

T.C.
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES



THE IMPACT OF WAREHOUSE RELOCATION ON THE SUPPLY CHAIN
DEPARTMENT

THESIS

Nagahan YAYLALI

Department of Business
Business Management Program

Thesis Advisor: Prof. Dr. Akın Marşap

June 2018

T.C.
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES



**THE IMPACT OF WAREHOUSE RELOCATION ON THE SUPPLY CHAIN
DEPARTMENT**

M.Sc. THESIS

**Nagahan YAYLALI
(Y1612.130068)**

**Department of Business
Business Management Program**

Thesis Advisor: Prof. Dr. Akın Marşap

June 2018



T.C.
İSTANBUL AYDIN ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜ

Yüksek Lisans Tez Onay Belgesi

Enstitümüz İşletme İngilizce Ana Bilim Dalı İşletme Yönetimi İngilizce Yüksek Lisans Programı **Y1612.130068** numaralı öğrencisi **Nagahan YAYLALI**'nin "THE IMPACT OF WAREHOUSE RELOCATION ON THE SUPPLY CHAIN DEPARTMENT" adlı tez çalışması Enstitümüz Yönetim Kurulunun 24.05.2018 tarih ve 2018/15 sayılı kararıyla oluşturulan jüri tarafından **aybajp** ile Tezli Yüksek Lisans tezi olarak **kabul** edilmiştir.

Öğretim Üyesi Adı Soyadı

İmzası

Tez Savunma Tarihi :21/06/2018 – 15:00

1)Tez Danışmanı: Prof. Dr. Akın MARŞAP

2) Jüri Üyesi : Doç. Dr. Zelha ALTINKAYA

3) Jüri Üyesi : Dr. Öğr. Üyesi Farid HUSEYNOV

[Handwritten signature]

[Handwritten signature]

Not: Öğrencinin Tez savunmasında **Başarılı** olması halinde bu form **imzalanacaktır**. Aksi halde geçersizdir.

DECLARATION

The master's degree thesis that I present as " Warehouse Relocation And Impact On Supply Chain ", has been written from the project phase until finalization phase without the recourse to any help that would contradict scientific ethics and traditions and that all the used sources are included in the Bibliography, I denote and declare with pride that the sources are benefit by me with referring to them. (13/05/2018)

Nagahan YAYLALI

*I would like to dedicate this research to my well-beloved husband and family.
Without their support was it not possible to finish my study.
Thank you for being always there and for all your
love and support whenever I needed.*





FOREWORD

After a very intensive and informative period of eight months is today the day, for writing my acknowledgments as finishing touch of my scientific study.

In special and firstly do I want to express my thanks for my well-beloved husband Ercan Salcıođlu, thank you for being there whenever I needed, for your listening ear in all my ups and downs, for all your support and patience in the last months, for giving me the opportunity to finish my study.

Further, would I like to thank my advisor Prof. Dr. Akın Marşap for all the moments he shared his knowledge, advice, patience, and support during my study. I also want to thank Akın Hakan Logistics manager for giving me the opportunity to conduct a part of my study at Nutricia ELN Turkey.

As for last would I like to express my thanks and appreciates to my dearest parents, thank you for being there with your great hearts. In addition, do I also want to thank my lovely friend Suhair Akhlan and lovely sister Zeliha Yılmaz for all their support.

Thank you, to whom which gave me courage and support during this period!

May 2018

Nagahan YAYLALI



TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	VI
TABLE OF CONTENTS	VIII
ABBREVIATIONS	X
LIST OF TABLES	XII
LIST OF FIGURES	XIV
ÖZET	XVI
ABSTRACT	XVIII
1. INTRODUCTION	1
1.1 Research Background	1
1.2 Study Topic and Purpose.....	2
1.3 Research Questions	3
1.4 Reading Guide.....	4
2. THEORETICAL FRAMEWORK	5
2.1 Warehouse Activities	6
2.2 Cohesion Between Warehouse, Logistics And Supply Chain.....	10
2.3 Cost Categories.....	12
2.4 Decision to Relocate.....	15
2.5 Process Of Relocation	17
2.6 Warehouse Management.....	19
2.7 Quality Management.....	24
2.8 Communication.....	27
3. RESEARCH METHODOLOGY	31
3.1 Conceptual Framework.....	31
3.2 Qualitative Research Explanation	33
3.3 Qualitative Research	37
3.3.1 Company	37
3.3.2 Research method	38
3.3.3 Data collection	38
3.3.4 Data analysis	39
3.3.5 Questionnaire design.....	40
3.3.6 Questionnaire list	41
3.3.7 Checklist questionnaire.....	42
3.3.8 Interview structure	43
3.3.9 Reliability qualitative research.....	43
3.3.10 Validity qualitative research	44
3.4 Reliability literature review	46
3.5 Validity literature review.....	46
4. QUALITATIVE RESEARCH ANALYSIS	47
4.1 Warehouse Activities And Warehouse Type Of Nutricia ELN.....	47
4.2 Cohesion Between The Warehouse And The Supply Chain	48
4.3 Cost Categories	49
4.4 Decision For Relocation	52
4.5 Process Of Relocation	53
4.6 Warehouse Management.....	57

	<u>Page</u>
4.7 Quality Management	58
4.8 Benefits And Disadvantages.....	60
4.9 Financial Benefits	61
5. DISCUSSION.....	63
5.1 Warehouse Activities And Types	63
5.2 Cohesion Between Warehouse And Supply Chain	64
5.3 Warehouse Costs	64
5.4 Relocation Decision.....	66
5.5 Relocation Process.....	67
5.6 Management And Quality Management	68
5.7 Communication	69
5.8 Benefits And Disadvantages.....	70
5.9 Impacts Of Relocation On The Supply Chain.....	71
5.10 Limitations	73
6. CONCLUSION AND RECOMMENDATIONS.....	75
6.1 Conclusion	75
6.2 Recommendations	77
6.2.1 Recommendations for further studies	77
REFERENCES.....	79
APPENDIX.....	83
RESUME.....	111

ABBREVIATIONS

CI	: Continuous Improvement
DC	: Distribution Centre
ELN	: Early Life Nutrition
Foqual	: Focus on Quality
GMP	: Good Manufacturing Processes
GPS	: Global Positioning System
HACCP	: Hazard Analysis and Critical Points
IT	: Information Technology
PDCA Cycle	: Plan, Do, Check, Act cycle
POSDCORB	: Planning, Organizing, Staffing, Directing, Co-ordination, Reporting, Budgeting
RFID	: Radio Frequency Identification Technology
RMS	: Resource Management System
SAP	: Systems Application and Products
TAPA	: Transported Asset Protection Association
TQM	: Total Quality Management
WISE	: Working in a Safe Environment
WH	: Warehouse
WMS	: Warehouse Management System



LIST OF TABLES

	<u>Page</u>
Table 2.1: Four Categories of Warehousing Costs	13
Table 2.2: Three Steps Change Process.....	17
Table 3.3: Six Steps for Designing Qualitative Research	34
Table 3.4: Seven Primary Ways To Collect Data.....	35
Table 3.5: Sample List for Qualitative Research.....	39
Table 3.6: Search Plan.....	45
Table 4.7: Yearly Handling Costs Overview Old Warehouse.....	49
Table 4. 8: Yearly Rent Costs Overview Old Warehouse	49
Table 4.9: Yearly Handling Costs Overview New Warehouse	50
Table 4 10: Yearly Rent Costs Overview New Warehouse.....	50
Table 4.11: Costs Difference Between Old and New Warehouse	51
Table 4.12: Costs Made By Nutricia ELN During Relocation	51
Table 4.13: Tender Evaluation Matrix Nutricia ELN Turkey	54
Table 4.14: Comparison Table, New and Old Suppliers	60
Table 4.15: Five Years Financial Benefit Overview (2017-2021)	61
Table 4.16: Five Years Financial Benefit Overview (2017-2021)	61
Table 4.17: Total Financial Benefit for Handling and Rent (2017-2021).....	62
Table 5.18: Costs Difference Between Old and New Warehouse.....	65
Table 5.19: Costs Made By Nutricia ELN During Relocation	66
Table 5.20: Total Financial Benefit for Handling and Rent (2017-2021)	70



LIST OF FIGURES

	<u>Page</u>
Figure 1.1: Import And Export Value Of Turkey 2005-2017.....	5
Figure 2.2: Warehouse Activities	8
Figure 2.3: Links To Other Disciplines	11
Figure 2.4: Relocation Framework	18
Figure 2.5: Managerial Levels.....	21
Figure 2.6: Functions Of Management.....	23
Figure 2.7: PDCA Cycle.....	27
Figure 3.8: Conceptual Framework.....	32
Figure 4.9: Tender Drivers For Nutricia ELN Turkey	52
Figure 4.10: Phases Relocation Process	53
Figure 4.11: Relocation Facts	53



DEPO TAŞIMANIN TEDARİK ZİNCİRİNE OLAN ETKİLERİ

ÖZET

Geçtiğimiz yıllarda firmalar için, tedarik zinciri çatısı altında ürünlerin depo alanları daha da önemli bir rol almaya başladı. Bunun nedeni 2005 yılı itibari ile Türkiye'deki ihracat ve ithalat faaliyetlerinde ciddi bir artış olmasıdır. Türkiye'nin ulaşım ve lojistik büyüme oranı yıllık ortalama %20 ve dünyada bu alanda en çok büyüyen ülkelerden biridir. İthalat ve ihracat faaliyetlerinin artması ve lojistik alanda Türkiye'nin büyümesi dolayısıyla global firmaların dikkatini depo alanları daha da çok çekmiştir. Firmalar ürünlerin daha kaliteli bir ortamda depolanması için kullanılan alanların kalite standartlarını yükseltmiştir. Tedarik zinciri çatısı altında faaliyet gösteren depo alanlarının tedarik zincirine ne kadar etki ettiği hakkında fazla bilgi mevcut değildir. Bundan dolayı depo taşımanın tedarik zincirine olan etkileri tez çalışmasında araştırılmıştır. Yapılan araştırmanın hedefi depo, depo yönetimi, depo taşıma nedenleri ve süreci ve son olarak firmaya olan etkileri hakkında analiz ve bilgi sahibi olabilmektir. Bu hedefi gerçekleştirmek adına aşağıda belirtilen soru düzenlenmiştir: *Depo taşımanın tedarik zincirine olan etkileri nelerdir?*

Literatür taraması ve kalitatif nitel araştırma yöntemleri ile bu teze ait olan araştırma soruları cevaplanmıştır. Kalitatif nitel araştırma esnasında fenomenoloji ve röportaj tekniklerine başvurulmuştur. Nitel araştırmada tekniklerin kullanılma sebebi firma ve ya kişilerin tecrübelerini analiz etmektir. Bundan dolayı geçtiğimiz altı ay içerisinde depo taşıma sürecine dahil olan kişiler ile röportaj yapıldı.

Tüm nitel araştırma sonuçlarına bağlı olarak depo taşımanın sadece tedarik zincirini değil tüm firmayı etkilediği sonucuna varılmıştır. Bir firmanın negatif ve pozitif şekilde etkilendiği nitel araştırma sonuçlarında belirtiliyor. Firmanın pozitif olarak etkilendiği konular: beklenti ve hedeflerin karşılanması, yeni deponun istenilen şekilde design edilebilmesi, çalışanların kendilerine olan güvenin çoğalması, şirket politikasının ve prosedürlerin değişebilmesi, finansal anlamda olumlu etkilenmesidir. Olumsuz yönde firmanın etkilendiği konular şunlardır: belirli bir süre deponun kapanması, depo taşımanın fazla zaman alması, iletişim ve finansal dır.

Nitel araştırmaya dayanarak bu konu hakkında aşağıda belirtilen sonuçlara varılmıştır: maksimum bir şekilde çalışılabilmesi için tedarik zinciri ve depo çalışanlarının uyumlu olması gerekiyor, depo taşıma öncesi ve sonrası arasında çalışanlar arasında farklılık görülüyor. Literatüre sonuçlarına bağlı depo taşıma nedenlerinin birbirinden çok farklı olabileceği anlaşılıyor. Bir depo taşımanın firmalara sağladığı en büyük avantaj beklentilerin karşılanmasıdır, en büyük dezavantaj ise taşıma öncesi, esnasında ve sonrasında sarf edilen efor ve enerjidir.

Yapılan nitel araştırma ve sonuçlarına bağlı olarak aşağıda tavsiyeler belirtilmiştir:

- Detaylı bir şekilde her adım için bir depo taşıma planı hazırlanmalıdır aksi takdirde hatalar oluşacaktır ne kadar çok hazırlık minimum hata,
- Nelerin yanlış gidebileceğini öğrenmek için risk senaryoları hazırlanmalıdır,
- Depo taşımayı gerçekleştirecek olan tüm çalışanların motive edilmesi gerekiyor, ne kadar motive olursa okadar problemsiz bir taşınma gerçekleşecektir,
- Depo taşıma değişiklikler için bir fırsattır bundan dolayı şirket politikası, sistem değişmesi gibi istekler varsa muhakkak bu aşamada değiştirilmelidir.

Anahtar kelimeler: *Depo, tedarik zinciri, taşıma etkileri, taşıma prosedürleri.*



THE IMPACT OF WAREHOUSE RELOCATION ON THE SUPPLY CHAIN DEPARTMENT

ABSTRACT

The increase of imports and exports started in 2005 with a small decrease in 2009 and 2015. Since 2017, Turkey's foreign trade has risen again. Changes in the foreign trade environment have led to significant attention being focused on the logistics activities of global companies. Turkey's transportation and logistics sector is one of the fastest growing since 2002, with an average of 20% annual growth. Global operating companies have seen positive impacts over the last few years from foreign trade growth. In order to meet these positive impacts of growing trade, is it important that companies criticise and analyse all logistics activities and their warehouses. Businesses have also been investing in order to increase their warehousing quality.

Since the supply chain is often called the beating heart of a company, this study attempts to find all effects of a warehouse relocation. The aim of this study is to analyse and gain specific information about warehouse management, relocation decisions, relocation processes, and all the related impacts on a company. In order to cover all these aims, the following research question was formulated: *What are the impacts of relocating a warehouse for the supply chain department?*

This research question is answered with the help of a literature review and qualitative research. In depth interviews with the method of phenomenology were used to understand experiences of a focus group, with samples that contributed recently to a warehouse relocation.

Based on research results, it can be concluded that relocation affects not only the supply chain department but the whole company. There are positive and negative impacts of relocating a warehouse. The positive impacts of relocation are fulfilling company expectations, redesigning the warehouse, an increase in employee confidence, improved policies and procedures, and financial benefits. The negative effects of relocation are the shutdown, time costs, communication, and financial impacts. This study also concludes that cohesion between warehouse and supply chain is needed to maximize the relocation process and that communication before and after relocation is not the same, as more meetings are necessary beforehand.

Further, it can be concluded that common reasons for moving include growth and an increase in capacity or the end of a contract, and that a relocation process should proceed in phases. Finally, the most important disadvantage of relocation is extra effort and workforce, and the most important benefit is that relocation could lead to the realization of all expectations of the warehouse from a company.

Based on this study, the following recommendations are given: (1) prepare a detailed plan that covers each step in the whole process; (2) do research for risk scenarios, in order to understand what could go wrong during the moving process; (3) motivate all employees who are going to realize the relocation, because their support makes the relocation process smoother; and (4) realize all the desired changes with the relocation, which could range from system changes to storage criteria.

Keywords: *Warehouse, supply chain, relocation impact, relocation process, logistics.*



1. INTRODUCTION

1.1 Research Background

In the last several years, an efficient and effective operating warehouse has become more important for the logistics sector and global companies. There are several reasons behind the conscious use of warehouses, from the newest warehouse equipment and technologies to their geographical locations. Yet the most important reason behind the awareness of having a well operating warehouse is the increase in foreign trade.

The increase of imports and exports started in 2005 with a small decrease in 2009 and 2015. Since 2017, Turkey's foreign trade has risen again. The Turkish Statistical Institute has reported an increase in exports in January 2018, up 10.7% in comparison to 2017, with a total amount of \$12.457 billion. Imports also increased by 38% in comparison to January 2017 with a total of \$21.524 billion in January 2018 (Institute, 2018:1).

Changes in the foreign trade environment have led to significant attention being focused on the logistics activities of global companies. Turkey's transportation and logistics sector is one of the fastest growing since 2002, with an average of 20% annual growth (Export, 2017:1). Foreign investors made investments of \$1.9 billion in the Turkish logistics sector in the past ten years (Milliyet, 2018:1). These investments could be seen as a signal that the increasement of the logistics in Turkey will continue the upcoming years.

With the growth of the transportation and logistics sector and the increase in foreign trade, it is necessary to have a well-operating warehouse as a company. The number of warehouses in Turkey has also increased due to the increase in foreign trade and increasingly easy building processes (Deloitte, 2013: 27). There are in total 604 government-bonded warehouses and 555 private-bonded warehouses in use (T.C. Gümrük ve Ticaret Bakanlığı, 2018:1).

Logistics could be seen as a framework that is searching for a plan in order to have a flow of product and information through the business to customer. There are various activities that are considered part of logistics, including warehousing, transportation, distribution, and purchasing. One of the most important activities of logistics is warehousing. Warehouses today do more than store goods. They contribute also to price stabilising, sharing the risks of a company, financing, grading, and packing the goods.

Logistics departments are a part of the supply chain departments in companies, and the warehouse is a part of the logistics department. These three departments work together in order to reach company goals. The warehouse activities are the operational flow of a company, and the supply chain department is the informational flow of a company. The purposes of supply chain management are to create value, enhance efficiency, and satisfy customers

1.2 Study Topic and Purpose

Global operating companies have seen positive impacts over the last few years from foreign trade growth. In order to meet these positive impacts of growing trade, is it important that companies criticise and analyse all logistics activities and their warehouses. Businesses have also been investing in order to increase their warehousing quality. However, investing in a warehouse is not always the best solution for a well-operating warehouse. Thus, businesses are having unforeseen moments and are sometimes not able to prevent a relocation of their warehouses.

The steps for relocating a warehouse are described very well in literature, and some companies have experts working for them to realize the relocation. One unknown part of such a well-known topic is impacts of a relocation on the supply chain department. Since the warehouse is a part of the supply chain is, these impacts are important for companies.

The intention of this research is to do a study about the impacts of warehouse relocation on the supply chain department. It is unfortunately not clear which kind of impacts relocation has on this department. Therefore, the aim of this research is to gain specific information about warehouse management, warehouse settings, communication during the relocation, and the benefits and disadvantages of moving a warehouse.

This study will also explain the following specific objectives:

- Warehouse relocation decision process, in order to understand why companies move their warehouses
- The relocation phases described in detail, including which kind of steps should be taken for a smooth relocation
- What kind of financial benefits companies gain from relocation.

1.3 Research Questions

The main aim of this research is to understand the impacts of warehouse relocation on the supply chain department. Therefore, the main question formulated for this study is:

What are the impacts of relocating a warehouse for the supply chain department?

In order to meet the study aims as described in the previous paragraph and to support the main question, the following research questions were formulated:

Research Question 1: What are the activities and types of warehouses?

Research Question 2: What is the cohesion of a warehouse with the supply chain department?

Research Question 3: What kind of cost categories does a warehouse have?

Research Question 4: How does a company decide on the relocation of a warehouse?

Research Question 5: What are the steps for the relocation of a warehouse?

Research Question 6: What types of warehouse management are available?

Research Question 7: What kind of quality management is used?

Research Question 8: How should communication proceed before and after the relocation?

Research Question 9: What are the benefits and disadvantages of a warehouse change?

Research Question 10: What are the financial benefits of this warehouse change?

1.4 Reading Guide

This study consists of six chapters:

The first chapter will introduce the study background and study topic. This chapter further describes the purposes of this study and the research questions. The second chapter will give an overview of the theoretical framework of this study. The third chapter describes which methodology and techniques are used in this study. This chapter also describes the method used to analyse gained information and the reliability and validity of that information. The fourth chapter explains the results of the qualitative research. This chapter also gives answers to the research questions of this study. The findings of the study are compared with literature. This chapter also explains the limitations during the study. Conclusions of this study are shown in detail in the last chapter. All recommendations for further studies and companies are also given in this chapter.

2. THEORETICAL FRAMEWORK

This chapter provides an insight into all theory concerning warehouse activities, cohesion between warehouses and the supply chain, cost categories, decisions for relocation, the process of relocation, warehouse management, quality management, and communication.

In the last several years, an efficient and effective operating warehouse has become more important for the logistics sector and global companies. There are several reasons behind the conscious use of warehouses, from the newest warehouse equipment and technologies to their geographical locations. Yet the most important reason behind the awareness of having a well operating warehouse is the increase in foreign trade. The total amount of imports and exports of Turkey in the past twelve years is shown below in Figure 1.1.

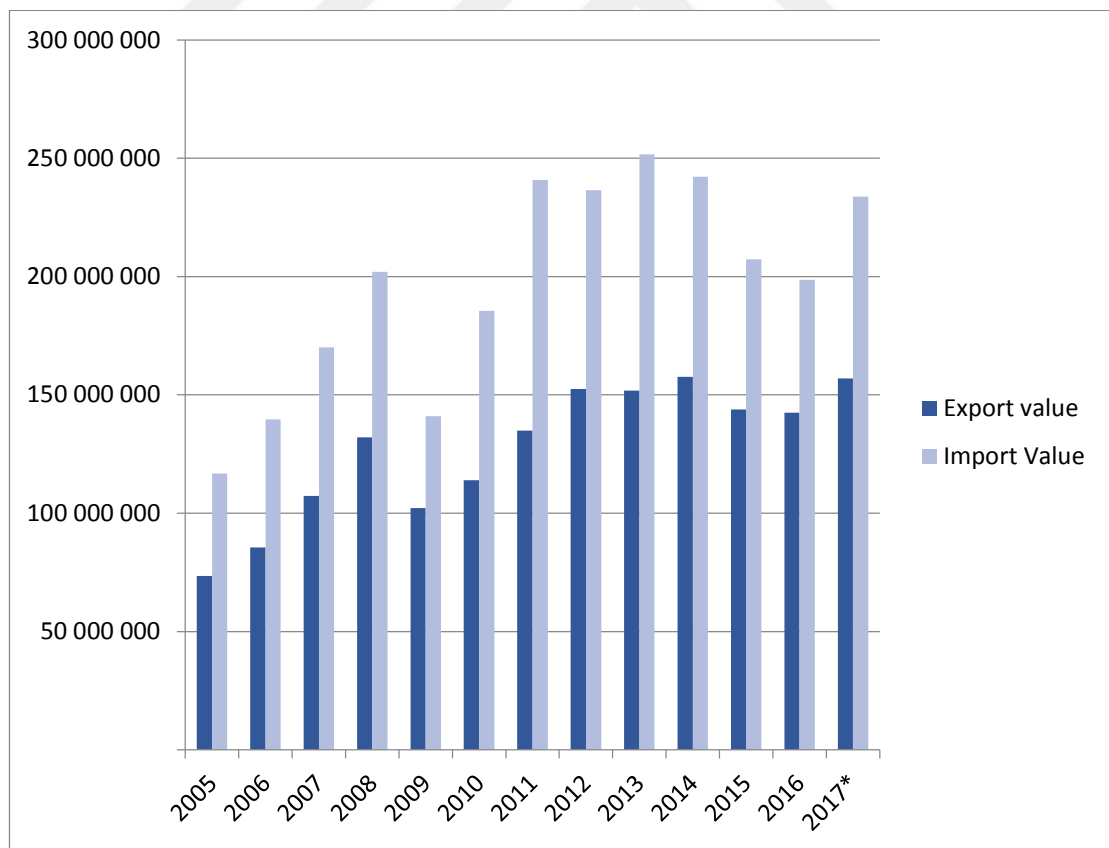


Figure 1.1: Import And Export Value Of Turkey 2005-2017

Source: (Turkish Statistical Institute , 2018:1)

2.1 Warehouse Activities

Before explaining warehouse activities, it is firstly important to understand the full definition of a warehouse. Richards defined a warehouse as 'a trans-shipment point where all goods received are despatched as quickly, effectively and efficiently as possible' (Richards, 2014:1). The Oxford English Dictionary gives the following definition: 'a large building where raw materials or manufactured goods may be stored prior to their distribution for sale' (Dictionary O., 2018:1).

There are several types of warehouses, and the choice of which type of warehouse would be used is decided by companies. The most commonly used warehouses are the public warehouse and the bonded warehouse. Each company must use a bonded warehouse in order to finish their import processes. Below are Chand's classifications of different types of warehouses:

- **Private warehouses:** This warehouse type is a property of companies. With this kind of warehouses, the company is only producing and storing goods for themselves. There is no possibility that another company can use this type of warehouse (Chand, 2014:2).
- **Public warehouses:** A number of companies store their goods in this kind of warehouse. Small and medium-sized companies use this kind of warehouse the most. All public warehouses operate according to the policy of governments (Chand, 2014:2).
- **Bonded warehouses:** This is a temporary storage place for all imported goods, where the import process is still going on. After the customs clearance process, the goods at a bonded warehouse will be replaced (Chand, 2014:2).
- **Other types:** These are warehouses like merchandise warehouses, cold storages, or refrigerated warehouses (Chand, 2014:2).

Richards explains in his book *Warehouse Management* the following about warehouse activities: 'The basic processes of warehouse management remain the same over time. We receive goods into the warehouse, we process orders, we replenish, we include some value-adding services, and then we dispatch the product' (Richards, 2014:2).

In almost every resource about this topic, the first and most primary function of a warehouse is storage of goods. Other functions include stabilising prices, sharing risks, financing, and grading and packing:

- **Storage of goods:** All surplus goods that are not ready to send to customers will be stored in warehouses (Chand, 2014:1).
- **Stabilising prices:** Warehouses influence the establishment of prices, which depend on the demand and supply of goods. The prices will fall in case there is no demand and rise when there is more supply (Chand, 2014:1).
- **Sharing of risks:** Keeping goods in warehouses will minimize the potential risks for losses or damages of goods (Chand, 2014:1).
- **Financing:** When goods are deposited in a warehouse, the depositor gets a receipt, which acts as a proof of the deposit of goods (Engineers, 2015:1).
- **Grading and packing:** There is now the possibility to undergo a value-added process in warehouses. The packaging of goods could change in warehouses (Chand, 2014:1).

Warehouse activities show that they are not only a place for storing goods. Regarding the theoretical explanations, it is possible to say that warehouses work on three flows: input, output, and internal. The input flow is the storage of goods. The output flow is transferring goods to customers. The internal flow is adding a value on the goods, by grading and packing or supporting the financial benefits of a company by stabilising prices of goods. Another important internal activity of a warehouse is sharing the risks of a company.

It is not given as an activity but a warehouse also shares information with internal departments about the inventory of goods, the damage of stored goods, and the import process.

The warehousing activities of receiving, reserve storage, forward picking, packing, sorting and unitising, and shipping are shown as a cyclical process in Figure 2.2:

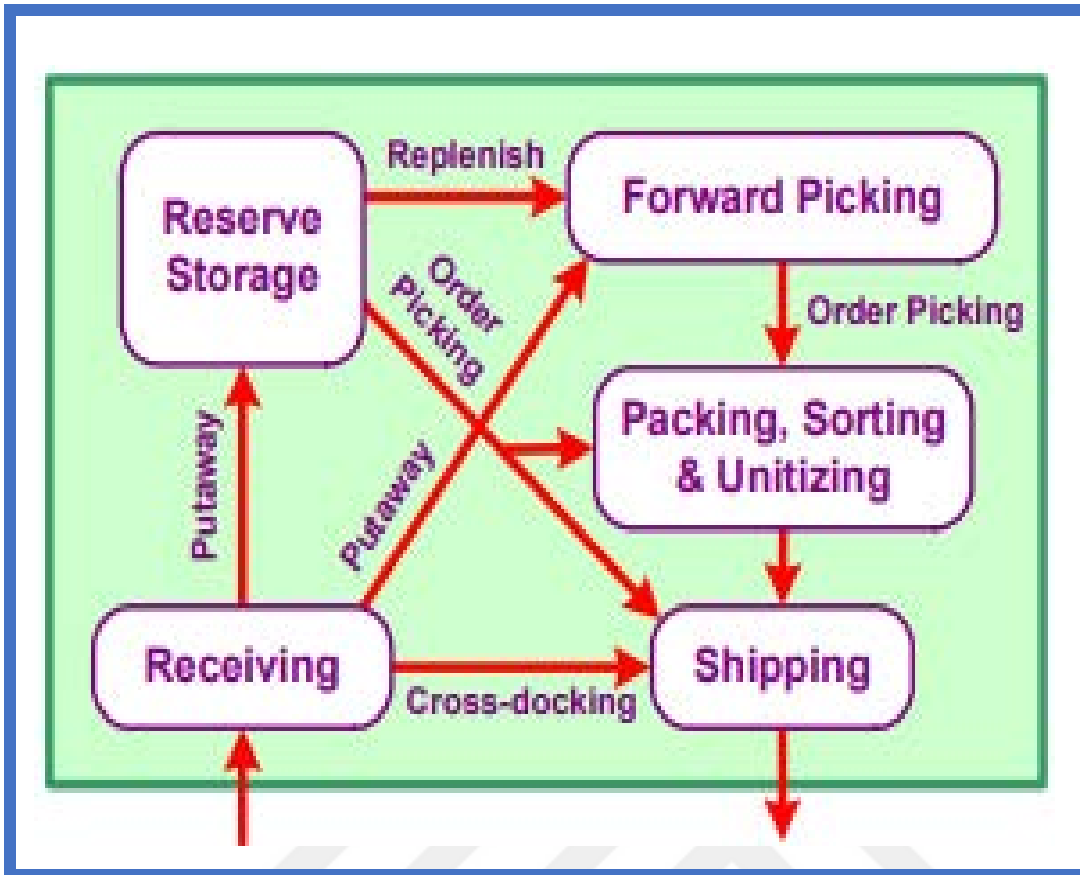


Figure 2.2: Warehouse Activities

Source: (Kay, 2015:24)

This means that after a good enters the warehouse, it could be cross-docked or put away. When necessary, there is a packing, sorting, and unitising step in the cyclical process. This happens before the goods will ship to customers.

In case there is a custom order, the goods will be cross-docked, and if there is not a custom order, the goods will be put away.

There are in total three order picking methods explained by Kay. These are as follows:

- **Discrete picking:**
The goods could collect for a single order. With this method, no sorting of the goods is needed (Kay, 2015:32).
- **Zone picking:**
All goods are stored in zones by warehouses. With this method, only the goods for an order are picked from the zone where they are stored (Kay, 2015:32).

There are two zone picking variations in this method: simultaneous picking, which reduces picking time, and progressive assembly, which is a pick-and-pass variation, passing the zones one by one (Kay, 2015:32).

- **Batch picking:**

With this method, the picker picks goods for more orders together. Only goods from a specific batch or batches will be collected by the picker with this method.

The benefit of this method is that it is not time-consuming (Kay, 2015:32).

The picking methods show that each has a different aim in picking the goods. The first discrete method is for specific goods in single orders. The zone picking method is for goods in zones, but it can be time-consuming. The third method is picking goods specified in batches. Each method is different but with the same aim.

Using a public warehouse brings several benefits. These are as follows:

- **Zero investment:**

A company is not investing in equipment with the use of a public warehouse (Warehousing, 2015:2-3).

- **No property tax:**

The company does not pay any tax on the property (Warehousing, 2015:2-3).

- **More flexibility:**

With a public warehouse, it is less complex to relocate your warehouse (Warehousing, 2015:2-3).

- **Value-added processes:**

A public warehouse gives the holder companies the possibility to work with warehouse employees for operations of the company (Warehousing, 2015:2-3).

Radio Frequency Identification Technology - Resource Management System RFID-RMS. The RFID-RMS helps to support the warehouse activities with use of a system. In the article Design of a RFID case-based resource management system for warehouse operations is described this model as following:

“designed to help users to select the most suitable resource usage packages for handling warehouse operation orders by retrieving and analysing useful knowledge from a case-based data warehouse for solutions in both time saving and cost effective manner”. This model helps to enhance the effectiveness in formulating the resources, usage of packaging, managing the resource operation and for the programming of the forklift route (Chow H.K.H, 2006: 561-576).

2.2 Cohesion Between Warehouse, Logistics And Supply Chain

The warehouse is a part of a company's logistics department, and this department is responsible for all the warehouse activities. Logistics is in turn part of the supply chain department. Komarova explains in her scientific research that the goals and objectives of the logistics system determine the goals and objectives of the warehouse (Komarova, 2016:12).

Martin Christopher, professor emeritus of marketing and logistics at Cranfield School, defines logistics as 'essentially a planning orientation and framework in logistics and supply chain management that seeks to create a single plan for the flow of product and information through a business to consumption' (Christopher, 2016:12).

In the book *Warehouse Management handbook* are the responsibilities of the logistics department described as following: warehousing, traffic management, sales forecasting, purchasing, product planning, packaging, order processing, order entry, inventory control, global logistics, general management and facility location (Jerry, 1998:24).

It is possible to compare the logistics definition from the introduction with the warehouse activities. The difference is that the warehouse process is based on operations, and logistics is more based on information flow. Logistics is like a bridge between the operational side, which is the warehouse, and the informational side, which is the supply chain.

The input and output flows of the warehouse are also available in the flows of logistics. Logistics can be separated into inbound and outbound logistics. Inbound logistics is moving semi-finished goods or raw materials from suppliers to the company. Outbound logistics is the movement of finished goods to the customers (Shurbi, 2017:1).

John Mangan and Cardwan Lalwani explained in the book *Global Logistics and Supply Chain Management* their definition of supply chain management:

'the management, across and within a network of upstream and downstream organizations, of both relationships and flows of material, information, and resources. The purposes of supply chain management are to create value, enhance efficiency, and satisfy customers' (Lalwani & Mangan, 2016:11). In general, the supply chain is the chain that forms the material and information flow from the supplier to the consumer, with the following main units:

- Supply of materials, raw materials, and semi-finished products
- Storage of products and raw materials
- Production of goods
- Distribution
- Consumption of the finished product (Komarova, 2016:7-8).

The units' storage, production, and distribution activities happen in the warehouse of a company. This means that the link between supply chain and warehouse is essential. Without cohesion between the logistics and supply chain, a smoothly operational process is not possible. These two departments are part of each other; it is not possible to think of a supply chain without logistics. Logistics and supply chain management is strongly linked to various disciplines, as illustrated in Figure 2.3.

In this figure, Mangan and Lalwani explain that there is cohesion between the various disciplines. These disciplines all take care of the company's goals. The supply chain is involved in each process, from production until the delivery to the customer, although supply chain and logistics are most linked to operations management.

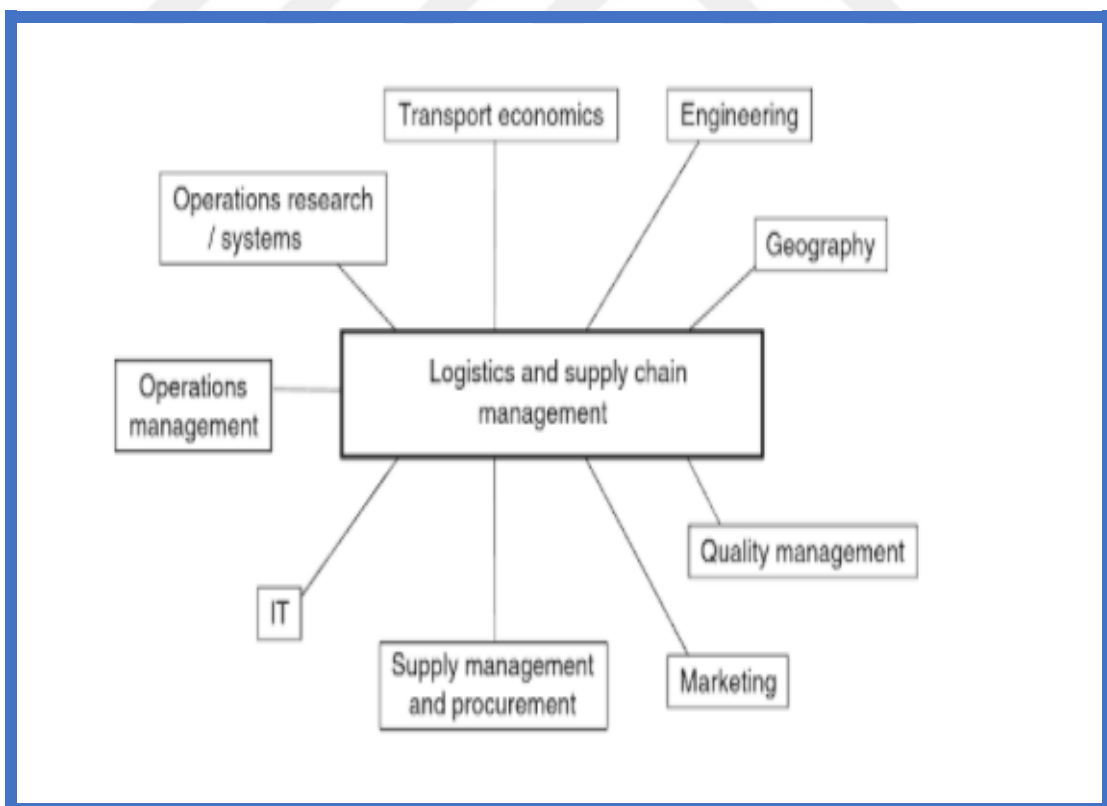


Figure 2.3: Links To Other Disciplines

Source: (Lalwani & Mangan, 2016:17)

We see that there is a link between warehouses as part of logistics with the supply chain. However, other departments are also linked with the supply chain. How is the cohesion between logistics and other departments? Logistics affects five other departments. These departments are as follows:

- Sales and customer service
- Finance and accounting
- Technology and data
- Purchasing and manufacturing
- Transportation (Logistics B., 2017:2-3).

The conclusion is that collaboration between supply chain and logistics is necessary. All departments in a company should be able to work together to operate at a maximum level.

2.3 Cost Categories

There are several cost categories in warehouses, which are taken care of by the logistics department. Warehouse costs fall into two categories, fixed and variable costs. The fixed costs are rent, energy, building insurance, depreciation, and basic wages. Emmett explains that variable costs are overtime wages, maintenance, operational costs of equipment, and product insurance (Emmett, 2005:174-175). For the total costs, it is necessary to put fixed and variable costs together. Labour, space, and equipment are costs for warehouse purposes. Average costs are 60% for labour, 25% for space, and 15% for equipment.

Each company without any difference in size is managing a warehouse in time and space. There are monthly costs, which are the same for all companies; the details of the costs could be a difference but the categories are the same. Speh indicates four categories of warehousing costs, as shown in Table 2.1:

Table 2.1: Four Categories of Warehousing Costs

Category	Explanation
Handling	Handling costs include all goods that a warehouse receives and sends, all labour costs for the employees who work in the warehouse, labour costs for value-adding or damage-handling process, and all equipment costs that are necessary to fulfil activities in the warehouse, such as electricity and fuel (Speh, 2009:174-175).
Storage	This is the primary activity of warehouse storage. The storage costs are fixed, even as the company moves goods in or out (Speh, 2009:174-175).
Operations administration	All costs to support warehouse operation processes. These are variable costs and include costs for supervision, IT, insurances, and taxes (Speh, 2009:174-175).
General administrative expenses	General management, non-operations staff, and general office expenses are examples (Speh, 2009:174-175).

Source: (Thomas W. Speh, 2009:174-175)

Besides these cost categories, there are also relocation costs for a company. Ackerman explains in *Practical Warehousing* how to estimate costs of moving. First, the inventory that will be moved should be estimated. After this estimation, how many loads are needed for the movement should be calculated. When it is known how many loads the company needs for the transfer of goods, the costs of loads can be determined (Ackerman, 1997:85).

The costs of each load are the total of the following:

- Transfer vehicle operating costs
- Out-loading manpower and machine cost per load
- Unloading and storage cost per load
- Estimated damage cost per load (Ackerman, 1997:85).

It is very good to know load costs during a relocation, but this doesn't include all costs. The following costs should also be added to the total of costs:

- The office operation movement costs
- Warehouse maintenance costs
- Material handling equipment costs
- Storage racks and other equipment costs (Ackerman, 1997:86).

In addition, it is also wise to think what could affect the costs during the relocation of a part of the business. There could be thought to aspects like the size of a company, how much more the costs could be if the company were larger. Another aspect that could have an impact on the costs is whether the company will outsource the relocation process or use the available and internal employees. Information technologies are also very important to think about and whether internal employees will relocate the systems and software or it will be done by outsourcing specialists.

Logistics and supply chain costs are the most used terms in the industry. Regarding the article measuring the supply chain cost from Annelie I. Petterson and Anders Segerstedt are the supply chain costs having a wider definition compared to logistics. The supply chain costs are the total costs in the whole chain. There are in total five components of supply chain costs. These are as follow order handling, purchasing, stock handling, systems and manufacturing. The logistics cost components are only the distribution and warehousing costs (Petterson & Anders 2013: 357-363).

In order to control costs and grow the revenue is the Activity Based Costing tool one of the most used tools. Also in the logistic and warehouse activities is this model controlling overhead costs. In Strategic Cost Management explains John K. Shank that in perspective of strategic cost management the ABC is seen a very useful financial tool. (Shank. J, 1993: 80-81). The key innovation of ABC are the activity cost drivers. By selecting the key drivers should be considered the following three drivers, the first is effect on behaviour, second is the reliability of the measurement and as last the costs of measurements. In case the right drivers are choosen will it help to reduce the costs (Varila, Seppänen, & Suomala, 2007: 184-210).

The largest part of logistics costs are the warehousing activities. With warehouse activities are there different products with different quantities. For these activities should be choosen the correct drivers (Varila, Seppänen, & Suomala, 2007: 184-210).

2.4 Decision to Relocate

It is a very important decision for a company to move, especially to consider all preparation for a relocation that is needed. There are several motivations for companies to change their warehouse. The most common reasons can be summarised as follows:

- Growth and an increase in capacity
- Optimization of the storage space
- Relocation of the entire company
- The opening of an additional site (partial relocation)
- The end of the rental agreement for the warehouse (Logistics I., 2017:1).

Ackerman also lists these eight most common reasons:

- Wrong size
- Operating problems
- Policy change
- Market change
- Transportation changes
- Taxes
- Technical changes
- As a symbol of progress (Ackerman, 1997:79).

These motivations show that all companies want to have a relocation in order to have more continuity on their business. Companies aim to solve operating problems or to be consistent with the market changes.

Besides making the decision for relocating, there is the need to decide what type of relocation should be realized. There are different types of relocation for businesses, described below:

- **Warehouse relocation within a building or to an adjoining new building:** This type is an internal relocation in the company itself. This could happen when the warehouse place is extended or optimized. For this type of relocation, it is possible to move all goods with the help of qualified engineers and equipment. Internal relocations take less time in preparation and moving of goods. Benefits of an internal relocation are that it cuts the costs, the new warehouse can be used earlier, and it will affect the company less (Logistics I. , 2017:2).
- **Relocation within the same country:** Replacing the processes to another warehouse is much more complex than relocating it in the same building. All preparation will take a lot of time to move goods to another warehouse.

- It is very hard to manage an accident-free transport between the old and new warehouse, and it is very complex to continue operating processes during relocation. There are steps to ensure success during relocation (Logistics I., 2017:2):
 - All parties should be involved in the planning process.
 - The new warehouse should be inspected.
 - The transport and storage of the goods should be organized.
 - The relocation should be realized with trained specialists.
- **Relocation abroad:** Moving warehouses abroad is more complex than the other types. The requirements of the country should be considered, such as certifications and safety regulations. It is wise to work with international project managers (Logistics I., 2017:2).

The reasons for a company to change their operational processes to another place are very specific, but the types are more general. Nonetheless, a company must consider both and decide why there is a movement and which type of relocation it should be.

The consultant agency Gross Associates, which specializes in logistics activities and operating design for warehouses, manufacturing, and distribution, performed a study about warehouse relocation. They concluded that before relocation, a few questions should be asked, analysed, and answered. These questions are as follows:

- Where should these new warehouses be? (Agency, 2005:1).
- What should the storage and throughput capacity of these warehouses be? (Agency, 2005:1).
- How should products or product lines be allocated to the various warehouses? (Agency, 2005:1).
- How can relocation be made from the existing network to an improved network? (Agency, 2005:1).

2.5 Process Of Relocation

Each company desires a soft relocation of warehouses with minimal problems. In order to avoid or to minimize problems, a checklist is very important. The checklist should be prepared during the preparation phase of the whole process. Ackerman lists six sections for a checklist: personnel administration, receiving, shipping, materials handling operations, use of space, and sanitation security and safety (Ackerman, 1997:79).

Organizational change has been described as a three-step process, explained in Table 2.2:

Table 2.2: Three Steps Change Process

Step	Description
Step 1: Unfreeze	The first step is to unfreeze the existing norms and habits to make changes possible.
Step 2: Move or transition	The second step is to move or transition from the old system to the new. This transition or migration plan must address many issues to facilitate this transition. Within this must be a conversion strategy to determine the method of switching from the old to the new system. A business contingency plan must be developed to handle any problems that arise during the transition.
Step 3: Refreeze	The final part of the migration plan involves assisting people who are affected by the new system to understand the change and to motivate them to adapt to the new system. The third step in Lewin's model is to refreeze the new system as the habitual way of performing the work to ensure that the new system successfully becomes the standard way of performing the business process (Lewin, 1947:197-211). An important part of this step is a project assessment to evaluate the process to identify what went well and what could be improved upon in the future.

Source: (Lewin, 1947:197-211)

Figure 2.4 shows a framework that focuses on three decisions managers must address regardless of their industry.

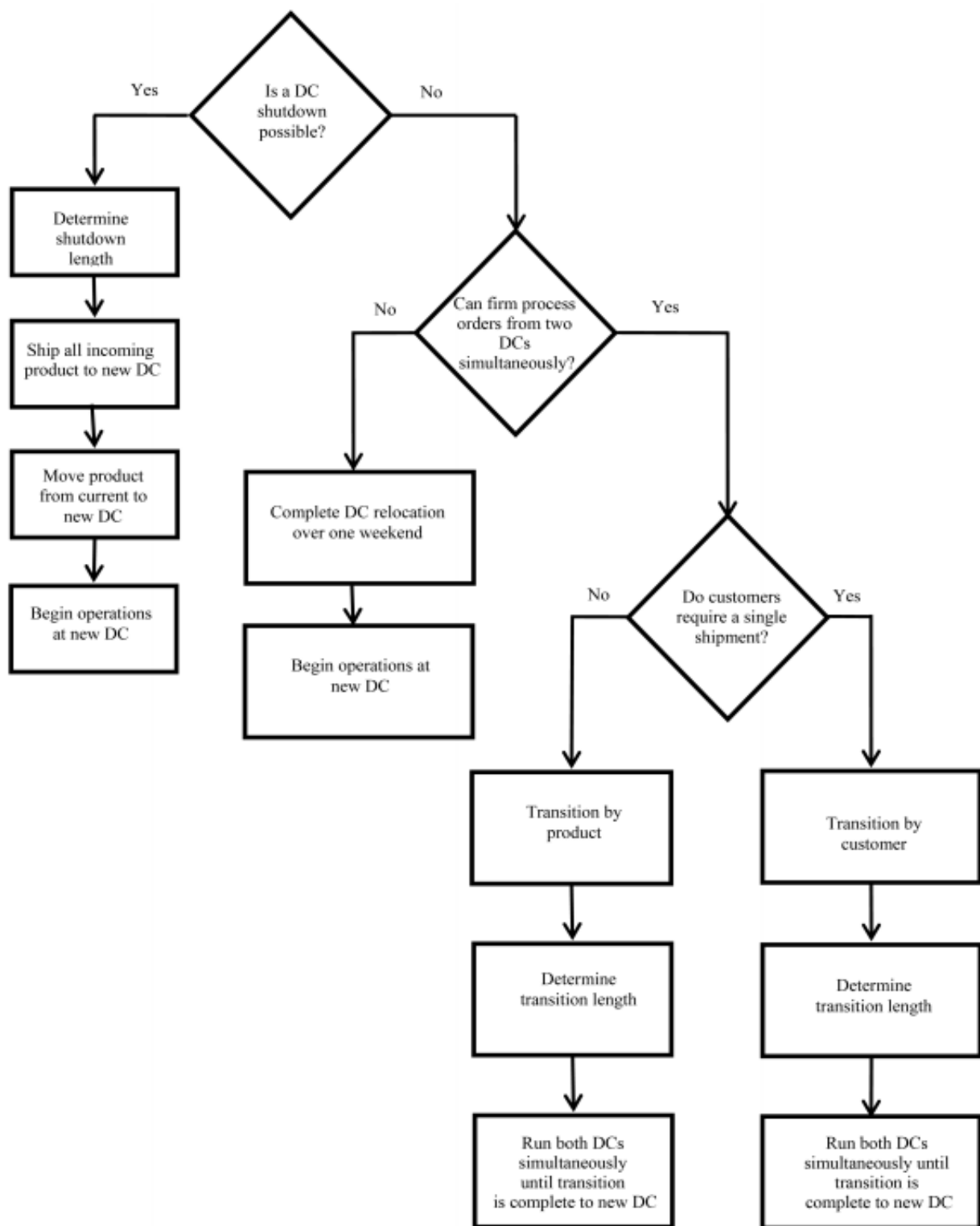


Figure 2.4: Relocation Framework

Source: (Aase & Petersen, 2015:10)

The first decision: It should be decided if a shutdown of a warehouse during the relocation is possible or not. If it is possible, the management should consider a shutdown duration, all goods relocation to the new warehouse should be planned, and all new incoming goods should also be transferred to the new warehouse (Aase & Petersen, 2015:9).

The second decision: When a shutdown is not possible, the company should evaluate the possibility to operate in the new and the old warehouses at the same time. If it is not possible to operate in both warehouses, the management should consider completing relocation in one weekend (Aase & Petersen, 2015:9).

The third decision: When it is not possible to operate in two warehouses, it is necessary to ask if customers require a single shipment. If customers do not require one shipment, then the transitions will be done by products, and it is necessary to determine the transition length. In case the customer requires one single shipment, it is necessary to do a transition based on customer (Aase & Petersen, 2015:9).

In summary, Aase and Petersen explain the decisions a company should make for relocation. Each decision that the company should make presents a new question. This causes a self-reflection moment for companies during the relocation. In the theory of Ackerman, the details of a relocation are described in several checklists. These details include every aspect that is related to a relocation. Lewin explains in his theory that a change could be realized in three stages. The theory of Lewin is based on explaining the steps of movements regarding strategies and systems.

The conclusion is that these theories are useful during a relocation. It is necessary to know in how many steps a relocation could be realized and what the important points are during a relocation.

2.6 Warehouse Management

Every company has one or more managers in order to manage all activities of each department. Steven P. Robbins and Mary Coulter have defined 'manager' as 'someone who works with and through other people by coordinating, integrating, and monitoring their work activities in order to accomplish organizational goals' (Coulter, 2012:209)

Richards explains that managers have a number of operational challenges and implement company strategy in relation to warehouse activity. One trade-off that warehouse managers deal with is cost versus responsiveness and cost-efficiency versus volume throughput (Richards, 2014:1). Since warehouses are based on operational processes, the warehouse management has more cost, efficiency, and effectiveness related functions.

In today's fast-moving environment, managers have the goal to maximize effective use of operational resources while satisfying customer requirements. This is possible through motivating and managing staff effectively. Richards lists seven basic principles that today's warehouse and logistics managers deal with:

- **Cost control:** The efficiency and productivity should increase but without higher costs (Richards, 2014:4).
- **Accuracy:** Managers need to improve quality and accuracy (Richards, 2014:4).
- **Lead times:** All lead times to customers should be reduced (Richards, 2014:4).
- **Technology:** The managers must have technologically advanced knowledge (Richards, 2014:4).
- **Workforce:** Management and the workforce should be available (Richards, 2014:4).
- **Safety:** The managers should manage in a safe and healthy way (Richards, 2014:4).
- **Environment:** Managers must take care of the environmental aspects (Richards, 2014:4).

In addition to the principles, each manager has challenges to face, including the following:

- 'Identifying, attracting and retaining good supervisors, first line managers, and team leaders
- Attracting and retaining employees
- An aging and constantly changing workforce
- Identifying training needs
- The need to provide safe, comfortable working conditions
- Employment contract negotiations
- Introduction of incentive schemes
- Compliance with employment and health and safety legislation
- Staff discipline
- Security issues' (Richards, 2014:69).

According to Ackerman, supervisors and managers should encourage an open exchange of ideas and have frequent discussions with their staff and peers. They also need to have nine attributes:

- 'Excellent communication skills
- An ability to delegate effectively
- Motivational skills
- Problem-solving skills and flexibility
- A comprehensive knowledge of company processes
- Procedures
- Ability to train others
- Be customer oriented and have teamwork skills' (Ackerman, 1997:79).

According to Armstrong and Michael explained on website studymode, the fundamentals of management are deciding what needs to be done and getting it done through people in the organization (Studymode, 2011:1). They highlighted that people of an organization are the main resource among all other resources that are needed by a manager, which indicates that a large proportion of management work is done through people. Therefore, in any management process, managers play a vital role in operating an organization (Sayeed, 2013:47).

The traditionally structured organization's managerial hierarchy is shaped like a pyramid as shown in Figure 2.5.



Figure 2.5: Managerial Levels

Source: (Coulter, 2012:209)

Managers can be classified as first-line, middle, and top management, as explained below:

- **First-line managers:** Also called supervisors, these managers are at the lowest level of management and manage the work of non-managerial employees. They are in general involved mainly in short-term planning activities (Coulter, 2012:6-7).
- **Middle managers:** The senior managers manage the work of first-line managers and are responsible for operational management. They make tactical-based planning for the short term. Another function of these managers is implementing the strategic planning of the top management (Coulter, 2012:6-7).
- **Top managers:** These managers decide on strategic management policies for more than five to ten years. They operate on a strategic level and manage the middle management(Coulter, 2012:6-7).

A manager has three roles:

- **Interpersonal:** This involves all interaction with people outside and inside the company. They could be described in the roles of a figurehead, leader, and liaison.
- **Informational:** This includes collection and receiving of data and the analysis of this information. This kind of managers is a monitor, disseminator, and spokesperson.
- **Decisional:** These managers make or choose decisions. The roles of these managers are an entrepreneur, disturbance handler, resource allocator, and negotiator (Coulter, 2012:10).

Koontz and O'Donnell list five functions of management: planning, organizing, staffing, directing, and controlling (Guide, 2012: 2-3). Figure 2.6 illustrates the relations between these functions.

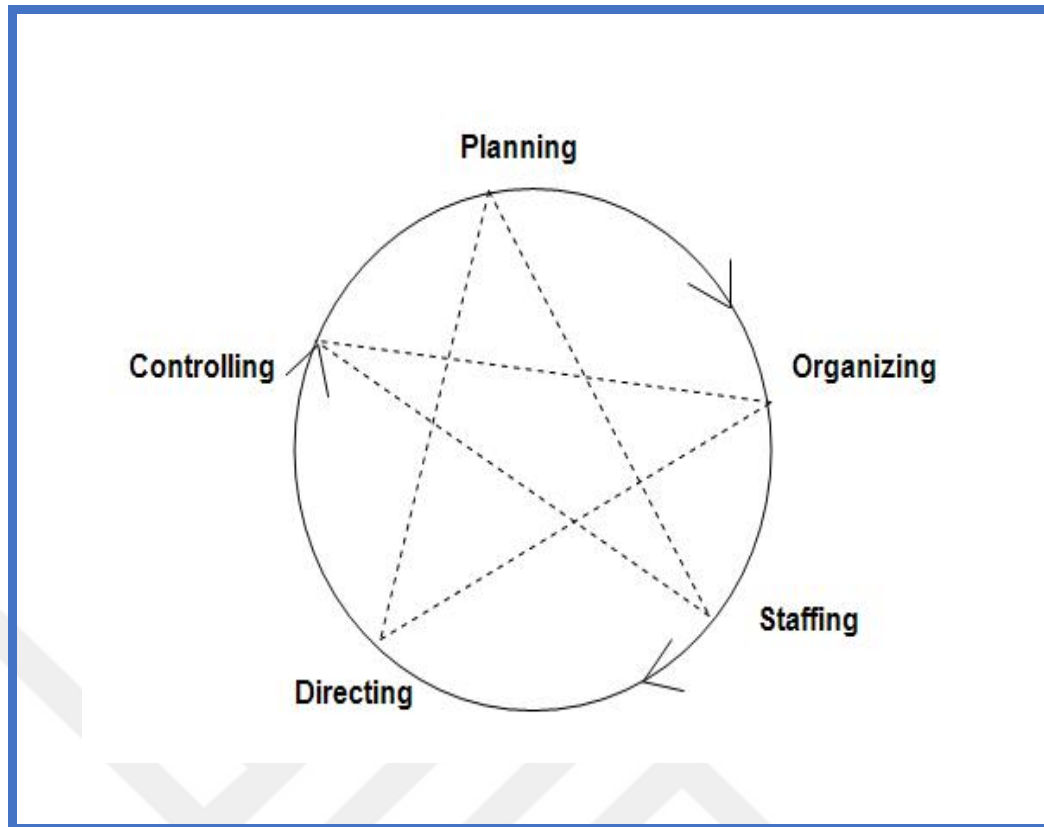


Figure 2.6: Functions Of Management

Source: (Guide, 2012:2)

These five functions can be further described as follows:

- **Planning:** This is the first thing that a manager should do for future actions, as it helps a manager decide what, when, and how to carry out tasks. The planning step could be seen as a bridge between the current moment and the place a manager wants to be in the future (Guide, 2012:3).
- **Organizing:** This step is the developing step by bringing financial, human, and physical aspects together to achieve the goal. With this step, responsibilities are delegated, relationships are coordinated, activities are identified, and duties are assigned (Guide, 2012:3).
- **Staffing:** In the previous steps, tasks, responsibilities, duties, and activities are decided. With staffing, the manager selects the right person for the right job. This means that the employees should be selected in a very careful way. It is also possible to give employees training in order to develop their knowledge (Guide, 2012:3).
- **Directing:** This is the step where the manager directs each employee in order to work efficiently and reach the business goal.

There are some elements that are used by the manager for this step. These are communicating with employees, supervising and motivating the employees, and leading all employees (Guide, 2012:3).

- **Controlling:** With the controlling step, the manager checks if every employee is working according to standards and if there is progress or not. The actual performance and standard performance of employees are both controlled in this step. After this, a manager can make a comparison between the actual and standard performances. It is important to correct the performance of employees if it is needed (Guide, 2012:3).

There could be concluded that there are too many management models that are used to manage in an efficient and effective way. The five functions of management are showing that managing also from steps exists. With the explanation of Coulter about the managerial levels is the types of managers described. Besides the challenges that managers have are there also other functions that need focus.

2.7 Quality Management

Each company has a quality management tool or a technique. Which management model is used depends on the sector. One of the most commonly used quality management models is from the International Organization for Standardization (ISO). This ISO model consists of seven principles, as follows:

- **Quality Management Process 1: Customer Focus**

This is the most important principle and has, therefore, primary focus. It is important to meet the customer requirements (Standardization, 2015:3).

- **Quality Management Process 2: Leadership**

All leaders should be able to create conditions in order to increase employee engagement to succeed in the business goals (Standardization, 2015:3).

- **Quality Management Process 3: Engagement of People**

Employee motivation should be kept at a maximum, respecting all employees as individuals (Standardization, 2015:3).

- **Quality Management Process 4: Process Approach**

When the activities are understood the best by employees, results will be more efficient and effective (Standardization, 2015:3).

- **Quality Management Process 5: Improvement**

Successful operating companies are continually improving and working hard to improve (Standardization, 2015:3).

- **Quality Management Process 6: Evidence-Based Decision Making**

Decisions based on the analysis and evaluation of data and information are more likely to produce desired results. The desired results of companies are based on analysis and evaluation of data and information (Standardization, 2015:3).

- **Quality Management Process 7: Relationship Management**

The relationships with suppliers are necessary to be successful (Standardization, 2015:3).

ISO is a quality model that every company uses as a quality norm. When companies meet the ISO requirements for the different processes, they receive certificates. This ISO certification adds quality in each process of a company.

There are several quality management approaches available for enterprises. The most commonly used management approach is total quality management (TQM). TQM was founded in the 1920s in Japan to improve quality production. Over the years, it has been adjusted by quality experts W. Edwards Deming, Joseph M. Juran, and Armand V. Feigenbaum to the TQM of today.

Kiran defines TQM as follows: 'Total Quality Management consists of organization-wide efforts and an integrated system of principles, methods, and best practices to install and make a permanent climate in which an organization continuously improves its ability to deliver high-quality products and services to customers' (Kiran, 2016:2).

TQM has seven principles:

- **Focus on the customer:** The first principle is to focus on customers' needs and the service for customers. Employee involvement is necessary to satisfy customer needs and deliver service with maximum quality, and employees must be motivated to participate by giving them responsibilities.
- **Leadership and top management commitment:** The organization should have a clear mission, vision, and strategy goals. Without a clear goal to pursue, it is not possible to have quality in production and service.
- **Supplier quality management:** Having strong relationships with suppliers increases productivity.
- **Continuous process improvement:** An organization should stay competitive and effective by being analytical.

- **Communication:** Communicating regularly with employees leads to motivated employees. This also involves the methods, strategies, and timeliness in a company.
- **Performance measurement:** The company performance can be measured by regularly collecting data from the past.
- **Customer satisfaction:** The focus on customer needs is important, and customer satisfaction is needed for a company in order to continue organization activation in the market (Kiran, 2016:514).

In addition to these principles, there are also seven traditional tools of TQM:

- **Cause and effect diagram:** This diagram identifies causes for a problem and sorts ideas into categories to have a clearer insight.
- **Check sheet:** This is a form used to collect and analyse data.
- **Control chart:** These are graphs to see changes in processes over time, which could be months, quarters, or year.
- **Histogram:** This is a graph for distributions.
- **Pareto chart:** Bar graphs are included in this chart. These bar graphs show the factors that are significant or not.
- **Scatter diagram:** This diagram is used to see the relationship between different data.
- **Stratification:** With this tool, the collected data are separated into patterns (Kiran, 2016:292).

Another well-known tool is the plan-do-check-act (PDCA) cycle from W. Edwards Deming. The PDCA cycle was developed by Deming in the 1950s with the aim of identifying and solving issues in companies. It is effectively used for solving problems and improvement of products and processes.

The PDCA cycle is a simple and very effective tool for managers. The tool could be used for every issue, especially where the management wants to see progress in a short time. It not only gets management planning to an action point but also provides a way to manage all work that has to be done.

The PDCA cycle has four components: plan, do, check, and act. The cycle never ends, simply repeating itself continually, as seen in Figure 2.7.

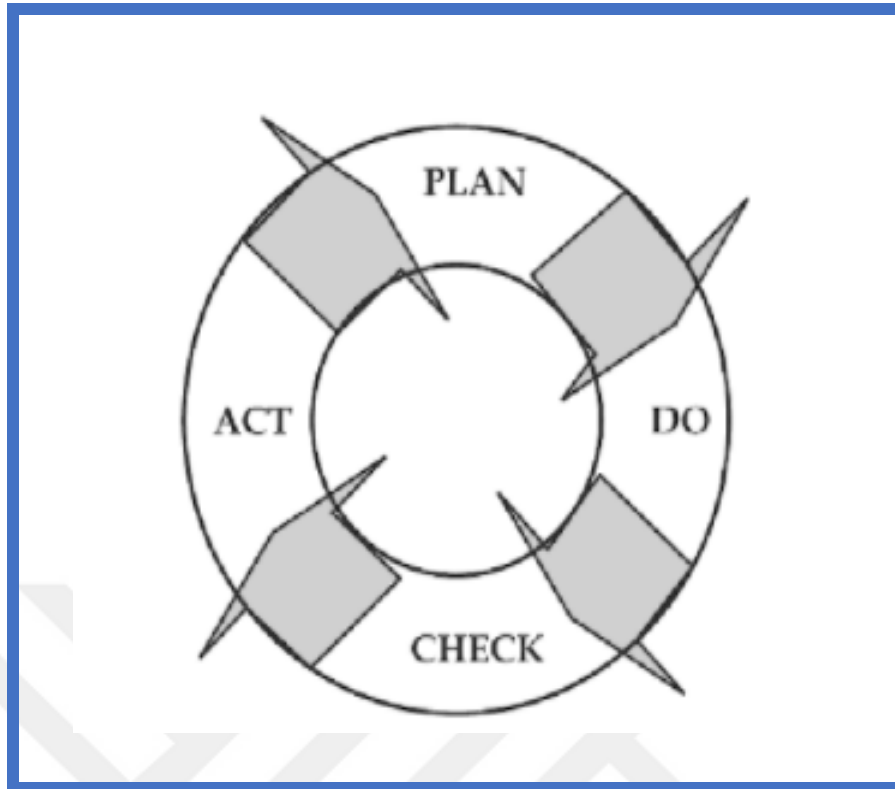


Figure 2.7: PDCA Cycle

Source: (Kiran, 2016:10)

- **Plan:** This step is identifying and analysing the problem (Kiran, 2016:10).
- **Do:** Implementing the plan is the second step of this wheel. All data is collected to be used in the next step (Kiran, 2016:10).
- **Check:** This is about the measurement of how effective the test was. Also in this step, it is necessary to check how to improve all processes more. All data will be studied and controlled if they are meeting the expected results (Kiran, 2016:10).
- **Act:** All improved solutions are implemented in this step by changing the process or taking some actions on differences between expected and actual results by analysing the differences to determine their root causes (Kiran, 2016:10).

2.8 Communication

Relocation is a sensitive process that requires careful communication for an effective output. Haacke (2015:2) recommends using an internal task force during the preparation phase of the relocation. The internal task force should include the following:

- 'Formulating a timeline for execution of the relocation
- Developing a comprehensive internal and external communication plan
- Ensuring compliance with laws and regulations
- Coordinating communication across the company' (Haacke, 2015:2)

For the announcement of relocation, there are two approaches according to Haacke:

- **A single town hall announcement:** All stakeholders, employees, customers, suppliers, and other directly and indirectly involved people in the business will be made aware of the relocation at the same time (Haacke, 2015:2).
- **Informing key influencers first:** It is important to inform all internal stakeholders of a company about the relocation. These influencers could be informed first by a company (Haacke, 2015:2).

Matthew Dennis, a relocation specialist, explains the following about an effective communication plan related to the move. A communication plan should effectively communicate all parts of the company. The more employees are aware of the move plan, the more they will be enthusiastic. The effective communication plan should also cover general information about the new facility, construction, progress, and pictures, what employees could expect during the project, what the expectations of employees are, and what will be different. A clear and detailed communication plan will let employees understand why the change is being made by the company (Dennis, 2013:3).

Executive consultant Maryse Alvis explains six key tips to keep in mind during a relocation process:

- **Plan:** Plan the physical aspects of the relocation for people (Alvis, 2015:1-6).
- **Communicate:** Ensure the communication plan is aligned with the project plan, keep staff regularly informed of updates, and have face-to-face communication (Alvis, 2015:1-6).
- **Use "Move Champs" or Change Champions:** Engage and consult early and often with employees about the relocation (Alvis, 2015:1-6).
- **Listen:** Listen to employees' concerns and act on them (Alvis, 2015:1-6).
- **Manage expectations:** Be understanding regarding the staff, but also be realistic about expectations for the move (Alvis, 2015:1-6).
- **Change management after the move:** Keep support available after the relocation. It is possible that a relocation could affect employees (Alvis, 2015:1-6).

Communication is one of the most important aspects of a company. It is not possible to manage any task or planning without communication. Without the support of employees, it is not possible to have a smoothly operational process. For a well operating process, it is necessary that employees are motivated.

Herzberg introduced his motivation-hygiene or two-factor theory in the 1950s. The aim of motivation factors, which are intrinsic, is only to increase and improve job satisfaction. The hygiene factors, which are extrinsic, aim to reduce job dissatisfaction by employees (Alshmemri, 2017:12-16).

The motivation factors include the following:

- **Advancement:** This relates to the position of an employee in a company. If an employee is negative, this means there is a negative advancement. If the employee is positive, there is a positive advancement (Alshmemri, 2017:12-16).
- **Recognition:** This happens when employees, for example, reach a specific goal or show a high qualitative work attitude. This is a positive recognition. When the employer does not have any desire to work, that is a negative recognition (Alshmemri, 2017:12-16).
- **The work itself:** The tasks of work could influence employees in a negative and positive way. If work is too easy for an employee, this will influence an employee in a negative way. When the work itself challenges the employer or satisfies, this is a positive influence (Alshmemri, 2017:12-16).
- **Responsibility:** Authority is related to this factor. Giving employees the freedom to make decisions will satisfy employees and have a positive impact on them. A gap between authority and responsibility will have a negative impact on the employees (Alshmemri, 2017:12-16).
- **Achievement:** Solving a very complex problem is an achievement, which will influence a person positively. If it is hard to solve a problem, this will influence the employee in a negative way (Alshmemri, 2017:12-16).
- **Possibility for growth:** When there are possibilities for growth in a company for an employee, this will be a motivating factor to work on personal skills and experiences. If there is no possibility for growth or if there is no position change, then this will influence in a negative way (Alshmemri, 2017:12-16).

The most important of the motivation factors from Herzberg's theory are giving employees responsibilities, challenging work, and the possibility for growth in a company.

The following are the extrinsic, hygiene factors from Herzberg's two-factor theory:

- **Company policies and administration:** This factor shows the adequacy of the company guidelines and policies. A poor guideline, policy, and communication will influence the employee in a negative way. A well-organized policy and guideline environment will motivate the employer more (Alshmemri, 2017:12-16).
- **Relationship with supervisors:** A supervisor who does not teach job tasks or is acting unfairly will cause negative impacts on the employee. The supervisory relationship is important for job satisfaction of employees. When there is not a positive relationship with supervisors, this will influence the employee, and it is also possible that this will lead to resignations (Alshmemri, 2017:12-16).
- **Interpersonal relations:** These are all job-related interactions between employee and colleagues and supervisor, such as relations during break times. This factor influences also an employee in a negative or positive way (Alshmemri, 2017:12-16).
- **Working conditions and salary:** Salary and the expectations of employees about salary are very important. Every employee works because of their living costs. If the salary does not meet their expectations, this will have a negative impact on the employee (Alshmemri, 2017:12-16).

The working conditions and salary could be counted as the most important of the hygiene factors. After that are the relationships between colleagues and supervisors important, because relationships affect the working environment. The difference between motivation and hygiene factors is that the motivation factors are more about the employee skills, development, and progress, while the hygiene factors are about the company, salary, and relationships between colleagues and supervisor.

The conclusion is that there should be an open communication regarding employees. They are the workforce of a company and work in order to meet company goals. However, employees are not machines, and they need to be motivated. A well-motivated employee will try to work on a maximum level on the work floor.

3. RESEARCH METHODOLOGY

This chapter explains in detail which research methods are used during the thesis research. It will also provide information about the data types that are used for this study.

Primary resources: A qualitative research method was used as the primary resource. The primary data for this thesis was generated from the questionnaire list that was prepared for the company Nutricia Early Life Nutrition. The validity and reliability will also be explained in detail. Finally, how the questionnaire list was applied will be discussed.

Secondary Resources: Information from published books, scientific studies, articles, and all related documents was used as secondary resources. All this gathered information as used for the literature review. The validity and reliability explanation of the literature review is also available in this chapter.

3.1 Conceptual Framework

A conceptual framework is a design or model that explains exactly what you want to study and why you are doing this study (Maxwell, 2013: 39-40). For the development of conceptual framework, are there four possible sources: experience, prior theory and research, pilot studies, and thought experiments (Maxwell, 2013:39-72).

Figure 3.8 shows the conceptual framework for this study, which is prepared, based on the theory of Maxwell. This framework is prepared in order to have an the image in order to see what kind of results could be expected from this study. The expectation of this study is to measure what kind of impacts relocation has on the supply chain department. The conceptual framework starts with the main question of this study. In this conceptual framework, the main question is the dependent variable. The independent variables are all sub-questions that were formulated in order to support the main question. All independent variables were connected to the literature review and the qualitative research. This is because the expectation is to answer all sub-questions with the help of the literature review and the qualitative research results.

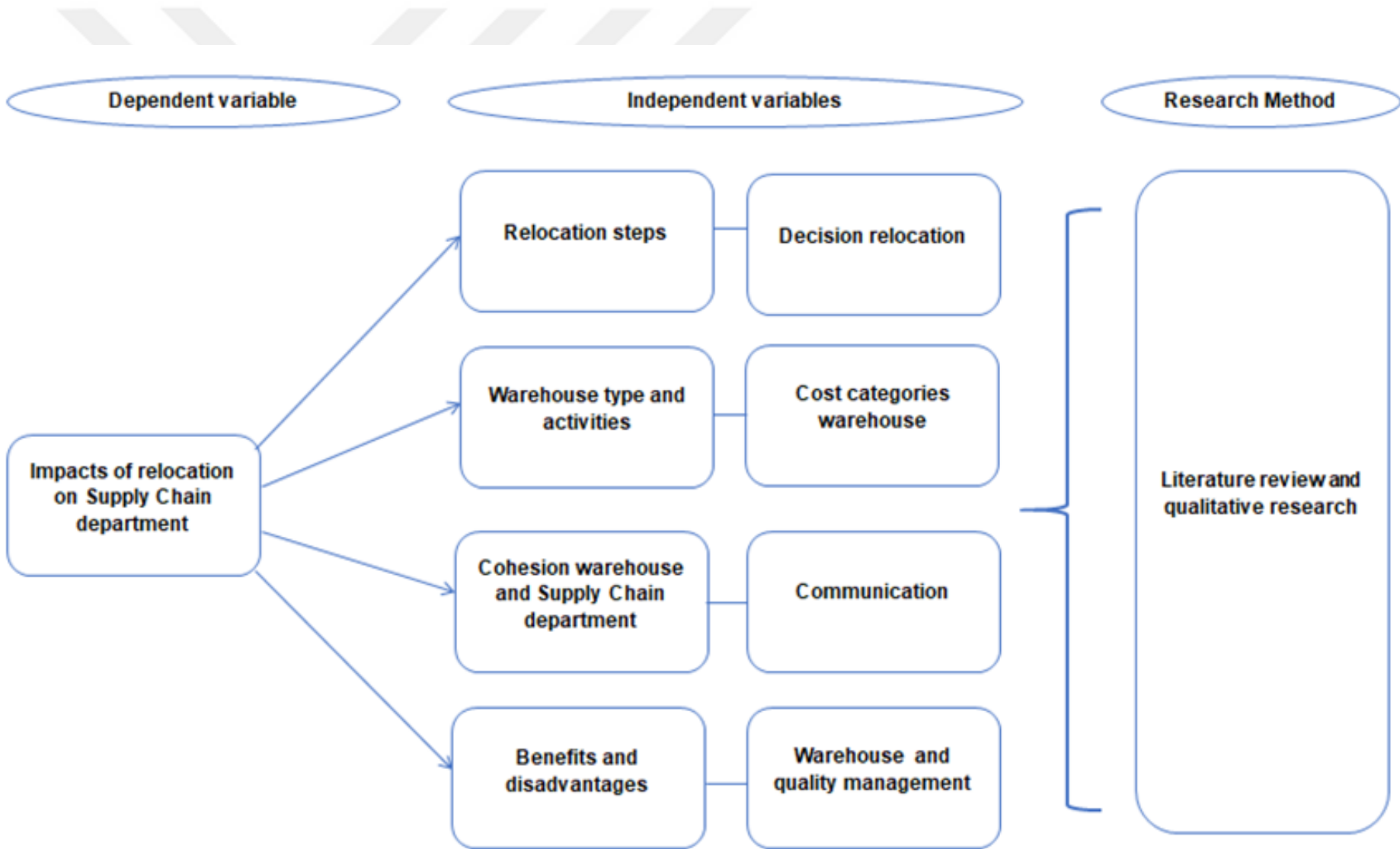


Figure 3.8: Conceptual Framework

3.2 Qualitative Research Explanation

The qualitative research method is the understanding of non-numerical information like interview results, videos and other visual data, and data that contain digital material. Qualitative research is an inductive and interpretative research approach (Boyle, 2018:2). Another definition explains that using a qualitative research method finds answers on social settings research. Qualitative researchers are interested in the sense of human settings (Berg, 2001:7).

The qualitative research method has characteristics like an experimental setting. The research will act during the research process like a tool itself, data and sources will be used more often, and data are inductive (Boyle, 2018:15). Furthermore, qualitative research is subjective in nature and about the experiences of humans and languages. The researcher does very intensive research and is close with the participants (Chaput, 2017:1-2).

The three most commonly used qualitative methods are phenomenology, grounded theory, and thematic.

- **Phenomenology:**

The aim of this method is to understand experiences of humans based on facts. The most used data collection methods are in-depth interviews of up to ten people. Philosophy is the origin of this theory. For the data analysis, the researcher uses meanings about the themes and the memos (Chaput, 2017:3).

- **Grounded theory:**

The aim of this theory is about social processes. It has a sociology discipline as the origin. With this theory, interviews of between twenty and thirty people are often used (Chaput, 2017:3).

- **Thematic:**

Thematic is a theory that has as its aim to finalize studies in an emergent way. The origin of this theory is in psychology. The interview process will go on until there is saturation on the study topic. For the data analysis, the researcher uses ideas, codes, and themes (Chaput, 2017:3).

It is necessary to design qualitative research as a theory before research and research before theory. Table 3.3 below illustrates the design of qualitative research (Berg, 2001:19-37).

Table 3.3: Six Steps for Designing Qualitative Research

Step	Explanation
Idea	It all starts with an idea of doing research on a topic and a researcher (Berg, 2001:19-37).
Literature Review	The next step is the literature review, in which a researcher discovers what data already exist about the topic (Berg, 2001:19-37).
Design	During this stage, the researcher designs the study (Berg, 2001:19-37).
Data Collection and Review	After the design, it is time to collect and organize data. There are seven primary ways to collect data: interviewing, focus groups, ethnography, sociometry, unobtrusive measures, historiography, and case studies (Berg, 2001:19-37).
Analysis and Findings	When the previous stages are done, it is time to analyse all data and to write findings of the study (Berg, 2001:19-37).
Dissemination	As the last step, it is important to spread all findings of the study (Berg, 2001:19-37).

Source: (Berg, 2001:19-37)

In total, there are six steps to design a study. It all starts with an idea for a research topic and reviewing literature that already exists about the research topic. There are several methods to use for data collection and review. As a researcher, it is important to estimate which of these methods will help to conduct the study. The analysis and findings stage of studies is another critical step. It is important to analyse all collected data in a correct way, because the findings are based on the previous steps of the study.

There are seven primary ways to collect data from qualitative research. Table 3.4 explains briefly these ways of collecting data.

Table 3.4: Seven Primary Ways To Collect Data

Method	Explanation
Focus groups and phenomenology	This is a small group of not more than seven participants that would be interviewed. It is a way to collect one-time data. These are data that could only be used one time (Berg, 2001, pp. 111-131). Phenomenology is a method to understand experiences of a focus group during a change process (Berg, 2001:116).
Interviewing	<p>Interviews are conversations with a purpose. Interviewing is possible in three ways:</p> <ul style="list-style-type: none">• The standardized interview, which is a structured questionnaire of all the questions.• The semi-standardized interview, with a questionnaire list that would be asked in a systematic way to all participants. Each respondent will be asked the same questions.• In-depth interviews, which are interviews with detailed questions for each participant from an organized questionnaire list (Berg, 2001:66-107). <p>The analysing part of this method after data collection is content analysis.</p>
Ethnography	This is a way to describe people's viewpoints, culture, and way of living. Data are collected by observing and taking notes (Berg, 2001:133-178).
Sociometry	Sociometry is also a way to collect data. This way describes group relational structures like hierarchy, networks, and so on. Based on sociometrical tests, sociograms can be made, which are graphics that show relations between relational structures (Berg, 2001:167).

Table 3.4: Seven Primary Ways To Collect Data

Method	Explanation
Unobtrusive measures	This is a way of collecting data without awareness. The subject will not be aware that someone is doing research. There are two categories in this way of data collection, accretion and erosion. Accretion is studying the things that people have left. Erosion is non-touchable stuff that is left by humans, for example, their tears (Berg, 2001:189).
Historiography	This is a way to collect data from past studies. It is also called historical evidence. There are in total four types that could be used for data collection of historiography: primary and secondary resources, running records, and recollections (Berg, 2001:210-219).
Case studies	<p>This is collecting data about particular persons. Case studies are a more methodological way of data gathering (Berg, 2001:225). There are three ways of data collection of case studies.</p> <p>Exploratory, where the researcher explores before the larger study starts. This is more a pilot study on a field that has not been studied before or is studied less.</p> <p>Explanatory, in which a study is used for research that has as its aim to show a causal relation.</p> <p>Descriptive case studies, where the researcher will describe the study and go through this during the study (Berg, 2001: 230).</p>

Source: (Berg, 2001:66-210)

A research can only use these methods for non-numerical studies, in other words qualitative research.

The aim of each method is, of course, primarily to collect data. The difference between all these data collection methods is the diversity in which aspect a researcher wants to collect data.

For example, one of the methods is to collect data from past studies, while another method wants to describe group structure relations. This means that each researcher must think about his or her study and figure out which of the methods that could be used is best.

3.3 Qualitative Research

This paragraph will explain which company was chosen for gathering data, the method of gathering data, the population and sample, the questionnaire list, and the structure of the in-depth interviews.

3.3.1 Company

For this study, the company Danone Nutricia Early Life Nutrition (ELN) was chosen. The company operates worldwide in the nutrition sector. Since 2007, Numil Nutricia Early Life Nutrition Turkey has been operating under the name of French multinational Danone. The company started 100 years ago in a Dutch city, Zoetermeer, with clinical baby nutrition. Over the past 100 years, this company carried out different takeovers and mergers, and it is now one of the leading companies worldwide in baby nutrition.

In Turkey, there are more than 150 employees trying to fulfil the mission and vision of Nutricia ELN. The mission statement of Nutricia is 'Stand by mums to nurture new lives' (Nutricia, Early Life Nutrition Nutricia, 2017:1) and the vision is 'bringing health through food to as many people as possible' (Nutricia, Early Life Nutrition Nutricia, 2017:1).

This global company is in Turkey doing business in the following markets: water, baby nutrition, and dairy foods. The branch where all the core business activities of Nutricia take place is baby nutrition (clinical). Nutricia's Turkey office is based in Levent, Istanbul, with all warehouse activities in Gebze.

Before choosing Danone as the subject for further research, all global companies in Istanbul that were planning to relocate were checked. As of 21 December 2017, the logistic department of Nutricia ELN Turkey has replaced their warehouse. All logistics activities will be fulfilled at the new warehouse location in Orhanlı.

For the majority worldwide is the awareness of eating healthy goods more the last decennium. Especially parents are more aware of the genetically modified organisms in food and therefore are they more sceptical about baby nutrition. There are almost 4.7 million babies in Turkey, this is a very large market baby nutrition companies (International, 2017:1).

In the baby food market are a lot of competitors. The leading company is Numil Danone Nutricia Early Life Nutrition. The company is having a value share of 51%. The products Bebelac and Milupa are as first ranked in Turkey as baby food. In almost all baby nutrition categories has the company Numil Danone Nutricia ELN products. About the genetically modified organism is the company using quality controls. During the production are the factories controlling the goods for genetically modified organism. Also before the import process starts is the company doing test with help of an independent laboratory (International, 2017:1).

In Turkey are more than 150 employees trying to fulfill the mission and vision of Nutricia Early Life Nutrition. Mission was Nutricia stands for is “Stand by mums, to nurture new lives” (Nutricia, Early Life Nutrition Nutricia, 2017:1) and the vision is ‘bringing health through food to as many people as possible’ (Nutricia, Early Life Nutrition Nutricia, 2017:1).

3.3.2 Research method

Phenomenology was chosen as the research method. Phenomenology is a method that helps in understanding human experiences during a change process. Since the topic of this study covers a relocation process, this method is the best way to gather data (Berg, 2001:27). The aim of this study is to understand how a change process is realized, and phenomenology supports this aim. The data collection occurred by holding focus group interviews.

3.3.3 Data collection

The way of data collection was by in-depth interviews with a focus group. For this study, the participants of the focus group are all employees of the logistics department of Nutricia ELN. On 21 December 2017, the warehouse of Nutricia ELN moved to another place. One of the requirements of this study was that participants had experienced relocation in the short term. The employees in the logistics department are aware of all the processes before and after the relocation since they were the most intensive department working on the relocation.

Table 3.5 lists the focus group participants and their position in the company. The first interview was held with the logistics manager, then with the logistics executive, and then the specialists. The reason for this order was to collect data first on a strategic level and then on an operational level. Each participant had different experiences in the relocation.

Table 3.5: Sample List for Qualitative Research

Department	Interviewee	Position	Interview Date
Logistics	Participant A	Logistics Manager	30.03.2018
Logistics	Participant B	Logistics Executive	30.03.2018
Logistics	Participant C	Logistics Specialist	30.03.2018
Logistics	Participant D	Logistics Specialist	30.03.2018

As shown in the conceptual framework, the independent variables are the sub-questions of this study. The results of the qualitative research will be helpful in answering the following research questions.

Research Question 2: What is the cohesion of a warehouse with the supply chain department?

Research Question 4: How does a company decided on the relocation of a warehouse?

Research Question 5: What are the steps for the relocation of a warehouse?

Research Question 8: How should communication proceed before and after the relocation?

Research Question 9: What are the benefits and disadvantages of a warehouse change?

Research Question 10: What are the financial benefits of this warehouse change?

3.3.4 Data analysis

The data analysis was thematic. The focus group shared similar experiences about the change process. In order to organize the answers thematically, the questionnaire list for the in-depth interviews was divided into sections. The sections were drawn from the independent variables, which also represent the research questions of the study. These sections are listed below:

- Cohesion between warehouse and supply chain
- Decision for relocation
- Process of relocation

- Cost categories and financial benefits
- Benefits and disadvantages of relocation

After all the interviews were finalized, interview summaries of one to three pages were prepared. The sections used for data analysis are shown in the summaries. The answers of the participants were summarized with these sections. The summaries were sent to the interviewees for review, and after their permission was given, the collected information was used to answer the research questions.

Audio records were made and notes were taken during the interview to ensure that no important information was missed. The audio records were used while making the interview summaries.

3.3.5 Questionnaire design

The questionnaire list was prepared in English and consists of five sections and in total 25 questions. The sections were taken from the research questions.

Section 1: Cohesion of warehouse and supply chain and communication

This section consists of seven questions. The aim was to understand how the communication in a company should be before and after the relocation process. It was also an aim to have an insight into how far there is cohesion between the warehouse workers and the supply chain workers.

Section 2: Relocation decision

This section consists of five questions. Since it is a very complex and intensive process, it was important to understand what kind of motivations a company has to relocate a warehouse. Also, it provided a brief insight into which aspects a company pays attention to before making a final decision about relocation.

Section 3: Relocation processes

Four questions were prepared in order to understand how a warehouse is moved in practice. These questions helped to gather information about the details during a relocation process, such as risks that can occur.

Section 4: Cost categories and financial benefits

This section includes questions about the financial benefits and the categories that a company has. It provided this thesis study information about the costs that are incurred before and after relocation and what kind of benefits a company derives from the relocation. This section has six questions.

Section 5: Benefits and disadvantages

This is the last section of the questionnaire list and one of the most important aspects of this study. It provided information about the advantages and disadvantages of relocating a warehouse. Further, this section also provided insight from the aspect of the company on if the relocation of their warehouse was worthwhile. There are two questions for this section.

3.3.6 Questionnaire list

The list of questions used during the in-depth interviews is below. Each interviewee was asked the same questions.

Section 1: Cohesion of warehouse and supply chain and communication

1. How often is there a meeting between these two departments?
2. What kind of technology do you use for communication? (SAP systems, email, meetings)
3. Do you feel the cohesion between these two departments? Explain.
4. Do you think that there will be more or fewer meetings between the departments because of the relocation?
5. Will the way of communication change with the relocation, for example, the systems?
6. What should change for a maximum cohesion between these two departments?
7. How should communication proceed before and after a relocation?

Section 2: Relocation decision

8. How did the company decide to relocate? What was the trigger for this decision?
9. Explain the main factors for relocation.
10. How do you plan the relocation of a warehouse?
11. What kind of expectations does a company have of relocation?
12. What are the steps for relocation?

Section 3: Relocation process

13. How did you plan the relocation?
14. How was the relocation process? Where did you start, and how did you finish it?
15. What were the most important aspects of the whole relocation process?
16. What kind of occurs are experienced during the relocation?
And how did you solve it?

Section 4: Cost categories and financial benefits

17. What are the regular cost categories and what are the non-regular cost categories?
18. How do you calculate the costs? Is this manual or calculated via a system?
19. Did anything change in the regular and non-regular cost categories?
20. Do you think that there will be a change in this way of working or will it be the same?
21. How did you calculate the costs of relocation? Was there a budget?
22. What was the biggest cost of the relocation?
23. What are the financial benefits of relocation?

Section 5: Benefits and disadvantages

24. What are the benefits of relocation?
25. What are the disadvantages of relocation?

3.3.7 Checklist questionnaire

In order to gather the most valid information during the in-depth interviews, a checklist was prepared. This checklist was based on the questionnaire sections. All sections were checked during the interview. If there was no clear answer or data from the interviewee, the question was asked again.

Questionnaire Checklist

Sections	Clear	Unclear
<ul style="list-style-type: none">• Cohesion between warehouse and Supply Chain• Decision for relocation• Process of relocation• Cost categories and financial benefits• Benefits and Disadvantages		

3.3.8 Interview structure

In order to collect the most valid information during the interviews, an interview structure was prepared, described below. By starting, proceeding, and ending each interview at the same time, it is possible to analyse results on the same structure (Berg, 2001:73).

Beginning of the interview

The interview started with the explanation of the purpose, aim, and duration of the interview and what expectations from participants were. The interviewee was given the opportunity to take a look at all the interview questions if they were not sent by email. Lastly, the interviewees were asked for their permission for the use of recording equipment during the interview.

During the interview

All questions were asked one by one according to the questionnaire list. The interview continued until answers to all questions were given by the participants. During the interview, the prepared checklist was also used. Questions were also rephrased to prevent unclear issues about the responses.

End of the interview

Each section of the questionnaire was summarized briefly and comments were asked for. The participant was asked if he or she wanted to read the interview summary later. If yes, the document was sent to the interviewee after it was prepared.

3.3.9 Reliability qualitative research

The use of data registration and data analysis equipment maximizes the reliability of qualitative research. Therefore, recording equipment was used during the interviews. The audio records were also used during the preparation of interview summaries. Another reason for using audio records was that it counts as proof material. For maximizing the reliability of the interviews, a standard questionnaire list was used to ensure that each employee was asked the same questions. Sending the interviewee a summary of the meeting and verifying the correctness of the answers was also used to maximize reliability (Berg, 2001:127).

3.3.10 Validity qualitative research

Validity is measuring what is supposed to be measured during data collection. This is based on the research questions of a study and the aim of the study.

The qualitative research of this study is based on phenomenology and in-depth interviews with a focus group. All prepared questions for the interview could only be answered by people who had experienced relocation. This increases the validity of this research. Another aspect that increases the validity of this study is asking all respondents the same questions until there is an answer received.

By using the five sections, it is also possible to compare all answers of the participants. This also increases the validity of this study.

There was a literature review done to gain information about the topic of warehouse relocation and the impact on the supply chain. The aim of this literature review was to find theory-based answers on the sub-questions. In order to do a correct literature review about the topics, a search plan was prepared for the literature review method. The goal of this search plan was to increase quality and reliability of collected information. This search plan also aimed to cut the time of literature review by searching only for relevant information via related search terms. The research questions in this thesis were answered partly with results of the literature review.

The search plan for this study is shown in Table 3.6. The table is divided into three columns: research questions, search terms, and information sources. As mentioned before, the aim of a literature review is to answer partly the research questions of this study. Therefore, the first column of the search plan is about the research questions. The second column is the search terms, which were derived from the research column. Finally, the third column gives an overview of the sources that were used for the literature review. To increase the quality and reliability, the information sources chosen were the online database of Istanbul Aydın University, Google Scholar, and Free Web.

Table 3.6: Search Plan

Research questions	Search Terms	Information Sources
What are a warehouse, activities, and types?	Warehouse activities	Catalogi IAU, Google Scholar, Free Web.
What is the cohesion of a warehouse with the supply chain department?	Cohesion between the warehouse and the supply chain	Catalogi IAU, Google Scholar, Free Web.
What kind of cost categories has a warehouse?	Cost categories	Catalogi IAU, Google Scholar, Free Web.
How decides a company for the relocation of a warehouse?	Decision for relocation	Catalogi IAU, Google Scholar, Free Web.
What are the steps for the relocation of a warehouse?	Process of relocation	Catalogi IAU, Google Scholar, Free Web.
What type warehouse managements are available and what are the functions?	Warehouse management	Catalogi IAU, Google Scholar, Free Web.
What kind of quality management could be used?	Quality management	Catalogi IAU, Google Scholar, Free Web.
How should proceed the communication before a relocation and after the relocation?	Communication	Catalogi IAU, Google Scholar, Free Web.
What are the benefits and disadvantages of a warehouse change?	Benefits and disadvantages	Catalogi IAU, Google Scholar, Free Web.
What are the financial benefits of this warehouse change?	Financial	Catalogi IAU, Google Scholar, Free Web.

3.4 Reliability literature review

Reliability is without any doubt the most important aspect of a literature review. It shows to what extent the research is free from coincidental research. By repeating of research, it is important to have the same results.

The following actions were done to ensure a reliable review:

- **Use of more than one source:** The use of several sources makes a comparison during a research possible. During the research, several sources were used in order to maximize the reliability of this study.
- **Using recent sources:** During the research, it is important to use recent publications. Publications over five years old were only used if there was no other source available. When it was not possible to find recently published relevant information, older publications were considered.
- **Internal information from the company:** To have a clear view of the way of working and all activities related to the study topic, internal information is helpful. It provided examples, which could help in understanding of the topics.
- **Online database of Istanbul Aydin University:** Information, articles, and research results from the online database of the University were used as much as possible.
- **Search plan:** The goal of this search plan was to increase quality and reliability of collected information.

3.5 Validity literature review

In order to maximize the validity of the literature review, which is to measure what needs to be measured, a search plan was prepared. All sub-questions were separated into search terms, which created the possibility to search on topic related information.

4. QUALITATIVE RESEARCH ANALYSIS

Qualitative research analysis gives an answer for each research question based on the phenomenology methodology of this study. All results are extracted from the in-depth interviews that were done during the research.

4.1 Warehouse Activities And Warehouse Type Of Nutricia ELN

The warehouse of Nutricia ELN Turkey only receives finished goods from suppliers; they do not produce any good in their warehouse. The primary activities of Nutricia ELN Turkey are explained below:

- **Storage:** As with most companies, the primary warehouse activity of Nutricia ELN Turkey is to store all goods in a safe and high-quality way without taking any contamination risk. All the goods are baby nutrition goods, which makes it very important for Nutricia ELN Turkey to store their goods safely.
- **Value-adding process:** The second activity is repacking of imported goods, which is a value-adding process. This process happens only in cohesion with other departments in case it is needed. This process is time-consuming for warehouse employees depending on the volume of goods that need to be repacked.
- **Pick-up of goods:** Another activity is to pick up all goods and make them ready for delivery. Some customers, particularly for supermarkets, pick up a variety of goods, which takes more time than regular pick-up.
- **Transfer of goods to the warehouse:** After the import process is finalized, the warehouse employees transfer goods from a bonded warehouse to a public warehouse. All the goods that cross the Turkish borders are stored first in a bonded warehouse by the government.

After finalizing the import process, the company transfers all goods to the public warehouse, which is a free zone where the trade of goods is allowed. After the transfer, it is possible to deliver orders to customers.

4.2 Cohesion Between The Warehouse And The Supply Chain

The qualitative results demonstrate that there is cohesion between the warehouse, logistics, and supply chain of Nutricia ELN Turkey. According to the logistics manager, it is necessary to work in cohesion, since each work activity in the warehouse, logistics, and the supply chain influences each other. Without cohesion, it is not possible to operate smoothly or to reach company goals.

In order to be aware of the latest progress, there are monthly meetings between the supply chain and logistics departments. The departments discuss all key performance indicators of the suppliers together. This happens using key performance indicator reports. These reports show from the monthly performance from each forwarder, customs agency, and factory. There are also weekly meetings to discuss all activities related to product changes, new products, and delisted goods. The weekly meetings are between all departments of the company.

Regarding the relocation, the issue was discussed at weekly or semi-weekly meetings with all departments, including purchasing, quality, finance, and regulatory. During the weekly meetings, the progress of tasks was discussed. For efficient communication, the following media were actively used: SAP system, emails, meetings, and phones. The SAP system is the software all departments within Nutricia ELN Turkey use. This system provides each employee the necessary information.

Since all departments contribute for a part of the working activities, there is strong cohesion available between the departments. All regular activities and tasks are set up and known by each department. Each department has its own tasks and responsibilities. During the relocation, the logistics department set up all activity details about what should be done and divided them into related departments. Based on these responsibilities, each department contributed to the relocation process. The logistics department was the managing department during the whole process.

4.3 Cost Categories

Regarding the cost categories, there are two results from the qualitative research. There are results about the cost categories in general and about the costs regarding the relocation.

Nutricia ELN Turkey has the following cost categories in their warehouse:

- Handling
- Storage
- Operations administration
- General administrative expenses

The logistics department of Nutricia ELN Turkey manages the budget for the whole supply chain. When there is the intention to organize a department activity, for example, the permission of the logistics manager is needed.

Handling and rent costs make up a large part of the total costs of warehouse activities. Therefore, the yearly handling and storage costs with the old warehouse and new warehouse are shown below.

Table 4.7: Yearly Handling Costs Overview Old Warehouse

Handling	Old Warehouse Supplier
2017	3.222.407 TL
2018	3.740.565 TL
2019	4.380.891 TL
2020	5.194.789 TL
2021	6.165.129 TL
TOTAL	22.703.781 ₺

Source: (Nutricia, Tender Drivers, 2017:14)

As shown in Table 4.7, the total handling costs for five years are almost 23 million Turkish lira. The following table shows the total rent costs for five years.

Table 4. 8: Yearly Rent Costs Overview Old Warehouse

Rent	Old warehouse Supplier
2017	3.721.388 TL
2018	4.189.690 TL
2019	4.752.538 TL
2020	5.539.837 TL
2021	6.457.691 TL
TOTAL	24.661.145 ₺

Source: (Nutricia, Tender Drivers, 2017:14)

The rent costs with the old warehouse supplier for five years are almost 25 million Turkish lira for the company.

The handling and rent costs for the company after the relocation of the warehouse are shown in the following tables.

Table 4.9: Yearly Handling Costs Overview New Warehouse

Handling	New Warehouse Supplier
2017	3.136.603 TL
2018	3.482.916 TL
2019	3.879.118 TL
2020	4.372.431 TL
2021	4.932.590 TL
TOTAL	19.884.174 ₺

Source: (Nutricia, Tender Drivers, 2017:14)

In total, the handling cost with the new warehouse is around 20 million Turkish lira.

The following table shows the total rent for five years with the new warehouse.

Table 4 10: Yearly Rent Costs Overview New Warehouse

Rent	Old warehouse Supplier
2017	3.338.056 TL
2018	3.758.463 TL
2019	4.261.374 TL
2020	4.967.054 TL
2021	5.789.752 TL
TOTAL	22.114.700 ₺

Source: (Nutricia, Tender Drivers, 2017:14)

The rent price with the old warehouse is around 22 million Turkish lira. The differences in handling and rent costs between the old and new warehouse are as follows:

Table 4.11: Costs Difference Between Old and New Warehouse

Total of Rent and Handling	Old Warehouse	New Warehouse
2017	6.943.795 TL	6.474.659 TL
2018	7.930.255 TL	7.241.379 TL
2019	9.133.429 TL	8.140.492 TL
2020	10.734.626 TL	9.339.485 TL
2021	12.622.820 TL	10.722.342 TL
TOTAL	47.364.926 ₺	41.918.358 ₺

Source: (Nutricia, Tender Drivers, 2017:14)

The differences in rent and handling costs of the new warehouse and the old warehouse for five years is around 5.5 million Turkish lira.

Relocating a warehouse is very costly aside from the energy and effort necessary. For the relocation, Nutricia ELN incurred several one-time and yearly costs. A few of these costs are shown below in Table 4.12. This overview is extracted from the interview results of the logistics manager and the PowerPoint presentation that was prepared by Nutricia ELN Turkey. The whole PowerPoint presentation is added to the appendixes.

Table 4.12: Costs Made By Nutricia ELN During Relocation

Cost Explanation	One shot / Yearly	Amount
A temporary place for the moved goods	One-shot	220.000 TL
Total transport costs between old and new warehouse	One-shot	40.909 TL
Training for the employees of the new warehouse	One-shot	Not available
Overtime working hours payment	One-shot	Not available
Warehouse Manager and other official expenses	Yearly	160.000 TL
Investment for temperature control and system validation for 3000 pallets	One-shot	2.500.000 TL
Electricity	Yearly	120.000 TL

Source: (Nutricia, Tender Drivers, 2017:15)

Table 4.12 shows that there were primarily one-time costs for the movement. The fixed and yearly costs are only the electricity and the salary of the warehouse manager.

4.4 Decision For Relocation

The rental contract between Nutricia ELN Turkey and the current warehouse owner ended at the end of 2017. There were two solutions for the board of Nutricia: they could extend the current contract, or they could search for another warehouse. After negotiation, they chose to look for a new warehouse.

A tender was held to see all potential companies that could be the warehouse supplier for Nutricia for upcoming years. Several drivers were determined and categorized into four groups. Figure 4.9 below shows an overview of all drivers and determined categories. The information was received from the company on 30 March 2018. The tender driver's figure is from the PowerPoint presentation, which is also included as an appendix. All companies that participated in the warehouse tender for Nutricia ELN Turkey gave their offers regarding these drivers.

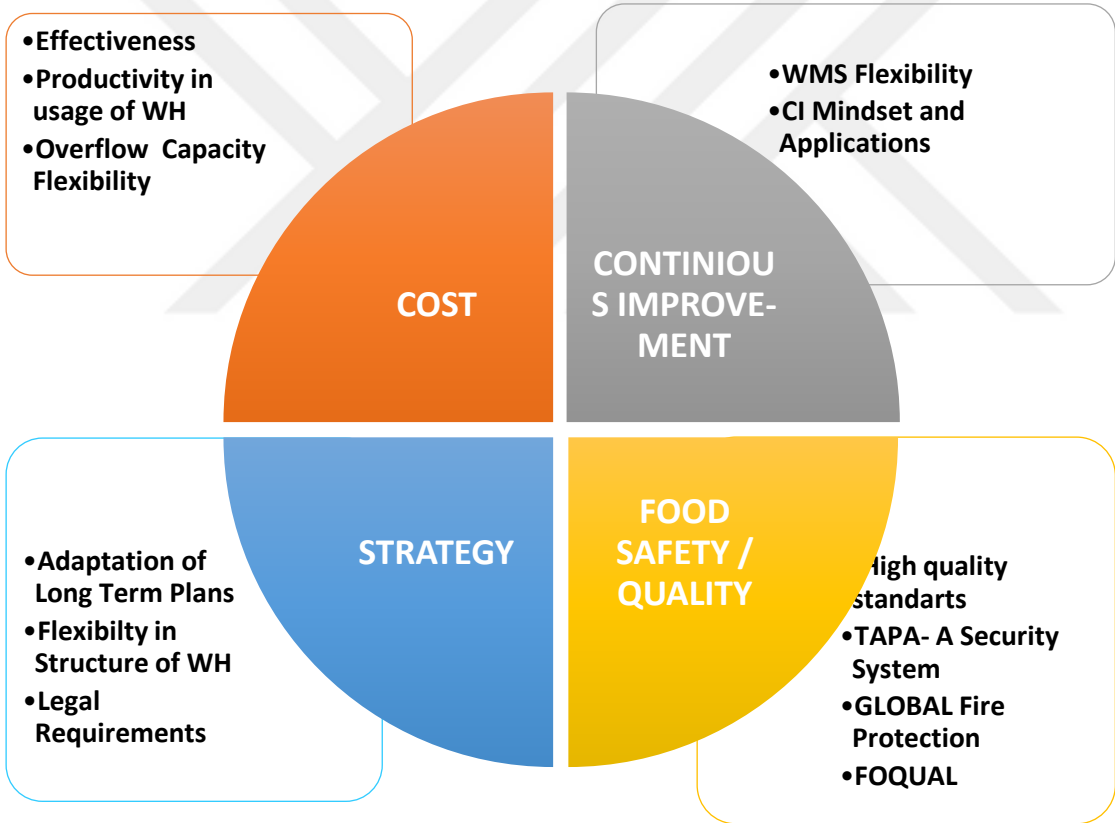


Figure 4.9: Tender Drivers For Nutricia ELN Turkey

Source: (Nutricia, Tender Drivers, 2017:2)

4.5 Process Of Relocation

The whole relocation process of Nutricia ELN occurred in four phases, as shown in Figure 4.10 below. Each phase of the relocation will be explained separately.

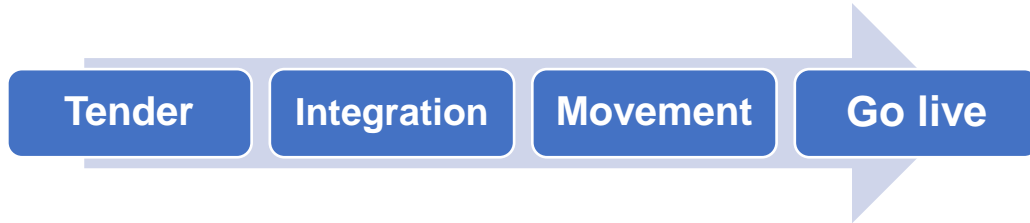


Figure 4.10: Phases Relocation Process

Source: (Nutricia, Logistics Operations Turkey, 2017:34)

Before explaining all the relocation phases, some facts about this process are summarized in Figure 4.11.



There was a four-step plan made for the relocation.

The relocation has taken place in 9 months.

In total, 168 full trucks were used for the movement of 5500 pallets.

The activities never stopped during relocation.

Figure 4.11: Relocation Facts

Source: (Interview Results Participant A., 2018:2)

The whole relocation process of Nutricia ELN Turkey is described by the following phases.

Phase 1: Tender

Nutricia ELN started with organizing a tender after they made the decision to move. The companies that participated in the tender should satisfy the expectations of Nutricia ELN. As previously mentioned, tender drivers were formulated. The tender drivers for the company were cost, continuous improvement, strategy, and food safety. All interested companies made an offer to Nutricia ELN Turkey in order to be their new warehouse supplier. There were in total six companies that made an offer. After the offers, two companies were eliminated by Nutricia ELN Turkey, leaving four companies.

The four companies were evaluated again based on the requirements, and Nutricia eliminated another company. From the three companies that were left, one company was chosen as the new warehouse supplier based on an evaluation matrix. The evaluation matrix is shown in Table 4.13 below:

Table 4.13: Tender Evaluation Matrix Nutricia ELN Turkey

Explanation
<ul style="list-style-type: none"> • Cost • Capability of IT&IS • Food Safety and Quality • WMS Adaptation • Location of WH and Lease&Own • Location of Bonded and Free Zones (in WH and even same level) • Type of Bonded Zone • Experience on Ministry of Health Operations and 2d Barcoding • Reference Check • The flexibility of Overflow Stock Management • Continuous Improvement Mindset • WISE Results (control from Ministry) • Corporate Commitment

Source: (Nutricia, Tender Drivers, 2017:8)

Regarding the evaluation matrix of Nutricia ELN Turkey, it is possible to see that not only the cost counts. The bonded warehouse location and type of a bonded warehouse are also very important. When a good is out of stock, completing an import process is very important. When the distance between the bonded warehouse and free warehouse, also referred to as a public warehouse, is too much, this will influence the import process negatively. In order to minimize the lead-time on import operations, each company desires to use a warehouse near a bonded warehouse. Another important aspect, which is second in this matrix, is the information technology and the information systems capability of the warehouse. Since each process is supported with systems, this is one of the important aspects.

Phase 2: Integration

The integration phase was a very intensive and time-consuming period for the company. In total, it took three months to complete. This phase involved the integration of all activities in the new warehouse. The integration process started with the preparation of a plan of action and checklists. All actions that should be done before the relocation were determined one by one by the logistics department. After this plan of action was prepared, all departments were given their responsibilities and tasks.

Each department and the new warehouse supplier were responsible for integrating all the actions. For each action, a deadline was established in order to finish this phase on the planned date.

This phase was very important for the company because of the quality and safety criteria. Since the company operates in the nutrition market, it was necessary that all these requirements based on health and quality were done by the new warehouse supplier. During this phase, weekly meetings were held with the new warehouse supplier.

Phase 3: Movement

After the integration phase was finalized, which means all action points for health and safety were fulfilled by the new warehouse supplier, third phase of the relocation began. This is the phase where the physical movement of all goods from the old warehouse to the new warehouse occurred.

The physical movement of the goods was divided into three parts: promotional goods, custom order goods, and the warehouse movement. The movement started first with all promotional goods. These were collected first by the old warehouse and stored in a temporary warehouse. In total in this part, 600 hundred pallets of promotional goods were moved. The second part of physical movement occurred from the January orders. The warehouse relocation was realized in December, and therefore, all the January orders of customers were the second part moved. This was done in order to avoid any problems after the relocation.

As the third part, all pallets in the free warehouse were collected and moved to the new warehouse. During this last part, all goods in the bonded warehouse were also collected and stored in the new bonded warehouse. All the physical movement was realized within two and a half days.

Before the physical relocation, many preparations were done by the logistics department. See below a summary:

- **Route of trucks:** The route of the trucks was planned in detail. For each part of the day part, a different route was used. This was done in order to avoid any traffic that could influence the lead time of trucks. Further, all trucks had a global positioning system (GPS) installed in order to follow all trucks that were transporting the goods of Nutricia ELN Turkey.
- **Online control document:** There was a document used after each loading and unloading of the trucks. The details of the truck were mentioned in this report, such as the plate number, the sealing number, and the time of leaving from the old warehouse. After the truck left the old warehouse, this document was sent to an employee in the new warehouse. This was done to measure the time performance of each loading and unloading of the truck, but also to secure the goods.
- **Shifts:** The movement days were worked in shifts of eight hours. Each employee in the logistics department was given a shift to work. During these shifts, the logistics department employees managed all activities of the relocation.
- **Outsourced employees:** During the relocation, extra outsourced employees were hired to realize picking, loading, and unloading activities.

Phase 4: Go live

After the physical movement phase, the fourth and final phase of the relocation started. The go-live phase consisted of controlling if everything went well or not. Therefore, in this phase, creating the first order was very critical. It was also a milestone for the company because of the month of preparation to realize the whole relocation.

Since each operational activity in a warehouse is based on the SAP system, it was necessary to check this first. If the order could not be created, something went wrong and the company should search to determine where it went wrong. If the order could be created, there was no problem and the relocation was successfully realized.

The go-live phase of Nutricia ELN Turkey proceeds without any problem. The systems were working so it was possible to create an order or to load goods. All goods were transferred to the new warehouse.

The go-live phase of Nutricia ELN Turkey proceeded without any problems. The systems were working properly, so it was possible to create an order or to load goods. All goods were transferred to the new warehouse.

Risks

During the relocation process, it was possible for risks to occur. The following risks were identified in the in-depth interview results:

- **The goods could be stolen:** Each truck had a vehicle-tracking GPS system installed, and all truck information like plate number, stamp number, and loading time were recorded. These preparations were all done in order to avoid goods being stolen during the relocation.
- **No stock control:** To have a clear overview of the stock control, a special order system was made. Orders were entered in this before loading. Pallet quantity, SKU quantity, and which goods are recorded in this system. This stock control made it easy to know where all the goods were.
- **No customs clearance of goods:** The import of all goods from the suppliers to the new bonded warehouse started a month before the physical movement of all goods from the old warehouse.

The following statement about the risk estimation was given by the logistics manager of Nutricia ELN.

In total, the logistics manager gave the expected risk that the relocation would fail as 5%.

This is a very challenging statement by the logistics manager. In real life, the logistics department of Nutricia ELN Turkey realized a very successful relocation.

4.6 Warehouse Management

The aim of managing is to accomplish all set goals for the company in the short term and long term. Besides managing, it is also important to coordinate activities in an effective and efficient way. Nutricia ELN Turkey as a company also takes care of actions for a smoothly working environment.

The management of the logistics department performs the following action points in order to create a good working environment for their employees.

- **One-to-one meetings:** There are monthly one-to-one meetings to have feedback with each other and work on these feedback points. The points could change from attitude against a colleague to performance. The one-to-one meetings also evaluate moments from the previous meetings. The aim of these one-to-one meetings is to create a positive working environment.
- **Motivation days:** In order to motivate employees, the company or the department organizes an activity day. These motivation days could be a meeting during a breakfast outside the company or it could be a trip to another country or city. During these motivation days, it is the aim to give all the employees a family feeling.
- **Key performance indicators:** There are key performance indicators established for each employee of Nutricia ELN Turkey. Once a year, the managers and employees come together to analyse these individual key performance indicators. The results are entered into an evaluation system, which is used globally by all Danone employees. Based on these key performance indicators, each employee is rated in numbers from one to ten.
- **Open-door culture:** The manager of the logistics department handles an open-door culture. All department employees can enter the office of the logistics manager to discuss their problems.

4.7 Quality Management

Quality is the most important aspect for Nutricia ELN Turkey since it is operating in the baby food market. Nutricia ELN Turkey uses several management tools for an increase of their internal quality management. These are as follows:

- **Working in a safe environment (WISE):** The WISE program has the purpose of reducing numbers and gravity of accidents in workplaces. This program was introduced in 2014 and stands for a safe working culture and environment. WISE also supports Danone's vision, as is mentioned in the sustainability report from 2015.

Below are two extracts from the sustainability report (Danone, 2015:110):

- Prevent the working accidents by working on Danone's compliance. There are in total twelve global safety requirements (Danone, 2015:110).
- Integrating safety and health with help of activities and tools in a consistent way (Danone, 2015:110).

- **Focus on Quality (Foqual):** This is a program that was launched by Early Life Nutrition divisions. In total, there are 50 quality Danone coordinators managing this program. The program was introduced for improving product compliance and decreasing the complaints received from consumers. The Foqual program decreased in total 50% of all complaints (Danone, 2013:35).

The logistics department of Nutricia ELN Turkey also uses the Foqual program. In order to have the best quality of food storage, hygienic and food safety aspects are important. Before and during the relocation, hazard analysis and critical control points (HACCP) was also used. Internal controls with the HACCP were done by the logistics department in order to avoid contamination risks. The HACCP gives the producers of food the responsibility to check their goods on health safety. There is also a full definition of HACCP given by the Business Dictionary, which is as follows: 'Hazard analysis and critical control point. Food production, storage, and distribution monitoring system for identification and control of associated health hazards' (Dictionary, 2018:1).

A very important part of HACCP is the good manufacturing practices (GMP). The GMP is a guideline for companies in order to use HACCP standards for food safety. Danone also uses this guideline during their manufacturing processes. For GMP, the following definition is given by Business Dictionary: 'Basic preventive guidelines for plant and facility operations. Guidelines aimed at food processors aim to include all HACCP methods and procedure' (Dictionary, 2018:1).

Below are listed a few action points regarding HACCP and GMP that Nutricia ELN Turkey is taking care of:

- **Good warehouse practices:** In order to exclude the contamination risk and ensure storage of all goods in a safe and healthy way, all warehouse employees are trained for good warehouse practices by Nutricia ELN Turkey. The good warehouse practice makes employees more aware of the food safety rules.
- **Security employees:** All security employees are trained to be more hygienic during working hours. For example, they need to wash their hands very often to prevent bacteria from the food areas in the warehouse. Alternatively, the employees need to brush their shoes more, because dirty shoes could increase the number of bacteria in the warehouse. These all could bring the food safety in danger.

- **Sprinklers:** There are sprinklers placed for all layers of storage places in the warehouse. If there will exist a fire occurs, these sprinklers can be used in order to save all the goods.
- **Special shoes:** All employees in the warehouse wear special shoes with iron toes. This prevents the chance of having accidents on the working floor.

There are many tools that the logistics department uses for a minimum contamination risk, decreasing accidents on work floor, and storage of the goods in a food safety way. These quality aspects were also one of the tender drivers, together with the following specifications for high-quality standards: a security system, global fire protection, and the Foqual system. If the new warehouse was not able to deliver quality aspects, Nutricia ELN Turkey would not have relocated their warehouse.

4.8 Benefits And Disadvantages

This comparison table shows the benefits and disadvantages of the new and old warehouse suppliers for Nutricia ELN Turkey.

Table 4.14: Comparison Table, New and Old Suppliers

Old Supplier Disadvantages	New Supplier Advantages
<ul style="list-style-type: none"> • Contract end this year (31.12.2017) • \$ based rent prices in the price list • Has additional union cost (5% extra increase in handling costs) • 88% of contract is fixed • No suggestions about new distribution centre which matches our quality • Has some legal issues • Lost flexibility in operation due to union and turn-over • No (pro) activity and efficiency in logistics activities 	<ul style="list-style-type: none"> • Have a contract for 4 years (+1 optional) • Owner of the warehouse (not leased) • All prices are in TL and no extra cost of union • 65% of contract is fixed • The productivity of 8% in warehouses costs for 2018 • A class warehouse which has an in-rack sprinkler system • Flexibility in operation

Source: (Nutricia, Tender Drivers, 2017:3)

Other important advantages are the flexibility in operation and the sprinkler system. As previously explained, a sprinkler system is very important for Nutricia ELN Turkey, because it makes it possible to store goods more safely. Having a flexible warehouse operation makes it possible to decrease lead times. For example, the pick-up time of goods will decrease.

4.9 Financial Benefits

The financial benefits of relocation are categorized in handling and rent by Nutricia ELN. The total saving amount is exclusive of the start-up costs in the new warehouse. The table below is from the PowerPoint presentation of tender drivers.

Table 4.15: Five Years Financial Benefit Overview (2017-2021)

Handling	Old Warehouse	New Warehouse
5 Years Plan	21.787.765 ₺	16.094.133 ₺
2017-2021		
		26%

Source: (Nutricia, Tender Drivers, 2017:15)

The company is earning a financial benefit of 5.693.632 Turkish lira. These financials are only for the handling of five years. This is a difference of 26% profit.

Table 4.16: Five Years Financial Benefit Overview (2017-2021)

Rent	Old Warehouse	New Warehouse
5 Years Plan	27.643.757 ₺	25.612.857 ₺
2017-2021		
		7%

Source: (Nutricia, Tender Drivers, 2017:15)

The relocation earns the company a benefit of 2.030.900 Turkish lira for the rent, a benefit of 7%. The total financial benefit only from the handling and rent is shown in the table below.

Table 4.17: Total Financial Benefit for Handling and Rent (2017-2021)

Grand Total Handling and Rent	Old Warehouse	New Warehouse
5 Years Plan 2017-2021	49.431.521 ₺	41.706.990 ₺

16%

Source: (Nutricia, Tender Drivers, 2017:15)

There is in total a saving percentage of 16%.

Besides the safety and health expectations, having a financial benefit is also a requirement. With relocating a warehouse, a company expects to find a warehouse with less costs and better storage quality. Nutricia ELN Turkey has realized a relocation where they have a better quality warehouse and financial benefits.

5. DISCUSSION

The findings regarding the qualitative research and the literature review will be discussed in this chapter.

5.1 Warehouse Activities And Types

In order to understand warehouse activities and warehouse types, the first research question was: *What are the activities and types of warehouses?*

As mentioned before based on the literature review, the role of a warehouse is to fulfil logistics activities in a company. The primary and most important activity is storage of the goods. Collecting and pick-up of goods to deliver is another important function of warehousing. Regarding the qualitative research results, the primary and most important functions of warehousing are the storage of goods in a high-quality way and making goods ready for delivery. Also important to note is that the pick-up of goods could be mixed, which means that there are several goods from different batches. Another primary activity of companies, especially in nutrition sector operating companies, is having the duty to store goods in a food safety way to prevent contamination risks. The preventing of contamination risk happens with the use of HACCP and GMP standards. In addition, one of the primary activities that companies in practice are doing is the value-added process of goods. The value-adding process happens when needed because of time-consuming reasons and extra costs to realize this process.

There are in general three types of warehouses that companies use: private, public, and bonded warehouses. Each company interacts during the import and export process with a bonded warehouse, which is where all goods in the first place should be custom cleared. After the customs clearance, the goods are stored in private or public warehouses and it is possible to trade these goods. Nutricia ELN Turkey contracted with a public warehouse for the upcoming five years. It is important for companies to have a flexible warehouse owner, because of the lead-time to finish work. Public warehouses have their own staff, equipment, and software systems that could be used by the leaser.

5.2 Cohesion Between Warehouse And Supply Chain

In order to understand the cohesion between the warehouse and supply chain, the following research question was formulated: *What is the cohesion of a warehouse with the supply chain department?*

It is well known that a warehouse is a part of the supply chain. The logistics department is also a part of the supply chain, which means that warehouse activities also belong to this chain. In theory, it is possible to say that there should be cohesion between these departments. The supply chain is operating regarding principles that also count for logistics and warehouses. There is a main goal to accomplish; there is the main vision to accomplish together. Each department is a part of a company, and without cohesion between these departments, it is not possible to reach goals.

In practice based on the qualitative research results, there is a strong cohesion between the logistics, warehouse, and supply chain departments. It is necessary to work together because these departments influence each other. Each department has its own tasks to contribute to the company goals. The employees of Nutricia also feel the cohesion between the departments. According to the logistics manager, each department is a piece of the puzzle, and by working together, they finalize the puzzle. This was what happened during the relocation. Each department had its own tasks and responsibilities to fulfil in order to finalize the relocation. The relocation would not have been realized successfully if there was not a cohesion between those departments. In order to be aligned with each other, these three departments organized weekly meetings with each other. These meetings made the relationships between the departments stronger. Each department was aware about the expectations of each other.

5.3 Warehouse Costs

In order to understand all cost sections that a warehouse deals with, the following research question was formulated: *What kind of cost categories does a warehouse have?* Regarding theory, warehouse costs can be divided into two categories, variable and fixed. It is also possible to place warehouse costs in four categories according to Speh: storage, operations, expenses, and general administrative expenses. Based on the theory, it is important to make estimations on the relocation costs, especially in the categories of vehicle transfer costs, the manpower that is needed for each out loading, and the unloading and storage per load.

The following relocation costs are explained by Ackerman: office operation movement costs, maintenance costs, handling and equipment costs, and storage rack costs. Based on the qualitative research, it should be noted that there are indeed general cost categories. The difference between theory and practice regarding the results is the size of all these costs.

Regarding the findings of this study, it is important to note that storage and rent costs should have the first and second place in cost categories. The rent and storage costs are the largest parts of the total warehouse costs. See below the rent and storage costs for Nutricia ELN based on the qualitative research results. The table below shows the five years costs for rent and storage between the old and new warehouse.

Table 5.18: Costs Difference Between Old and New Warehouse

Total of Rent and Handling	Old Warehouse	New Warehouse
2017	6.943.795 TL	6.474.659 TL
2018	7.930.255 TL	7.241.379 TL
2019	9.133.429 TL	8.140.492 TL
2020	10.734.626 TL	9.339.485 TL
2021	12.622.820 TL	10.722.342 TL
TOTAL	47.364.926 ₺	41.918.358 ₺

Source: (Nutricia, Tender Drivers, 2017:15)

There is a huge different between the new and old warehouse costs. Companies that use public warehouses for their primary activities especially need to be concerned with rent and handling costs. Therefore, global operating companies are holding tenders in order to find the most profitable warehouse supplier.

Another difference between the literature review and the qualitative research results is the one-time costs and long-term costs. Based on the study findings, there are variable costs that companies will have during a relocation. These include the temporary place to store goods or training costs to all new warehouse employees. The fixed costs for the long term could also include change of electricity payments or official expenses. A few of the short-term and long-term costs are shown in Table 5.19.

Table 5.19: Costs Made By Nutricia ELN During Relocation

Cost Explanation	One shot / Yearly	Amount
A temporary place for the moved goods	One-shot	220.000 TL
Total transport costs	One-shot	40.909 TL
Warehouse Manager and other official expenses	Yearly	160.000 TL
Investment for temperature control and system validation for 3000 pallets	One-shot	2.500.000 TL
Electricity	Yearly	120.000 TL

Source: (Nutricia, Tender Drivers, 2017:15)

The last difference between literature and practice is that theory explains costs very generally and not specifically. With the in-depth interviews, more specific information was gained about this topic.

5.4 Relocation Decision

Each company has its own motivations for relocating their warehouse. In order to gain information about what kind of motivations these are, the following research question was formulated: *How does a company decide on the relocation of a warehouse?*

In theory, there are many common reasons described for the relocation of a warehouse. These reasons include wrong size, operating problems, market changes, as a symbol of progress, an increase in capacity, the entire company is relocating, or the rental agreement for a warehouse ends. There are three types of relocation described in the theory: relocating within the same building or adjoining a new building, relocating within the same country, and relocation abroad. The relocation process is a very time-consuming and complicated process for companies. Therefore, the chance is very small that companies will change their warehouse in order to show a symbol of progress.

Findings of qualitative research show that Nutricia ELN Turkey decided to relocate mainly because of their contract with the old warehouse holder ending. However, having a contract end was not the only reason for moving their activities to a new warehouse. The company considered a movement because of the following reasons:

- The proactivity and efficiency of the old warehouse was influencing the logistics activities of the company.
- The handling and rent costs were increasing 5%.

- The old warehouse lost the flexibility in operation,
- The old warehouse did not have any suggestion about a new warehouse that matched the quality standards of Nutricia ELN.
- The current contract was fixed for 88%.

The old warehouse had legal issues due to the warehouse location.

After Nutricia ELN made the decision to move their warehouse, four tender drivers were outlined. The tender drivers influence four aspects of the company: continuous improvement in warehouse flexibility, food safety and quality, strategy related to long-term plans and legal requirements, and the costs. These tender drivers made it easier for Nutricia ELN to find an appropriate warehouse based on their quality standards.

5.5 Relocation Process

Changing a warehouse is a very hard process and not achievable in a few days. It takes from a minimum of nine to a maximum of twelve months. In order to understand the whole relocation process, this study tried to find an answer to the following research question: *What are the steps for the relocation of a warehouse?*

The literature review results show that a change process could be realized based on three steps: unfreeze, move or transition, and refreeze. Another explanation is from Aase and Petersen about making decisions during the relocation process by asking three questions: Is a warehouse shutdown possible? Is it possible to operate in an old and new warehouse at the same time? Do customers requiring a single shipment?

According to the results of the in-depth interviews with employees from Nutricia ELN, relocation consists of four steps: tender, integration, movement, and going live. The first step, the tender process, depends on company requirements. The aim of this step is to find a warehouse regarding the quality standards.

The second step is the integration of all warehouse activities to the new warehouse, for example, the implementation of the warehouse system that Nutricia uses for all activities. Another example is the design of the warehouse. This step makes the new warehouse ready for the physical movement.

The third step is the physical movement of the goods from the old to new warehouse. Nutricia ELN made the choice to do this movement in three parts. Doing the movement in parts depends on the companies. Nutricia ELN did the physical movement because of the pallet quantity.

The last step in the relocation process was the go-live step. This step happened simply by preparing an order in the system. If no problems occurred during the order preparation, this meant that the relocation was successful. If a problem occurred, this meant that something went wrong.

In the case of Nutricia, it took nine months to realize the relocation. This was because of the tender. Without the tender, the relocation would have been realized within six months.

5.6 Management And Quality Management

Many management models are currently available. However, it is important to know which of these management models are used the most in warehousing. To understand this, the following research question was formulated: *What types of warehouse management are available?* For this topic, an additional research question was: *What kind of quality management is used?*

Based on the literature review, the goals of a manager are leading and motivating employees to maximize effective use of operational resources. Managers are divided into three types: first-line managers, middle management, and top-level management. In addition, there are three role categories for managers: interpersonal, informational, and decisional. For quality management, the most known models are the International Organization for Standardization model (ISO), the total quality management model, and the plan-do-check-act cycle. The use of these models increases the quality of employee performance and customer service.

According to the findings of this study, the functions of managers are also leading, motivating, and coordinating on different levels by Nutricia ELN. The logistics manager of Nutricia explained that there are one-to-one meetings between employees and the managers. During these one-to-one meetings, the employee and the manager give each other feedback. As a motivation factor, Nutricia organizes motivation days, for example a breakfast with the whole department outside the company or annual holidays to other countries. In order to motivate the employers the company also uses key performance indicators. Once a year, the manager discusses with the employees their performance indicators.

If the employees rated well on their performance indicators, they receive bonus payments. The company also has an open-door culture. There is the possibility to meet managers without planning a meeting.

Findings show that Nutricia ELN Turkey uses the Foqual and WISE quality methods for the increase of their quality. The WISE method provides a safe working environment, which helps to reduce the number and gravity of accidents in a workplace. The Foqual method aims to reduce customer complaints. Using the HACCP method with GMP, Nutricia ELN Turkey is also trying to decrease their contamination risk of goods in the warehouse.

5.7 Communication

Without communication, it is almost impossible to realize tasks or goals or change anything in a company. In order to learn about communication in practice, the following research question was formulated: *How should communication proceed before and after the relocation?*

According to the literature review, there are a few theories on this topic. One of these is the two-factor theory of Herzberg, which describes motivation and hygiene factors. The motivation factor explains how to motivate the employees, and the hygiene factor explains all external aspects that influence an employee. During the relocation, it is important to inform employees regularly about the relocation, align with the relocation plan, understand the employee expectations, and keep the support after the relocation.

Based on the results of the qualitative research, one of the most important aspects of relocating warehouses is the communication between all departments. The logistics employees explained that it is necessary to have weekly meetings with all departments to be aligned about the activities that should be done for this process. The employees of Nutricia explained that they used emails, meetings, and phone conversations during the relocation. They used action plans during the relocation, which provided information between themselves and the other departments and also provided an overview about the process they made with the relocation.

5.8 Benefits And Disadvantages

Relocating a warehouse is a very complex and hard process, and the motivations for moving a warehouse are explained previously. However, to understand all benefits and disadvantages, the following research question was formulated: *What are the benefits and disadvantages of a warehouse change?*

It was not possible to find a specific answer on this during the literature review, but the results of the in-depth interviews made it possible to understand. According to the findings of the qualitative results, one of the disadvantages of relocating a warehouse is the energy and effort that would be put into this process. The benefits of relocation are to operate in a warehouse with all expected changes. Another important advantage for Nutricia ELN Turkey was that the new warehouse is not a leased warehouse is. The supplier of the new warehouse is the owner, and this makes it possible to solve problems in a very fast way. Another advantage is the sprinkler system of the new warehouse. A sprinkler system between all layers makes the storage of the goods safer.

The last research question also addresses benefits: *What are the financial benefits of this warehouse change?* Financial benefits are another important aspect for companies. A company assumes each change to have a financial benefit. In addition, Nutricia ELN Turkey aimed a financial benefit with their relocation. They found the most profitable warehouse in terms of both operational and financial issues. The handling and rent costs are the largest cost category of companies, and Nutricia ELN has found a warehouse to cut on these costs by a total of 16%. Since the rent and handling costs are the largest part of the total, the relocation was profitable for Nutricia ELN. The rent and handling benefits of the new warehouse are shown in the table below. For only the rent and handling cost, the profit is almost 8 million Turkish lira.

Table 5.20: Total Financial Benefit for Handling and Rent (2017-2021)

Grand Total Handling and Rent	Old Warehouse	New Warehouse
5 Years Plan 2017-2021	49.431.521 ₺	41.706.990 ₺
		16%

Source: (Nutricia, Tender Drivers, 2017:15)

In practice, the financial benefit is not generalizable for all companies, because it will be different for each company. It depends on the size of the company, their expectations of the relocation, how actively a company uses a warehouse, and the type of warehouse that is chosen for the relocation.

5.9 Impacts Of Relocation On The Supply Chain

All of the above research questions were formulated in order to answer the main question of this study:

What are the impacts of relocating a warehouse for the supply chain department?

The supply chain department, logistics, and warehousing are the beating heart of a company. The aim of each department is to work on the mission and vision of a company. The results of this study show that relocation impacts not only the supply chain department but the whole business. Therefore, all the positive and negative impacts are described in general related to the company. A change in a company, relocation of a warehouse, has positive and negative impacts on a company.

Regarding the qualitative review, the negative impacts of a relocation are shutdown, time costs, communication, and financial impacts. These negative impacts are explained very briefly.

- **Shutdown:** With relocation, a warehouse will have a shutdown for a few days or weeks. If the relocation process isn't planned well in details, this will cause a shutdown. This will have a negative impact on the company. The customer orders will be delayed for days, which in turn will influence customer satisfaction. Another negative impact of delayed goods is the impact on the company. A shutdown means also that the company didn't do enough research on the risks. If there was a risk assessment, the company would have been able to intervene in problems.
- **Time costs:** Preparing a change in a company takes months. Every detail, step, and process related to relocation should be analysed and described. This takes extra working hours and manpower for a company. Another time-consuming effect is the search for relocation professionals. When a company does not have employees that prepared, managed, or realized a relocation, they need relocation specialists. This takes extra time during the relocation process.
- **Communication:** Every detail in the relocation process should communicate to all departments to be aligned and to create a synergy. Internal and external

- communication is needed during preparation and realization of the relocation. This means that there are extra internal and external meetings. Internal meetings are with all departments, because all departments that are involved with relocation have their own responsibilities and tasks. These internal meetings will be about the progress. External meetings will be with the new warehouse holder for the integration of all processes and expected changes in the warehouse. Further, it is important to inform all suppliers customers, broker's agency, and others about the changes. These are all negative impacts because it takes so much time for companies to arrange and have those meetings. It also takes time to explain to customers that there will be a change with their orders.
- **Financial:** A relocation is not possible without financial input. Realizing a change takes extra costs with it. Examples of such kind of costs are hiring extra trucks for the movement of all goods from the old warehouse to the new warehouse, hiring outsourced people for unloading and loading of the goods, training for employees as a part of the integration process, and some investments in the new warehouse like temperature control equipment and system validation. These costs are important for companies because the relocation proceeds in the frame of a budget.

A relocation also has positive impacts on a company, including fulfilling company expectations, redesigning of the warehouse, an increase in employee confidence, improved policies and procedures, and financial benefits.

- **Company expectations:** It is possible with relocation to realize expectations of companies. A new warehouse is, for example, a chance to realize that sprinkler system that was always desired. Further, a new warehouse can satisfy all quality standards that a company has. In addition, the design of the warehouse could change as the company wants. Each company has different expectations, and the change is there the ultimate chance to realize these.
- **Redesigning a warehouse:** Another positive impact of a relocation is the chance to redesign the warehouse set-up plan. For example, if the value-adding department of the warehouse was not in the place where it should be, this could be change by a warehouse relocation by redesigning it. If the old warehouse was not up to the expected standards or needs for a company, this can also be changed.
- **Employee confidence:** Realizing a successful relocation will increase the confidence and motivation of employees. They would see that fears they had

were not needed. This will motivate employees in the future for other changes (Root, 2017:1).

- **Policies and procedures:** A relocation of the warehouse creates an opportunity to think outside the box for companies. During the preparation phase, they could do research about the internal structure, policies, and procedures of the company. If needed, policies and procedures could be changed for a more effective and efficient workflow. If the company is already aware that the policies and changes must change, relocation provides a chance to do this. The changes are positive impacts for a company (McQuerrey, 2018:2).
- **Financial benefits:** The costs during a relocation are explained as a negative impact on companies. On the other hand, it is possible for a relocation to have financial benefits. With the change, it is possible to find warehouses that are more profitable than the previous warehouse. For example, the largest costs are rent and handling prices for companies, so if a relocation could reduce the rent and handling costs, this will influence a company in a very profitable and positive way.
- **Systems:** Another positive impact of moving is to realize system changes. In an on-going work environment, it is hard to realize changes in IT systems. During a relocation, it is possible to realize this. There will be a shutdown, which is an opportunity for changing of used systems.

As mentioned before, relocating a warehouse has impacts not only on the supply chain but the whole company. The reason for this is that supply chain changes affect the whole company. It is like a domino effect, where the influences of a change in one department continue in all departments of a company. The only thing that should be noted is the fact that logistics department take 80% of the responsibility for realizing this change. All other departments contribute with their own tasks and responsibilities.

5.10 Limitations

The limitations that were experienced during this study were as follows:

- **Recent literature:** The literature review took a long time in order to find the correct information about the topics related to this study. Also, there was not much availability of theory based on this study. The sources that were found were almost all published more than five years ago.

This made it difficult to find recent information, especially about the benefits and disadvantages and the financial aspects of a relocation. The relocation process information that was found did not explain in details but in general, although information related to relocation was found.

- **Finding a company:** Another limitation of this research was finding a company that had realized a warehouse relocation in the past six months. Since this was one of the requirements for this study, this was a serious limitation. However, such a company was found.
- **Privacy:** The last experienced limitation of this study was the privacy of the company. For privacy reasons, it was unfortunately not possible to use all information provided by the company.



6. CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Based on the literature review and qualitative research, the first conclusion is that the primary activity of a warehouse is the storage of goods. For companies operating in the food industry, it is also important to store goods in a safe way to prevent contamination risks. The most used warehouse type is the public warehouse. The type of warehouse depends on the size of companies. If a company is large enough, it is possible to have a private warehouse.

The second conclusion is that for maximum operational processes, cohesion between warehouse and supply chain is necessary. Without the supply chain, a warehouse is nothing, and without a warehouse, a supply chain is nothing. Both departments should be able to work together. Regarding the literature and results of qualitative research, it can be concluded that there is cohesion.

The third conclusion about the cost categories is that each warehouse has fixed and variable costs, which can be categorized in handling, storage, operations administrations, and general administrative expenses. About the relocation costs, the conclusion is that there are a lot of short-term costs. The fixed costs for a relocation are the moving costs, and the rest depends on the expectations of the company. For example, if the company expects that each employee is aware of food safety, this will bring training costs for a company. These training costs are an example variable costs that will only happen once.

The fifth conclusion is that there are common reasons for taking a relocation decision. These reasons can vary from growth and an increase in capacity to ending a contract. Based on literature and research results, it can be concluded that a relocation process should proceed in phases. Each phase must be described in detail for a smooth change. Another conclusion about this topic is that holding a tender depends on the expectations and will of a company.

The sixth conclusion about warehouse management is that a warehouse manager should motivate employees for a maximum return from employees.

In practice, managers use key performance indicators for employees. The key performance indicators contribute to a high-quality working attitude of employees. Theory concludes in general that a warehouse has the goal to lead and motivate employees to maximize effective use of operational resources.

In practice, there are key performance indicators for each employee, which the manager and employee analyse together annually.

A seventh conclusion is that communication before and after the relocation is not the same. Before realizing a relocation, it is important to inform first the employees and after all supply points of the company. Before relocation, meetings with the new warehouse are needed in order to be aligned with each aspect of the movement. Internally, there are also weekly or semi-weekly meetings with other departments about the progress. The conclusion is that a communication plan should be prepared before the relocation. Another conclusion is that the department meetings will decrease after the relocation.

The eighth conclusion is about the benefits and disadvantages of relocation. It can be concluded that the most important disadvantage of moving is the extra effort and labour required. On the other hand, the most important benefits are that a relocation could realize all expectations of the warehouse from a company. Financial benefits are also different for each company. It is possible to have financial benefits of relocation in the long term. In the short term, there are more costs for a relocation than benefits.

The conclusion on the main question is that a change in a company affects the whole company. It is not possible to think that a change in a company would influence only one department. Since each department has its own tasks and responsibilities for the realization of a change, it is not possible that only one department would be influenced. Positive impacts are that a company could redesign a warehouse layout as it wished, change the policies and procedures, gain financial benefits, and change systems. A relocation also has negative impacts, such as the shutdown of a warehouse, and various associated costs.

6.2 Recommendations

Finally yet importantly, the following are recommendations related to all companies that are planning to do warehouse relocation.

- **Plan:** Prepare a detailed plan that covers each step in the whole process from the point of thinking about to relocating until the last good is stored in the new warehouse. The more prepared a company is, the fewer mistakes that could happen. Plan for each department separated into its tasks and possibilities, and make a communication plan about how to announce the relocation decision to employees and other supplier points.
- **Budget:** Prepare a budget for the whole process. Estimate the fixed and variable costs of the relocation based on your expectations. Try to figure out what is possible with your budget.
- **Risk scenarios:** Do research for risk scenarios in order to understand what could go wrong during the moving process. Always have a plan B or even plan C to fall back on when things do not go as planned. It will help to cover all potential mistakes during the moving process.
- **Motivation:** Motivate all employees who are going to realize the relocation. Without their support, it is almost impossible to relocate. The more motivated employees are, the better they will perform.
- **Expectations:** Realize all the desired changes with the relocation. This could differ from system changes to storage criteria. After the relocation, it will take too much time to realize these changes, so a relocation is the chance to realize all expectations. Plan in the beginning of the process any system changes as well.

6.2.1 Recommendations for further studies

Because of time constraints and the aim of this study, it was not possible to do more research on other topics. Extracted from this study, there are more potential studies to do. Below are topics given as recommendations for further studies:

- **Processes design:** During this study, it was not possible to design processes in MS Visio or another design program. A recommendation for this topic is to design each step in a relocation process. It is not only about the process design but also about how the departments should work during a relocation. The process design of the relocation process for each department would show the way each department is affected or what the exact responsibilities or tasks are.

- **Financial benefits:** The financial benefits of relocation are given generally in this study. The second recommendation is to do a study based only on financial aspects and benefits. This could change from yearly costs to long-term return of a relocation. The published theory does not give much information about this topic. With case studies of businesses that relocated their warehouse, it would be possible to figure out financial savings of moving.
- **Changes in the company:** This study is only concentrated on the supply chain, warehouse, and logistics departments. The results conclude that the whole company is affected by a change. The third recommendation is, therefore, to do more research on what kind of effects warehouse relocation has on the overall company. This study shows only the general impacts, not the detailed impacts.
- **Satisfaction of employees:** Without the effort and energy of employees, it is not possible to realize changes in a company. Therefore, the last recommendation for further studies is to examine the employee satisfaction regarding a change. Results of this kind of study will show how companies can motivate employees before, during, and after a relocation.

REFERENCES

Literature List

- Aase, G. R., & Petersen, C. G.** (2015). Issues in Distribution Center Relocation. USA, pp.9-10
- Ackerman, B. K.** (1997). Practical Handbook of Warehousing fourth edition. New York: Springer US, p.79.
- Alshmemri, M.** (2017). "Herzberg's Two-Factor Theory". Life Science Journal, pp.12-16.
- Berg, B. L.** (2001). Qualitative Research Methods For The Social Sciences (4 ed.). United States of America: Pearson Education, pp.7-277.
- Christopher, M.** (2016). Logistics & Supply Chain Management (5 ed.). United Kingdom: Pearson,p.12.
- Chow,H.** (2006). " Design of a RFID case-based resource management system for warehouse operations". Expert Systems with Applications, volume 30, pp. 561-576
- Coulter, M. Steven, P.** (2012). Management (11th Edition). New Jersey: USA: Prentice Hall Inc, pp. 1-10&209.
- Danone.** (2013). Danone Economic and Social Report. France: Danone.
- Danone.** (2015). Sustainable Development Overview. France: Danone.
- Deloitte.** (2013). The Logistics Industry in Turkey. Istanbul: November.
- Emmett, S.** (2005). Excellence in Warehouse Management How to minimise costs and maximise value. England: John Wiley & Sons, Ltd, pp. 174-175.
- Engineers, N. B.** (2015). The Complete Book on Cold Storage, Cold Chain & Warehouse. Delhi: Nir Project Consultancy services, p.1.
- Interview Summary Participant A.** (2018, 03 30). Interview A. (N. Yaylali, Interviewer)
- Interview Summary Participant B.**(2018, 03 30). Interview B. (N. Yaylali, Interviewer)
- Interview Summary Participant C.** (2018, 03 30). Depth Interview . (N. Yaylali, Interviewer)
- Interview Summary Participant D.**(2018, 03 30). Interview D. (N. Yaylali, Interviewer)

- Kiran, D.** (2016). Total Quality Management: Key Concepts and Case Studies. India: BS Publications Elsevier, pp. 2-10 & 292 & 514.
- Komarova, J. (2016).** "Improvement of warehousing operations", Bachelor Thesis. University of Applied Sciences JAMK, Russia, pp.7-12.
- Lalwani, C., & Mangan, J.** (2016). Global Logistics and Supply Chain Management. United Kingdom: John Wiley & Sons Ltd, pp. 11-17.
- Lewin, K.** (1947)." Group Decision and Social Change". Readings in Social Psychology, pp. 207-211.
- Maxwell, A. J.** (2013). Qualitative Research Design: An Interactive Approach. United States of America: Sage publications, Inc. pp. 39-72.
- Nutricia.** (2017, 05 30). Tender Drivers. 2017 Warehousing Tender. Istanbul, Turkey: Nutricia ELN.
- Petterson, A. & Segerstetd, A.** (2013). "Measuring Supply Chain Cost". International Journal of Production Economics, Volume 143, Issue 2, pp. 357-363.
- Richards, G.** (2014). Warehouse Management: A Complete Guide To Improving Efficiency And Minimizing Costs In the Modern Warehouse. Philadelphia: Kogan Page, pp. 1-4 & 69.
- Shank, J. K & Govindarajan, V & Shank, G** (1993). " Strategic Cost Management: The New Tool for Competitive Advantage". United States of America": The Free Press, pp.80-81.
- Smith, J.** (1998). The warehouse management handbook. North Carolina: Tompkins Press, p.24.
- Varila, M.& Seppänen, M.& & Suomala, P.** (2007). "Detailed cost modelling: a case study in warehouse logistics". International Journal of Physical Distribution & Logistics Management vol. 37, num. 3, pp. 184-200.
- Westerkamp, M.** (2015). Deskresearch informatie selecteren, beoordelen en verwerken. (3th ed.). Amsterdam: Pearson Education, p. 23.

Internet Sources

- Agency, G. a.** (2005). Should You Relocate Your Warehouse?. Retrieved on 30 November 2017, from WERC: http://www.werc.org/assets/1/workflow_staging/Publications/435.PDF
- Alvis, M.** (2015). Six Change Management Tips For Your Office Relocation. Retrieved on 28 February 2018, from TM Consulting: <http://www.tmsconsulting.com.au/six-change-management-tips-for-your-office-relocation/>
- Chand, S.** (2014). Warehousing: Function, Benefits and Types of Warehousing. Retrieved on 27 October 2017, from Yourarticlelibrary: <http://www.yourarticlelibrary.com/marketing/warehousing-functions-and-types-of-warehouses/25849>

- Chaput, K.** (2017). Introduction to Qualitative Research Methods. Retrieved on 20 March 2018, from University of Calgary: <https://www.ucalgary.ca/paed/files/paed/chaput-qualitativeresearchmeth-2017.pdf>
- Dennis, M.** (2013). The importance of employee communications during a relocation process. Retrieved on 29 February 2018, from Relocation focus: <http://www.relocationfocus.com/the-importance-of-employee-communications-during-a-relocation-project/>
- Dictionary, B.** (2018). HACCP. Retrieved on 19 February 2018, from Business Dictionary: <http://www.businessdictionary.com/definition/HACCP.html>
- Dictionary, B.** (2018). GMP. Retrieved on 19 February 2018, from Business Dictionary: <http://www.businessdictionary.com/definition/goodmanufacturing-practices.html>
- Dictionary, O.** (2018). Warehouse. Retrieved on 27 February 2018, from Oxford Dictionary: <https://en.oxforddictionaries.com/definition/warehouse>
- Export.**(2017). Turkey - Transportation Technology and Equipment. Retrieved 27 June 2018, from Export.gov: <https://www.export.gov/article?id=Turkey-Transportation-Technology-and-Equipment>
- Guide, M. S.** (2012). Functions of Management. Retrieved on 27 February 2018, from Management Study Guide: https://www.managementstudyguide.com/management_functions.htm
- Haacke, O.** (2015). "Relocating Operations: Effective Communication Strategies". Retrieved on 28 February 2018, from China Business Review: <https://www.chinabusinessreview.com/relocating-operations-effective-communication-strategies/>
- Institute, T. S.** (2018). Foreign Trade Statistics. Retrieved on 28 June 2018, from Turkish Statistical Institute: file:///C:/Users/ercan/Downloads/D%C4%B1%C5%9F_Ticaret_%C4%B0statistikleri_28.02.2018.pdf
- International, E.** (2017). Baby Food in Turkey. Retrieved on 09 July 2018, from Euromonitor International: <http://www.euromonitor.com/baby-food-in-turkey/report>
- Kay, M. G.** (2015). NCSU. Retrieved on 27 February 2018, from Warehousing: <http://www4.ncsu.edu/~kay/Warehousing.pdf>
- Logistics, B.** (2017). "The Five Departments Affected By Logistics in Every Company". Retrieved 04 May 2018, from Broussard Logistics: <https://broussardlogistics.com/blog/2017/05/25/the-five-departments-affected-by-logistics-in-every-company/>
- Logistics, I.** (2017). How warehouse relocation works for companies. Retrieved on 28 February 2018, from Intra Logistics: <https://intralogistics.tips/how-warehouse-relocation-works-for-companies/>

- Management Innovations.** (2008). "Define Management & Its Functions". Retrieved on 22 November 2017, from Management Innovations: <https://managementinnovations.wordpress.com/2008/12/03/define-management-its-functions/>
- McQuerrey, L.** (2018). "Benefits From Change in the Workplace". Retrieved 27 April 2018, from Small Business: <http://smallbusiness.chron.com/benefits-change-workplace-13255.html>
- Mode, S.** (2011, April). Definition of Management and Managerial Roles. Retrieved on 17 November 2017, from Study Mode: <http://www.studymode.com/essays/Definition-OfManagement-And-Managerial-Roles-673984.html>
- Nutricia.** (2017). Early Life Nutrition Nutricia. Retrieved on 30 March 2018, from Nutricia: <https://www.nutricia.com/en/early-life-nutrition.html>
- Paradise, M.** (2010). Types of Warehouses. Retrieved on 30 November 2018, from Management Paradise: <http://www.managementparadise.com/forums/elements-logistics-logs/200348-types-warehouses.html>
- Root, G. N.** (2017). Positive Effects of Change in a Company. Retrieved on 27 April 2018, from Bizfluent: <https://bizfluent.com/info-8196569-positive-effects-change-company.html>
- Sayeed, S. I.** (2013). "A Study on Warehouse Management of REB: A Case Study of Central Warehouse". Retrieved on 24 December 2017, from Bracu, <http://dspace.bracu.ac.bd/bitstream/handle/10361/3707/13182001.pdf?sequence=1>
- Shurbi, S.** (2017, 06 29). "Difference Between Inbound and Outbound Logistics". Retrieved 5 April 2018, from Keydifferences: <https://keydifferences.com/difference-between-inbound-and-outbound-logistics.html>
- Standardization, I. O.** (2015). ISO. Retrieved on 5 April 2018, from ISO: <https://www.iso.org/files/live/sites/isoorg/files/archive/pdf/en/pub100080.pdf>
- T.C., G. v.** (2018). Türlerine göre antrepo sayıları. Retrieved on 25 June 2018, from İstanbul: T.C. Gümrük ve Ticaret Bakanlığı: <http://risk.gtb.gov.tr/data/572b3b0e1a79f50cd8a22b1d/2-Antrepo%20Sayilari.pdf>
- Thomas W. Speh, P.** (2009). "Understanding Warehouse Costs and Risks". Retrieved on 26 February 2018, from Warehousing forum: http://warehousing-forum.com/news/KB_v24n07_June2009.pdf
- Warehouses, T. o.** (2017). Managing Product Movement Tutorial. Retrieved on 30 November 2018, from KnowThis: <https://www.knowthis.com/managing-product-movement/types-of-warehouses>
- Warehousing, C.** (2015). "Four Reasons Public Warehouse Space Is Better Than Private Warehousing". Retrieved on 05 April 2018, from Commercial Warehousing: <https://www.commercialwarehousing.com/news/four-reasons-public-warehouse-space-is-better-than-private-warehousing/>

APPENDIX

Appendix 1: Warehouse Relocation Impacts Questionnaire List

Appendix 2: Checklist Warehouse Relocation Impacts Questionnaire List

Appendix 3: Approval Letter Ethics Committee

Appendix 4: Interview Summary A

Appendix 5: Interview Summary B

Appendix 6: Interview Summary C

Appendix 7: Interview Summary D

Appendix 8: Warehousing Tender PowerPoint presentation

Appendix 9: Warehouse Movement PowerPoint Presentation

Appendix 1: Warehouse Relocation Impacts Questionnaire List

Section 1: Cohesion of warehouse and supply chain and communication

1. How often is there a meeting between these two departments?
2. What kind of technology do you use for communication? (systems SAP, Email, Meeting)
3. Do you feel the cohesion between these two departments? Yes, or no, explain, please.
4. Do you think that there will be more often or fewer meetings between the departments because of the relocation?
5. Will the way of communication change with the relocation, for example, the systems?
6. What should change for a maximum cohesion between these two departments?
7. How should proceed the communication before and after a relocation?

Section 2: Relocation decision

8. How did the company decide to relocate, what was the trigger for this decision?
9. Explain the main factors for relocation?
10. How do you plan the relocation of a warehouse?
11. What kind of expectations does a company have of relocation?
12. What are the steps for relocation?

Section 3: Relocation process

13. How did you plan the relocation?
14. How was the relocation process where did you start and how did you finish it?
15. What were the most important aspects of whole relocation process?
16. What kind of occurs are experienced during the relocation? And how did you solve it?

Section 4: Cost categories and financial benefits

17. What are the regular cost categories and what are the non-regular cost categories?
18. How do you calculate the costs? Is this manual or calculated via a system?
19. Is there anything changed in the regular and non-regular cost categories?
20. Do you think that there will be a change in this way of working or will it be the same?

21. How did you calculate the costs of relocation, was there a budget or not? What was the biggest cost of the relocation?
22. What are the financial benefits of relocation?

Section 5: Benefits and disadvantages

23. What are the benefits of relocation?
24. What are the disadvantages of relocation?



Appendix 2: Checklist Warehouse Relocation Impacts Questionnaire List

Sections	Clearly	Unclear
Cohesion between warehouse and Supply Chain		
Decision for relocation		
Process of relocation		
Cost categories and financial benefits		
Benefits and Disadvantages		

Appendix 3: Approval Letter Ethics Committee

Evrak Tarih ve Sayısı: 01/08/2018-4403



T.C.
İSTANBUL AYDIN ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sosyal Bilimler Enstitüsü Müdürlüğü

Sayı : 88083623-044-4403
Konu : Nagahan YAYLALI'nın Etik Onay Hk.

01/08/2018

Sayın NAGAHAN YAYLALI

Enstitümüz Y1612.130068 numaralı İşletme (İngilizce) Anabilim Dalı İşletme Yönetimi (İngilizce) tezli yüksek lisans programı öğrencilerinden Nagahan YAYLALI'nın "THE IMPACT OF WAREHOUSE RELOCATION ON THE SUPPLY CHAIN DEPARTMENT" adlı tez çalışması gereği "Quality Research Depth Interviews" ile ilgili anketi 20.07.2018 tarihli ve 2018/16 sayılı İstanbul Aydın Üniversitesi Etik Komisyon Kararı ile etik olarak uygun olduğuna karar verilmiştir.

Bilgilerinizi rica ederim.

Dr. Öğr. Üyesi Hüseyin KAZAN
Müdür V.



Evrak Doğrulamak İçin : <https://evrakdogrula.aydin.edu.tr/enVision.Dogrula/BelgeDogrulama.aspx?V=BEL5541N>

Adres: Beşyol Mah. İnönü Cad. No:38 Sefaköy, 34295 Kılıççakmece / İSTANBUL
Telefon: 444 1 428
Elektronik Ağ: <http://www.aydin.edu.tr/>

Bilgi için: NESLİHAN KUBAL
Unvanı: Enstitü Sekreteri



Appendix 4: Interview Summary A

Interview summary

Participant: Logistics Manager

Date: 30-03-2018

Duration: 1 hour

Place: Orhanlı-Istanbul

Source: (Hakan A. , 2018)

Introduction

The questionnaire list is given to interviewees with an occasion to review these. Also is asked for permission to use the audio device, which was fine for the participant. The participant is logistics manager by Nutricia ELN. For the primary activities and type of warehouse is explained the following: *“ the primary warehouse activity we do here is to storage all goods on a safely and qualitative way. Further, do we repack goods if it is necessary, pickup of goods, and making goods delivery ready.‘* For the type of warehouse : *“ we are using a public warehouse with a bonded warehouse.”*

About warehouse management questions explain the manager: *“ Way of managing is to accomplish all set goals of the company. To coordinate all activities in an effective and efficient way. Also in this company are taking actions for a smoothly working environment.”* Asked what kind of actions and received the following: *“ we have for example once a month one to one meetings to have feedback to each other and work on these feedback points. Or we have once a period motivation days with the whole department.”*

During the interview

Section 1: Cohesion of warehouse and supply chain and communication

About the meetings explain the manager: *“There is without the relocation process once a month meeting between supply planning and logistics department. Because of relocation do we have meetings semiweekly or weekly with other departments. We use SAP systems, emails, meetings, and phones for communication”* explains the manager. About cohesion between the departments: *‘ each department is a piece of the puzzle, by working together we finalize the puzzle. During the relocation knew each department their tasks and responsibilities, so the cohesion was maximumly available in the company.”*

Section 2: Relocation decision

The trigger for the relocation was: *“the contract ended between Nutricia Early Life Nutrition and the current Warehouse owner was almost expired. We could extend the contract or we could search for a new warehouse. The manager continues: ‘we first hold a tender to see all potential companies. Before the tender did we determine drivers, which was four groups: 1. Tender, 2. Integration, 3. Movement and 4. Go live.*

Section 3: Relocation process

The questions about the relocation process are explained as follows by the manager: *“for the whole relocation process we had four phases, first we start with the tender, further, we had phase 2: the integration, which is that the relocation could start after all criteria we had was satisfied. Phase 3: Movement: the physical movement has been done in three parts. As for last Phase 4: Go live: we start working in the warehouse. “Regarding this topic is also asked the problems about the relocation: “During the movement was it possible that may occur risks. Some possible risks and the actions we took for these are for example that the goods could be stolen. Therefore is by each truck a vehicle tracking GPS system installed, all truck information like plate number, stamp number and loading time are noticed. Another risk could be no stock control, to have a clear overview of the stock control is made a special order system. Before the loading is entered an order in this system. Pallet quantity, SKU quantity, which goods are mentioned in this system.”*

As additional is asked about the quality management during the relocation process: *“Quality is the most important aspect for Numil since it is operating in the baby food market. The used internal quality management models by Nutricia are WISE, Foqual and HACCP Hazard Analysis and Critical Points.”*

Section 4: Cost categories and financial benefits

The questions about cost categories are only answered by the manager and executive. The other employees didn't have permission to speak about this topic because of privacy reasons. About cost categories are summarized the following: *“Handling, Storage, Operations administration and General administrative expenses are the general categories we have.”* And for the relocation: *“A few of these costs are transport between old and new warehouse, training for the employees of the new warehouse, overtime working hours payment, and extra hired employees.*

'Regarding the manager: " *will nothing changes after the relocation of the regular cost categories.*"

There is also asked about the financial benefits, unfortunately, is only given percentages about this benefit: " *this relocation made a benefit of 16% for the company for the upcoming five years*".

Section 5: Benefits and disadvantages

About the benefits and disadvantages are explained the following: *we have now, for example, a contract for four years, all prices are in TL currency, a class warehouse with sprinkles in racks, flexibility in operation.* Further is asked the disadvantages: "a relocation is not easy, there are too much time and effort needed to realize a non problem relocation process"

Conclusion

At least both interviewees are thanked for their time and there is also given the information to send interview summaries.

Checklist Logistics Manager

Sections	Clearly	Unclear
Cohesion between warehouse and Supply Chain	x	
Decision for relocation	x	
Process of relocation	x	
Cost categories and financial benefits	x	
Benefits and Disadvantages	x	

Appendix 5: Interview Summary B

Interview summary

Participant: Logistics Executive

Date: 30-03-2018

Duration: 1 hour

Place: Orhanlı-Istanbul

Source: (Ercan, 2018)

Introduction

The questionnaire list is given to interviewees with an occasion to review these. Also is asked for permission to use the audio device, which was fine for the interviewee. The participant is logistics executive by Nutricia ELN. For the primary activities and type of warehouse is explained the following: *“ Like each warehouse is the primary warehouse activity of Nutricia ELN Turkey is to storage all goods in a safely and qualitative way. The other activity is in case it is needed to repack goods, which also could be mentioned as Value Added Process. Another activity is to pick up all goods and make it ready for delivery. For some customers they pick up mixed goods, this takes more time than regular pick up. “For the type of warehouse explains the logistics executive: “Nutricia ELN is using a public warehouse with a bonded warehouse. All goods will storage firstly in the bonded warehouse of the government. After the Import process is finished transfers the company all the goods to the public warehouse that is rent for use. ”*

During the interview

Section 1: Cohesion of warehouse and supply chain and communication

The questions about meetings are the answer as following: *“There is regularly once a month meeting between supply planning and logistics department. Regarding the relocation issue has been made weekly or semiweekly meetings with all departments as purchasing, quality, finance and regulatory. For the communication is using the company SAP systems, emails, meetings and phones”* explains the executive for the questions about communication, and adds following about meetings: *“these will diminish the upcoming period.”* About cohesion between the departments: *“There is a cohesion between all departments in the supply chain. All departments contribute for a part of the working activities. Regular activities and tasks are set up and known by each department.*

During the relocation set up logistics department all activity details what should be done and divided into related departments.”

Section 2: Relocation decision

“As of end 2017 is the contract ended between Nutricia Early Life Nutrition and the current Warehouse owner. There were two solutions for the board of Nutricia or they would extend the current contract or there would be searched for another warehouse. There is chosen for a new warehouse after all negotiation. This was the answer from the executive on questions about taking the relocation decision. “ Logistics executive continue by adding the following: “A tender is held to see all potential companies that could be the warehouse supplier for Nutricia for upcoming years. Firstly are there drivers determined which are categorized into four groups. , 1. Tender, 2. Integration, 3. Movement and 4. Go live. After these tender drivers have each company given their offer to Nutricia ELN. After all, is chosen for one of these companies.”

Section 3: Relocation process

The questions about the relocation process are explained very detailedly by the executive. Below are the steps and answer showed based on phases: *“We start with the first phase 1: Tender: Firstly is started with a tender to search a warehouse that satisfies all expectations of the company. Therefore are formulated tender drivers that could be categorized in 1. Cost, 2. Continuous improvement, 3. Strategy, 4. Food safety. Regarding these drivers has been done a tender and found a warehouse that satisfied all the expectations. “Further: ” Phase 2: Integration: The movement could especially only start when the quality and safety criteria’s where done by the new warehouse. Therefore did we made a lot of meetings during the integration process.” “Phase 3: Movement: the physical movement should be divided into three parts. The movement started first with all promo goods. These are collected firstly by the old warehouse and stored in a temporary warehouse. Secondly are all pallets by the free warehouse collected and moved within two and a half day to the new warehouse. As last are all the pallets by the bonded warehouse moved to the new warehouse bonded zone. “ As for last: “Phase 4: Go live: After all the movement was done and placed in the new warehouse was it up to create a new order. The first order was the most important issue after the movement. If there was a problem with the system was it a huge problem in order to not fulfill customer demand. There did not occur any problem during go-live phase. “*

Regarding this topic is also asked the problems about the relocation, this question is answered by the executive as following: *“During the movement was it possible that may occur risks. Some possible risks and the actions we took for these are for example that the goods could be stolen. Therefore is by each truck a vehicle tracking GPS system installed, all truck information like plate number, stamp number and loading time are noticed. Another risk could be no stock control, to have a clear overview of the stock control is made a special order system. Before the loading is entered an order in this system. Pallet quantity, SKU quantity, which goods are mentioned in this system.”*

Section 4: Cost categories and financial benefits

The questions about cost categories are only answered by the manager and executive. The other employees didn't had permission to speak about this topic because of privacy reasons. About cost categories are summarized the following: *“Handling, Storage, Operations administration and General administrative expenses are the general categories we have. For the relocation are of course made more costs. A few of these costs are A temporary place for the moved goods, transport between old and new warehouse, training for the employees of the new warehouse, overtime working hours payment, and extra hired employees.”* Regarding executive logistics: *“ will nothing change after the relocation about the regular cost categories. All these costs are calculated manual and via SAP system. For example, all costs for the tender are calculated by excel to have an indication.”* There is also asked about the financial benefits, unfortunately, is only given percentages about this benefit: *“ this relocation made a benefit of 16% for the company for the upcoming five years”*

Section 5: Benefits and disadvantages

About the benefits and disadvantages are explained the following: *we have now, for example, a contract for four years, all prices are in TL currency, a class warehouse with sprinkles in racks, flexibility in operation.* Further is asked the disadvantages: *“a relocation is not easy, there are too much time and effort needed to realize a nonproblem relocation process. But hard-working pays off.”*

Conclusion

At least both interviewees are thanked for their time and there is also given the information to send interview summaries.

Checklist Logistics Executive

Sections	Clearly	Unclear
Cohesion between warehouse and Supply Chain	x	
Decision for relocation	x	
Process of relocation	x	
Cost categories and financial benefits	x	
Benefits and Disadvantages	x	

Appendix 6: Interview Summary C

Interview summary

Participant: Logistics Specialist A

Date: 30-03-2018

Duration: 45 minutes

Place: Orhanlı- Istanbul

Source: (Yurteri, 2018)

Introduction

First of all is the interview candidate greeted and is the interview purpose explained. There are given some time to look into interview questions.

During the interview

This employee is a logistics specialist and is taking care of order planning and was operation. For the introduction questions about warehouse activities and type is she explaining the following: *“stock control and storing all goods are the primary activities in this warehouse, our warehouse is private with a bonded warehouse”*.

Section 1: Cohesion between warehouse and Supply Chain

For the questions in this section are made the following explanation by the employee: *“ the meetings depend on the bottleneck or issues we have, most of the time is it once a month. For the relocation process did we had weekly meetings. We are using the SAP system daily for each activity that we carry out on work. For sure do we also use the phone and email communication ways and the online chat program we have via email option.”* About the cohesion question between the departments in the following explained: *“there should be a cohesion between the departments for a maximum way of presentation on work. I feel the cohesion between all departments, if the cohesion was not present would it be not possible to finish work. ”*

Section 2: Decision for relocation

The interview continues with questions about the relocation. For the trigger of relocating was the answer as follows: *“the contract with old warehouse was almost over and there has been chosen to have a tender for a new warehouse. ‘* As the expectation of the new warehouse explains the employee following: *“We had four main categories as expectation goals: 1. Cost, 2. Continuous improvement, 3. Strategy, 4. Food safety.*

The new warehouse should comply all these expectations.” Also is explained the following: “ there will be no change in our primary warehouse activities and type of warehouse after the relocation.”

Section 3: Process of relocation

For the questions about problems during the relocation and most important aspects is the following explained: *“during the relocation did not occur any problem, because everything was so in details planned and prepared for months that opportunity for problems has been excluded. The most important aspect of the relocation was on time carrying out of each task. Further was it important that we did on a qualitative way”* Regarding the quality that is mentioned is asked what kind of quality approaches the company uses: *“ as a quality model do we use FOQUAL focus on the quality model. Most attention we show is to exclude contamination risk. We will continue with this quality model too in the new warehouse. “*

Section 4: Cost categories and financial benefits

Because of privacy policies of the company was N. Yurteri not able to speak about the financial aspects. The interviewee told only that: *“ if it was not profitable the company would not change the warehouse “.* About the cost, categories explain the specialist the following: *“ handling and storage are categories, which the company pays the most for”.*

Section 5: Benefits and Disadvantages

The interview continues with questions about benefits and disadvantages about the relocation: *“ there are no disadvantages of this relocation, the new warehouse fulfills all expectations. This is also the benefit of this relocation. “*

Conclusion

The interview ends with a thank for time and cooperation. There is also given the information to send the interview summaries for a review.

Checklist Logistics Specialist A

Sections	Clearly	Unclear
Cohesion between warehouse and Supply Chain	x	
Decision for relocation	x	
Process of relocation	x	
Cost categories and financial benefits	x	
Benefits and Disadvantages	x	

Appendix 7: Interview Summary D

Interview summary

Participant: Logistics Specialist B

Date: 30-03-2018

Duration: 45 minutes

Place: Orhanlı – Istanbul

Source: (Erdugan, 2018)

Introduction

The interviewee is greeted and thanked for the time and interest in this interview. Further is the interview purpose explained and there is given some time to look into interview questions. This employee is a warehouse specialist and is taking care of return & reconciliation with 3PL. The warehouse activities and type are in her opinion: *“storage of all goods in a qualitative way without taking any risks for contamination. Further is the type warehouse we use a private warehouse. After the relocation will we still have these warehouse type and warehouse activities.”*

During the interview

Section 1: Cohesion of warehouse and supply chain and communication

For the communication and meeting questions is answered like follow: *“We have normally monthly meetings with other departments, because of the relocation did we do this weekly. As communication do we use daily emails and phone calls of course. For all working activities do we use the SAP systems. After the relocation will we continue with these technologies. “About the cohesion question between the departments in the following explained: “there is a strong cohesion available between all the departments on the supply chain. With the way of working do we achieve already a maximum prestation.”*

Section 2: Relocation decision

As a trigger for the relocation decision and expectation is given the following: *“ there was a new warehouse place needed because of an ending contract with current warehouse, therefore has the board with our manager chosen for a tender. For this tender are four main expectation categories decided, the warehouse that could fulfill these categories would be our new warehouse”.*

Section 3: Relocation process

About problems during the relocation did the interview explain the following: *“ we didn't had any problems during the physical relocation. We had only delay on the relocation date because of the Medical division.”* About the starting point and ending point is told the following: *“ the whole process was done in 9 months, our relocation was divided into four phases, 1. Tender, 2. Integration, 3. Movement and 4. Go live. “ “ Working as a team and having a detailed planning is the most important aspect if you are going to realize such a huge changing project.”* was the given answer on the question about important aspect during relocation. Regarding the quality, topic are the following answers given: *“ as a quality model do we use FOQUAL focus on the quality model and WISE working in a safe environment. We will continue with this quality model too in the new warehouse.”*

Section 4: Cost categories and financial benefits

About the financial aspects could the interviewee not explain anything because of financial policies of the company. Regarding the interviewee is storage the most cost consuming category for the company.

Section 5: Benefits and disadvantages

“Regarding the relocation process could I as disadvantage only tell you that is taking too many energy and effort to realize it, and because of all the energy and effort did we made the relocation without any problem. The advantage is that we are having a taller storage place.” Is answered to the advantages and disadvantages of relocation.

Conclusion

The employer is again thanked for the time and information that interview summary will be sent for an overview.

Checklist Logistics Specialist B

Sections	Clearly	Unclear
Cohesion between warehouse and Supply Chain	x	
Decision for relocation	x	
Process of relocation	x	
Cost categories and financial benefits	x	
Benefits and Disadvantages	x	

Appendix 8: Warehousing Tender PowerPoint Presentation

The PowerPoint presentation given in this Appendix is about the tender done by Nutricia ELN Turkey. The tender preparations are started on 30 May 2017. The whole tender process took in total five months.

Slide one



SUPPLY CHAIN TURKEY SSD & LOGISTICS

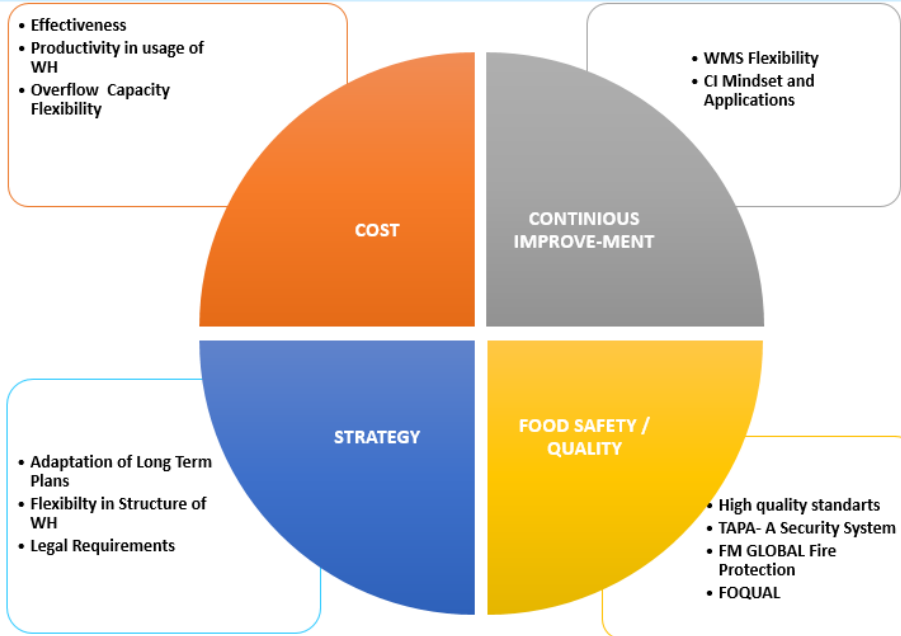
2017 WAREHOUSING TENDER

UPDATE

30 May 2017

Slide two

Tender Drivers



Slide three

Comparison Table ;

Current Contract with DHL

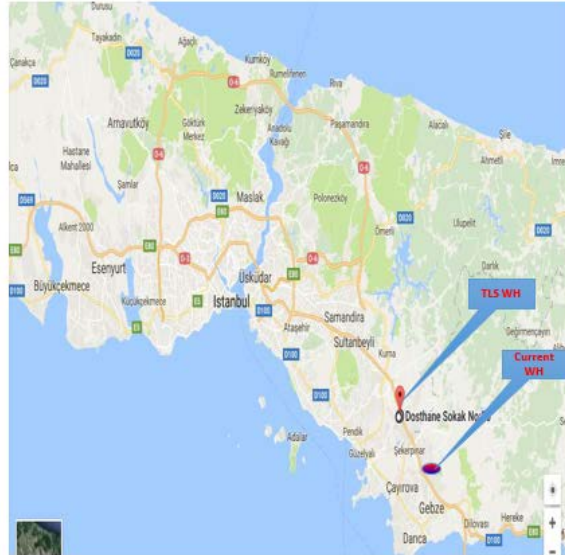
- Contract end this year (31.12.2017)
- \$ based rent prices in price list (63 % cost base isin \$)
- Has additional union cost (5 % extra increase in handling costs)
- 88 % of contract is fixed
- Leased warehouse by DHL with ending contract on 2017 Dec
- No suggestions about new DC which matching our quality standarts
- Has some legal issues dur to the location of WH in Bonded zone (Erenköy Bonded in İzmit)
- Lost flexibility in operation due to union and turn-over
- No (pro)activity and efficiency in Log. activities

New Contract with TLS

- Have contract for 4 years (+1 optional)
- TLS is the owner of warehouse (not leased)
- All prices are in TL and no extra cost of union
- 65 % of contract is fixed
- Productivity of 8 % in WH costs for 2018 (
- A Class warehouse which has in-rack sprinkler system
- Flexibility in operation (Allocated capacity for overflow with same unit prices)
- FMCG Experience / Mondelez, Ferrero, Redbull, Daikin

Slide four

TLS Warehouse ;



Location: Orhanlı – İstanbul

15 km distance from current WH

- **Ramps: 12**
- **Rack type: Back to back**
- **Free WHS: 10.000 spm**
- **Pallet Capacity: 20.600 Eu-Pallet**
- **Rack height : 13,70 m**
- **VAS (Value Added Service) area: 875 m2**
- **Fire Protection System: NFPA 13&20/ FM Global**
- **Sprinkler system: In rack**
- **Fire wall: Ok**

Slide five

Risks of Staying in DHL



Risks of Staying in DHL

- 1) Insecure relationship with 3PL (Have always hidden agenda)
- 2) DHL will request price increase in 1.1.2018 (750 K TL per year)
- 3) Separated BW has negative effect on efficiency (11 % negative productivity)
- 4) Union Effect (unknown situation based on agreement between DHL & Union)
- 5) Losing Flexibility (HR & Operation)
- 6) Loosing customer (46 % lost in 3 years)

Slide six

Final Decision Recommendations;

In Terms of Cost (for ELN);

Handling	DHL	NETLOG	CEVA	TLS
5 Years Plan	21.787.765 ₺	18.407.013 ₺	19.855.124 ₺	16.094.133 ₺
		3.380.751 ₺	1.932.641 ₺	5.693.632 ₺
		16%	9%	26%
Rent	DHL	NETLOG	CEVA	TLS
5 Years Plan	27.643.757 ₺	23.506.413 ₺	22.733.488 ₺	25.612.857 ₺
		4.137.344 ₺	4.910.269 ₺	2.030.900 ₺
		15%	18%	7%
GRAND TOTAL	DHL	NETLOG	CEVA	TLS
5 Years Plan	49.431.521 ₺	41.913.426 ₺	42.588.612 ₺	41.706.990 ₺
		7.518.095 ₺	6.842.909 ₺	7.724.531 ₺
		15%	14%	16%
First Year	DHL	NETLOG	CEVA	TLS
Handling	3.784.907 TL	3.055.959 TL	3.092.534 TL	3.158.529 TL
Rent	3.595.388 TL	3.402.213 TL	3.417.171 TL	3.286.571 TL
GRAND TOTAL	7.380.295 TL	6.458.172 TL	6.509.705 TL	6.445.100 TL
		922.123 TL	870.590 TL	935.195 TL
		-12,5%	-11,8%	-12,7%

* Excluded start-up costs

Slide seven

Final Decision Recommendations;

In Terms of Cost (only for AMN);

	2017-2021 (kTL)	Saving in 5 years DHL as is (kTL)	Saving in 5 years DHL discount (kTL)	% saving vs DHL as is	% saving vs DHL discount
NETLOG	22.406	-8.508	-7.868	-28%	-26%
NHL	33.153	2.238	2.879	7%	10%
EKOL	29.076	-1.839	-1.198	-6%	-4%
CEVA	23.448	-7.466	-6.826	-24%	-23%
TLS	23.359	-7.556	-6.915	-24%	-23%
DHL as is	30.915				
DHL with discount	30.274				

	2017-2021 (kTL)	MOH requirement (2017-2021)	with requirement	% saving vs DHL as is	% saving vs DHL discount
NETLOG	22.406	1.910	24.316	-21%	-20%
NHL	33.153	0	33.153	7%	10%
EKOL	29.076	3.865	32.941	7%	9%
CEVA	23.448	4.314	27.762	-10%	-8%
TLS	23.359	3.908	27.267	-12%	-10%
DHL as is	30.915				
DHL with discount	30.274				

MOH requirement	Cost (kTL)	Period
Investment for temperature control WH + system validation (3000 pallets)	2.500	One shot investment- 5 years
WH manager + other official expenses	160	per year
Electricity	120	per year

Slide eight

Final Decision Recommendations;

In Terms **Evolution Matrix** (only for ELN);

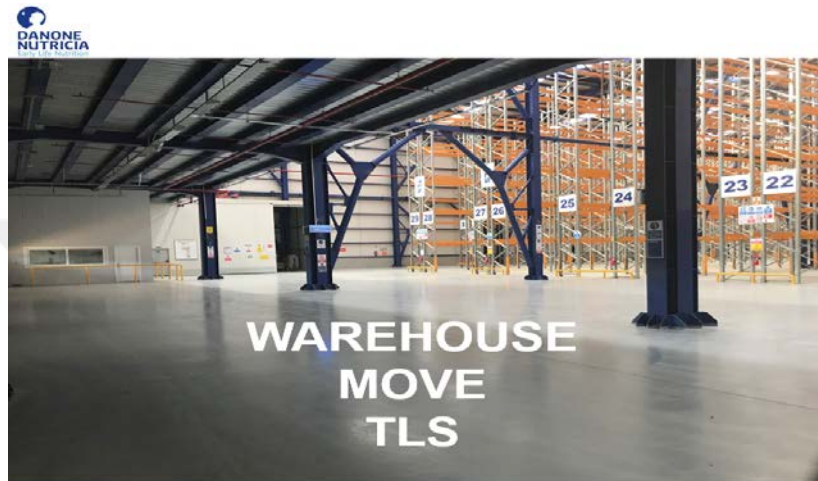
		Weighted	NETLOG		CEVA		TLS	
		ELN	ELN		ELN		ELN	
			Total Assessment	Puanlama	Total Assessment	Puanlama	Total Assessment	Puanlama
*1)	RCA Audit Adaptation		Yes		Yes		Yes	
*1)	TAPA (A) Security Infrastructure Adaptation (Security Self Assessment)		Yes		Yes		Yes	
1)	COST	30	25	3,29	24	3,16	26	3,44
2)	Capability of IT&IS	4	4	4	3	3	3	3
3)	Food Safety and Quality	10	8	3	8	3	8	3
4)	WMS Adaptation	8	8	4	8	4	6	3
5)	Location of WH and Lease&Own	7	7	4	5	3	7	4
6)	Location of Bonded and Free Zones (in WH and even same level)	4	4	4	4	4	4	4
7)	Type of Bonded Zone	4	3	3	3	3	4	4
8)	Experience on Ministry of Health Operations and 2d Barcoding	-	-		-		-	
9)	Reference Check	5	4	3	4	3	5	4
10)	Flexibility of Overflow Stock Management	6	6	4	6	4	6	4
11)	Continuous Improvement Mindset	5	4	3	5	4	4	3
12)	WISE Results (control from Ministry)	7	5	3	5	3	5	3
13)	Corporate Commitment	10	5	2	8	3	10	4
TOTAL		100	82		82		87	



Appendix 9: Warehouse Movement Nutricia ELN Turkey PowerPoint Presentation

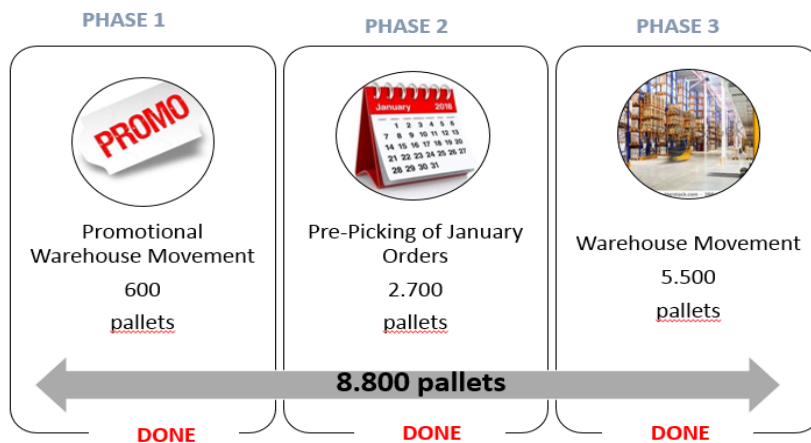
This PowerPoint presentation of Nutricia ELN Turkey shows how the movement is realized. The physical movement started on 21 December 2018 and was done on 23 December 2018. The go live phase was right after the physical movement on 28 December 2018.

Slide one



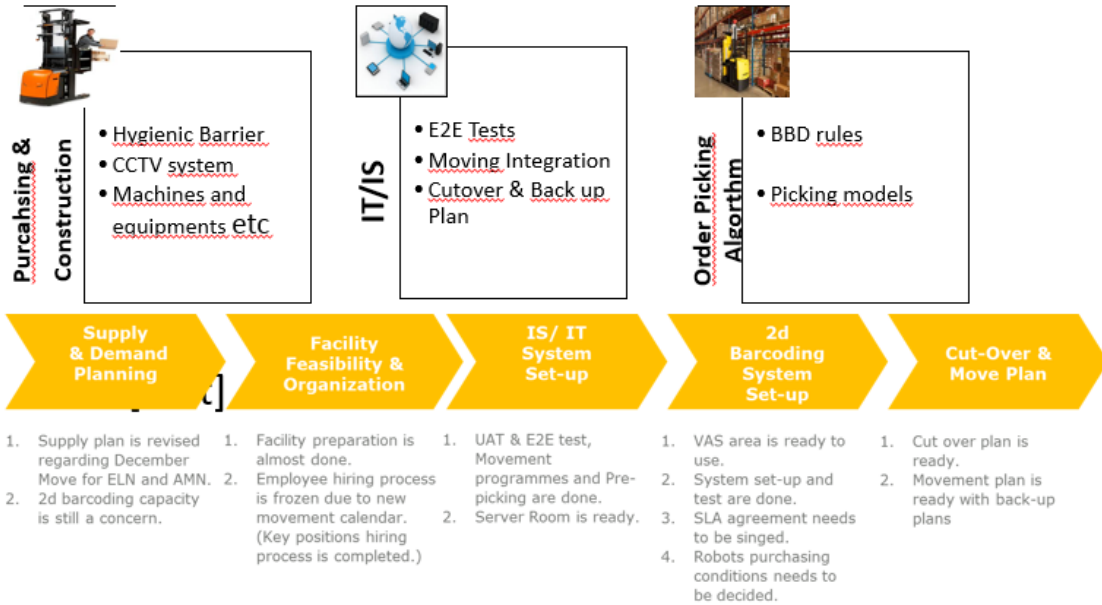
Slide two

Movement Phases



Slide three

Project Plan Status



Slide four

Movement Calender

Wed	Thurs	Friday	Saturday	Sunday	Monday	Tuesday	Wed	Thurs	Friday	Saturday	Sunday
20.Ara	21.Ara	22.Ara	23.Ara	24.Ara	25.Ara	26.Ara	27.Ara	28.Ara	29.Ara	30.Ara	31.Ara
SC	SC	SC	SC	SC	SC	SC	SC	SC	FINANCE	LIVE	LIVE

09-18 Var.											
18-03 Var.											
	09-18 Var.										
	18-03 Var.										
		09-20 Var.									
		20-08 Var.									
			09-20 Var.								
			20-08 Var.								
				09-20 Var.							
				20-08 Var.							
					09-18 Var.						
					18-03 Var.						
						09-18 Var.					
						18-03 Var.					
							09-18 Var.				
							18-03 Var.				
								09-18 Var.			

Slide five

Movement Performance

# of Pallets and Trucks			
Division	# Pallet	# Lorry	# Truck
ELN	3,778	27	100
AMN	1,304	0	40
Total	5,082	27	140
			167



Daily Performance				
Division	Date	Shift	DHL	TLS
AMN	22.12.2017	20:00-08:00	33	33
ELN	22.12.2017	20:00-08:00	726	726
AMN	23.12.2017	08:00-20:00	132	132
ELN	23.12.2017	08:00-20:00	981	981
AMN	23.12.2017	20:00-08:00	363	363
ELN	23.12.2017	20:00-08:00	720	720
AMN	24.12.2017	08:00-20:00	362	362
ELN	24.12.2017	08:00-20:00	619	619
AMN	24.12.2017	20:00-08:00	33	33
ELN	24.12.2017	20:00-08:00	236	236
AMN	25.12.2017	08:00-20:00	229	229
ELN	25.12.2017	08:00-20:00	466	466
AMN	25.12.2017	20:00-08:00	152	152
ELN	25.12.2017	20:00-08:00	30	30
TOTAL			5082	5082

Slide six

Synergy AMN & ELN

WAREHOUSING

Overflow shared capacity
usage 25K for ELN



DISTRIBUTION



75 K for
AMN

98 K for
ELN

SYNERGY
1+1 > 2

Slide seven



Thank you, Teşekkürler ..



RESUME



Personal Information

First name/	Nagahan Yaylali
Surname	
Address	Yıldırım Mahallesi Fevzi çakmak caddesi no50/4 Bayrampaşa İstanbul – Turkey
Telephone	0090- 545 394 78 12
Birthdate	22-10- 1990
Birthplace	Arnhem, The Netherlands
E-mail	Nagihan.yaylali@gmail.com
Further information	https://nl.linkedin.com/pub/nagihan-yaylali/86/110/a63

Personal profile

As a person, I am friendly, helpful, inquisitive and honest. I work in a structured, determined, focused and result-oriented way. I am able to work independently and in groups. Also important to know: I am a go-getter with a high sense of responsibility. I can see and find a solution for different problems. Furthermore, I am able to look at a problem from different perspectives.

Education

2016- today	Istanbul Aydın University, Turkey Political Science and International Relations
2010 - 2014	University of Applied Sciences, The Netherlands Bachelor of Business Administration (BBA), <i>Major: Commercial Business (B2B)</i>
2013 – 2014	Minor Business Information Management
2009 – 2010	Intermediate Vocational Education Helping care and welfare
2003 – 2008	Preuniversity education, Arentheemcollege Middachtensingel, <i>Exam courses: Dutch, English, German, Economy, Mathematics, History and Geography</i>

Work Experience

march 2016- may 2017	Supply chain, Logistics Employee, Nutricia Early Life Nutrition Danone <ul style="list-style-type: none">- Controlling the delivery reports from the forwarders,- Controlling all delivery documents before the loading of goods,- Preparing monthly Key Performance Indicator (KPI) reports about the forwarders, factories, customer agency and the warehouse,- Preparing monthly damage reports (damages during transport),- Preparing damage overview and arranging credit notes by supply points,- Controlling all certificates of goods on validity and applying for new certificates in the case it is expired,- Applying for organic certificates,- Attending weekly activity management meeting for each product category,- Communication with factories and forwarders for import-related issues,
october 2015 – march	Foreign Sales Employee, KMS Kuba SAN. LTD. <p>Care of customer relations, Customer acquisition, Customer satisfaction, Solving the customer problems, Making invoices, controlling the stocks of spare parts/machines, In short, every task for being a Foreign Sales Employee</p>

<p>june 2015 – 2015 august</p>	<p>Customer Care Employee, MediPoint, The Netherlands</p> <p><i>Responsibilities included:</i></p> <p>Customer Service, Solving the customer problems, Helping the customer for buying the right product</p>
<p>September 2006 - march 2015</p>	<p>Sales Employee, HEMA, The Netherlands</p> <p><i>Responsibilities included:</i></p> <p>Customer Service, Dealing customer complaints, Various activities in the store.</p>
<p>october 2014- december 2014</p>	<p>Call center Agent, 360 Daadkracht, The Netherlands</p> <p><i>Responsibilities included:</i></p> <p>Recruiting members for a project, Persuading members to participate.</p>
<p>january 2009 – december 2011</p>	<p>Childminder, Gastouderbureau Eftel, The Netherlands</p> <p><i>Responsibilities included:</i></p> <p>-personal guidance with homework</p>

Internships

<p>february 2014- june 2014</p>	<p>Graduation internship, DG press ServiceS, The Netherlands</p> <p><i>Responsibilities included:</i></p> <p>Graduation research and graduation thesis. I did a graduation research at the purchasing department of an international oriented company. After the research, I have written a thesis based on the possibilities how to restructure the purchasing department.</p>
<p>april 2012- july 2012</p>	<p>Orka Royal Hotel, Sirkeci- Istanbul, Turkije</p> <p><i>Responsibilities included:</i></p> <p>I conducted an employee satisfaction survey and did various activities at the Sales and administration departments.</p>

Languages

Dutch	Native language
Turkish	Native language
English	Fluent
German	Intermediate

Extra activities

december 2014- august 2015	Voluntary work at MVT, The Netherlands Personal guidance with homework
september 2014- today	Voluntary work for Istanbul Aydin University Various activities for the office in the Netherlands
2009 – 2010	First Aid course, achieved
2017 - 2018	Language course achieved Following a German language course on the B1 level

Software Knowledge

Good knowledge of MS Word, MS Excel, MS PowerPoint, MS FrontPage, SPSS. Small experience with ERP system Exact, Bizdesign and Architect.