and during the new setup mostly the LH Cargo Team, has complied with the RCS process in time.

The RCS data set time range follows the same pattern as the NFD and FAP data sets, from March 2014 to March 2015. The blue/red line representing the BQA is blue before and red after the change process was commenced. The figure shows significant increase since November 2014, and follows the same successful development path of first decreasing slightly and then increasing steeply. The average BQA was 77.5% before and 85.2% after the change process began.

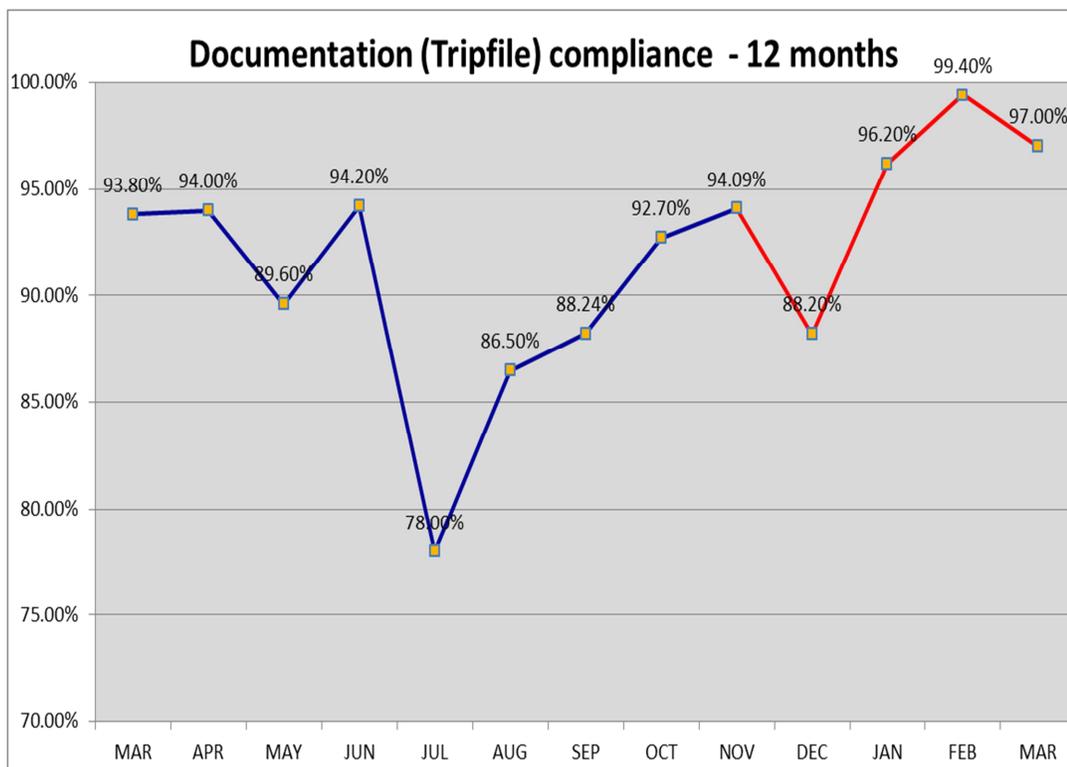


Graph 4 (Lufthansa Cargo, 2015)

#### 9.4 Flight documentation – Tripfile

The quality measure based on the flight documentation or the cargo tripfiles, as they are known, measures the quality compliance of all the flights documented. The flight documentation includes all the relevant documents required by both the authorities and LCAG. The GHA is responsible for the compliance in reference to the set standards. The measure is based on manual documentation checks done twice a week by LCAG covering approximately 40-45% of all the LCAG flights handled by SCS.

Since the change process, the quality compliance of the tripfile documentation has increased significantly and follows the similar common post change pattern of first decreasing slightly and then increasing significantly. In the documentation compliance there was clear quality increased already before the initiated organizational change due to other process change, however the best results have only been reached when the new team setup has been in place. The average before the change process was 89.6% and 94.9% after.



Graph 5 (Lufthansa Cargo, 2015)

Judging by the above presented KPIs and quality figures the organizational change has taken a positive development path towards better overall quality and operational reliability. All of the five measures presented positive growth with flight documentation and RCS being in the lead. The average growth of all the measures was 3.3%.

#### 9.5 Employee survey – impacts of the organizational change

In reference to the quality KPIs and other quality measures, the organizational change initiated within the team has since November 2014 produced data that clearly indicates that the operational reliability has increased and directly influenced the overall level of quality. The quantitative data analysed in the paragraphs above does not reveal everything. The success of the organizational change consists of many other aspects that cannot be measured in a similar way or as easily. To address the more qualitative measures of success the newly formed team was given a questionnaire to answer at the end of March 2015, which marked the end of the structure and process change phase as well as the end of the training phase and with that marked the beginning of full operational compliance.

The answers to the questionnaire were given anonymously and all of the teams members were made aware that the qualitative data gathered would be used for a thesis research, however without any direct quotations to the answer will be made. This is due to the fact that the process is ongoing and rather delicate in nature. The team was requested to answer three questions in order to get a general idea of their position regarding the success of the change. First questions addressed the most positive and negative effects of the change the individuals had noticed since the change began. In the second question, the team was asked to assess whether the new LH Cargo Team concept has been able to positively influence or solve the issues with operational reliability and quality. The final question was related to whether the organizational change has had a positive effect towards the sensibleness of the work.

#### 9.6 Findings of the survey

The most positive aspects of the organizational change according to the team were the diversification of the cooperation between them as the GHA and the airline and the overall diversification of their tasks with the new setup. The most negative aspect in turn is the lack of continuity they are facing when being rapidly transfer from one task to another. This applies mostly to the former SONG-team tasks of capacity optimization and load planning where situations change constantly. The flight preparation tasks in turn follow a much more structured pattern and do not require constant attention. Even though the team thinks that that they have gained new knowledge, the existing knowledge may deteriorate at the expense of this. The team sees this also as an aspect that will in the long run deteriorate the quality level.

To the question of whether the organizational change has been able to address the issues of organizational reliability, the team thought that even though the quality has improved in reference to the quantitative quality measures, this does not give out a comprehensive picture of the whole change. Much of the tasks the team is responsible for are not measured through the quality KPIs such as tasks related to customer correspondence, special cargo handling management and shipment irregularity follow-ups, which all are significant tasks of the team. These are areas which are not at present measured as per the SLA. The team thinks that some of the quality improvements have been at the expense of these above-mentioned functions. The team also thinks that the tasks rotation and shift planning are not at adequate level for the new concept. There is however a positive aspect to this as the team feels that with additional resources and

reassessment of the tasks rotation and shift planning the team would be able to reach a level of high quality also in this respect.

When asked whether the members of the team are satisfied with the change, the redesigning and restructuring that the organization brought on an individual level, the answers were both positive and negative. The positive side was that the new range of tasks has enabled the members of the team to learn from each other to perform the new tasks and through this broaden and develop their individual competence. This positive development is still dreaded of having negative effects on their existing knowledge due to the issues relating to lack of continuity, training and resources as mentioned earlier. This brings the overall opinion about the change to a more negative than positive conclusion. The team nevertheless emphasizes that the resistance to the change is not the issues here, it is the merely the fact that the change was commenced without the proper resource.

## **10 Conclusion and recommendations**

The change process began with the stakeholder to the organization raising the need for change. This is not the most common way around when studying organizational change, as it is often a completely internal process. LCAG sought after increased quality and operational reliability in the services it has outsourced to SCS in Helsinki. This change has been primarily assessed through the same quality measures already in place with the SLA Agreement between the contracting parties. During the five month change period, LCAG reported an average increase of 3.3% among FAP, NFD, RCS, BQA and flight documentation data. Out of these, the most significant growth was reported in RCS and flight documentation, which are measures concentrating more on the flight preparation tasks. These tasks were added to the LH Cargo Team area of responsibilities during the change. Based on the quantitative figures analysed above, the change has been able to improve the quality in both the KPI measured tasks of the former SONG-team as well as on the flight preparation tasks. With the analysis of this data it can be argued that the organizational change process has been a success.

The employee survey regarding the organizational change does not speak the same language as the quality figures. According to the new LH Cargo Team's members, the organizational change has brought forth new issues related to the lack of continuity in tasks that require constant up to date knowledge, training and resources. The team

thinks that if the new task rotation processes do not change or more time is made available for trainings, the existing LCAG specific knowledge will deteriorate. Through the analysis of the employee survey results, it has also become evident that the team is suffering from the lack of resources. The new function of the team as the primary LCAG centre of operations within SCS cannot be adequately run with only four employees.

It can be concluded that the organizational change has only been successful partially. The quantitative measures support the success of the change but the qualitative data gathered through the employee survey does not. As further development recommendations regarding the issue, SCS and LCAG should reassess the organizational change in reference to the issues that were presented here. It would also be appropriate to reassess and redevelop the SLA contract and the quality KPIs that currently reflect the quality of the LH Cargo Team. The measures are clearly not up to date if the team strongly feels that they are not able to perform at the needed level but still the quality monitoring system suggests otherwise.

With a redeveloped quality monitoring system that takes into account new KPIs addressing qualitative or more appropriately directed quantitative measures in place both LCAG and SCS would mutually benefit. Also the team's resource issues should be address and assessed to conclude whether the assigning of additional resources could solve several of the issues that the team seems to be facing with the new setup. The effect on these issues could then be further studied to determine whether the cause of the issues was related to the aforesaid.

## References

### Literature & Articles

Cameron, E., Green M. (2009) *Making Sense of Change Management: A complete guide to the Models, Tools & Techniques of Organizational Change*. 2nd ed., UK, Cornwall: Kogan Page Limited.

Cawsey, T., Deszca, G. (2007) *Toolkit for Organizational Change*. 1st ed. USA: SAGE Publications Inc.

Clegg S., Kornberger, M. and Pitsis, T (2011) *Managing & Organizations: an Introduction to Theory & Practice*. 3rd ed., UK, London: SAGE Publications Ltd.

Ground Handling International (2015) *Is C2K leading the way?* Issue Feb, pp.44

Harvard Business Review (2005) *The Essentials of Managing Change and Transition*. 1st ed., USA, Massachusetts: Harvard Business School Press.

Kaplan, R. S. (2005) *How the balanced scorecard complements the McKinsey 7-S model*, Strategy & Leadership, Vol. 33 Issue 3 pp.41 – 46

Levasseur, R. E. (2001) *People Skills: Change Management Tools – Lewin's Change Model*, Interfaces, Issue Jul/Aug 2001, pp.71

Morell, P. S. (2011) *Moving Boxes by Air: The Economics of International Air Cargo*. 1st ed., UK: Ashgate.

Schwering, R. E. (2003) *Focusing leadership through force field analysis: new variations on a venerable planning tool*, Leadership & Organization Development Journal, Vol. 24 Issue 7, pp. 361-370.

Singh, A. (2013) *A Study of Role of McKinsey's 7S Framework in Achieving Organizational Excellence*, Organization Development Journal, Issue Fall 2013.

Waterman R. H. J R., Peters T. J. and Phillips J. R. (1980) *Structure is not Organization*. Business Horizons, June 1980, pp.14-26 [ONLINE] Available at: [http://www.tompeters.com/docs/Structure\\_Is\\_Not\\_Organization.pdf](http://www.tompeters.com/docs/Structure_Is_Not_Organization.pdf) (Accessed 11 April 2015).

### Internet references

Boeing (2015) *World Air Cargo Forecast 2014-2015*, [ONLINE] Available at: <http://www.boeing.com/assets/pdf/commercial/cargo/wacf.pdf> (Accessed 04 March 15).

European Environment Agency (EEA) (2015) *Load factors for Freight Transport*, [ONLINE] Available at: <http://www.eea.europa.eu/data-and-maps/indicators/load-factors-for-freight-transport>. (Accessed 13 March 2015).

Finnish Customs (2015) *Entry and Exit Declarations in Finland*, [ONLINE] Available at: [http://www.tulli.fi/en/businesses/eServices/message/AREX/instructions/general/bb\\_entry\\_and\\_exit\\_declarations.pdf](http://www.tulli.fi/en/businesses/eServices/message/AREX/instructions/general/bb_entry_and_exit_declarations.pdf). (Accessed 04 March 15).

IATA (2015) *IATA - Cargo Interchange Message Procedures (Cargo-IMP)*, [ONLINE] Available at: <http://www.iata.org/publications/Pages/cargo-imp.aspx> (Accessed 18 March 2015).

IATA (2015) *IATA - Ground Operations*, [ONLINE] Available at: <https://www.iata.org/whatwedo/ops-infra/pages/ground-handling.aspx>. (Accessed 17 March 2015).

IATA (2015) *IATA - Master Operating Plan* [ONLINE] Available at: <http://www.iata.org/whatwedo/cargo/cargo2000/Pages/master-operating-plan.aspx>. (Accessed 09 March 2015).

ICAO (2015) *ICAO – Glossary*, [ONLINE] Available at: <http://www.icao.int/dataplus/Documents/GLOSSARY.docx>. (Accessed 13 March 2015).

Lufthansa Cargo (2015) *Annual Report 2014*, [ONLINE]

Available at: [http://lufthansa-cargo.com/en\\_de/specials/business-reports-2014/main/home/](http://lufthansa-cargo.com/en_de/specials/business-reports-2014/main/home/) (Accessed 19 March 2015).

Lufthansa Cargo (2015) *Facts & Figures 2015*, [ONLINE] Available at: [http://lufthansa-cargo.com/fileadmin/user\\_upload/corporate\\_2013/pdf/About\\_us/Facts-Figures\\_17Feb2015\\_e.pdf](http://lufthansa-cargo.com/fileadmin/user_upload/corporate_2013/pdf/About_us/Facts-Figures_17Feb2015_e.pdf) (Accessed 03 March 15).

Swissport (2013) *IATA Standard Ground Handling Agreement (SGHA)*, [ONLINE] Available at: <http://www.swissport.com/fileadmin/downloads/publications/standard-ground-handling-agreement-2013.pdf> (Accessed 17 March 2015).

Swissport (2014) *Factsheet 2014*, [ONLINE] Available at: [http://www.swissport.com/fileadmin/downloads/presentation/111114\\_Swissport\\_Factsheet\\_2014\\_RZ\\_EN\\_low.pdf](http://www.swissport.com/fileadmin/downloads/presentation/111114_Swissport_Factsheet_2014_RZ_EN_low.pdf) (Accessed 03 March 15).

### **Internal company references & graphics & figures**

Lufthansa Cargo (2006) *C2K Logic: C2K Milestones*.

Lufthansa Cargo (2013) *Standard Ground Handling Agreement SGHA Annex B 1.3: Service Level Agreement*.

Figure 2: Lufthansa Cargo (2015) *LCAG Cargo 2000: C2K Master Operation Plan*.

Graph 1: Lufthansa Cargo (2015) *Company load factor analysis conducted in 2014*.

Graph 2: Lufthansa Cargo (2015) *KPI quality data FAP & NFD MAR14 – MAR15*.

Graph 3: Lufthansa Cargo (2015) *GHA Booking Quality Assurance MAR14 – MAR15*.

Graph 4: Lufthansa Cargo (2015) *GHA RCS Received From Shipper MAR14 – MAR15*.

Graph 5: Lufthansa Cargo (2015) *GHA flight documentation MAR14 – MAR15*.

## Figures and graphics

Figure 1: IATA (2014) *C2K Presentation (Part 1): Building the Future 2014-2015*, [ONLINE] Available at: <http://www.iata.org/whatwedo/cargo/cargo2000/Documents/c2k-introduction.pdf> (Accessed 06 March 15).

Figure 3: Waterman R. H. J R., Peters T. J. and Phillips J. R (1980) *Structure is not organization*. *Business Horizons*, June 1980, pp.14-26 [ONLINE] Available at: [http://www.tompeters.com/docs/Structure\\_Is\\_Not\\_Organization.pdf](http://www.tompeters.com/docs/Structure_Is_Not_Organization.pdf) (Accessed 11 April 2015).

## **Appendices**

### **Appendix 1 IATA Standard Ground Handling Agreement (SGHA)**

#### **Main agreement**

**ARTICLE 1 - PROVISION OF SERVICES**

**ARTICLE 2 - FAIR PRACTICES**

**ARTICLE 3 - SUBCONTRACTING OF SERVICES**

**ARTICLE 4 - CARRIER'S REPRESENTATION**

**ARTICLE 5 - STANDARD OF WORK**

**ARTICLE 6 - REMUNERATION**

**ARTICLE 7 - ACCOUNTING AND PAYMENT**

**ARTICLE 8 - LIABILITIES AND INDEMNITY**

**ARTICLE 9 - ARBITRATION**

**ARTICLE 10 - STAMP DUTIES, REGISTRATION FEES**

**ARTICLE 11 - DURATION, MODIFICATION AND TERMINATION**

**ARTICLE 12 - AUTHORIZATION TO CONTRACT**

#### **Annex A – Ground Handling Services**

**SECTION 1 – Managing Functions**

**SECTION 2 – Passenger Services**

**SECTION 3 – Ramp Services**

**SECTION 4 - Load Control, Communications and Flight Operations**

**SECTION 5 - Cargo and Mail Warehouse Services**

**SECTION 6 – Support Services**

**SECTION 7 – Security**

**SECTION 8 – Aircraft Maintenance**

#### **Annex B – Ground Handling Services**

**Paragraph 1 – Handling Services and Charges**

**Paragraph 2 – Additional Service and Charges**

**Paragraph 3** – Disbursements

**Paragraph 4** – Limit of Liability

**Paragraph 5** – Area of Responsibility

**Paragraph 6** – Transfer of Services

**Paragraph 7** – Settlement

**Paragraph 8** – Supervision and Administration

**Paragraph 9** – Notification

**Paragraph 10** – Governing Law

