



UNIVERSITY OF GOTHENBURG  
SCHOOL OF BUSINESS, ECONOMICS AND LAW

# Deregulation Effects on the Swedish Pharmaceutical Distribution Network

**University of Gothenburg  
School of Business, Economics and Law**

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University of Gothenburg, School of Business, Economics and Law

Gothenburg, 27 May 2010

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## Abstract

On July 1<sup>st</sup> 2009, the government-controlled monopoly on pharmaceutical retailing in Sweden was eliminated, and the subsequent pharmacy sell-out resulted in the existence of five pharmacy groups in the retailer stage of the supply chain, instead of the previous Apoteket AB; however, practically all distribution of pharmaceutical products still occur through the two logistics providers Tamro and KD Pharma. This thesis addresses how the deregulation of the pharmaceutical market affect the manufacturers' distribution channels, how a manufacturer can benefit from possible changes in the distribution stage of the supply chain, and what opportunities and threats regarding distribution that may arise as a result of the deregulation?

The investigation is disposed as a case study performed from the biotech developer and manufacturer Genzyme's point of view, and it is conducted through several in-depth interviews with Genzyme, as well as representatives from both the distribution and retail companies. The empirical results are analyzed in the light of a theoretical framework consisting of relevant supply chain theories.

The study concludes that the deregulation effects on pharmaceutical distribution depend on the allocation of power within the supply chain, where two scenarios exist; a supplier dominance situation with small changes in the current One-Channel-Solution, or a retailer dominance situation that may result in a distribution alternative with more integration between the retailer and distributor stage, where most negotiations take place between the retailer and manufacturer directly; requiring manufacturers to collaborate with multiple distributors, which could lead to an increase in resource consumption and costs. Therefore, pharmaceutical manufacturers need to prepare for a new scenario and stay proactive in order to find the most beneficial future solutions.

## Table of Contents

1. Introduction .....	1
1.1 Background .....	1
1.1.1 Distribution in the Swedish Pharmaceutical Industry.....	1
1.1.2 Pharmaceutical Market Regulations.....	4
1.1.3 Parallel Imports & Exports of Pharmaceuticals.....	5
1.1.4 Genzyme Corporation .....	6
1.2 Problem Discussion and Limitations .....	6
1.3 Purpose .....	8
1.4 Thesis Disposition .....	8
2. Method .....	10
2.1 Research Strategy .....	10
2.2 Empirical Investigation.....	10
2.3 Data Collection Method .....	11
2.4 Source Evaluation .....	12
2.5 Evaluation of General Conclusions .....	13
2.6 Areas of Investigation .....	13
2.6.1 New Market Entries .....	14
2.6.2 Market Participants' Strategies.....	14
2.6.3 Supply Chain Integration.....	15
2.6.4 In-house Solution .....	15
3. Theoretical Framework.....	16
3.1 Constructing a Feasible Supply Chain Network .....	16
3.1.1 Fundamentals of Supply Chain Management.....	16
3.1.2 Method for Developing a Network Model.....	17
3.2 Supply Chain Integration.....	18
3.2.1 Internal & External Integration .....	19
3.3 3PL.....	19
3.3.1 Advantages of 3PL.....	19
3.3.2 Disadvantages and Issues of 3PL.....	20
3.3.3 Requirements and Considerations when Choosing and Implementing a 3PL Function .....	20
3.4 Collaboration in the Supply Chain.....	21

3.4.1 Problems with a Supply Chain Collaboration.....	21
3.4.2 Characteristics of the Supply Chain Collaboration.....	22
3.4.3 Quick Response (OR).....	23
3.4.4 Efficient Consumer Response (ECR).....	23
3.4.5 Continuous Replenishment Policy (CRP).....	23
3.4.6 Vendor Managed Inventory (VMI).....	24
3.4.7 Collaborative Planning, Forecasting and Replenishment (CPFR).....	25
3.4.8 Comparison of Strategies.....	26
4. Empirical Investigation.....	28
4.1 Genzyme’s Perspective.....	28
4.1.1 Current Operations.....	28
4.1.2 General Deregulation Effects.....	29
4.1.3 In-House Solution.....	29
4.1.4 Parallel Import.....	29
4.1.5 Important Considerations for Future Development.....	29
4.2 Distributors Perspective.....	30
4.2.1 Current Operation and Market Participant Strategies.....	30
4.2.2 General Deregulation Effects.....	32
4.2.3 New Market Entries.....	34
4.2.4 Integration of the Supply Chain.....	35
4.2.5 In-House Solution.....	36
4.3 Retailers Perspective.....	36
4.3.1 Current Operations.....	36
4.3.2 Market Participant Strategies.....	37
4.3.3 General Effects of the Deregulation.....	37
4.3.4 New Market Entries.....	38
4.3.5 Supply Chain Integration.....	39
4.3.6 In-House Solution.....	40
4.3.7 Parallel Import.....	40
4.3.8 Apoteket AB’s Distribution Solution.....	40
5. Analysis.....	42
5.1 Market Participant Strategies.....	43

5.2 New Market Entries ..... 45

5.3 Supply Chain Integration..... 47

5.4 In-House Solution..... 49

6. Final Conclusion and Recommendations ..... 51

6.1 Final Conclusion ..... 51

6.2 Recommendations ..... 52

6.3 Future Areas of Investigation..... 52

7. Sources..... 54

7.1 Articles and Other Dissertations ..... 54

7.2 Electronic and Internet Resources ..... 55

7.3 Litterature ..... 56

7.4 Interviews..... 57

Appendix 1A – Interview Guide for Genzyme..... 58

Appendix 1B – Interview Guide for Distributors..... 59

Appendix 1B – Interview guide for Retailers ..... 60

**Figure List**

Figure 1 - Market Matrix ..... 4

Figure 2 - Method Summarization ..... 14

Figure 3 - An Example of a Supply Chain Network..... 17

Figure 4 - Network Planning Process ..... 18

Figure 5 - A Dilemma of Supply Chain Collaboration..... 22

Figure 6 - The 9 Steps of the CPFR Process ..... 25

Figure 7 - Power Structure in the Retailer-Supplier Relationship..... 26

Figure 8 - Model for Analysis ..... 43

## 1. Introduction

The subsection Background provides the reader with relevant information about the deregulation, the current distribution network, parallel imports and exports of pharmaceuticals, and the pharmaceutical manufacturer Genzyme. Thereafter, a problem discussion with limitations follows, deriving the questions to be answered and the purpose of this thesis.

### 1.1 Background

Harrison and van Hoek explain that organizations face many potentially conflicting demands where customers demand cheap and quick distribution and low costs. To satisfy these demands and to compete, an organization must understand the basis of competition for each product group within the supply chain. Furthermore, Harrison and van Hoek state, “*the key advantage provided by logistics is availability of conforming product in the marketplace at low cost*” (Harrison and van Hoek, 2002 (page 16)). The importance of logistics also applies for the pharmaceutical industry, which according to Whewell is a very complex industry with many markets, products and regulations. Pharmacy products are used by almost everyone in the world during sometime in their lifetime. The supply chain in this industry aims to provide a huge market with products and hence becomes very complex. Changes in one area such as customer preferences and/or regulations affect all stages of the supply chain in ways not initially expected (Whewell 2009). The importance of logistics and the impact of changes in the market on the supply chain make the effect of the abolishment of the government controlled monopoly (hereafter called deregulation) interesting to analyze.

The background section is divided into two parts where the first part aims to provide the reader with knowledge about the pharmacy market before the deregulation and the current situation. This section provides the reader with some basic knowledge in order to understand the later presented problem and purpose.

The second part focuses on the pharmaceutical company Genzyme, from whose perspective we carry out our empirical case study. Basic information about the operations of the pharmacy company is vital in order to understand the potential effects that the deregulation can bring.

#### 1.1.1 Distribution in the Swedish Pharmaceutical Industry

The supply chain for the individual pharmaceutical manufacturer consists of a manufacturer, a distributor and a retailer; where the government controlled monopoly still influenced the distribution situation before July 1<sup>st</sup>, 2009, by the ownership of all the retailer activity. In the case of the pharmaceutical company Genzyme, they hire a distributor to handle logistics and distribution to the different retailers through whom they sell their products to the final consumer. The distribution network can be viewed and summarized in figure 1, a figure that applies for distribution of prescriptive pharmaceuticals and some commercial goods and non-prescriptive pharmaceuticals. When distributing some of the non- prescriptive pharmaceuticals, the

distribution network is different and more complex since the retailer activity as of 1/11-2009 also involve supermarkets, which are allowed to sell some non-prescriptive medicine.

([www.apoteket.se](http://www.apoteket.se), Gillberg)

Since the deregulation, the distribution situation has changed significantly due to new privately owned retailers entering the market. This entrance derives from a government initiative where the main goal according to Apoteket is to improve availability, price levels and service for the consumer through a competitive market ([www.apoteket.se](http://www.apoteket.se)). During the monopoly, there was only one public company that owned all the rights to sell both prescriptive and non-prescriptive medicine. However, since the deregulation a large number of pharmacies have been sold to large corporations by assembling and selling the pharmacy stores in blocks/clusters. A total of about 466 pharmacies have been sold to large corporations and up to 150 pharmacies will be placed in an entrepreneur company, Apoteksgruppen, where entrepreneurs and private investors will be offered the opportunity to buy a majority of the shares in separate pharmacy stores. This means that about 616 of 950 pharmacies would change owner due to the deregulation.

([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se))

As a result of the change in the retailer stage, there are now five large entities that own the majority of the retailers (800 of 950). These owners are:

- *Apoteket Hjärtat*, owning blocks 1 and 8 that consist of totally 208 pharmacies spread across the country (the geographic dispersion is applicable for all retailer blocks). In turn, the investment company Altor owns this company. ([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se), [www.altor.com](http://www.altor.com))
- *Kronans Droghandel Retail AB*, owning block 2 that consists of totally 171 pharmacies. The finish pharmaceutical trade company Oriola-KD owns this company. ([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se) , [www.oriola-kd.com](http://www.oriola-kd.com))
- *Medstop Holding AB*, owning block 3-5 of totally 62 pharmacies. The investment company Segulah owns the company. ([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se) , [www.segulah.se](http://www.segulah.se))
- *Vårdapoteket i Norden AB*, owning block 6-7 of totally 24 pharmacies and is in turn owned by Investor and Priveq investment. ([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se))
- *Apoteket AB*, owning the remaining pharmacies after the completion of the sell-out. This public company will continue to exist and compete after the elimination of the monopoly. ([www.omstruktureringsbolaget.se](http://www.omstruktureringsbolaget.se))

According to Genzyme, the distribution stage in the network has not been affected in terms of new distributors entering the market so far. There are currently two major organizations, owning a majority of the market share; these organizations are Tamro and KD Pharma. (Gillberg)

Tamro acknowledge themselves as the leading pharmaceutical distributor in the Swedish market with approximately 55% of medical products. They deliver pharmaceuticals to all pharmacies

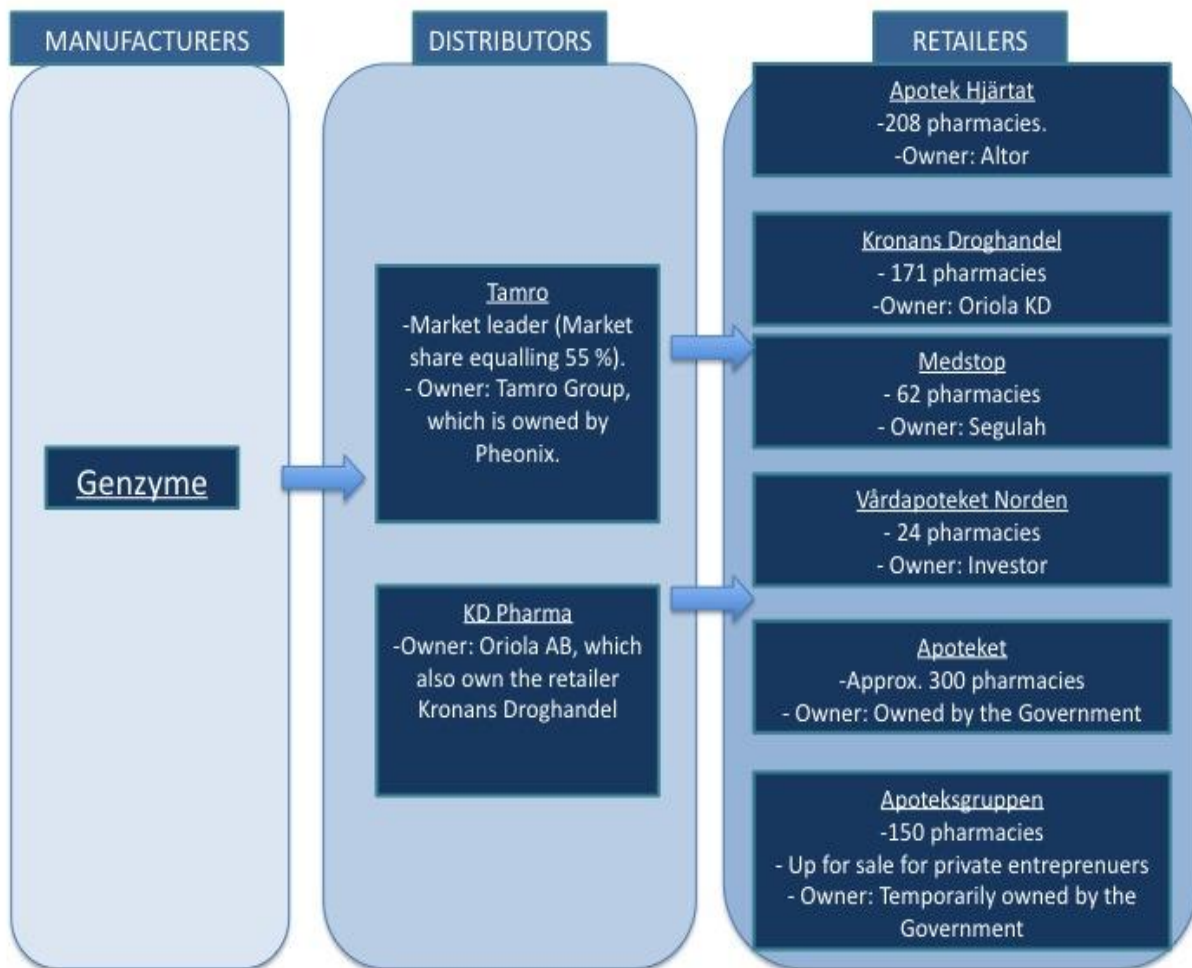


and all types of pharmaceuticals to hospitals. Tamro's business focuses on the distribution process in the distribution network, providing the pharmaceutical manufacturer with inventory management and logistics services. Moreover, they provide the retailers with a daily supply of products and customer service. Tamro is not involved in manufacturing or retailing since their core business on the Swedish market is distribution and logistics management. They are a part of the company group Tamro, which is northern Europe's leading pharmaceutical distributor. This group is in turn owned by the Phoenix group, which is the fifth largest pharmaceutical distributor in the world. ([www.tamro.se](http://www.tamro.se))

The finish corporation Oriola-KD owns KD Pharma, as well as the retailer company Kronans Droghandel Retail AB. Just as Tamro, KD Pharma is a distributor focusing on providing distribution and logistics management services. The company group however, also involves a retailer and the goal for these companies as a group, is to transform into an integrated pharmaceutical retailer in Sweden, involving both distribution services and retailing. ([www.oriola-kd.com](http://www.oriola-kd.com), [www.kd.se](http://www.kd.se))

Besides present distributors, Genzyme indicates that the deregulation could create opportunities for other organizations to try to enter the Swedish market in the distribution stage and/or in the retailer stage. According to Henrik Rådmark, there were three major companies providing pharmaceutical distribution in Europe back in 2007 (Rådmark, 2007). One of these companies was Alliance Boots, which according to Petra Hedborn did bid on one of the pharmacy blocks during the bidding in 2009. They were however unsuccessful in acquiring any block but Genzyme does not exclude the possibility that a company like Alliance Boot may enter the market. Another company that is also a market leader in Europe and may consider entering the Swedish market is Celesio. (Hedborn, 2009, Gillberg)

Figure 1 - Market Matrix



### 1.1.2 Pharmaceutical Market Regulations

Even after the deregulation, heavy regulations surround the Swedish pharmaceutical market, and this section describes the most important rules that affect the distribution operations. The administrative authority responsible for the supply of safe and effective pharmaceutical products in Sweden is the Medical Products Agency (in Swedish: Läkemedelsverket), who issues the license needed in order to run a pharmacy business in Sweden after the deregulation. The Medical Products Agency also require companies interested in wholesale trading with pharmaceuticals to retain a specific approval for this business. ([www.lakemedelsverket.se](http://www.lakemedelsverket.se)) Furthermore, wholesale trading companies are bound to obey the Medical Products Agency's prescriptions about pharmaceutical wholesaling, which regulate areas like quality control, documentation, educated personnel, facilities and equipment, storing and physical handling etc. Distributors who deal with pharmaceuticals also have an obligation to deliver the products within 24 hours from the time the order is placed. (LVFS 2009:11)

Regarding the distribution of pharmaceuticals to hospitals, Apoteket Farmaci (a subsidiary to Apoteket AB) has handled the retailer process in this stage and either Tamro or KD Pharma has handled all the distribution. However, the selling process of the monopoly-controlled pharmacies has not included hospital pharmacies (Gillberg). The regional councils can after the deregulation procure the supply of pharmaceuticals to hospitals for a span of 2-3 years. The first regional councils to go through with the procurement were Kronoberg, Kalmar and Blekinge that chose Vårdapoteket i Norden AB, which already handles the pharmacies located at their hospitals (Hedbom, 2010).

An important regulation involves the price model for pharmaceuticals. The market for pharmaceuticals is divided into two segments in the pricing model: pharmaceuticals within the group of privilege and pharmaceuticals outside the privilege. The price model is quite complex in general, however the big differences in how the pharmaceuticals are priced exist between these two groups. The majority of the prescriptive pharmaceuticals can be found in the privilege group, and the majority of the non-prescriptive pharmaceuticals dwell outside the privilege. Pharmaceuticals within the group of privilege are priced according to a separate model where the pharmaceutical manufacturers apply to TLV in order for their product to be included in the group of privilege. If TLV approves this application, a fixed, non-negotiable purchasing price and selling price is set for the pharmaceutical. The price for pharmaceuticals outside the group of privilege is negotiable without any specific regulations. ([www.omstruktureringensbolaget.se](http://www.omstruktureringensbolaget.se))

Considering this allocation of pharmaceuticals, we refer to the price model for prescriptive pharmaceuticals as to be within the group of privilege and non-prescriptive pharmaceuticals to be outside the group of privilege, in order to simplify the understanding of this price model.

### 1.1.3 Parallel Imports & Exports of Pharmaceuticals

In order to fully grasp the pharmaceutical market complexity, the phenomenon of parallel imports and exports of pharmaceutical products needs to be addressed. As of today, this phenomenon, which originates from price differences between countries within the European market, has a substantial impact of the pharmaceutical industry supply chain. Traditionally, the Swedish subsidiary delivers their product to a distributor, who distributes it to the various pharmacies. However, the Swedish distributor may as easily purchase the same product from a wholesaler in another European country, which in turn has purchased the product from another pharmaceutical corporation-subsiidiary, and thus, adding a step in the supply chain. (Gillberg)

Since Sweden is characterized by relatively high pharmaceutical prices, the parallel import phenomenon provides the most imminent issues for Swedish pharmaceutical companies. For instance, this yield a significant internal reporting-problem for global corporations that operates on multiple markets, since the employees of the local subsidiary market sell the product, but the actual revenue ends up in books of the subsidiary in the exporting country. (Gillberg)

#### 1.1.4 Genzyme Corporation

Genzyme Corporation, a biotech company founded in Boston, Massachusetts in 1981, has grown from a small start-up to a global pharmaceutical manufacturer and developer with over 12,000 employees worldwide. The scientifically based company (the research and development spending equaled 18.75% of the annual revenues of \$4.6 billion in 2008) evolved around the development of life-saving treatments for rare genetic diseases, such as Gaucher Disease. Today, Genzyme's manufacturing and research facilities are located all over the globe, with headquarters in Cambridge, Massachusetts where the main research & development (R&D) activities take place. In Europe, pharmaceutical production takes place in a number of countries, for instance in Ireland, Spain, Denmark, France, and the United Kingdom. The business has expanded continuously during the past decades, and Genzyme's operations now focuses on rare inherited disorders, kidney disease, orthopedics, cancer, transplant, immune disease, and diagnostic testing. ([www.genzyme.com](http://www.genzyme.com))

Established in 1999, Genzyme AB serves as a fully owned subsidiary to Genzyme Europe B.V (which is a subsidiary to Genzyme Corporation), and its operations consist of sales and marketing of Genzyme Corporation's medical preparations in the Swedish market (Genzyme AB Annual Report 2008). Genzyme AB works with 15 different products allocated in three business segments: Genetic diseases, Cardiometabolic & biosurgery, and Oncology & transplant, whereof the first-named accounts for 70 % of the annual revenues and the remaining revenues are equally distributed between the other two ([www.genzyme.se](http://www.genzyme.se)). As implied above, Genzyme is a highly specialized pharmaceutical manufacturer and the company's market share is relatively small, both in Europe and Sweden. Today, Genzyme AB uses Tamro as their distributor, a solution that includes warehousing (Gillberg). This thesis focuses solely on Genzyme AB and therefore, Genzyme AB is simply referred to as Genzyme for the remainder of this text unless otherwise stated.

#### 1.2 Problem Discussion and Limitations

As mentioned in the previous section, the deregulation impose a substantial change to the pharmaceutical market, where instead of one retailer owned by the government, there are now five large entities and several small ones that each have its own stakeholders and agenda. Today, a significant uncertainty of how this upheaval affects the current distribution channels exists. The research addressing supply chain effects of a market deregulation is inadequate, especially from a pharmaceutical-industry point of view. According to Anell, surprisingly little evidence to document effects of competition on behavior and market structure exist. However, in Norway, the deregulation of the pharmaceutical market in 2001 caused the emerging pharmacy groups to integrate vertically with wholesalers; the three leading pharmacy groups were linked to one of the main distributors in Europe: Phoenix, Alliance Boots and Celesio (Anell, 2005).

Our preceding discussion concludes that the current distributor process consists of two dominant corporations; however, the future development of this supply chain-stage remains unclear. New

market entries may result from the recent restructuring process, which in that case serve as new business opportunities for pharmaceutical manufacturers. Different retailers could implement various distribution strategies and purchase procedures, and future development in the industry could include a closer integration between certain distributors and the retailers in order to create economies-of-scale and a lean supply chain. The increased collaboration of distributors, their customers and suppliers, which Hofer, Knemeyer and Dresner discuss in their article on *Antecedents and Dimensions of Customer Partnering Behavior in Logistics Outsourcing Relationships*, could therefore have a large effect on how the supply chain is managed in the future. This study also stresses the importance of carefully selecting partners and to develop an interactive and mutually beneficial relationship in order to produce long-term benefits (Hofer, Knemeyer & Dresner, 2009); something that can easily become more complex and challenging in a competitive market containing a greater number of organizations and stakeholders. Furthermore, corporate mergers and acquisitions occur frequently in the manufacturing stage of the pharmaceutical supply chain and one cannot exclude the possibility that this phenomena may disperse to the retailer stage in the aftermath of the deregulation. According to Booth, the spate of mergers in the pharmaceutical industry will force the issue of supply chain re-engineering: as companies merge, a rationalization of the supply chain is required to attain the increase in performance and reduction in costs which were rationale for the merger being undertaken (Booth, 1996).

This thesis intends to investigate what effects the market deregulation has on a pharmaceutical manufacturer's outbound supply chain, and what new alternatives that may arise. This text addresses these questions from a manufacturer's perspective. The focus is Genzyme and identification of superior distribution alternatives compared with their current solution as well as exploration of new business opportunities for the company in this area. Moreover, an extensive analysis of the future development of the possible outbound supply chain-channels serves as valuable input for both Genzyme and other pharmaceutical manufacturers.

To narrow the scope of this study, we chose to concentrate on changes and effects that occur in the distributor stage of the supply chain. Also, this thesis addresses the in-house distribution alternative and takes into consideration that Genzyme could benefit from an in-house strategy. No special consideration regarding the pharmaceuticals' different characteristics will be taken; the case study is limited to pharmacy stores and does not include distribution to supermarkets. Since both prescriptive- and non-prescriptive pharmaceuticals follow the same distribution channel a generalization can be made; thus, in order to understand the effects and changes on the distribution of prescriptive pharmaceuticals, a thorough analysis of the non-prescriptive segment needs to be undertaken. However, since prescriptive pharmaceuticals account for an absolute majority of Genzyme's annual revenues the focus of the recommendation will address this specific pharmaceutical segment. In addition, the current solution also incorporates distribution to hospital pharmacies, which allow estimation of future effects in this area based on findings in

the study of the manufacturer – retailer network. Due to time limitations, the scope of this study focuses on the larger pharmacy groups in the retailer stage of the supply chain, since they are most certainly the most influential and therefore, dictate the terms in the market.

In the light of the issues mentioned above, the questions that this thesis answers can be formulated as follows:

#### Main Problem

*How does the deregulation of the pharmaceutical market affect the manufacturers' distribution channels?*

#### Sub Problems

- 1. How will the distribution channels change the distribution stage of a pharmaceutical manufacturer's supply chain?*
- 2. How can Genzyme benefit from these changes and what opportunities and threats may arise as a result of the deregulation?*

### 1.3 Purpose

The main purpose of this thesis is to examine the effects the deregulation in the retailer stage has on the distribution network from a manufacturer's perspective. We intend to clarify what potential business opportunities and threats this may bring for a pharmaceutical manufacturer. Furthermore, the later presented theoretical framework will be used together with the empirical study in order to provide Genzyme Corporation with a thorough analysis over what opportunities that may come to exist, an analysis that will serve as a foundation for Genzyme in their efforts to find and maintain an optimal distribution solution in the future.

### 1.4 Thesis Disposition

**Section 2** aims to provide the reader with information about which method that is preferred to solve the already explained questions and fulfilling the purpose of this thesis. The choice of method is explained in the subsections research strategy, empirical investigation, data collection method and source evaluation. The method is then summarized in figure 2 and our areas of investigation are explained in detail in subsection 2.5.

In **section 3**, we present the theoretical framework later used together with the empirical investigation in the analysis. The theoretical framework is divided into four parts; constructing a feasible supply chain network, supply chain integration, third-party logistics and collaboration in the supply chain. These theoretical areas grant the reader with relevant theories in order to analyze the empirical study and answer the questions of the essay.

Later, **section 4** presents the result of the empirical study. This section is divided into three parts: Genzyme's perspective, the distributor's perspective and the retailer's perspective. The

disposition of this section is conducted in consideration to how the supply chain network looks, and with regards to this thesis' investigation areas.

**Section 5** presents our analysis and is distributed with regards to the investigation areas of this thesis. This section starts with presenting the model of analysis (figure 8) that acts as the foundation for the later presented analysis.

In **Section 6**, the main question of the thesis and sub problem one are answered and combined with our personal view of how the distribution channels for the manufacturers could be affected by the deregulation. Furthermore, sub problem two is answered and combined with recommendations for Genzyme in subsection 6.2. This section is then finalized by presenting future potential areas of investigation.

The thesis ends with **section 7** where we state the used references, including articles and other dissertations, electronic and Internet resources, literature and interviews.



## 2. Method

The method section aims to provide the reader with an understanding of the method chosen for this thesis, to solve the questions and fulfilling its purpose. This section is distributed according to the process of execution displayed in figure 2, where the method is based on relevant choices adequate to the purpose of this thesis.

The first subsection discusses the overall choice of research strategy between inductive and deductive approach. Furthermore, the following two subsections involve decision-making on what approach to use between empirical study, theoretical study, and qualitative and quantitative approach. The final choice of method is also summarized in figure 2.

### 2.1 Research Strategy

Two main approaches exist when practicing social scientific research: inductive reasoning and deductive reasoning. These are fundamentally different strategies for reaching a conclusion. In the deductive reasoning-approach, hypothesizes are formed based on theoretical models; the researcher tests these hypothesizes in reality and reaches a result through logical judgment. The inductive reasoning strategy means that the researcher makes more general statements based on different phenomena, which occurs in reality (Eriksson & Wiedersheim-Paul, 2001).

In this thesis, the main problem addresses effects on the pharmaceutical market distribution channels as a whole. Initially, a market analysis is made with focus on the current situation, recent trends and future development. This analysis then serves as an instrument for evaluating effects on individual pharmaceutical companies, an investigation based on a case study of Genzyme. Hence, we observe current situations in the market and use the results to make a general prediction about the future market development and the effects for individual manufacturers, whereupon the inductive approach is used. Since the Swedish pharmaceutical market structure is unique, no theoretical framework exist that can be used to formulate trustworthy hypothesizes about the deregulation effects, and therefore, the deductive reasoning strategy is not applicable.

### 2.2 Empirical Investigation

When conducting a research study, a choice needs to be made between in-depth investigations in which several attributes are identified for a single entity through a case study, or a wider perspective where all entities are investigated from without a specific variable. In the latter alternative, the researcher can make general conclusions on good grounds, whilst the opportunity to accomplish a more detailed knowledge is considerably larger for the first alternative. (Halvorsen, 1989)

To solve the problems stated in this thesis, detailed knowledge is required, thus, the case study technique is preferable. This method enables collection of information about many different variables. Instead of investigating if the deregulation has effects on the distribution channels, the purpose is to analyze how it affects them, and according to Yin, a case study is carried-out in



order to answer the question how (Yin, 2003). Since this investigation also intends to yield valid recommendations for pharmaceutical manufacturers in general, with Genzyme as its primary focus, several factors need to be considered, something that strengthens our choice of the case study technique.

### 2.3 Data Collection Method

When collecting empirical data, the researcher chooses between two different types: qualitative and quantitative, a decision which depends on the investigation approach. Quantitative data is measurable and can be expressed as numbers, figures etc. Qualitative data describes something about the investigated entities' non-measurable characteristics. Normally, an inductive approach is associated with the collection of qualitative data, whilst the deductive perspective often results in the use of quantitative methods. (Halvorsen, 1992)

In order to choose between qualitative and quantitative methods, the researcher needs to evaluate which method that provides the most relevant data for the formulated problem (Halvorsen, 1992). To solve this case, areas such as possible new market entries, differences in operational procedures between the different companies, and market participant's strategies need to be investigated and analyzed, where qualitative characteristics are required instead of measurable variables. Moreover, the purpose is to develop a complete understanding of the deregulation effects, whereupon qualitative data is superior to quantitative that is applicable when the researcher wants to get a representative view of general relationships.

Another scientific distinction concerns primary and secondary data sources, where the researcher actively collects data by using at least one data collection method, whilst secondary data derives from external sources and has been collected by others; the latter type of information already exists and is more or less accessible, for instance publicly available material and previous research projects. (Halvorsen, 1992)

The results and conclusions presented in this thesis first and foremost derive from primary data, which mainly includes various in-depth interviews. Since the formulated problems deal with a unique situation, primary data must be collected in order to create the groundwork of information necessary to make valid conclusions. The advantage of an in-depth interview compared to more structured and formal interviews is that a specific way of thinking is not forced upon the respondent (Halvorsen, 1992). In addition, we use this method to identify things that cannot be anticipated in advance.

The limited amount of companies in the distributor- and retailer stage of the supply chain enables us to receive a complete picture by only conducting relatively few interviews. In the process of finding suitable interviewees, the focus has been upper-management representatives or people responsible for the distribution and logistics operations, in order to collect reliable answers about the future development as well as current operations within the distribution stage in the pharmaceutical industry. At Genzyme, we conduct interviews with the Swedish country manager

Eric Gillberg, who manage the Swedish operations and therefore is in charge of choosing a distribution solution for Genzyme, and the customer support officer Michael Brown, who handles the cooperation with Genzyme's wholesalers in the Nordic region and therefore can provide valuable experience about the current solution as well as what alternatives that might be interesting in the future. In the distribution stage of the supply chain, respondents include the CEO of Tamro, Hans Wahlén and Andreas Lindbom, responsible for supply chain development at KD Pharma, both of course well familiar with their companies' current situation and future development. In the retailer stage, respondents include Kronans Droghandels' CEO Cecilia Marlow, Medstop's logistics manager Vladimir Grigorjev, and Apotek Hjärtat's business development manager Johan Calmvik. All of these respondents possess knowledge of their companies' current logistics operations and future plans for this area of operations.

We conduct the interviews with the assistance of a specifically developed questionnaire (see Appendix) based on our four empirical investigation areas, which we present in detail later in this section. The empirical areas of investigation derive from a brainstorming session during which we identified what problems that needed to be analyzed in order to provide reliable answers to our formulated questions. The questionnaire contains different sub questions for each investigation area, each with the purpose to examine the respondents' apprehensions about the issues presented in section 2.6. A separate questionnaire has been developed for each type of respondent: manufacturer, distributor and retailer. Although all interviews follow the same structure, we give respondents the opportunity to express their opinions and elaborate their thoughts unconditionally. The interviews were recorded electronically and compiled afterwards, upon which each respondent have approved the content.

Collection of secondary data includes literature, articles, and reports that we consider relevant for this investigation.

## 2.4 Source Evaluation

Validity can be translated into relevance, and means to what degree the collected material is relevant for the formulated problem. Reliability investigates to what degree the measurements are reliable; high reliability means that independent measures should yield identical results. (Halvorsen, 1992) The usage of in-depth interviews allows us to control that the discussions stay on point and that the collected data is reliable. Of course, each respondent has its own subjective preferences and thoughts, however personal opinions is important for us since there are no previous studies addressing this issue.

We also intended to conduct an in-depth interview with an Apoteket AB representative; however, they declined to participate in the study due to lack of time. This implies that no accurate conclusions can be reached about Apoteket's future strategies; however, the official announcement of their development of an integrated supply chain in collaboration with Schenker enables us to closely estimate their future intentions regarding the distribution to Apoteket AB's pharmacies, something that still contributes to our conclusions about the future market

development. We present this upcoming solution in section 4.3.8 based on secondary data sources.

## **2.5 Evaluation of General Conclusions**

In this subsection, we address this thesis' ability to provide general conclusions based on the scope of this study. Even though this text focuses on distribution channel effects from a specific manufacturers perspective, basically all pharmaceutical distribution in the Swedish market currently takes place through the existing distributors Tamro and KD Pharma, whereupon possible changes in this stage of the supply chain affect all market participants, and therefore are relevant for the entire pharmaceutical industry instead of only one company.

## **2.6 Areas of Investigation**

As illustrated in Figure 2, we divide our main and sub problems into four different areas of investigation, which is our focus throughout our empirical study. These areas are: possible new market entrants or withdrawals, market participants' strategies, possible tendency towards supply chain integration, and the in-house logistics alternative. Addressing and investigating the current issues and problems within these four areas enables us to reach a valid answer to our sub-problems, and in turn also our main problem. Below, we explain which problems we investigate within each area and motivate why these areas provide us with valid results.

Figure 2 - Method Summarization



### 2.6.1 New Market Entries

This investigation area focuses on the possibilities for new market entries to occur in the distribution stage of the supply chain as a result of the deregulation. Five retailers instead of one imposes new challenges for the current distributing companies, such as more arrangements and contracts, differences in customer demands etc. (Lindbom). This may lead to new companies trying to establish in the Swedish market in order to profit from the new market structure. In Norway, the number of wholesalers increased from one government controlled company to three, as a result of the pharmaceutical market deregulation in 2001 (Anell, 2005). Another possible outcome is that some companies' position in the market may weaken considerably, which in the future could lead to their disappearance (Grigorjev).

### 2.6.2 Market Participants' Strategies

To enable a solid evaluation of current and future supply chain alternatives, differences in market participant strategies and operational procedures needs to be considered. Issues like how the distributors meet an increased competition, how they deal with the new retailer stage structure,

which differences exist in operational procedures will be analyzed. The interviews with current market participants provide valid data on these issues.

### **2.6.3 Supply Chain Integration**

The previously discussed deregulation of the Norwegian pharmaceutical market has led to a substantial vertical integration, where the different pharmacy companies are linked to certain wholesalers through mutual owners (Anell, 2005). In Sweden, recent tendencies indicate that retailer strategies include the development of an own distribution business. For instance, Apotek Hjärtat is currently in the process of developing their own wholesaler business, which aims to establish a full product assortment-distribution alternative where they use a so far unknown third party logistics-provider (3PL-provider) (Stenberg, 2010). The meaning of 3PL is that a company conducts outsourcing of not only for transportation services, but also for inventory management, order processing and other related logistic activities (Rosén, 1999). Furthermore, Apoteket AB recently announced that they also launch their own wholesaling business where they will use Schenker as a 3PL-provider ([www.apoteket.se](http://www.apoteket.se)). Clearly, the retailer companies try to reduce their logistics costs and in order to do so, they benefit from integrating the wholesaling stage of the supply chain into their own business, a trend that requires us to analyze these issues in order to provide valid conclusions about the future development of the market. During our interviews with retailers and distributors, we discuss possible integration strategies, and the data we receive will serve as a solid base for our analysis of this issue.

### **2.6.4 In-house Solution**

Today, pharmaceutical companies rely on Tamro or KD Pharma to distribute their products for a specified cost (Stenberg, 2010). This cost occurs in the form of smaller marginal revenues since the wholesaler must profit from the distribution activities (Gillberg). Therefore, in order to conduct a thorough evaluation of new alternatives, we need to consider the case where the pharmaceutical company (in this case Genzyme) handles the distribution by themselves. Perhaps, the possible increase in revenues exceeds the new costs incurred by an in-house distribution system, and thereby qualifies as a valid alternative.

### 3. Theoretical Framework

This section aims to provide the reader with one of the two fundamentals for the later presented analysis (the other being the empirical investigation). As presented in the method section, this thesis will focus on four earlier presented investigation areas while relevant theories, applicable to the different investigation areas will be presented in this section. The theoretical areas are later used as a complement to the empirical study in order to analyze potential effects on the distribution channels. How these areas are applied can be seen in the model for analysis in figure 8.

#### 3.1 Constructing a Feasible Supply Chain Network

According to Simchi-Levi and Kaminsky the supply chain management is defined as “*a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements*” (Simchi-Levi & Kaminsky, 2008, page 1).

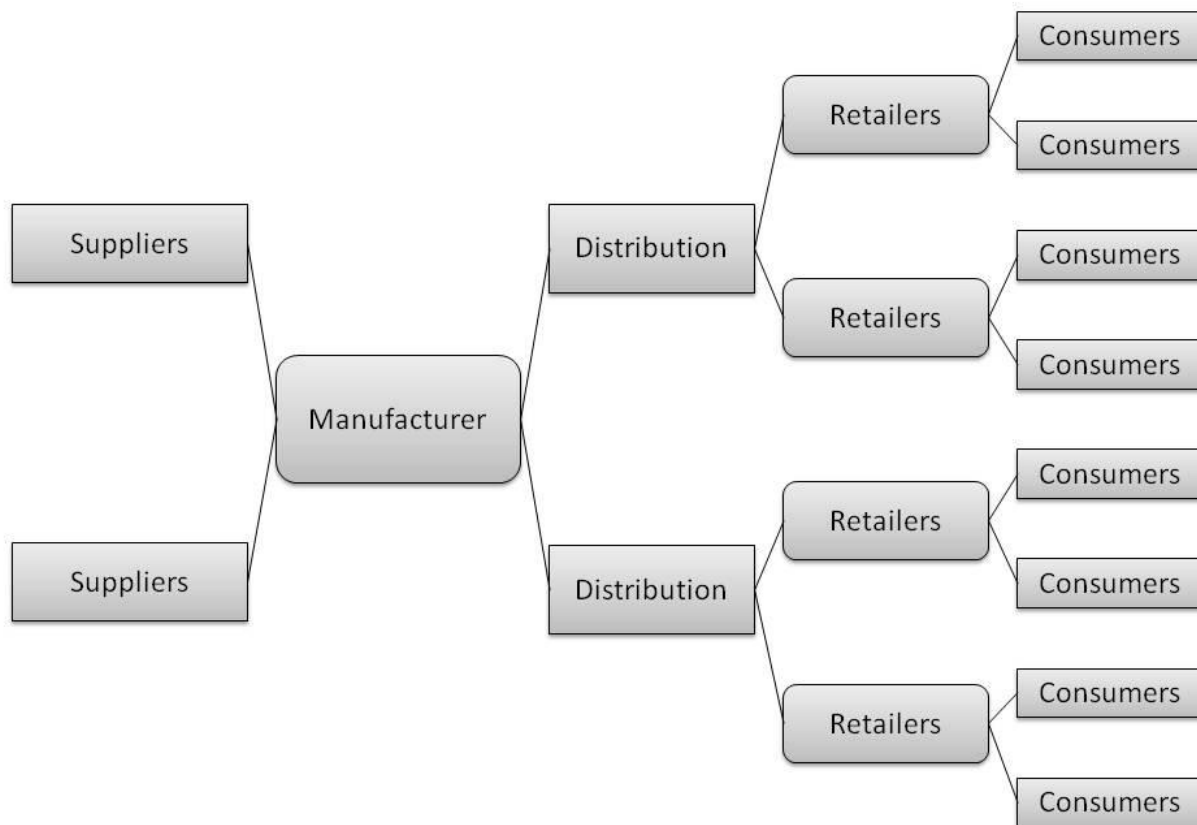
In this section we present the relevant fundamentals of supply chain management and a model for constructing a supply chain network.

##### 3.1.1 Fundamentals of Supply Chain Management

Supply chain management can be explained through Poirier and Reiter's book on *Supply Chain Optimization* where they describe the supply chain as a network of linked organizations whose common purpose is to deliver the product or service in the most effective way. Figure 3 illustrates a supply chain network related to Poirier and Reiter's explanation. The suppliers are the first part of the network that provides the first component (raw material, subassemblies and so forth) in the network. The second link in the network is the manufacturer who finalizes the product that in most cases is ready for consumption after passing through the manufacturer. This first connection in the network provides opportunities for saving money. In their research, Poirier and Reiter found that a cost reduction of between 40 to 60 % is possible in this first connection through integrating the processes in a supplier partnering. The administrative process becomes efficient due to a partnership. (Poirier & Reiter, 1996)

The next link in the network is the first step in the process of getting the product available to consumers. This is the distribution section that by fitting the requirements transports the finished product from the manufacturer to the fourth link, the retailers. In the retail outlets the product is then offered to the potential consumers. Here the network ends, in the fifth and final link, consumers. The final decision whether or not to buy the product is their choice and concludes the supply chain network. (Poirier & Reiter, 1996)

Figure 3 - An Example of a Supply Chain Network



### 3.1.2 Method for Developing a Network Model

According to Simchi-Levi and Kaminsky (2008), network planning is the process that firms use in order to construct and manage the supply chain. They separate the network planning process into three parts: Network Design, Inventory Positioning, and Resource Allocation. This planning process aims to construct a supply chain that can deliver the demanded product on time and cost efficiently to the customer. (Simchi-Levi & Kaminsky, 2008)

The first step in the process, Network Design, involves the long-term strategic decision that has long lasting effects. It focuses on building the infrastructure on the supply chain that however, may need to be reevaluated due to demand patterns and market change. Simchi-Levi and Kaminsky focus their Network Planning on six strategic decisions that is the key to constructing the network; determine the number of warehouses/plants, their location, their size, the space allocation for products in each facility, deciding what sourcing requirements that are needed and determining which distribution strategies that will be applied. When making these decisions it is important to consider the trade-off between service level and customer satisfaction against total distribution and inventory costs. (Simchi-Levi & Kaminsky, 2008)



The second step in the process, Inventory Positioning, also involves logistics coordination. In this process the related decisions is more operational and involves decisions such as; deciding what inventory system to use, identify stocking points and deciding which warehouses/plants that will keep inventory and which ones that will produce to order (keep no inventory). These decisions are directly related to inventory management strategies such as deciding what service level to apply and to use an applicable forecasting technique. (Simchi-Levi & Kaminsky, 2008)

Simchi-Levi and Kaminskys final step in the process, Resource Allocation, handles whether or not production and packaging is done at the right warehouse/plant. In other words what are their sourcing strategies and how much capacity do they need in order to be able to meet demand. Besides sourcing strategy this is referred to as the supply chain master plan. This plan involves decisions such as which production quantities to use, the shipment size and storage requirements. (Simchi-Levi & Kaminsky, 2008)

The figure below summarizes the key differences between the different steps in the process.

**Figure 4 - Network Planning Process**

Step in the process	Network Design (ND)	Inventory Positioning (IP)	Resource Allocation (RA)
<b>Decision Focus</b>	Infrastructure	Safety Stock	Production Distribution
<b>Planning Horizon</b>	Years	Months	Months
<b>Frequency</b>	Yearly	Monthly/ Weekly	Monthly/ Weekly

*Source: Simchi-Levi & Kaminsky, 2008*

### 3.2 Supply Chain Integration

Supply chain integration could be explained as a vision of flow logistics based on end-customer demand, and it offers the customer an immediate availability of products at the point of sale or rapid configuration and delivery of customer-specified products. To summarize, the end customer should be free to place an order whenever he or she wants, and after that the system takes over. According to Chen and Pulraj, the challenge is to design and manage a network of interdependent relationships fostered through strategic collaboration. Two key factors in developing an integrated supply chain are reducing the number of suppliers and developing long-term relationships with the remaining partners (Harrison & Van Hoek, 2008).



### 3.2.1 Internal & External Integration

One can differ between internal integration that takes place between the different departments of the firm, and the external integration that takes place between the different firms in a supply chain, for instance between manufacturers and retailers. Studies show that firms who also have the highest internal integration achieve the highest level of supply chain integration, so a close collaboration inside the company serves as the key starting point for a broader integration. External integration places customer and supplier processes closer together, and thus, fostering increased communication between the parties. (Harrison & Van Hoek, 2008) For instance, this integration process could lead to:

- Improvement on terms of on-time deliveries, damages and shortages.
- Reduction in material costs.
- Improvement in equipment utilization.
- Reductions in inventory holdings.

### 3.3 3PL

The meaning of 3PL is that a company conducts outsourcing of not only for transportation services, but also for inventory management, order processing and other related logistic activities (Rosén, 1999). A 3PL relationship is typically more complex than a normal supplier relationship since it involves more dimensions of collaboration. (Simchi-Levi & Kaminsky, 2008)

#### 3.3.1 Advantages of 3PL

An obvious advantage is that the 3PL relationship grants the ability for each company to focus on its core strengths. With the corporate climate becoming more complex and the resources more limited, it is difficult to stay competitive in every aspect of the business. A 3PL relationship gives a company like General Motors' Saturn Division the ability to focus on its core business to manufacture cars while their 3PL-provider handles the related logistics that is their area of expertise. (Simchi-Levi & Kaminsky, 2008)

Another identified advantage is that as the 3PL focuses its business on logistics, they can provide their collaborators with increased technological flexibility. As the technology in supply chain management become more advanced the single business does not have time, knowledge and resources to constantly update its technology. Alignment with a 3PL up to date with the latest technology, which can adapt to different technologies among retailers and suppliers, cost efficiently provide suppliers with up to date distribution systems and access to otherwise inaccessible retailers. (Simchi-Levi & Kaminsky, 2008)

In an article in Industry Week published in June 2008, the Vice President of Supply Chain Solutions, Tom Jones, identifies other potential advantages of 3PL such as the improved global capability that some 3PLs provide through their in-depth knowledge of different markets. A 3PL might also enhance security and improve quality as their focus on the logistics aspect of the firm's business can help implementing security systems and better customer service in terms of

inventory availability and order accuracy. Moreover, a 3PL could also increase speed process change, as changes in processes might be easier to perform using an outside contributor with an existing infrastructure. (Jones, 2008)

### 3.3.2 Disadvantages and Issues of 3PL

A 3PL does not only bring pros but can also bring some potential disadvantages and issues. While a 3PL let companies focus on its core business, it also loses control of the logistic function that is being outsourced. This becomes most apparent when dealing with outbound logistics, as the 3PL might be the one interacting with customers making their part vital to the core business. It is also important to consider the potential gain of outsourcing this business function since logistics might be an area where the company has competitive advantages. (Simchi-Levi & Kaminsky, 2008)

Related to the risk of losing control, outsourcing a business could bring a supply market risk. Outsourcing a vital business function could create an overdependence on that particular supplier and the supplier may fail to meet quality standards. Such a problem could indicate that the business function should be performed in-house (McIvor, 2005).

Ronan McIvor identifies some potential risks with outsourcing a business function in his book on *The Outsourcing Process*. As mentioned before, cost reductions was one of the major pros considering hiring a 3PL-provider. However, evidence implies that outsourcing does not always bring cost reductions, and in some cases it might even increase the business functions total cost. An important consideration is time saving, while the time related to managing and handling the actual business function might be saved, the time it takes to manage the relationship with the partner may be underestimated and the related cost therefore not accounted for. Another false reason for outsourcing the business function is that the weak internal process could be due to weak management. The same person that managed the internal function might be put in charge for managing the supplier relationship after outsourcing, thus the core problem of the weak performance is not solved and the total cost increased. (McIvor, 2005)

Outsourcing has major social implications for a company where they can lead to the transfer of staff to the supplier origination. These structural changes put pressure on managing the change process and McIvor implies that organizations have had difficulties managing a change process. A successful outsourcing process is dependent on commitment and attitude of the workforce. Making a decision to outsource a business function is a strategic one and thus affects the present culture in the company. Changing the culture of a company due to a decision to outsource a business function is a huge and potentially expensive action. (McIvor, 2008)

### 3.3.3 Requirements and Considerations when Choosing and Implementing a 3PL Function

As the earlier subsections about 3PL indicate, many pros and cons related to using a 3PL-provider exist. Using a 3PL and implementing the process is typically a complex business decision, where different considerations needs to be accounted for when deciding if it is

profitable to enter a 3PL agreement. Knowing your own cost is one such requirement before making a choice about using a 3PL. Moreover, the logistics provider must fit into the overall strategic logistics plan and be able to meet the needs of the hiring company. Flexibility and reliability are two key considerations that the provider should be able to provide in order to establish a feasible relationship. In-depth specialization is another requirement where the logistics provider should not only be an expert of logistics, but also an expert considering the hiring company's specific product. As an example Federal Express is focused on transportation of small packages whereas USCO may have more expertise in their warehouse management. (Simchi-Levi & Kaminsky, 2008)

April Terreri explains six fundamental tips that one should consider when implementing a 3PL function and choosing the provider. Designing a thorough request for proposal (RFP) is one such consideration; a good RFP can help to choose the best fitting 3PL-provider. The second tip that Terreri presents is that the hiring company should consider a common mindset with the 3PL-provider and the relationship should be built on trust and respect. Moving on to the third consideration, the hiring company should request technological sophistication. As such, the hiring company should request that the 3PL-provider has sufficient technology to handle their requirements. The fourth requirement is that the 3PL-provider should be flexible enough to keep pace with the hiring company's growth. Furthermore, the fifth requirement concerns the 3PL's ability to help the hiring company come through in dire situations. The final tip that should be considered that Terreri presents is that the hiring company should ask about the financial health of the 3PL-provider. As the transport business often operate under negative cash flow due to the fact that you pay for carriers before you get paid, it is important the 3PL has a solid financial health. (Terreri, 2009)

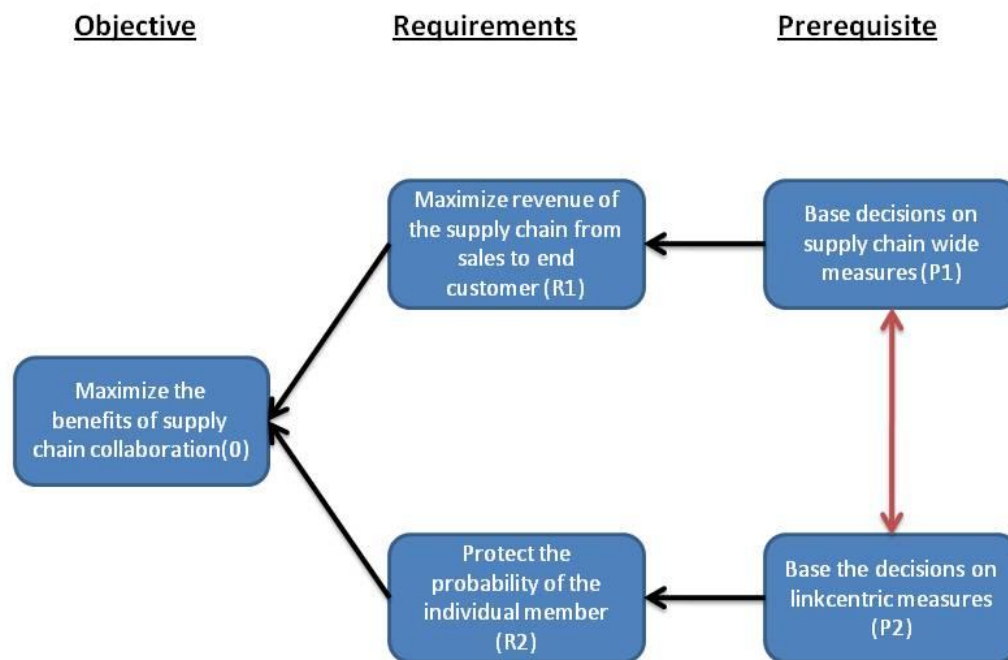
### 3.4 Collaboration in the Supply Chain

In their paper on *Supply chain management: a framework to characterize the collaborative strategies*, Derroiche, Neubert and Bouras defines collaboration as two or more enterprises working together in order to create competitive advantages that they would not be able to create by themselves (Derroiche, Neubert & Bouras, 2008). As mentioned earlier, there are many potential advantages and disadvantages of outsourcing a business function and hence a useful collaboration strategy must be implemented (McIvor, 2005).

#### 3.4.1 Problems with a Supply Chain Collaboration

A problem when organizations come together to collaborate is the making of decisions that account for the interest of each individual organization, and the supply chain as a whole. Godratt illustrates the dilemma of collaboration in his conflict resolution diagram displayed in the figure below.

Figure 5 - A Dilemma of Supply Chain Collaboration



Source: Godratt (1994)

Godratt explain that the figure shows how that the optimal decision for the supply chain as a whole (P1) can be in direct conflict with making decisions in the best interest for the individual organizations (P2) (Godratt, 1994). According to Derroiche, Neubert and Bouras most enterprises focus their decision making to their own organization. Partners in a collaborative supply chain presume that minimizing their individual cost is in the best interest for the supply chain as a whole. An effect is that the partners focus their decision making on maximizing their sales from immediate downstream partners and minimizing cost related to buying from immediate upstream partners. This approach is taken rather than to maximize the overall market expansion of the entire supply chain. (Derroiche, Neubert & Bouras, 2008)

### 3.4.2 Characteristics of the Supply Chain Collaboration

In order to handle the potential problems of the supply chain collaboration, Derroiche, Neubert and Bouras explains that it is important to define the concept of collaboration in the supply chain (Derroiche, Neubert and Bouras, 2008). Simatupang and Sridharan have proposed such a definition with five elements that include the following:

1. Appropriate Performance System
2. Information Sharing
3. Decision Synchronization
4. Incentive Alignment
5. Streamlined Inter-enterprises business processes

(Simatupang & Sridharan, 2004)

Different strategies and approaches to supply chain collaboration have been proposed and Derroiche, Neubert and Bouras explain these strategies in their paper in order to illustrate their usefulness and when the different strategies are applicable (Derroiche, Neubert & Bouras, 2008).

### **3.4.3 Quick Response (QR)**

The Quick Response strategy was developed in order to reduce lead-time and inventory costs. The strategy centers on integration between suppliers and retailers through information sharing in order to be able to react to consumer needs quickly. Derroiche, Neubert and Bouras explain that when using this strategy suppliers acquire point-of-sale data from the retailers in order to synchronize their production and inventory management with the real sales. Retailers focus their decision making on producing more orders and the supplier focus on demand forecasting and production planning. (Derroiche, Neubert & Bouras, 2008)

### **3.4.4 Efficient Consumer Response (ECR)**

ECR is similar to QR and focuses at bringing greater value to the consumer through a competitive supply chain (Derroiche, Neubert & Bouras, 2008). ECR is designed to integrate and rationalize product assortment, promotion, new product development and replenishment across the supply chain. The aim with this initiative is to fulfill the changing demands and requirements of the end-customer through effective collaboration across all supply chain members to enhance the effectiveness of merchandising efforts, inventory flows and supply chain administration. The focus of ECR is to integrate supply chain management with demand management, through greater collaboration between manufacturers and retailers. Successful implementation of an ECR policy requires effective logistics strategies as well as administrative and information technology. Many of these techniques are already in place within most firms but need to be customized in order to achieve its full potential (Harrison & Van Hoek, 2008).

### **3.4.5 Continuous Replenishment Policy (CRP)**

CRP was developed from ECR and is characterized for replacing purchase orders from the distributor to the supplier. CRP can be seen as a procedure of “restocking where the producer sends to the distribution centre full loads whose composition varies according to sales” (Derroiche, Neubert & Bouras, 2008). In a more advanced form of CRP the inventory levels of the retailers and wholesalers are reduced. (Derroiche, Neubert & Bouras, 2008)

### 3.4.6 Vendor Managed Inventory (VMI)

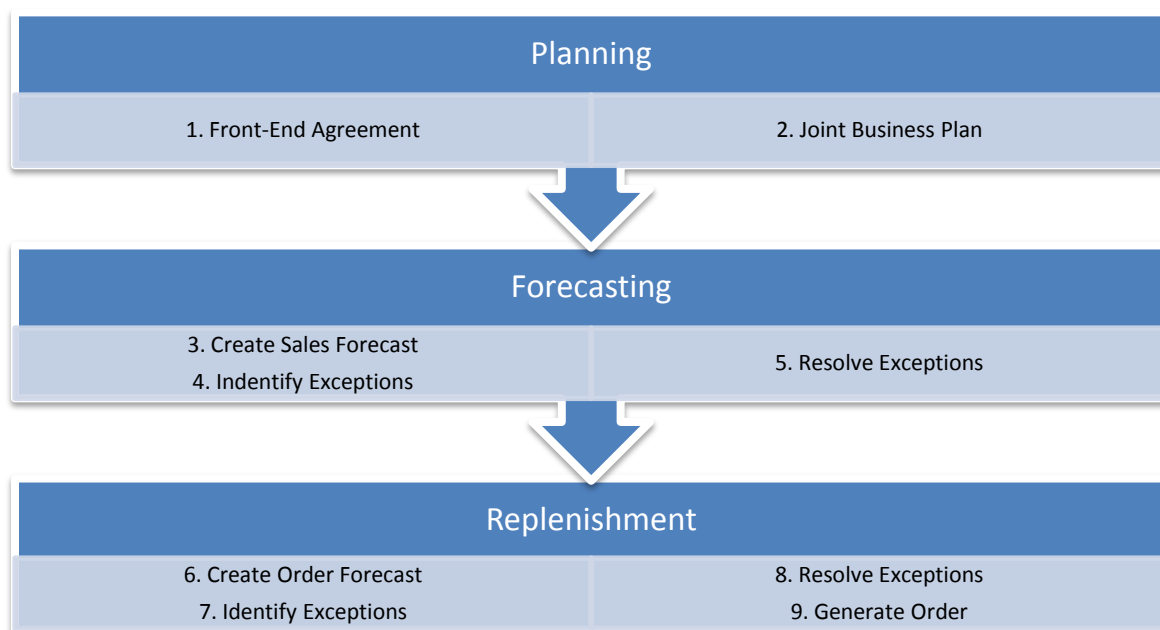
VMI were introduced later and is the strategy with the highest level of partnership where the main decision maker concerning order placement and inventory control. One can also state that the supplier is the primary decision maker, since they decide appropriate inventory levels and policies for every product (Derroiche, Neubert & Bouras, 2008). Harrison and Van Hoek explain that the VMI approach is one where the supplier handles the inventory management. This seems to be a push-related approach, where the manufacturer decides which product to send and which quantity. However, Harrison and Van Hoek indicate that in practice the basis for which the decision is made upon is decided together with the retailer. Under a VMI approach the supplier handles stock replenishment, which is keeping track of sales and inventory in order to trigger the order. What is different with this approach compared to a more traditional one, is that the decision when to supply is taken by the supplier and not the customer. Although, the supplier acts as the primary inventory manager the success of this strategy is dependent on a functional business system and a functional teamwork between the retailer and the supplier. Harrison and Van Hoek explain that in order for both parties to benefit, appropriate performance measures need to be used. The two main goals are to maximize product availability and minimize the inventory levels. These goals are conflicting and in order to be successful, Harrison and Van Hoek emphasize the accessibility to real-time demand at the customer. A working VMI-system gives the advantages, as any other working strategy, of good product availability and relatively low inventory levels. Harrison and Van Hoek also explain some potential problems with constructing a VMI system:

- *Unwillingness to share data*, in some situations the retailer might be unwilling to share data, which prevents the manufacturer from responding effectively, and hence increasing the risk of stock outs. (Harrison & Van Hoek, 2008)
- *Seasonal products*, manufacturers might have little knowledge and planning scope for in season manufacturing leading to stock based on a pre-season forecast, and hence letting the inventory fluctuate depending on the forecast error. (Harrison & Van Hoek, 2008)
- *Investment and restructuring costs*, using a VMI approach often requires large investment and much time effort. (Harrison & Van Hoek, 2008)
- *Retailer Vulnerability*, in the VMI approach as mentioned the supplier handles the inventory management, making the retailer more dependent on them and hence crating more vulnerability. (Harrison & Van Hoek, 2008)
- *Lack of Standard Procedures*, the VMI approach centers around a standardized process that might not be applicable to all customers due to individual demands, which creates problem for the VMI approach. (Harrison & Van Hoek, 2008)

### 3.4.7 Collaborative Planning, Forecasting and Replenishment (CPFR)

Derroiche, Neubert and Bouras explain CPFR as a set of business processes that are established and empowered by a formal agreement to cooperate on strategy, tactics and execution (Derroiche, Neubert & Bouras, 2008). CPFR aim at the improvement of the collaboration between the retailer and supplier so that customer service is improved while inventory management is more efficient. This serves as a solution to the usual trade-off between a high customer service degree and inventory costs. The CPFR processes are divided into three dimensions: Planning, Forecasting and Replenishment. These dimensions can further be divided into nine steps summarized in figure 6.

**Figure 6 - The 9 Steps of the CPFR Process**



*Source: Derroiche, Neubert & Bouras, 2008*

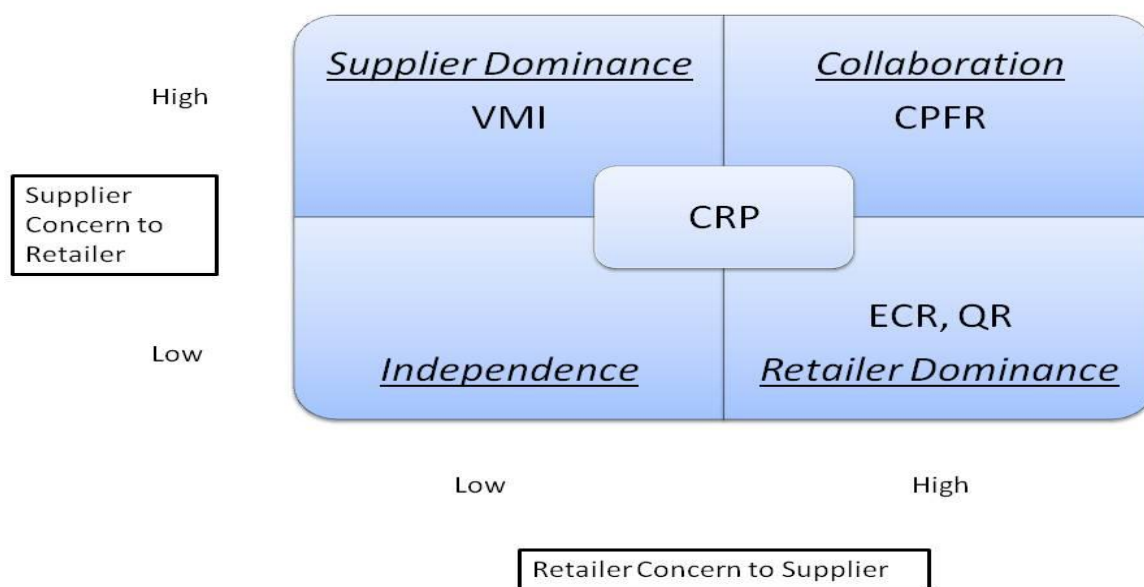
To explain the figure, the first two steps involve mutual planning and an agreement on a cooperative strategy. The first step is the foundation for steps 3-9, and where the roles of the partners and their ability to handle these roles are assessed. Step 2 is a specification of the decisions made in step 1. Steps 3-8 are the actual process in which forecasts for both sales and orders are made and the differences between the partners' different forecasts are acknowledged and solved. This finally leads up to step 9 where the order is generated (Derroiche, Neubert & Bouras, 2008). To summarize, CPFR focuses on the process of forecasting supply and demand by bringing various plans into synchronization. Naturally, this puts tremendous demands on the information systems available, because often CPFR requires extensive support in the form of Internet based processes. Furthermore, a significant amount of time and effort is required for up-front negotiations of terms and common objectives. (Harrison & van Hoek, 2010)



### 3.4.8 Comparison of Strategies

Derroiche, Neubert and Bouras explain that confusion about the presented strategies exists today because of their theoretical similarities. Many other authors that inspired Derroiche, Neubert and Bouras paper consider some of these strategies to be the same. To be able differentiate the strategies several studies has been conducted. Derroiche, Neubert and Bouras illustrate in one of their figures the power exchange between supplier and retailer that shifts depending on what strategy the partners apply. This power structure is displayed in figure 7.

**Figure 7 - Power Structure in the Retailer-Supplier Relationship**



*Source: Derroiche, Neubert & Bouras, 2008. With correction to the top left box where it is supposed to say Supplier Dominance and not Retailer Dominance as the source falsely imply.*

Summarizing the figure it explains how the power relationship can change depending on what strategy is applied, and where VMI as an example grants the supplier more power, and QR gives the retailer more power and influence. CPFR is referring to figure 6 the strategy that gives both partners an equal amount of influence and power. (Derroiche, Neubert & Bouras, 2008)

According to Derroiche, Neubert and Bouras comparisons, similar to the power-structure illustration above, is not enough to understand application areas in necessary input to make the different strategies work. Referring to this statement Derroiche, Neubert and Bouras present a framework for collaborative strategies that use the following five criteria's:

- Extent of Collaboration



- Objects Involved in the Collaboration
- Nature of Collaboration
- Decision Level
- Frequency of Decisions

These criteria's' are then analyzed depending on the situation in the partnership; and by analyzing these criteria's, a distinction between the strategies' application areas and the necessary input can be identified and applied. (Derroiche, Neubert & Bouras, 2008)

## 4. Empirical Investigation

In this section, the results from the seven interviews are summarized from the perspectives of the four investigation areas and other related areas of importance, such as general deregulation effects.

### 4.1 Genzyme's Perspective

In this subsection, we present the result related to Genzyme's point of view on the four investigation areas discussed, by addressing the current operations, considerations for future development, general deregulation effects, in-house solution and parallel imports.

#### 4.1.1 Current Operations

Today, Genzyme has manufacturing operations all over the world; still the locations differ depending on product segment. However, the risks are not properly diversified yet, something that has led to immediate delivery problems lately when Genzyme has not had sufficient manufacturing capacity. (Gillberg)

For instance, all enzyme pharmaceuticals are produced in the United States while other products are manufactured in England, Belgium, Ireland or Germany. The majority of the products are then stored in either the United Kingdom or in Holland before they are transported to each country. (Brown & Gillberg)

Genzyme works with one distributor in all Nordic countries except in Norway where they are required to work with several distributors. The current distributors are Tamro in Sweden and Finland, Namico in Denmark (which belongs to the same corporate group as Tamro) and Vista in Iceland. In Norway, one distributor handles the distribution to hospitals while the others are allocated by geographical region. (Brown)

Today, each country manager makes a forecast ten times each year based on the in-market sales, where recent trends are spotted and a so-called running rate is used (Gillberg). Instead of making a new delivery each time a hospital or pharmacy order a product from the distributor, Genzyme provide Tamro with a two-month supply of the products that is based on the already mentioned forecasts. In practice, this basically means that Genzyme delivers new products of the required quantity to Tamro, one to two times a month (Brown). Tamro also assists in the planning process with information about how the sales figures for the sales between them and the pharmacies develop. The sales figures for the pharmacy-to-consumer transactions are reported through the statistical agency IMS. Genzyme reports a financial sale when the product is distributed to Tamro. However, a forecast error leads to a bottle-neck for Genzyme, since its warehousing capacity at Tamro is limited to a two-month supply, and if the products is still in the warehouse, Genzyme is not allowed to deliver more until the products on the shelf has been sold. (Gillberg)

#### 4.1.2 General Deregulation Effects

A difference between Genzyme and other pharmaceutical manufacturers are the lack of non-prescriptive pharmaceuticals in their product range. Genzyme believes that due to this fact, the effects of the deregulation will not be as significant for them as for other companies that rely more heavily on non-prescriptive pharmaceuticals, since the heavy regulations prevents retailers and distributors to make new kinds of deals with prescriptive pharmaceuticals, hence new business will probably focus on commercial goods and non-prescriptive pharmaceuticals instead. Genzyme feels that retailers allocate most of their attention towards the non-prescriptive pharmaceuticals, which means that Genzyme has not experienced any real differences since the deregulation. Gillberg also mentions that Genzyme does not have a clear strategy for taking advantage of the deregulation; instead their primary objective is to understand what effects the deregulation will have, and then evaluate the alternatives in a second stage. So far, Genzyme has not been in contact with any of the distributors or retailers regarding any new offers or solutions. Gillberg also indicate that KD Pharma has never approached Genzyme with any offers to switch distributor, so from his perspective, the competition in the distributing stage of the supply chain is barely noticeable. (Gillberg)

#### 4.1.3 In-House Solution

Brown does not see how an in-house solution might work, because it means large costs and more time, but he does not rule it out as a possibility. According to Brown, the discussion always comes down to a consideration between the increased costs and the actual gain in revenue from a new alternative (Brown). According to Gillberg, an in-house solution would be more realistic for a small part of Genzyme's product range; the rare products that only have a few patients nationwide. Perhaps it is possible to establish a direct contract with the hospital treating these patients, which would be an interesting alternative to consider. However, a part from an increase in costs, an in-house solution would also require other operational procedures such as product safety, delivery reliability and so on that probably would create more work for Genzyme. (Gillberg)

#### 4.1.4 Parallel Import

The parallel import phenomenon is rather imminent for Genzyme since Sweden is a high-cost country, which attracts parallel importers like for instance Paranova, Orifarm etc. This issue obstructs the internal reporting system; an example is the kidney-transplant product Renagel, where it can differ up to 300 SEK per package, which of course creates an incentive for retailers to purchase these products. Today, Genzyme's Swedish organization only accounts for only 20 % of the total sales in Sweden. (Gillberg)

#### 4.1.5 Important Considerations for Future Development

Genzyme points out the fact that they are a loyal company with very good relations to Tamro, who according to Genzyme is a very professional distributor with a good logistical setup (Brown). According to Genzyme though, a possible future solution could be that Tamro becomes more of a 3PL-provider and that the dialogue takes place directly with the retailer. Brown also

stresses the importance that a potential logistics partner needs to reach high standards before they could even be considered as a feasible alternative. The most important factors in the evaluation of a logistics partner are:

- Simplicity
- High reliability and good delivering certainty
- Costs
- Ability to deliver a complete solution with straightforward communication
- Good follow-up system to enable accurate forecasts and internal reporting.

Gillberg summarizes the advantages with the current One-Channel-Distribution solution as cost efficient for internal handling, easy follow-up on sales, ability to benefit from economies-of-scale regarding sales margins and a very straightforward communication. According to Gillberg, the ability to deliver the products through a reliable and well functioning distribution system is considerably more important than to reduce costs. Genzyme is however; interested in new equally reliable alternatives from other distributors that provide new solutions that create new opportunities for them as a manufacturer. Naturally, Genzyme is also interested in what agreements Tamro make with other participants on the market, and what eventual effects this will have on their cooperation. (Gillberg)

Brown clearly addresses the advantages of the current One-Channel-Distribution solution and points out the fact that working with more than one distributor would be more time consuming, and the risks would most certainly increase since more things can go wrong, as well as diluted relationships with the distribution partners. However, he also states that competition is always a good thing and he does not see why new companies would not try to enter the market in order to profit from the deregulation. Perhaps these new market circumstances lead to more conjunction between the different companies on the market. (Brown)

## 4.2 Distributors Perspective

In this subsection we present the results related to the distributor's point of view on the four investigation areas; also presented are general effects that the deregulation has brought so far. However, this section starts with current operations and market participants' strategies.

### 4.2.1 Current Operation and Market Participant Strategies

Both established distributors KD Pharma and Tamro consider themselves as a service-provider and not a wholesaler. Their core business is providing a logistics service and not making money through price negotiation, and both distributors work on contract for the Pharmaceutical manufacturer. This distribution solution where manufacturers use one distributor to handle the distribution of all their products to all retailers is called One-Channel-Distribution and has been the distribution solution for both distributors. (Wahlén & Lindbom)

The basic operation starts with the manufacturer that hires a distributor to handle its distribution of products to the different retailers. In this type of industry, the production series are normally

very long which in practice leads to a batch order that is supposed to cover a longer period (2-6 months depending on the product). The distributor provides a central warehouse which works as a distribution central where the product arrives and are repacked, and thereafter shipped to the retailer (Lindbom). Pharmaceutical distribution is very special by the fact that compared to other industries where a pallet is repacked in to smaller store specific boxes; these pallets are further repacked into even smaller boxes. This practical procedure creates more pressure on the repacking process (Wahlén). The average inventory level of a distributor within this industry is higher if compared to distributors in other industries. However, the higher inventory levels are an effect of the products character, and the fact that the production takes place in very long series. Distribution from the distributor to the retailer is completed within 24 hours from the actual order, and includes distribution to hospitals as well as pharmacies. When it comes to risk management, the distributor is only responsible for damage on the product due to their handling, that is, if there is something wrong with the product due to a manufacturing problem the manufacturer is the one responsible, and if a truck drives off the road making the pharmaceutical unusable, it is the distributors responsibility (Lindbom).

This One-Channel-Distribution system has been highly appreciative from manufacturers due to two reasons. The first and most important one is that the system is cost efficient since the more products are included in the product-flow, the greater economies-of-scale are reached and thus the cheaper the service becomes per product. The fact that there are two major organizations handling all pharmaceutical distribution today creates large product-flows that in turn lead to a very cost-efficient system. This is shown by the fact that on average the distribution to retailers is about 8-10 % of the total costs in Europe, where they in Sweden only accounts for 2-3 %. The other reason to the appreciation is that the fewer distributors present, the easier it is to control the flow of goods. Within the pharmaceutical industry, the manufacturer is very concerned with being able to manage its flow of goods. (Wahlén)

The competitive situation between Tamro and KD Pharma has worked very well from a competitive point of view, where it is a tough competition to acquire the distribution contracts from the different manufacturers. In this competitive climate, two areas of improvement are the main focus as a distributor: costs and quality. Considering quality, the essence of this area is being able to handle the distribution requirements such as delivery on time and with unchanged quality. The term quality also refers to the ability to adapt the service to different customer demands such as IT-integration (Wahlén). The form of IT-integration varies between the size and ability of the manufacturer. When working with smaller and midsize manufacturers the amount of integration is limited to information sharing where the distributor provides information about for example sales to the manufacturer. Integration with larger companies is more thorough by actually sharing the same system (Lindbom).

It has been a tough price related competition up to a few years ago when information of the upcoming deregulation first became official, since then the competition has cooled off. Another

important aspect when it comes to competitive advantages is the ability to find new innovative solutions. (Lindbom)

The choice between Tamro and KD Pharma is not related to distribution capacity, as for example the ability to deliver to different geographical parts of Sweden (Lindbom). Tamro is however the largest of the two existing distributors today (Wahlén). The choice of distributor is instead related to the service itself and its price (Lindbom).

The relationship between KD Pharma and the retailer Kronans Droghandel is that of a strictly professional one, where Kronans Droghandel serves as a customer for KD Pharma, like all other retailers. However, in the current solution KD Pharma handles all basic distribution of commercial goods and the pharmaceuticals from the manufacturers whom KD Pharma has contract with. There might be an advantage in that Kronans Droghandel is partially owned by the same company (Oriola KD) that owns KD Pharma, but it is important to notice that Oriola KD is not the sole owner. There is no plan from KD Pharma's point of view to concentrate solely on distributing to Kronans Droghandel. They intend to continue with their One-Channel-Distribution solution to all organizations within the pharmaceutical industry. (Lindbom)

Regarding distribution to hospitals the business logic differs, since initial price negotiations is conducted between the regional council and the manufacturer. This procedure will probably continue and the distribution will probably have to be solved by the manufacturer, that is, they either need to hire a distributor or solve it themselves. (Wahlén)

Lindbom indicates that KD Pharma is not able to set the rules for how the distribution system will work in the future; instead, their focus includes improving their current solution and services. New types of businesses might require more flexible solutions that can handle different solutions and systems. The power of setting the standard lies among the manufacturers and retailers to whom KD Pharma will adapt their service, and they believe in their current One-Channel-Distribution solution and acknowledge that they are good at providing it. Since this solution creates economies-of-scale, they cannot really understand how a new alternative would be cheaper regarding prescriptive drugs. (Lindbom)

Tamro has a very sophisticated model of distribution, consider themselves as experts of logistics and cannot really see how a new entry from scratch can fight against the heavy investment and depreciation costs it brings, and still be able to compete against Tamro. A potential loss in market shares of non-prescriptive drugs will not affect their capacity, but will make it more expensive for the manufacturer, something that makes their decision very important in order for them to stay cost efficient. (Wahlén)

#### **4.2.2 General Deregulation Effects**

During the time of the monopoly, Apoteket AB tried to expand both vertically and horizontally. The vertical expansion has not been successful due to the fact that it was not in line with the owner directives. The introduction of Apoteket Shop, where no prescriptive pharmaceuticals is

being sold, has already created horizontal expansion. Through this expansion they entered the market for trade in convenience goods, and according to Hans Wahlén's personal point of view, this triggered the deregulation. (Wahlén)

Before the deregulation, the distribution network was built around one standardized system since Apoteket AB held a monopoly. Since the deregulation, new private corporations have entered the retailer stage of the market, and hence the approach has shifted to a more business-minded environment, which could lead to postponement of payments from the new privately owned corporations; however, this scenario has not occurred so far (Lindbom). In general, the communication is more professional now after the deregulation. The dialog never really becomes professional in a monopolistic situation, even though Apoteket AB has tried. The new dialog is refreshing, where the new organizations display a lot of new ideas, which creates an interesting cooperation, in which the distributors try to respond and create a feasible solution for the new pharmacy groups (Wahlén). The fact that individual demands on the distributors now comes from both the retailers and the manufacturers, could lead to a situation with more individual solutions and less standardization since the distributors, as a service provider, must adapt to their customers needs and demands (Lindbom).

A very interesting discussion revolves around where the power of negotiation will allocate between the retailers and the manufacturers. Many of the retailers might be inspired from what has transpired in Norway regarding their deregulation; however, this deregulation came from another stage. In the case of Sweden, a large functional organization shall now be divided into smaller parts. This is, in contrast to creating a larger organization from several autonomous parts, much more difficult and creates new challenges since a separate pharmacy store is not autonomous, but very dependent on the systems and processes of the central organization. The foundation of the discussion of where the power of negotiation allocates is the system of price negotiations, a very complex process in Sweden. In this system, the price negotiation of generic pharmaceuticals is conducted with the government, who gives the pharmaceutical with the lowest price an exclusive right to be sold to the end customer, meaning that price negotiations are prohibited in the distribution system. Although generic pharmaceuticals only account for 12 % of the total turnover, it still constitutes about 50 % of the total volume. Regarding non-prescriptive pharmaceuticals, several products can now be sold in the market for trade in convenience goods. The participants in this market have stated that they are very pleased with the current development, which could mean that they have taken some business from the pharmacy stores. From the retailer stage, an opinion might exist about the Swedish market following the Norwegian development, where retailers can have a closer collaboration with the manufacturer and thus, also more bargaining power in the market. From a manufacturer's point of view, this is not interesting since they are very pleased with the current cost efficient situation according to Wahlén; and as before mentioned, if you break up the current logistics system, it can only become more expensive for the manufacturers since it departs from current economies-of-scale. Wahlén finds it surprising that so few manufacturing companies has undertaken this



analysis, and are even considering departing from the current solution. Some managers of the manufacturers are afraid that staying in the current One-Channel-Distribution system could make them lose a competitive advantage. However, it is the retailers that want the distribution to depart from the current solution, so that they can get closer to the manufacturer, while the manufacturers should realize that such a solution would only cost them money. This is where the discussion takes place and it is very hard to say who will be “victorious”. (Wahlén)

#### 4.2.3 New Market Entries

Apoteket AB has stated that they will initiate their own distribution-solution and Apoteket Hjärtat has implied that a similar solution might be applicable. These two retailer corporations have therefore officially announced that they seek control over the distribution to their pharmacy stores, and by this statement they now challenge the current One-Channel-Distribution system. The ability for Apoteket AB and Apoteket Hjärtat to be successful with this strategy depends partially on the range of products that they can incorporate in their solution. The government requires prescriptive pharmaceuticals to be provided in all pharmaceutical stores; regarding this type of pharmaceutical the retailers have less power of negotiation while considering non-prescriptive pharmaceuticals, they have more choices and can therefore negotiate. (Lindbom)

Another area, in which new competitors may enter, is in distribution of commercial goods to the retailers. Today, there is a large amount of commercial goods that is distributed to the retailers, there are no specific requirements of procedure, and it is relatively easy to establish such a distribution solution. This opens doors for new participants to enter, but it still has to be a feasible option for the manufacturer, that needs to conduct a though rough analysis before making any decision. (Wahlén)

Also important to consider is parallel imports and the development of this phenomenon. Wahlén personally thinks that this is a temporary solution since the manufacturers do not find this alternative pleasing, and they have been successful in preventing it so far. They have been able to persuade the European Union to implement an import limit of certain pharmaceuticals related to the forecasted demand for specific markets where the parallel import starts. The market for parallel imports is a spot-market that has gotten more sophisticated but still is a short-term solution, where the availability of a certain pharmaceutical could disappear before the next order. (Wahlén)

When it comes to established distributors such as Schenker and DHL, Wahlén has the utmost respect for their ability, since they act worldwide and are recognized as logistic professionals. However, the business that makes logistics more complex is the distribution of the pharmaceuticals. Wahlén says it is very likely that Tamro will lose market shares; however, organizations like DHL and Schenker might find a good business opportunity in cooperating with Tamro. (Wahlén)



Regarding the possibility that a new distributor, not currently present in the Swedish market, enters the distribution stage, one should consider the fact that the opportunity to compete in this stage of the supply chain has existed for a long time. The problem to solve is yet again that of the increased costs. There are distributors that have claimed to have the ambition to enter the pharmaceutical industry, although a solution has not been presented so far, except from Apoteket AB. There have been other distributors shipping non-prescriptive medicine to the market of trade in convenience goods, but not to the pharmacy stores. When considering entering the retailer stage from scratch and stepwise also start a distribution solution, the discussion returns to the fact that one needs to distribute to at least 200-300 pharmacies in order to make it profitable. If one would start from scratch and expand very aggressively, it would take at least 4 years to reach 200 pharmacies, which still is only about 17 % of the market, so referring to this fact such a scenario is unlikely. (Wahlén)

Considering the 150 entrepreneur companies there has been rumors that the large pharmaceutical retailer company Alliance Boots might offer them a franchise solution. However, this is only a speculation but it might be a potential scenario. (Wahlén)

#### 4.2.4 Integration of the Supply Chain

As mentioned earlier, Apoteket AB and Apotek Hjärtat have announced and stated respectively, that they intend to establish their own distribution solution, which challenge the current system, and act as a clear indication of potential tendencies towards a more integrated supply chain. (Lindbom)

It is important to clarify what a large flow of goods really is. According to Wahlén, several other large European distributors with long-term knowledge of the pharmaceutical industry state that to construct a feasible distribution solution, the distribution must be conducted to between 200-300 pharmacies. Apoteket AB will handle distribution of both commercial goods and non-prescriptive pharmaceuticals in their new wholesaler solution since the logic of business for distributing non-prescriptive drugs is very similar to merchandise. Apoteket AB also states that they will offer distribution services to other retailers as well. The party that decides which distribution solution to choose is per definition the manufacturer according to Wahlén. They might see advantages in closer cooperation with the retailers within the supply chain, but they must be willing to accept the increase in costs that is inevitable when the product-flow is separated into smaller flows. Apoteket AB cannot isolate the manufacturer since there are binding regulations, which demands the availability of certain pharmaceuticals that normally are protected from competition through a patent. (Wahlén)

The only market in Europe that has allowed fully integrated distribution channels is Norway. However, when no regulation against regulations exists, it is common that a few large corporations with fully integrated supply chains acquire most of the market share, apart from a few niche companies that might specialize in certain products. Hence, the future development is an interesting question. (Wahlén)

#### 4.2.5 In-House Solution

Neither of the distributors can see any cost advantages of using an in-house solution as a manufacturer to deliver to hospitals, referring both to the fact that logistics is not their core business and that a feasible distribution solution requires large product-flows that might be difficult to reach for one manufacturer. (Lindbom & Wahlén)

### 4.3 Retailers Perspective

Below, we present the results of the retailer interviews. As mentioned earlier, we have conducted three interviews with the retailers: Apotek Hjärtat, Kronans Droghandel and Medstop. The outline of this subsection follows the same pattern as earlier empirical results, thus we address current operations and market participant strategies, effects of the deregulation until now, new market entries, supply chain integration and an in-house solution.

#### 4.3.1 Current Operations

Today, the previous One-Channel-Distribution solution is still in effect, which put the retailers in the position where they simply order the demanded quantities (Marlow). All pharmacies (independent of which retailer they belong to) use an interim solution that is effective until the July 1<sup>st</sup> 2010, which basically means that Apoteket AB's old purchase and order system still is in place and the same terms and conditions as before the deregulation apply, thus no major changes in the distribution system is apparent so far. This interim solution means an automated order system where Tamro and KD Pharma receives orders electronically and then deliver the products within the regulated 24 hours, exactly the same system as before the deregulation, which also means that all retailers are required to work with both KD Pharma and Tamro. (Grigorjev)

However, all respondents elucidate the drawbacks with the current solution and point out that they are about to implement their own systems for handling purchase orders, product ranges and inventory control etc. Kronans Droghandel's primary objective is to enable a centralized inventory control system, something that is not possible in the current system, while Apotek Hjärtat stresses that the current systems are far from optimal and that they do not want to stay in the current system longer than necessary. (Marlow, Calmvik)

All respondents find that the current cooperation with KD Pharma and Tamro functions relatively well, with an easy and straightforward communication. However, the deregulation imposes a new set of demands on the distributors, KD Pharma and Tamro, as the relationship with the pharmacies changes and the new retailers become customers in a different way than during the monopoly. This shift in the market structure requires both distributors to develop a more commercial approach towards the retailers and to introduce various services and offers that can create an additional value for their clients, an area which brings new opportunities for both distributors to become the most desirable alternative. (Marlow)

Grigorjev finds that one current distributor experience problems when trying to keep up with the market, and he does not believe that they will be influential in the future from a negotiation-

point of view, due to the fact that they are about to lose market shares to upcoming alternatives, such as Apoteket AB's own distribution solution. Grigorjev questions their ability to maintain a high quality service while they may be forced to restructure the organization due to a decreasing market share. - "It is always harder to downsize than to upsize" (Grigorjev). For this reason, Medstop investigates alternative solutions that might be more lucrative from their point of view.

#### 4.3.2 Market Participant Strategies

For Medstop, the dialog with the distributors depends on the product segment, where both prescriptive and non-prescriptive pharmaceuticals are managed through both Tamro and KD Pharma, while all commercial goods and their own product range are distributed through Tamro, who functions like a 3PL-provider where the agreements and negotiations take place between Medstop and the manufacturer. However, for some non-descriptive products a dialog with specific manufacturers exists since they work with a kickback solution (Medstop receives economic compensation from the manufacturer, instead of receiving a discount on the wholesaler invoice) that cannot be communicated with the distributor since they also do business with competitors. A direct dialog with manufacturers is primarily maintained with the largest manufacturers in terms of volume and turnover. Medstop points out that they wish to own the contracts and negotiations with manufacturers within their focus areas, for instance their own developed product range, but they seek an influential logistics partner for the rest of the product range. (Grigorjev)

The two main distribution alternatives are the traditional 3PL-solution and a wholesaling solution. Medstop mentions the simplicity of a 3PL-solution but it requires that all negotiations take place between the manufacturers and the retailers, something that requires high capacity and a lot of work. Medstop says that a complete 3PL-solution is practically impossible due to the magnitude of contracts that need to be managed. (Grigorjev)

Unlike Medstop, Kronans Droghandel wishes to own all supplier contracts through direct relationships and negotiations with manufacturers, a future cooperation that can form in many different ways depending on the underlying efficiency, and they stress that the company has the necessary size to handle this approach (Marlow). Apotek Hjärtat also mentions that they intend to negotiate prices and terms directly with suppliers and that they are looking for a traditional 3PL-partner in the future in contrast to the wholesaler function (Calmvik).

#### 4.3.3 General Effects of the Deregulation

Naturally, all respondents discuss the increasing competition in the pharmacy stage of the supply chain. The primary competitive weapon between the different retailers is the establishment of new pharmacies, a process that takes place in a relatively high pace at the moment (Marlow). For instance, if Apoteket AB wishes to keep their market share of 40 %, they are required to open approximately 150 new pharmacies in the future (Grigorjev). Furthermore, different pharmacy companies launch different advertising campaigns to establish their brands (Marlow). Kronans Droghandel mentions their membership in "Kooperativa Förbundet" which allows their

customers to earn bonus points by using a “MedMera”- card when they make purchases and the possible advantage of opening pharmacies in the vicinity of CoopForum- stores, the fact that they are a long-term Swedish industrial company with a substantial history, and the brand recognition among current pharmacy personnel due to their previous experience of KD Pharma, when discussing competitive advantages (Marlow). Medstop points out the fact that their pharmacies are geographically concentrated and that they possess many attractive locations (Grigorjev). Apotek Hjärtat stresses the difficulties with price competition, of course on prescriptive pharmaceuticals but also in the segment of non-prescriptive pharmaceuticals; instead, retailers compete with opening hours, their product range and customer service. According to Apotek Hjärtat, the future challenge will be to find a profile that differentiates the company from competitors (Calmvik).

Another effect of the deregulation is that some manufacturers start to use more than just one of the two distribution alternatives. For instance, Astra Zeneca’s products have been available at both Tamro and KD Pharma recently. However, this could be on the distributors’ initiative since they wish to offer a complete assortment for the pharmacies. (Grigorjev)

#### 4.3.4 New Market Entries

Before the deregulation, the client relationship existed only between the manufacturer and the distributor, implying a concentration of power in the beginning of the supply chain. The deregulation has shifted the focus towards the subsequent stage of the chain, something that naturally affects the distributors and has led to new distribution companies, such as Posten, trying to enter the market by offering their services (Grigorjev). Medstop currently investigates the possibility of using other logistics providers rather than Tamro and KD Pharma; an investigation that takes place in two stages, where the first includes non-prescriptive pharmaceuticals and commercial goods and the second stage includes prescriptive pharmaceuticals, an area that imposes challenges for a traditional 3PL-service due to the size of the product range. Medstop mentions several companies that have been granted wholesaling permission that in their opinion can handle distribution of prescriptive pharmaceuticals, such as Posten, HKC, Schenker, DHL, Aditro, Apoteket AB, Swedish Match, and of course KD Pharma and Tamro. (Grigorjev)

Concerning the possibility of a new company also managing the distribution of prescriptive pharmaceuticals, Grigorjev sees no limitations to why it could not be a possibility. Of course, it means higher demands for the distributor regarding safety, cooling-rooms etc. however, he points out that some of the companies that have attained a permission to conduct wholesale trade with pharmaceuticals both have the skills and the resources to meet this increase in demands (Grigorjev).

Regarding new market entries from large pharmaceutical distributor that also handle retailing, DocMorris has entered the Swedish market in the retailer stage by opening four new pharmacy stores located in Eskilstuna, Billdal and Kalmar (where there have established two pharmacy

stores). According to DocMorris, these pharmacy stores are among the first privately owned and Doc Morris long-term goal is to own 100 pharmacy stores in Sweden. According to Mads Paulsen (CEO at DocMorris Apotek), DocMorris will be a nationwide retailer with close customer relationships. DocMorris Apotek is owned by Apotheke DocMorris, which in turn is owned by Celesio, one of the leading pharmaceutical distributors. ([www.docmorris.se](http://www.docmorris.se))

In her article from the August 13<sup>th</sup> 2009, Ingrid Stenberg explains that people speculated if Celesio would participate in the bidding of already established pharmacy stores. However, they announced in July 2009 that they would enter the market through opening new establishments. The reason to why Celesio chose to open new pharmacy stores was according to Mads Paulsen an economic decision. He thought that the conditions for purchasing established pharmacy stores was bad and would require too much investment that would be financed from bank loans. The already established retailer agency, Apoteket AB would not be forced to do this upfront investment due to the fact that they were already established. Hence, Celesio chose to open new pharmacy stores since the investment per store would be smaller. (Stenberg, 2009)

#### 4.3.5 Supply Chain Integration

As of today, Kronans Droghandel does not have any plans concerning an implementation of a fully integrated supply chain. Concerning the relations with KD Pharma, Marlow mentions that it is in both companies interest to keep their operations at an arms-length. She stresses that Kronans Droghandel does business with other corporations that needs to stay between these two parties and vice versa; both companies have good reason to work with a high level of integrity (Marlow).

Furthermore, Apotek Hjärtat highlights their intentions to work with only one logistics provider in the future, instead of the current two-distributor solution, where the overall objective is to gather all deliveries at one distributor to optimize the product flow. The underlying reason behind this strategy is to achieve a better product flow, gain a better control of the logistical operations and shipments, and reduce costs. Instead of receiving two shipments per pharmacy store each day, direct cost can be reduced and the product flow can be improved if there would only be one shipment to handle. (Calmvik)

Regarding the manufacturers opinions towards a scenario with multiple distribution alternatives, Medstop believes that they can be convinced through prices and the fact that they are required to sell to certain retailers in order to maintain their current market share, the parallel import alternative also provides an incentive for manufacturers to meet the retailers demands. Regarding prescriptive pharmaceuticals, there will probably be a more extensive negotiation where the retailers still have bargaining power as a result of the availability they provide (Grigorjev). Apotek Hjärtat mentions two main leverage instruments: parallel import and the ability to make price negotiations with non-prescriptive pharmaceuticals (Calmvik).

Another important area to consider within supply chain integration is the use of IT. Today, all respondents have stayed with Apoteket AB's old IT-solution within the scope of the interim solution presented earlier. However, all respondents say that their companies will switch to their own systems after July 1. Apotek Hjärtat switches to their own economy- and human relations systems and they will use the IT-system Pharma Suite (Calmvik). Medstop plan to acquire Pharma Solutions and hopes to benefit from a complete solution when they implement the system during the fall, since most fallacies and flaws that exist today hopefully will be corrected by then (Grigorjev).

#### 4.3.6 In-House Solution

Medstop finds a possible in-house solution for a pharmaceutical manufacturer to be rather difficult and not very likely, since the possible net gains from that alternative normally is not considered to be high enough. Furthermore, a lot of work and investments are usually required during the start-up phase (Grigorjev). Kronans Droghandel points out that the current solution is very close to a direct-to-pharmacy solution; the only difference would be that the products are placed at another warehouse and the owners of the trucks differ, but there is no real difference from a pharmacy's perspective. However, the immediate con with this alternative is that the costs of product handling would rise as an effect of the increased number of transports (Marlow). Also Apotek Hjärtat points out that they cannot handle too many transports (Calmvik).

#### 4.3.7 Parallel Import

According to Apotek Hjärtat, all retailers have an incentive to increase the amount of parallel imports since this provides an opportunity to improve the sales marginal, which clarifies their intentions to increase these operations (Calmvik). Also, Kronans Droghandel mentions their positive attitude towards parallel import and their intention to gradually increase the amount of parallel imports (Marlow). Medstop also considers parallel import to be an attractive solution since this alternative allows price negotiations, where the parallel importers generally are quicker and more flexible in this area (Grigorjev). All pharmacy companies have direct relationships with the parallel importers, but the physical flow of products takes place through Tamro and KD Pharma, just as other products (Marlow, Calmvik & Grigorjev). Moreover, Apotek Hjärtat confirms the fact that the pharmaceutical industry aims to prevent the parallel import-phenomena by various measures such as EU approved consumption quotas for each country (see Hans Wahléns statement regarding parallel import in the distributor subsection) (Calmvik).

#### 4.3.8 Apoteket AB's Distribution Solution

In his article from March 26<sup>th</sup> 2010, Nils Bergeå Nygren declares that Apoteket AB will start their own distribution solution in collaboration with the worldwide logistics-providers Schenker. The aim of this solution is to handle the product-flow to Apoteket AB's own pharmacies, as well as other potential customers. Nygren explains that Apoteket AB has indicated that such a solution has been planned for a long time. The new solution plans to be operating by July 1<sup>st</sup> and the actual distribution will originate from a facility in Arlandastad, north of Stockholm. Tore Löwstedt (director of distribution and production on Apoteket AB) signify that Apoteket AB has



a good understanding of the requirements to run a successful pharmacy store. With these experiences Löwstedts explains that Apoteket AB is in a good starting position to develop a distribution solution. This solution shall initially focus on the range of products within self-care. In addition, Löwstedt indicate that the current collaboration with both KD and Tamro works very well and they intend to continue this collaboration for other products besides self-care. Nygren however, indicates that Apoteket AB's contract with Tamro, for distribution of commercial goods, expires halfway through 2010. (Nygren, 2010)

Karin Branteström confirms this information in her article from March 26<sup>th</sup> 2010. She also adds that Apoteket AB has signed a letter of intent with Schenker. In this article, Mats Olsson (CEO for Schenker Logistics) announces that they are very proud and confident that they can meet Apoteket AB's requirements, due to their experience and knowledge of logistics management. (Branteström, 2010)



## 5. Analysis

In this section we analyze the material from the empirical study using the theoretical framework as a supplement. The four empirical investigation areas act as a foundation for the analysis and the applicable parts from the four theoretical areas complement the analysis in order to create possible scenarios for how the deregulation affect the distribution channels within the pharmaceutical industry. Figure 8 serves as the model for analysis and displays which parts of the theoretical framework that is applicable to the different empirical investigation areas. This model is used together with the results from the empirical study to analyze the potential effects on a manufacturer's distribution channels in general, and from Genzyme's point of view.

The model of analysis works as a method to connect the empirical investigation areas with the theoretical framework where applicable parts from the different theoretical areas such as advantages of 3PL/Outsourcing complement the analysis of the empirical investigation, for instance New Market Entries.

To supplement figure 8, a glossary is provided below in order to explain the abbreviation and to simplify the understanding of the model for analysis.

ND = Network Design

IP = Inventory Positioning

RA = Resource Allocation

External = External Supply Chain Integration

Internal = Internal Supply Chain Integration

Advantages = Advantages of outsourcing/3PL

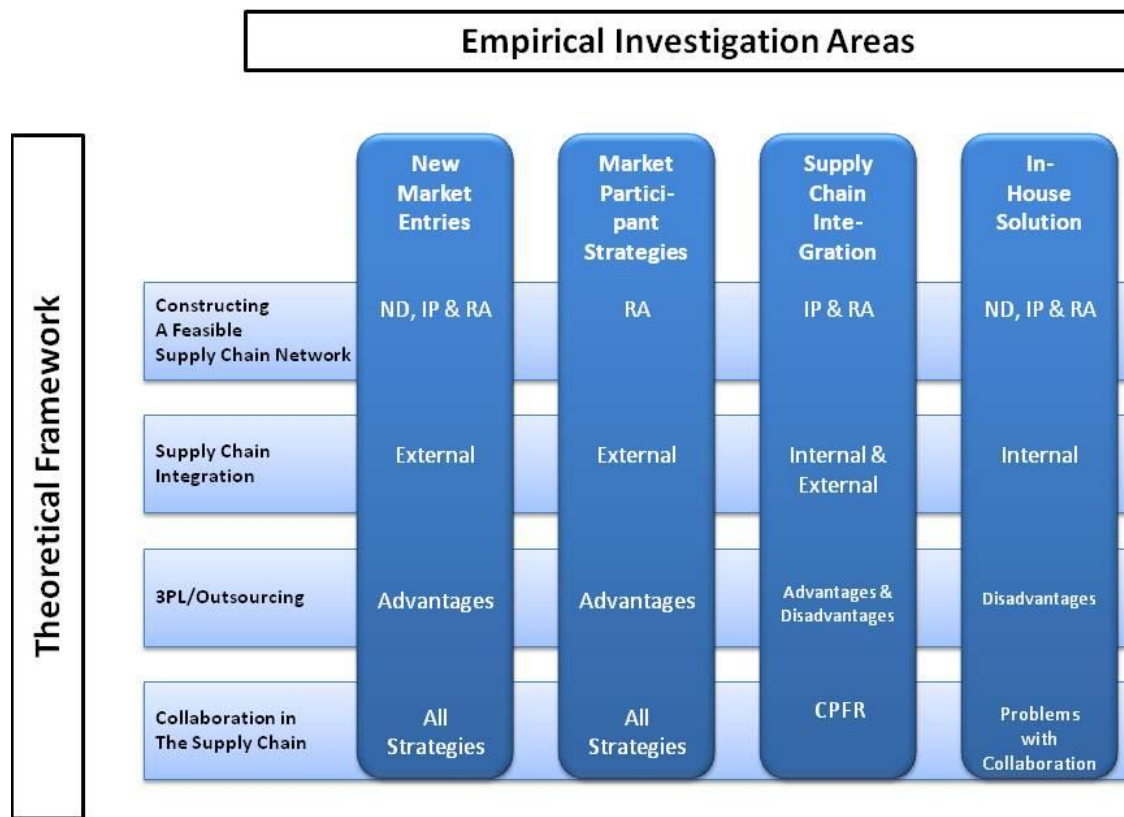
Disadvantages = Disadvantages of outsourcing/3PL

All strategies = Includes all of the collaboration strategies explained in section 3.4

CPFR = Collaborative Planning Forecasting and Replenishment Policy

Problems with collaboration = Refers to subsection 3.4.1 that discuss potential problems of collaboration within the supply chain

Figure 8 - Model for Analysis



### 5.1 Market Participant Strategies

Regarding the current distributors’ operations, the core business is in many aspects very similar, since both Tamro and KD Pharma provide the explained One-Channel-Distribution solution. The differences can be found in their support service, prices and manufacturer contracts. Referring to the theoretical framework regarding advantages of using a 3PL-function, such as the ability to focus on the core business, reduced costs and optimization of the distribution network, a departure from using a 3PL-provider is highly unlikely. Current distributors’ intentions to further develop and enhance their systems lead to the conclusion that their core business probably will not experience significant changes. Instead, current differences between distributors such as the surrounding service and relationships with manufacturers will be decisive for the future development. Referring to the essence of subsection 3.3.3, which addresses the distributor’s ability to adapt to their customers (hiring companies) demands is essential for a good 3PL-relationship; the current distributors are required to provide a good solution for both retailers and manufacturers in order to stay successful. Both the retailers and Genzyme indicate that the ability for the distributor to adapt to their demands is important when choosing a distributor. In the aftermath of the deregulation, retailers have become a customer to the distributors with their own

specific demands and agendas, a clear shift in the dialog. In the future, it is very likely that the negotiations take place between the manufacturer and the retailer; something that further forces the distributor to become more of a traditional 3PL-provider than a wholesaler, where the key for success lie in the distributors' ability to adapt to different demands from both retailers and manufacturers.

The deciding factor most certainly derives from how the future power of negotiation allocates in the specific dialog between retailer and manufacturer; probably forcing the distributor to adapt to different collaboration strategies. Referring to section 3.4 and an example of the relationship between a large manufacturer producing a prescriptive drug and a relatively small retailer like Medstop, the power of negotiation will probably be with the manufacturer. As indicated by the empirical study most manufacturers are satisfied with the present cost-efficient solution, due to the simplicity of dealing and with only one distributor and the comprehensive service it provides; in that situation the distributor must be able to provide a solution similar to the present one. However, in a negotiation between a smaller manufacturer and a larger retailer about a non-prescriptive drug, another situation arises where the power of negotiation probably lies with the retailer, leading the distributor to adapt to the retailer's demands. A QR or ECR strategy might be used in such a scenario depending on the demands of the retailer, who generally indicates that they want more control over the distribution and hence, handle price negotiations and managing inventory to a greater extent than previously. Therefore, we end up with two different scenarios of future distribution strategies likely to occur simultaneously; imposing a challenge for One-Channel distributors to incorporate multiple strategies, such as a VMI or QR-strategy, which imposes differences in operational procedures. The current One-Channel-Distribution system is more similar to a VMI-solution than a QR-strategy since the supplier is deciding inventory levels and using their chosen distributor to handle their inventory management.

In some situations, the power of negotiation might be equally distributed between the retailer and the manufacturer, making a CPFR-solution more applicable. We conclude that it is likely that the power of negotiation vary depending on involved companies and products. The long-term goal of current distributors is to remain with their present operations, serving the entire country's retailers and improving their current solution, which serves as the most cost efficient for the manufacturer. However, the distribution decision still depends on which stage of the supply chain that possesses the most bargaining power. If the retailer makes the decision, a solution might be adapted that imposes higher costs for the manufacturer, since the retailers urge for controlling the distribution and inventory management process eventually require manufacturers to work with multiple distributors. Regarding section 3.1 about constructing a supply chain network, both Tamro's and KD Pharma's existing feasible network is built around the current One-Channel solution; such a network might have to be changed in order to meet a new set of demands, so the third step when building a network, resource allocation (RA) should therefore be evaluated and considered by the distributors since future quantities, shipment sizes and storage requirements might be altered.

Considering the future development for both of the current distributors, KD Pharma may have an advantage in the fact that their sister company is the newly established retailer, Kronans Droghandel; since KD Pharma already handles much of their distribution, their present organization might be adapted further to fit Kronans Droghandels demands. Referring to the section about the requirements when choosing a 3PL-function in section 3.3.3, it is probably easier to incorporate these requirements within a company group than if they were to have separate owners. However, other retailers indicate their reluctance to use KD Pharma as distributor in fear of exposing sensible information, such as prices and specific arrangements, to their competitor Kronans Droghandel.

Tamro's independence from the retailer stage in terms of ownership might turn them into an attractive alternative for retailers that are afraid of having information exposed. They are not required to adapt to one retailer in particular, and could therefore become a more flexible distributor in terms of their core business, which can be tailored to handle different strategies and demands. However, their lack of ownership connections in the retailer stage and the fact that the market might be moving towards more integrated solutions with multiple distribution solutions (further discussed in section 5.3) might cause Tamro to lose significant market shares, forcing them to downsize their operations and restructure. It is often more difficult to downsize an operation than upsizing it because the original operation has to be reconstructed, which creates problems such as possible lay-offs etc. These decisions might lead to a less efficient organization losing some of its advantages and hence the incurrence of trouble trying to keep up with the development.

Both distributors however, have an advantage in their present market size, experience and capacity. They have both existed for a long time and are today the only two distribution alternatives. As implied in the empirical study, starting from scratch requires a lot of investments and distributing pharmaceutical products differ from other industries. This gives the current distributors an advantage in handling new demands in the future, but the key issue is their ability to improve their present solution, and incorporate new solutions required by the hiring company with the decision power. It is highly unlikely that either of these two distributors faces a threat of elimination, but as implied by the distributors themselves, a respectable amount of market share might be lost to potential new entries that will be analyzed in the following section.

## 5.2 New Market Entries

The retailers clearly indicate a high potential for new entries in the distributor stage of the supply chain, for instance Medstop and Apotek Hjärtat are currently investigating new opportunities arising from new market entries and Apoteket AB has already launched their upcoming solution with Schenker. Three possible scenarios appear: retailers establishing their own distribution operations through some sort of vertical integration, international pharmaceutical-distribution companies entering the Swedish market, and traditional 3PL-suppliers reaching into the pharmaceutical sector. Another possibility involves a vertical integration from the

pharmaceutical manufacturers developing their own logistics functions to deliver to the pharmacies. In this subsection, we analyze these possibilities and the likelihood of their occurrence, by themselves or in combination whereas the first scenario is discussed in section 5.3, and the fourth scenario is discussed in section 5.4.

Regardless of which scenario we analyze, one must understand the complexities of constructing a feasible supply chain network; a process addressed in subsection 3.1 in the theoretical framework, which discusses the three-stage model for creating, a supply chain. This is a time and resource consuming process, and there is no guarantee that new solutions will work out smoothly from day one.

The potential shift in power of negotiation in the supply chain has created a demand for new solutions among the new pharmacy groups. However, one can make the argument that pharmaceutical distribution in Sweden has always been a competitive market, but so far Tamro and KD Pharma have maintained their market dominance. However, as previously discussed the origin of new retailer groups has created a demand for an optimal solution for each company in the retailer stage, which leads to new opportunities for other distribution companies.

One possibility is that international pharmaceutical corporations will try to establish themselves in the Swedish market, in order to steal market shares in the current restructuring process. In the empirical study, the rumor about Alliance Boots possible franchise alternative is discussed, and if this were to become real, it is not unlikely that they will provide their own distribution alternative since this is one of their core businesses. Also the European giant Celesio has entered the Swedish pharmacy market by establishing a small number of pharmacies with the intentions to grow. However, establishing pharmaceutical distribution operations in a new country requires large up-front investments and the question is if the possible gains by this alternative are large enough. We have already concluded that you have to deal with relatively large quantities in order to be profitable, it is unlikely that an international pharmaceutical logistics provider would be able to provide a solution today that is so superior that they would acquire a substantial part of the current market. However, one must analyze these companies' intentions in order to get a full understanding of the situation. It is unlikely that large corporations like Alliance Boots and Celesio would settle with only a small market share in Sweden, something that strengthens the possibility of future mergers and acquisitions within the retailer and distributor stage of the supply chain. If these corporations were to grow substantially by takeovers, they would most certainly be interested in integrating their supply chains and would then become a serious competition to current distribution alternatives.

Regarding the possible entries of traditional 3PL-providers, such as DHL and Posten, they could most certainly be a competitive alternative in terms of distributing non-prescriptive drugs and other commercial goods; however, in order to establish a full-scale pharmaceutical distribution alternative, large investments are required ruling out many of the potential new entries. Large 3PL-providers such as DHL and of course, Schenker, have the abilities to create a functioning

network from scratch, as well as the opportunity to expand their operations to meet new customer demands, in contradiction to Tamro and KD Pharma, which might be required to downsize their business. Furthermore, small manufacturers like Medstop might be interested in a traditional 3PL-solution for a specific segment of their product range, while using a full-scale distributor for their remaining products. This creates business opportunities even for smaller 3PL-providers.

### 5.3 Supply Chain Integration

The fact that Apoteket AB launches a distribution solution is an obvious act towards a more integrated supply chain. As implied by all the interviewed retailers and distributors, this indicates that they strive for an increased control over the distribution to their stores. As explained in subsection 3.2.1, successful supply chain integration provides several advantages such as reduction in both material costs and inventory holdings. Moreover, internal supply chain integration, that is applicable in the case of Apoteket AB, often achieve the highest rate of integration and might be a reason why they choose integrate the supply chain by creating their own distribution solution. Furthermore, using a 3PL-solution has some disadvantages, such as losing control of a central business function and potentially creating a supply market risk relying on an external company. However, starting a distribution solution requires a substantial amount of work since the planning process most certainly is forced to start from scratch. One might think that since Apoteket AB has been in the business for so long, they do not need to go through the entire three-step process. However, since the market is changing and Apoteket have been involved in another type of solution (One-Channel-Distribution system) they are probably forced to start with the network design (ND) step creating an infrastructure for the distribution network and thereafter moving on to step 2 and 3 of the process. This naturally requires a lot of work and might prove to be rather time consuming. Another consideration is that according to the empirical results, one must distribute to at least 200-300 pharmacy stores in order to make the distribution solution feasible. Apoteket AB is the largest of the retailer corporations with over 300 stores and should therefore be able to reach this level of distribution. Furthermore, they have indicated that they plan to offer a distribution solution targeting other retailers as well. Tamro implied that even if they succeed, it would not be more feasible for the manufacturers than the current one since they are breaking down the economies-of-scale that exists today. However, one should consider that they have aligned themselves with the logistics company Schenker, and as earlier mentioned Schenker are logistics experts and should therefore provide useful expertise and experience. Referring to the capacity and size of this distribution solution, there is no reason why Apoteket should not succeed since they possess a large market share, they receive expertise in their alliance with Schenker, and even if the costs will initially increase an integrated solution could provide other benefits such as reduced costs in the long-term due to a more efficient allocation of resources and inventory management.

The possible movement towards a more integrated supply chain from the retailers point of view, will most likely occur in two stages, where non-prescriptive drugs and other commercial goods



will be reallocated to any new retailer-solutions first, due to the existence of more extensive opportunities for price negotiations and the fact that the process of distributing non-prescriptive drugs is not as complex as managing prescriptive pharmaceuticals. However, since the full potential of integrating the supply chain in terms of inventory and distribution optimization cannot be reached until the entire product range is transferred to the same distribution system, the prescriptive segment will likely follow the other segments in a second phase of the restructuring process, which will probably occur when new solutions have become more established.

The important question whether or not this solution will be successful is yet again, how the power of negotiation will allocate between retailers and manufacturers. Genzyme Corporation indicated that the current solution works well, one reason being the simplicity of only communicating with one external part. If however, Apoteket AB is successful with their solution it will probably lead to an initial increase in costs, since it creates more work for Genzyme, who now has to deal with more than one external contact. An interesting consideration is Apoteket's ability to force manufacturers to use them as a distributor using the argument that the manufacturer will not be allowed to sell their products in Apoteket AB's stores otherwise. Tamro indicates that such a scenario is unlikely since availability of most pharmaceuticals are governed by law and most products are patent protected making them sheltered from direct competition and thus giving Apoteket AB less power of negotiation. No matter what is the most rational choice for the companies, the success of integrating the supply chain is decided in the power struggle between retailers and manufacturers.

Apotek Hjärtat has also implied that an internal solution might not be impossible for them as a retailer. The main incentive however, along with the other interviewed retailers is the fact that they all want to integrate their supply chain. Most of them have indicated that this will happen using an external distributor but they want to move away from the current solution where they are required to deal with at least two distributors. Obvious reasons why this incentive exists might be found is the potential benefits of integrating a supply chain, such as a more efficient inventory management and resource allocation, and the control they gain through integration. If the market becomes more integrated in general with closer collaboration, CPFAR could become a fitting strategy. This strategy is not applied today and would require more work from all parts of the supply chain putting the manufacturers in a new situation where they have to have a dialogue with all retailers. This scenario will probably not happen in the short run, but if the tendency towards integrated supply chains strengthens, such a strategy would be likely in the future.

Another likely scenario is that the market will develop to something similar to Norway's present market, where every retailer has its own separate distributor. Such a scenario might be possible since that would integrate the supply chain and move away from the current solution. In such a scenario, KD Pharma would most certainly work exclusively for Kronans Droghandel, Apoteket AB would use their solution and Tamro could perhaps end up working exclusively for Apotek Hjärtat. Such a scenario is unlikely in the short run since KD Pharma, Tamro and Kronans Droghandel reject such a solution. However, Apotek Hjärtat indicates that they want to work



closer with their distributor, and Tamro could be a fitting choice. If such a restructure would occur, all of the involved companies would have to reconsider at least the last two steps in the network planning process since new practical procedure and logistics coordination needs to be revised. The likelihood of this scenario does not rely upon capacity and ability, but yet again on how the power of negotiation will shift. This scenario might only happen if the retailers come out on top since strategies similar to CPFR creates more work for the manufacturer, something they hope to avoid.

#### 5.4 In-House Solution

All retailers find it highly unlikely, although not impossible, for the manufacturers themselves to start their own distribution solution. Since new business opportunities will come from the deregulation there is nothing stopping them from starting their own solution more than the investment and time consumption that come with it. The reason for such an incentive from Genzyme's point of view would be that if the market for distributing pharmaceutical products changes it might be a feasible solution. Another incentive for moving towards this kind of solution, referring to section 3.3.2, could be that depending on the development of the market it might not be cost efficient to hire an external distributor, which of course in turn is very dependent on the type of pharmaceutical. In the case of Genzyme who produces pharmaceuticals for more unique diseases, treated only on a couple of hospitals, it could be addressed if it would not be more cost efficient for them to handle the distribution of these products themselves. In today's situation, Tamro has clearly indicated that such a solution would not save money but depending on the market development and the potential loss of economies-of-scale, it could become feasible. The distributors, as mentioned before, will have to adapt to a wide range of different distribution strategies and hence their distribution network will probably become more complex and perhaps more expensive since the distribution process will probably become less standardized. If a manufacturer then only needs to reach a couple of geographical regions, it might not be feasible to use these organizations with more complex distribution network, since their service could be more expensive than necessary. However, if the manufacturer produces products that have a wide variety of users they probably need to reach all retailers; and thus, need to hire a company with an established and sophisticated distribution network. None of the distributors or the retailers finds it potentially feasible for a manufacturer to construct a network from scratch. Referring to the network planning process an In-House solution would at least require the last two steps of the process (IP & RA) and perhaps also the first step (ND), depending on the previous knowledge and integration with the distributor. In the case of Genzyme, they have not focused on the distribution part at all since Tamro handles all those operations for them; so implementing an in-house solution would probably mean constructing a network from scratch.

Another incentive to why a manufacturer would consider establishing an in-house solution could be related to the potential dilemma of supply chain collaboration (See section 3.4.1). As always when collaborating with other independent organizations, the problem to meet the interest of the supply chain as a whole and for the individual firms exists. This dilemma will probably occur for

the distributor as the market change towards less standardization and they are forced to adapt to different demands. That could create difficulties for the distributors to adapt to smaller manufacturers' requirements; hence, increasing the potential problem of different agendas since a difference exists between what is feasible for a large manufacturer and a small one, depending on the product. The increased problem of collaboration could be a reason to handle the distribution in-house. However, none of the retailers or distributors considers this as a realistic approach, and referring to the theoretical framework of network planning, it would most likely create a lot more work and costs for the manufacturers. That would be in direct conflict with the objective to keep the distribution chain feasible and simple.

## 6. Final Conclusion and Recommendations

In the following section we present our final conclusions, where we in section 6.1 provide the answer to the main problem and the first of the two sub problems, based on the preceding analysis. Thereafter, we present our recommendations, which also answer our second sub problem, concerning the potential business opportunities and recommended course of action for Genzyme, following the potential effects on the distribution channels.

### 6.1 Final Conclusion

The effect the deregulation will have on the manufacturer's distribution channels depends first and foremost on which stage of the supply chain that will have the bargaining power due to the changed environment in the retailer stage. If the power stays with the manufacturer it is likely that the distribution will remain in a One-Channel-Distribution solution since it is feasible for the manufacturer. In such a scenario we believe it would be favorable for the present distributors, which would make Apoteket AB's solution inefficient, preventing new market entries and also preventing a more integrated alternative.

If however, the power of negotiation shift towards the retailers, or at least partially towards the retailers, we believe that major effects will occur on the manufacturer's distribution channels. First and foremost, the current One-Channel-Distribution solution will partially disappear, as the retailers want to have more control of the supply chain. This will put pressure on the distributors, forcing them to adapt to different customer demands creating a more complex distribution network dependent on the individual needs. As the retailers seek a more integrated distribution system, to work solely after the present solution will not be possible since they require handling the dialog with most manufacturers themselves. This opens up interesting opportunities for new market entries that can create a distribution network suited for handling the needs of the individual retailers. As more alternatives and distributing companies arise, the cost benefit due the present economies-of-scale within the current system will be lost and the cost of distribution will increase. This cost will most likely affect the manufacturer since the distributors only act as service provider and not a wholesaler, and the retailers have more negotiation power in this scenario. More integration between manufacturers and retailers will also mean an increased workload for the manufacturer due to the increased network complexity. An increased amount of distributors is likely to occur in the distributor stage, making the distributors even more of a 3PL-provider in the future without any real negotiation power. Current distributors will most certainly remain, but will probably lose a large amount of their market-share to new entrants like Apoteket AB's collaboration with Schenker. Regarding the in-house solution, this might be possible for some unique and specific products, but such a solution is probably not feasible considering the present market, and the potential development.

It is very difficult to predict the outcome; however, we believe that the second scenario is more likely to occur since the deregulation gives the retailer stage a more businesslike approach and the price model provides retailers with the ability to compete with prices concerning commercial

goods and non-prescriptive pharmaceuticals. They are also the final link in supply chain handling consumer contact giving them more ability to put pressure on the manufacturer. Even if the law decides the availability of certain pharmaceuticals, the business opportunity that the parallel import brings, gives the retailer an increased amount of negotiation power. Although the manufacturers have been successful in preventing this development, the retailers regard this as a good complement to the existing business and are open to increase the amount of parallel imports. All the power will probably not rest with the retailers; however- an increased amount of negotiation power for the retailers, still result in a departure from the current artificial market as competition are now allowed in the retailer stage.

To summarize, if the power of negotiation in the supply chain stays with the manufacturers, the current One-Channel-Distribution solution will stay intact with small changes in the distribution stage of the supply chain. However, if the retailers receive an increased bargaining power, an increased integration between the distribution- and retailer stage can be expected, with new market entries in the distribution stage as a result, something that would increase the complexity of the supply chain and transform into higher costs for pharmaceutical manufacturers.

## 6.2 Recommendations

In this subsection, we answer our second sub problem and present our recommendations to pharmaceutical manufacturers in general and naturally to Genzyme in particular. As concluded in the previous section, the current One-Channel-Distribution system face an unsecure future, requiring pharmaceutical manufacturers to prepare for a new scenario where cooperation with more than one distributor are required, all depending on the outcome of the allocation of power within the supply chain. As of today, one can only speculate about the actual changes, a fact that strengthens the importance of analyzing the future development. From Genzyme's perspective, it is important to stay proactive when the relationship between retailers and manufacturers develop, so that the retailers do not overlook Genzyme due to the company's relatively small size. If Genzyme is successful in this process, the opportunity of finding a more beneficial solution, either with Tamro or someone else, exists. A suitable course of action would be to closely monitor other manufacturer's solutions in order to stay alert to any shift in power in the supply chain. Furthermore, Genzyme needs to closely monitor the public procurements of hospital pharmacies, which currently takes place around the country; depending on which company that wins the different procurements, Genzyme might be required to consider another distribution alternative, either as a replacement of the current- or probably more likely, as a compliment. The imminent threats worthy of consideration includes increased costs due to the requirement to work with more than one distributor, something that demands more resources and time from the current employees.

## 6.3 Future Areas of Investigation

This thesis addresses future changes in the pharmaceutical distribution channels as a result of the market deregulation, and conclusions and recommendations about the implications for a

pharmaceutical manufacturer are made from a single company's point of view. However, future changes might impose different opportunities and threats due the size, product range and other characteristics of a specific pharmaceutical manufacturer. Therefore, we find that the implications for the pharmaceutical manufacturing industry as a whole serve as an interesting area for future investigation, since the scope of this study is limited to distributor- and retailer strategies.

Furthermore, the outcome of several public procurements regarding hospital pharmacies contracts might impose further effects on pharmaceutical distribution in Sweden. Therefore, it could prove valuable to observe and analyze possible changes to the current system due to the allocation of hospital pharmacy-ownership, something one can only speculate about at this point. Another interesting area is the future development of the parallel import and export phenomena, which is highly relevant for the industry, for instance as an instrument of leverage in negotiations between manufacturers and retailers.

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## Appendix 1A – Interview Guide for Genzyme

### 1. Present Logistics Function

- How does the collaboration with Tamro work today?
- How does the operating procedure of the distribution work?
- Pros and Cons with the present solution?
- If possible, how does the cost structure look?
- Which differences exist between Tamro and KD, and why has Genzyme chose Tamro?
- The fact that Genzyme is expanding their operations in Sweden presents any new opportunities or threats regarding the distribution?

### 2. General Effects of the Deregulation

- Has Genzyme experienced any affects of the deregulation so far? If yes; what effects?
- How does Genzyme hope to gain from the deregulation?
- How does Genzyme experience the collaboration with the new retailers? Is there a possible scenario in which Genzyme cooperate directly with the retailers without having to extend the dialog through a distributor?
- Which pharmaceutical markets are most similar to Sweden?

### 3. Evaluation of Alternatives

- What factors decides which appropriate distribution alternatives there are?
- Genzyme´s strategies for how the logistics should work, goals with the logistics, cost demands, quality insurance and corporate policies etc.

### 4. New Market Entries

- Do you believe more distributors will enter the market and establish themselves as an alternative the present two?
- If Yes: Which companies? Established 3PL-providers like DHL or large European pharmaceutical distributors like Alliance Boots?
- Experiences from other markets? Who does Genzyme cooperate with in other countries, like Norway?
- Why does the distribution solution differ between Denmark, Norway and Sweden? What is the reason?

### 5. Market Participant Strategies?

- Has Genzyme received any new offers of alternative distribution solutions from distributing companies or retailers since the deregulation?
- Operational differences between these potential alternatives?
- Cost structure of alternatives?

### 6. Supply Chain Integration

- Has Genzyme experienced any tendencies towards a more integrated supply chain?

- Has Genzyme received any offers of collaboration? Does Genzyme look for collaboration? What's happening on the market related to this matter?

## 7. In-House Solution

- Does such a solution exist on the market? If yes how does it look??
- What would make Genzyme consider such a solution? Cost savings or other advantages?
- Is there a strategy or thought over how an in-house solution would function?
- What resources are there for such a solution? What is missing?

## Appendix 1B – Interview Guide for Distributors

### 1. Current Operations

- Description of your current operations, for instance transportation, inventory management, lead times etc.
- Current competitive advantages, why does the pharmaceutical manufacturers chose your company as a partner?
- How do you experience the competition today? KD Pharma versus Tamro?

### 2. General deregulation effects

- How has the deregulation affected your operations so far? Noticeable differences?
- How does your company hope to benefit from the deregulation?
- What do you think of the cooperation with the new retailers? Do they place new demands etc?
- How do you experience the cooperation with your clients (pharmaceutical manufacturers) after the deregulation, any changes?

### 3. New Market Entries

- From your perspective, are there any tendencies towards an increased competition in the distributor stage of the supply chain?
  - If so, which companies are most likely to enter the market: large European pharmaceutical distribution companies not yet operating in Sweden, traditional 3PL companies etc.?
- Do you consider any experiences from other markets in Europe where a similar restructuring has occurred?

### 4. Supply Chain Integration

- Are there any tendencies towards a more integrated supply chain?

## 5. Future development

- Are you experiencing any new set of demands as a result of the deregulation?
- How are you going to adapt your business in order to keep or increase your current market share?
- What will your competitive advantages be in the future?

## 6. Parallel Import

- What is your attitude towards parallel imports?

# Appendix 1B – Interview guide for Retailers

## 1. Present Operations

- How does the purchasing function operate today?
- How do you experience the collaboration with KD Pharma and Tamro?
- What are their competitive advantages?
- What does a retailer demand from the distributors today?

## 2. General information about the Retailer Stage

- How do you experience the competition between the different retailers? In what way is competition experienced, through price competition etc?
- As a Retailer, What are your competitive advantages?

## 3. New Market Entries?

- From your perspective, is there a tendency towards increased competition in the distribution stage in terms of new market entries?
- What companies would in that case enter the distribution stage? Pros and cons with if that would happen?

## 4. Supply Chain Integration

- Is there a tendency towards a more integrated distribution network and thus increased collaboration between the different stages in the supply chain?
- Is there something more in terms of service you would like to get from the distributors that's not included in today's service?
- How do you react to Apoteket AB's choice to start an own distribution solution? Could this give them a competitive advantage? What are your plans of distribution in the future?
- How can a retailer attract manufacturers to use their distribution solution over the already existing ones?
- How is the operational collaboration with present distributors and how can this be developed in the future?
- If you choose to start your own distribution solution, how would that affect your collaboration with present distributors?

### **5. In-house Solution**

- How would you react to get pharmaceuticals delivered to you directly from a manufacturer?
- What pros and cons would such a procedure present?
- Would this be cost efficient?

### **6. Future Development**

- How will you act to strengthen your present operations and alternatively increase your market share?
- What will be your competitive advantages in the future?
- How would you say the supply chain will look in the future, considering both the retailer- and distributor stage? Why?

### **7. Parallel import**

- What do you think of this phenomenon?