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Pharmaceutical Distribution in Japan

A study on how external factors affect the Japanese pharmaceutical wholesale industry

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Authors:

Alexander Eriksson 920921

Erik Zachrisson 940604

Tutor:

Richard Nakamura

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Alexander Eriksson

Erik Zachrisson

Abstract

The number of wholesalers in Japan has been decreasing. This has led to changes for wholesalers as they have gone from being dependent on manufacturers to independent. Wholesalers focus have changed from local to regional, and in some cases national. As consolidations have taken place at the same time as governmental affects, the margins in the wholesale industry in Japan have been lowered a lot. Wholesalers are entering into new relationships and are trying to find alternative businesses to their core business in order to become more efficient and competitive. Alternative business strategies have appeared to complement the core business of distribution and warehousing.

Added value is a way for wholesalers to cope with the low margins. Four big wholesale groups who cover around 90 percent of the market have different strategies when implementing added values in their operations. They are either focusing on low cost operations, or high added value. The need of efficiency in the Japanese wholesale business is crucial today. The already low cost structure in the industry is becoming even lower through the use of Information Communication Technology (ICT). ICT makes it possible for wholesalers to lower operating costs, shift from speculative to postponement inventory management, and increase control.

Key words: Pharmaceutical, Wholesale, Distribution, Japan, External factors

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Definitions

MHLW- The Ministry of Health, Labour and Welfare in Japan is a governmental ministry designed to make efficient policies as well as supporting and improving areas such as medical healthcare, labour and childcare (MHLW, 2015).

NHI Price revision- The National Health Insurance (NHI) price revision is a review of drug prices made by the Japanese Ministry of Health, Labour and Welfare (Eisai, n.d. a).

Generic drugs- Generic pharmaceuticals, or generic drugs, are products that are identical to former approved drugs by pharmaceutical companies. Generic drugs have the same effects as original drugs and they often break into the market after the original drugs' patent has expired (Eisai, n.d. b). Even though generic drugs are as effective as the branded original drugs, they are significantly less expensive (WHO, 2016).

Prescription drugs- Prescription drugs are drugs regulated by MHLW. Prescription drugs are used by physicians or prescribed by a pharmacist after instructions from physicians (Eisai, n.d. c).

Marketing specialist- A marketing specialist, or MS, engages in sales and promotion of pharmaceutical products at the behalf of the wholesaler towards customers where business

negotiation, providing and collecting of information, and introduction of pharmaceutical products are included in MSs tasks (Suzuken, 2014).

Medical representative- A medical representative, or MR, has the task to provide information and sell products for the pharmaceutical company. They provide the information to healthcare professionals about the products and are responsible to tell about safety and efficacy (Suzuken, 2014).

ICT- Information and Communication Technology refers to aspects such as transferring of information, evolving technologies that support storing or retrieving information (IGI Global, 2016).

External factors- include political, social or economic (Scott, 2008).

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1. Introduction

This chapter will start to explain the background of the thesis which will lead to the problem discussion and the research question that this report aims to answer. In the background we will present a description of the Japanese pharmaceutical market in general in order to get an understanding of the area. Lastly, we will present delimitations of the report.

1.1 Background

Japan is facing problems in the medical area with changing demographics where the population is getting older, more chronic diseases occur, a big government debt burden and with health care costs increasing at a faster pace than the average income in the country (Bloomberg, 2016; MHLW, 2012). The government is now trying to keep a sustainable health care system by having costs at a reasonable rate while still providing high quality health care (MHLW, 2012).

In Japan, the government covers large parts of health care costs, which has increased by 20 percent in the country between 1999 and 2009 (Bloomberg, 2016; MHLW, 2012). By 2012 the portion of people over 65 years old was 24 percent and is expected to be around 30 percent in 2025 and 40 percent in 2060 (OECD, 2014). The treatment cost of an elderly person is five times as high compared to a non-elderly person (MHLW, n.d.). The share of medical treatment by persons 65 years and older have between 2002-2011 increased from 49.3 percent to 55.6 percent (Alfresa, 2014). The government is continuously working to improve the medical health care system due to the aging population as well as a declining birth rate (MHLW, 2015).

Sales in Japan's pharmaceutical industry have increased. In 2009 Japan accounted for 89.9 billion dollars in sales compared to 94 billion dollars in 2013, which make Japan the second largest pharmaceutical market behind North America (Fool, 2015; JPMA, 2015a). However, due to efforts from the Japanese government to decrease drug prices and supporting the use of generic drugs, the pharmaceutical market value might decrease (PR Newswire, 2013).

1.2 Problem discussion

As Japan is faced with financial difficulties to take care of high medical care costs, the government is using different ways in order to keep the costs reasonable, for example through promoting the use of generic drugs and keeping pharmaceutical drug prices down through price revisions (MHLW, 2012 ; Alfresa, 2014). One of the most important actors in the Japanese pharmaceutical value chain is the wholesalers which have undergone restructures due to different external factors (CHEManager, 2013; PR Newswire, 2012).

The optimal scenario for wholesalers is to have an efficient and quick system in buying and selling products, however this can be disrupted by external factors (Nishimura, 2005). Manufacturers, medical institutions, and pharmacies are heavily dependent on the wholesalers role in the value chain as they act as an intermediate in transactions (JCR, 2011).

Slater et al. (2008) did a study that looked into the activities of mergers and acquisitions in Japanese pharmaceutical companies. They used DiMaggio and Powell's (1983) concept of isomorphism in their theoretical approach and they found that the organizational behavior is turning more isomorphic, meaning organizations are becoming more alike. Although their study mostly focuses on pharmaceutical manufacturers in Japan, their research approach would be as relevant to the pharmaceutical wholesale business. They further find that manufacturers make mergers in order to be more competitive and retain the dominance on the Japanese pharmaceutical market (Slater et al., 2008). This is noticeable in the wholesale market as well. The number of pharmaceutical wholesalers in the supply chain has decreased significantly due to consolidations of the wholesalers and today the business mainly consists of four big wholesaling groups who control around 90 percent of the market (CHEManager, 2013). The need of efficiency and ability to offer more than the traditional core business is growing even stronger. These changes have made it necessary for wholesalers to reorganize to keep up with the changes (Nakamura, 2010).

Oswald and Boulton (1995) conducted a research about pharmaceutical distribution in the U.S. and found that the wholesaler have had to adapt, in their case invest in more technology, due to pressures to keep health care costs down. As mentioned in the background part, keeping health care costs down is something the Japanese government is working continuously with. Therefore, external factors such as this will be of interest to research about

when looking at the viewpoint of how pharmaceutical wholesalers in Japan are being affected.

With formal rules, like the Japanese governmental regulations towards the pharmaceutical industry, as well as a changing social environment in the nation, there is an opportunity to explore the area with a theoretical framework including concepts of these institutional changes. Therefore, it is of interest to see if wholesalers behavior can be explained with the use of institutional theory.

To the authors knowledge there is little available research done about how pharmaceutical wholesalers in Japan are being affected by external factors per se, that is what this report aim to contribute with. As the pharmaceutical business is surrounded by constant change from external factors, this thesis further investigates how the pharmaceutical wholesalers in Japan are operating and coping with these external changes the industry is exposed to.

1.3 Research purpose and research question

The purpose of this research is to give a deeper knowledge in how the wholesaling business in Japan works and how the business is being affected by external factors, with help from institutional theory. With external factors such as the government with regulations and deregulations, the business environment is constantly changing, which have led to the need for pharmaceutical wholesalers to adapt to these changes, and this report seek to better understand what these acts has had implications for.

The thesis will be conducted in collaboration with the Danish pharmaceutical company Lundbeck Japan K.K. who wants a deeper insight into the Japanese pharmaceutical wholesaling industry.

With the current situation in Japan and for the pharmaceutical wholesalers, the research question for this report is as follows:

"How do external factors affect the Japanese pharmaceutical wholesale industry?"

1.4 Delimitations & Limitations

The pharmaceutical industry has a vast range of actors but we have decided to limit our research to the pharmaceutical wholesalers business as this seems to be more of an unexplored area. We have decided to look at external factors as those factors affect wholesalers and force them to respond in some way. Also, we will concentrate on the use of prescription drugs as they represent 93 percent of the sales in the market, and not over-the-counter drugs as they only represent 7 percent (JFTC, 2014). This report will not investigate the external affects caused by natural disasters. The information of pharmaceutical wholesalers in Japan is limited to use as most of research related to this area is written in Japanese.

2. Methodology

The second chapter will present our methods used in order to conduct the report. We will describe our strategy and choice of method and criticism towards our way of research.

2.1 Research approach

When compiling a research, the study can be done with a deductive or an inductive approach. They can be described as their opposites of each other where an inductive approach looks at potential theories after data has been collected, whereas the deductive approach use a theory before data is collected and finally test the results towards the used theory (Eisenhardt and Graebner, 2007). As mentioned earlier, institutional theory will be the theoretical framework of this thesis and it will be used to match the reports results back to the theory and earlier research. Therefore, the deductive approach will be used.

Further, when doing the research, one can approach to do a quantitative or qualitative study, or a mixture of them both. Quantitative research is often conducted statistically using data to analyze information to reach generalizability (Silverman, 2013). The approach is often deductive and gives an objective viewpoint of the reality (Bryman and Bell, 2013). Qualitative research puts emphasis on words and not quantification and focus is put on how individuals' personal standpoints relates to the question (Bryman and Bell, 2013). The report is going to use a qualitative research method as it is found most useful to answer the report's research question where we want to get a broader picture of the pharmaceutical wholesaling business and being able to receive actors opinions about the relevant area. Interviews are conducted based on an interview guide with actors in the Japanese pharmaceutical industry. The interviews focus, is on how wholesalers work and what difficulties they find with changes being made in the market. With interviews from other actors than wholesalers, a broader view of the wholesalers will be reached.

2.2 Research design

In order to get more information about the Japanese pharmaceutical wholesale business the report presents data and research from various articles, newsfeeds and reports. To get another point of view, the report contains interviews with key players and relevant people in the pharmaceutical market. When conducting a qualitative research, interviews are probably the

most common used tool in order to get empirical material (Bryman and Bell, 2013). Since the report is a qualitative research, focus will be emphasized on the interviewees opinion about the subject in question.

As mentioned in the problem discussion, there exist four large pharmaceutical wholesale groups in Japan. These are Alfresa Holdings, Medipal Holdings, Toho Holdings, and Suzuken Group, which together control around 90 percent of the Japanese pharmaceutical wholesale market (CHEManager, 2013). Thanks to contacts from Lundbeck, the report contains interviews from two of the biggest wholesaler groups. The report contains interviews from Alfresa Holdings and a subsidiary to Alfresa Holdings called Odashima. Interviews were also conducted with one of Medipal Holding's subsidiary, Mediceo.

Further, the report includes an interview with the Swiss pharmaceutical company Ferring Pharmaceuticals, and Professor Tsutomu Nakamura, lecturer at Kochi University, whom has conducted several reports about the Japanese pharmaceutical market. It further includes an interview with consultant Ryuji Deguchi at Lundbeck due to his long experience in the pharmaceutical business. Information relating to Toho and Suzuken is collected from interviews with Dr. Nakamura, Mr. Deguchi, and Mr. Ooi as well as from secondary data. Interviews with Toho and Suzuken were not possible to conduct as they were not available for an interview. The interviews contain questions surrounding the research question. Semi-structured interviews have been conducted, which means that the questions asked have an order and is connected to our theme, but there is still room for flexible answers and follow up questions (Bryman and Bell, 2013). However, due to different length for the interviews, questions have been slightly modified in order to fit the interviewees' time schedule. All interviews were held in Japanese and the interviewees' answers were directly translated into English by consultant Mr. Deguchi from Lundbeck who joined all meetings.

When conducting this kind of research it is important to take ethical issues into consideration. Bryman and Bell (2013) mentions how for example how the researcher should inform concerned persons about the research, such as interviewees. Also, it is important to let the interviewees participate voluntarily and if they do not want to engage further in the study, they can cancel if they wish to. This report has dealt with issues such as these by, before every interview, giving a brief presentation of what the thesis is about as well as asking the interviewees for permission to record and use the material. Also, Mr. Deguchi has read through our report in order to see that what is written is correct.

Table 1 below show information about the conducted interviews:

	Attendants	Position	Place	Length & date
Interview 1 Company: Ferring Pharmaceuticals	Takashi Ooi	Mr. Ooi: Director, Strategic Distribution Planning Department.	Restaurant in Roppongi, Tokyo	2 hours 2016-04-12
Interview 2 Kochi University	Tsutomu Nakamura	Dr. Nakamura: Ph.D. Lecturer at Kochi University	Kochi University, Kochi	2 hours 2016-04-13
Interview 3 Company: Alfresa Holdings	Toshikazu Urakabe and Koichi Shimada (Alfresa Pharma Corporation)	Mr. Urakabe: Manager, Group Administration & Affiliate Control Department Mr. Shimada: Executive Vice President Corporate Planning, Product Strategy	Alfresa headquarters, Tokyo	3 hours 2016-04-19
Interview 4 Company: Mediceo (Medipal Holdings)	Shoji Nagao and Takashi Ooi	Mr. Nagao: Manager, Purchase Strategy Group	Medipal headquarters, Tokyo	1 hour 2016-04-26
Interview 5 Company: Lundbeck Japan	Ryuji Deguchi	Consultant	Lundbeck office, Tokyo	1 hour 2016-05-09
Interview 6 Company: Odashima (Alfresa Holdings)	Kazunari Oikawa, Jin Onodera, Toshikazu Urakabe and Koichi Shimada	Mr. Oikawa: Corporate Officer, Business Planning Mr. Onodera: Corporate Officer, Head of Administration	Odashima headquarters, Hanamaki	2 hours 2016-05-18

Table 1: *Interviews*

2.3 Data collection and analysis

The report will collect data from both primary and secondary sources. The primary source will mainly be through the interviews and various reports from sources such as the Ministry of Health, Labour and Welfare, while the secondary data we collect will be through articles,

journals, newsfeeds and books connected to our relevant area. Collection of both secondary sources combined with performed interviews has made it able to present current information about the pharmaceutical wholesaling industry, as well with the viewpoint of the interviewees who are well-informed and can add extra insight to the empirical findings. When analyzing the data, qualitative research differs from quantitative research in a sense that the qualitative approach digs deeper into the understanding of the data (Sandelowski, 2000). With the deductive approach, this report will connect the theoretical framework to the empirical findings and earlier research on the area to see if it can be related by finding similarities or differences.

2.4 Method criticism

As the method of choice is of qualitative research, the report will access deeper information about the pharmaceutical wholesale industry with the interviews and descriptive empiricism. However, due to the limited time, the number of actors included in the report is limited. With few actors interviewed, it is difficult to get a complete representation of how the industry is affected. This problem is not uncommon for qualitative studies and it is difficult to transfer the results to other areas (Bryman and Bell, 2013). The two big wholesaler groups interviewed cover around 50 percent of the market, though, individuals are represented from the wholesalers and therefore it is only their point of view we are receiving. Further, due to time restrictions in interviews the respondent's answers will sometimes be summarized in English, making it impossible for the report's authors to know all words the respondents said which means that details might be missed. It is therefore important for the readers to reconsider this when reading this report, and for the authors when analyzing the data. The report does however still believe that the qualitative approach is the best suited methodology for the thesis as it can back up findings with thorough market research and that interviewees have strong experience and positions to tell detailed information about the market situation.

2.5 Reliability and validity

The meaning of reliability is if the study would get the same outcome if it was conducted in the same way again (Bryman and Bell, 2013). The report is reliable as it has used a lot of descriptive information in the empirical research, which can be used in other reports. However, as the pharmaceutical industry is constantly changing and especially in Japan where

the demographic situation is undergoing a significant change, results could differ in future reports. The report asks how wholesalers are affected in the moment and thus future changes in the industry will certainly lead to other explanations and solutions which would affect the reliability. Validity is about whether the research can answer the concept it was supposed to answer (Bagozzi et al., 1991). To ensure a greater validity, interviews with key actors have been conducted within the research area together thorough collecting and presentation from secondary sources explaining the pharmaceutical wholesaling business in Japan to create a clear, yet detailed overview of the area and how external factors change it.

3. Theoretical framework

This chapter will approach the theoretical framework that will be used for this thesis. The chapter will start by presenting the essentials and explaining institutional theory, as this theory will be the framework for discussion in the analysis of the thesis. After the explanation of chosen parts from the institutional theory, critique against the theory will be presented and then address how these parts of the theory are suitable for the research before presenting a brief summary. Finally, the chapter will show earlier research done in the distribution area.

3.1 Institutional theory

The word institution can be related to stability and structure (Scott, 2008). Institutional theory doubts that organizations act rationally, but instead adapts to its surroundings (Powell and DiMaggio, 1991). However, institutions do change both under internal and external factors. External factors could be political, social or economic whereas internal factors for example could be to not deliver expected performance within the institution (Scott, 2008). When it comes to new institutional economics, one of the pioneers in the area, Douglass North, mentioned that "Institutions are the rules of the game in a society or, more formally, are humanly devised constraints that shape human interaction" (North, 1990:3). He makes a clear distinction of the difference between institutions and organizations. As mentioned, he describes that institutions are the rules in a game. Organizations on the other hand, are described as the players in the game. The organizations are groups of individual persons and together in forms of a group they try to achieve a certain goal. He further brings up that history is essential as institutions learn from what has happened in the past and that decisions in the future are formed by events in the past. The cultural aspects also play a large role in the way how institutions develop as cultural characteristics has a strong tendency to survive as these are not immediately affected by changes in formal rules such as laws (North, 1990).

The reason institutions exist is because of uncertainty between humans and this uncertainty exist due to the complexity in problems that can emerge. Another complexity is the surrounding environment where uncertainty in form of incomplete information can arise. It is here from that rules and procedures gets created to lessen the uncertainty. Institutional frameworks, that is the system of organizational forms, laws and norms, exist in all economies. These institutional frameworks provide opportunities for organizations and it is

political and economic entrepreneurs who wants to maximize profitability in the short run that makes up for changes in institutions (North, 1990).

One of the branches in institutional theory is the approach of new institutionalism, which one could say was introduced in 1977 after John Meyer and Brian Rowan's published paper *"Institutionalized Organisations: Formal Structure as Myth and Ceremony"* (Powell and DiMaggio, 1990). Meyer and Rowan (1977) states in their paper that institutionalized policies, products or techniques can be considered as "myths" and organizations adapt and implement these to gain legitimacy, stability and to survive. Further, they describe that organizations integrate factors that are considered externally legitimate, and success for an organization is not depended on efficiency or the control of its activities. By becoming alike its environment, the organization receive its legitimacy and can survive.

3.1.1 Isomorphism and Organizational fields

A major concept in new institutionalism is institutional isomorphism. This is an idea that derives from that organizations are becoming more alike each other. Bureaucracy is a frequent organization form according to DiMaggio and Powell (1983) and bureaucratization and different kinds of organization changes takes place because of the strive towards homogeneity, or institutional isomorphism. However, this does not automatically make the organizations more efficient. Homogenization appears from network of so called organizational fields. Organizational fields can be described as a field where organizations within the same area operate. For example, the field could be a specific industry with manufacturers, distributors, competitors, regulatory organizations etcetera. When the organizational field has settled and has been more established, strong forces towards making the organizations more identical is created in the field (DiMaggio and Powell, 1983).

As mentioned before organizations do change. They change the way they are operating and can change their target goals. Also in the organizational field, new players can enter but to enter the market the newer entrants use isomorphism and adapt to the standards and procedures that already exist in the field. However, it is worth to notice that in a long term, when rational decisions are being made by the organizations they create a surrounding that makes it more difficult to change the organization in the future. If just one single organization has a strategy that is considered rational, it might not be a good strategy if implemented by several organizations. But since organizations in the organizational field get more

homogenized, there exist a higher probability that other organizations adapt to each other's strategies. Therefore, it seems like organizations continually change, but after some time the field gets less diversified (DiMaggio and Powell, 1983).

DiMaggio and Powell (1983) describes three different kinds of isomorphism; *Coercive, mimetic* and *normative*. Coercive isomorphism mostly reflects political force. Both formal and informal demands are being applied on organizations by other organizations. This pressure can for example arise from governmental decisions, such as rules or laws, that then organizations in the field are more or less forced to apply in the field. It is often these bigger institutions that are the ones who set the rules in the field and the other smaller organizations are the ones who have to change, and therefore making the organizations more homogeneous. The more dependency between organizations, the more alike each other they will become as a result from isomorphic change as coercive forces enter into organizations relationships (Pfeffer and Salancik, 1978; Thompson, 1967 as cited by DiMaggio and Powell, 1983). DiMaggio and Powell (1983) refer to Williamson (1979):

> …exchanges are characterized by transaction-specific investments in both knowledge and equipment. Once an organization chooses a specific supplier or distributor for particular parts or services, the supplier or distributor develops expertise in the performance of the task as well as idiosyncratic knowledge about the exchange relationship. The organization comes to rely on the supplier or distributor and such transaction-specific investments give the supplier or distributor considerable advantages in any subsequent competition with other suppliers or distributors. (DiMaggio and Powell, 1983:154).

The second kind of isomorphism is mimetic. This comes from the uncertainty that can appear from the organizations. For example, if a company feels that they use technology that is difficult to understand, have unclear goals or if the environment is uncertain the company can seek to imitate another company. However, the company or organization that is being imitated does not have to be aware that they are being imitated. Uncertainty is therefore another reason for strengthen imitation between organizations. The third and final isomorphism is the normative. Normative isomorphism derives from professionalization and DiMaggio and Powell (1983) present that professions too are exposed to mimetic and coercive forces, just like organizations. Professionals at organizations can act similar to each other due to factors

such as related education and the network created by the workers and knowledge can then be distributed among the professionals in the same area.

It can be said that these three kinds of isomorphism lead to identical organizations and though it does not mean that the organizations necessarily become more efficient, their similarity can be seen as a reward. This is because it will be easier for the organizations to connect with each other and thus be seen as more legitimate. Status competition is also something that pushes organizational fields that has professional labour towards isomorphism as organizations want to assure that they can be as good as competitive organizations (DiMaggio and Powell, 1983).

3.1.2 Criticism towards institutional theory and isomorphism

Institutional theory has existed and been developed for a long time and although the theory is widespread, it has received critique. Hasselbladh and Kallinikos (2000) aimed criticism towards the new institutional theory claiming that it can be both too idealistic and too wide when doing research that is empirical and that it should go more into detail as it now mostly shows an overview.

Regarding the concept of isomorphism, Beckert (2010) thinks that this approach is just focused on one side as it leaves out alternative institutional approaches and "does not do justice to actual social change because it overlooks the role played by divergent institutional development" (Beckert, 2010: 150). He mentions that the new institutionalism leans towards only homogenization through the idea of isomorphism and not divergence, and he means that DiMaggio and Powell's factors for isomorphism can also lead to divergent change. Factors such as strong external forces or competitiveness in similar markets are supportive for institutional homogeneity while factors such as how countries differ from each other and demands in a certain industry are supportive for divergence.

However, it is still believed that the theory is relevant for this research since the components of the organizational field fits well with what has been brought up in the theory chapter, but these opinions of institutional theory will be taken into reconsideration when analyzing the thesis.

3.1.3 Implications for the thesis

The pharmaceutical industry, and the wholesale system, is covered by regulations. As the pharmaceutical sector is under constant change this report will look into how institutional theory implements in this area. While focusing on wholesalers, which have been decreasing in numbers as well they are trying to keep their margins up this theory is relevant for the qualitative research.

As the thesis will see how external factors affect the wholesalers, institutional theory brings up interesting areas in how organizations change through its environment when it comes to factors such as social and political, which are of well significance. For example, with the framework the thesis can later discuss if DiMaggio and Powell's (1983) concept of isomorphism is adaptable to the report's research question.

3.1.4 Summary of institutional theory

To summarize the used theoretical framework, these concepts from institutional theory have showed that institutional change can come from external factors such as social, political and economic (Scott, 2008). North (1990) for example, mentioned how organizations strive towards a common goal and how uncertainty arises from complex problems and to lessen the uncertainty, rules gets created. Further, Meyer and Rowan (1977) described how organizations adapt to its surrounding to receive legitimacy in order to survive. DiMaggio and Powell (1983) presented how organizations in an organizational field become more alike each other with isomorphic behaviour, something that can be explained through three mechanisms:

Coercive

- Bigger organizations pressure smaller ones. Mostly political forces.

Mimetic

- Organizations imitating other organizations due to uncertainties.

Normative

- Isomorphic behaviour through professions.

3.2 Earlier research

3.2.1 Developing distribution and expanding areas

Rawwas et al. (2008) did a study on how new collaborations between wholesalers in the Osaka and Hyogo prefectures in Japan affected their performance. The authors mention that the optimal collaboration is to have a distribution system where wholesalers delivers the right product, does it on time, keep inventory low and develop customer service functions. By entering into new relationships, wholesalers competitive position becomes stronger. In order to reach this optimal collaboration, it is important for the trading partners to share information between each other. In their article, Rawwas et al. (2008) mentioned several concepts when conducting building their hypotheses such as traditional marketing theory, supply chain management ideas and transaction cost theory. They used a quantitative approach and the research included a wide range of wholesalers in industries such as motor vehicles, food, electronics and drugs. They found that it is important for the wholesaler that the suppliers bring well-known brands for driving the wholesalers inventory as the Japanese customers preferred domestic brands and were keen to use quality products, as it offered customers belief and minimized the risk associated with the product. Further on, the study found that the use of just-in-time, to deliver the product when it's needed, and the use of additional logistics was the most important factor for the wholesalers' efficiency. In order to increase performance, wholesalers have to add value to their business and expand their business to provide services not only in distribution.

Nakamura (2010) researched about how regional differences exist in business development between Japan, the US, and Europe. He concludes that in order for wholesalers survival, they need to deliver health care services and business solutions outside their basic wholesale functions. He further adds how distribution are more tailored to each specific product, as faster deliveries and more advanced information are being requested by customers.

3.2.2 Consolidations, the use of ICT and innovation strategies

Oswald and Boulton (1995) found that consolidations in the pharmaceutical industry have been done on all levels due to lower profitability. They did a case study about the pharmaceutical distribution in the U.S. and found that strategy ideas about cost, differentiation and niche from Michael Porter were successfully implemented by a couple actors in the

distribution industry. They presented in their conclusion how market pressures to keep health care costs down have made wholesalers invest in technology. The U.S. pharmaceutical wholesalers also differentiate from each other and their role in the distribution chain is becoming stronger as a result from increased technology usage and providing more service to their customers. Further, they mention that wholesalers have witnessed lower margins and therefore the wholesalers have to compensate by increasing sales volume in order to be able to afford investments in large distribution centers. Distributors are therefore looking after products that can generate higher margins. Lastly, the authors discuss that wholesaler who does not adapt and use innovative strategies will probably not survive in the future.

Maruyama (2004) researched about what changes that affected Japanese distribution channels when it comes to both structure and strategy by mostly using data from the Japanese Ministry of Economy, Trade and Industry's Census of Commerce report. He mentions that the data from the Census of Commerce report has showed reduced steps in distribution channels and distribution restructuration due to IT innovations. Due to factors such as product diversification and an uncertainty in demand, there has been a change in the business. The distribution has gone from speculative to a postponement inventory approach. Because of this new approach, focus has been put on improving the efficiency in the supply chain by changing logistics and inventory management. With the reorganizations in the distribution system, Maruyama (2004) discusses three ways where the industry is heading. Firstly, as retail sales have gone from small-scale specialty stores towards the bigger mass retailers, the traditional vertical distribution is no longer in use because of the consolidations being done on a horizontal level for both retailers and wholesalers. The bigger wholesalers are doing mergers and acquisitions with local wholesalers making the steps in the vertical distribution chain smaller. Secondly, there has been a move in strategies from production-driven to consumer-driven distribution which for example can be seen in the inventory management going from a speculative to a postponement approach. Wholesalers are also acting more as buying agents for customers and retailers rather than being sales agents for the manufacturers. Thirdly, with the increased use of information technology, the distribution is becoming more integrated when it comes to decision making as information is being shared more. Finally, Maruyama (2004) argues that with a direction moved to more integrated distribution channels, he find two kinds of effects which he call linkage and "blockade" effects. The linkage effect means the positive outcomes like increased efficiency in the distribution chain, whereas "blockade" effects points out the negative outcomes such as exclusive relationships as a result

of consolidation of the actors in the supply chain which would decrease competition in the distribution business.

Hashimoto (2000) did case studies on the Japanese distribution system and analyzed how the development of information technologies affects spatial structure of organizations. He found out that development of ICT will lead to a smaller and more concentrated wholesale market characterized by a few leading wholesalers. Further, Hashimoto (2002) did a study on how information technology affects consumer goods distribution found out that the use of information technology has reduced costs in different ways. First he discusses how it has prevented a reduced loading efficiency which has been a problem with the frequent small scale deliveries as it contributes to a reduced ordering time and increases the dimensional capacity for which deliveries are possible within a fixed lead time. He further discusses how information technology has reduced the stock indirectly through integration and automatization of distribution centers and how forecasts have been improved. In another research, Hashimoto (2003) further discusses the ITs affect on distribution system with focus on economic geography. He discuss how the automatization of work tasks in wholesalers and the integration will mean that distribution centers are going to be located in suburbs due to traffic conditions than in urban areas, separated from information functions that will be placed in big cities. Further, he discuss how only focusing on cost reduction has reached its limit. Hashimoto (2003) also mentions that wholesalers who do not take IT in use will face problems as many of them will not be able to survive in the business. The bigger wholesalers will however be able to take advantage of economies of scale with their large distribution centers they are building which will make the situation even tougher for smaller firms.

3.2.3 Summary of earlier research

This section of earlier research showcased some articles about distribution relevant for this report. The increased use of technology in the distribution industry seems to be of utmost importance as this is mentioned by almost all authors in the presented earlier research. Further, Hashimoto (2002) found that with information technology, distribution centers have been able to keep their stock down and forecasting has been improving which is similar to what Maruyama (2004) found, that there has been an inventory management shift going from a speculative order approach to a postponement approach. Rawwas et al. (2008) also mentioned that it is optimal to have a low inventory stock. According to Oswald and Boulton

(1995), wholesalers have to create innovative strategies to survive and similarly, Nakamura (2010) found that in order to survive wholesalers have to look for business solutions beyond their core business.

4. Empirical findings

This chapter is intended to give an explanation of how the pharmaceutical wholesaling business has developed and what parts it is built upon. It will present how wholesalers work, their functions, what external factors affect them and how they have responded to these. The empirical findings will be presented with descriptive facts as well as interviews into the text.

4.1 The role and functions of wholesalers

The wholesalers four main functions are (JPWA, 2010; JPWA, 2015);

1. Delivery function; handles distribution of pharmaceutical products and returned pharmaceuticals.
2. Inventory function; Handles orders and prepares for delivery.
3. Information functions; collects and provides information about pharmaceutical products, and marketing for medical prescribers.
4. Financial function; Price negotiations and debt management.

Figure 1:*Wholesalers main functions.* (JPWA, 2015).

Wholesalers buy drugs from manufacturers and sell it on to medical institutions and pharmacies (JPWA, 2015). The wholesalers goal is to offer stable supply of pharmaceutical drugs in order to meet the demand from the approximately 230 000 hospitals, clinics and dispensing pharmacies in Japan (JPWA, 2010). Wholesalers receive pharmaceutical drugs from manufacturers to their distribution centers, Mr. Urakabe says. Big wholesalers have more distribution centers than smaller ones. Alfresa have 22, while small wholesalers only

have one. The location of distribution centers depend on the number and density of people, and infrastructure. The drugs can either go directly from the distribution center to pharmacies or medical institutions, or they will be delivered through branch offices, he adds. Mr. Oikawa adds an example of how Odashima covers five prefectures through 19 different branch offices, with drugs stored in the distribution center in Hanamaki, Iwate prefecture. When orders are received, drugs are delivered to branch offices during night time. Local branch offices then distribute the drugs to pharmacies or medical institutions, Mr. Oikawa says.

The Japanese pharmaceutical wholesale system is multilayered with many branch offices spread out around Japan (Nakamura, 2013). Alfresa have 200 different branch offices spread out around Japan, Mr Urakabe says. The multilayered Japanese wholesale system is affected by the retail market whose tendency in Japan is to have many small stores (Maruyama, 2004). The branch offices are located close to each other with focus on small areas. Branch offices are handling low volume orders and are able to respond to orders quickly as they are located close to the delivery points. (Nakamura, 2013). Different from wholesalers in America and Europe is the Japanese wholesalers special functions when it comes to information. Not only do they handle information about the pharmaceuticals, they also help physicians when choosing drugs (JPWA, 2010).

In Japan, the wholesalers present an exclusive function in the form of Marketing Specialists (MSs). With around 20,000 MSs operating in Japan, they work with promoting and sales of products to prescribing physicians and pharmacists. The MSs keep a very close contact with these actors as they make around 5.3 million calls to them every year (Suzuken, 2010).

The characteristics of MSs have been their effort for sales promotion and deliveries. Measures have been taken to increase efficiency and automatization of different tasks. For example MSs have increased automatization for payment operations, and the introduction of delivery specialists who is taking care of distribution, something that have narrowed the focus area for MSs, Mr. Deguchi and Mr. Nagao says. MSs are today taking care of inventory and information functions in wholesalers operations (JPWA, 2010; MHLW, 2007).

The information function for MSs is very important. For example, in Japan there is around 90 000 clinics present. Medical Representatives (MRs) finds it difficult to cover all clinics, especially all small ones, leaving the providing of information in the hands of MSs. MSs who cover those small clinics distribute basic information about the products, and if more

information is required by the clinic, MSs then transfer that request to MRs who then go and visit the clinic to provide more detailed information, Mr. Nagao says. He adds that MSs deal with tens of thousands of different drugs, while MRs deal with hundreds at most. This system is efficient with the big force of MSs reaching the big audience, and if more specific information about a drug is requested, MRs will cover up with deeper knowledge.

Mr. Nagao says that the need for MSs is crucial to cover the Japanese market, especially in small clinics where MSs presence is higher than MRs. Mr. Oikawa adds that this is often the case in less populated areas like isolated islands where many MSs have worked for many years and have good relations with physicians and pharmacies.

In these areas, MSs have a bigger role than they have in big cities. The lack of MRs present on those places make the role of MSs bigger. In return, higher commissions are being paid by manufacturers, and therefore wholesalers receive a higher relative profit in isolated areas relative to urban areas, according to Dr. Nakamura. Mr. Deguchi says that it is very cost efficient for pharmaceutical companies, it is very favorable for wholesalers to have MSs present in such locations. Every year, Suzuken's number of MSs they add on customers increase (Suzuken, 2014).

4.2 Evolution of pharmaceutical wholesaling in Japan

Wholesalers as part of the distribution system have always been very important for the pharmaceutical industry in Japan. 98 percent of sales from a pharmaceutical manufacturer in Japan goes through a wholesaler. A big reason for this is the lack of space in pharmacies operating in Japan, therefore just-in-time deliveries become crucial from wholesalers who are able to keep the necessary stock for pharmacies (PharmAsia, 2013). Over the years, the Japanese pharmaceutical wholesalers have experienced changes due to restructures in the pharmaceutical industry. Changes in consumer needs, the retail industry, and the evolution of ICT have led to consolidations and diversifications (JPWA, 2015; Reed Maurer, 2011; PharmAsia, 2013). Dr. Nakamura emphasizes the clear characteristic in the Japanese distribution system to go through wholesalers and Mr. Urakabe adds that the cost is higher for pharmaceutical manufacturers to distribute products by themselves than through a wholesaler.

As wholesalers act as the intermediate in drug deliveries, their core business, which is distribution, is dependent on the drug price margin which is the difference between the selling and buying price for wholesalers. Pharmaceutical manufacturers want to keep high prices, while medical institutions and pharmacies want to buy cheap from wholesalers in order to maximize their profits. As the margins are getting lower through different external factors, the wholesalers' business strategies and models have been changing. Governmental changes in 1990s forced wholesalers to reorganizations in order to remain competitive on a market where it is getting more difficult for every year to survive (JCR, 2011).

Before consolidations took place, each wholesaler was tied to a manufacturer as a group company and their product portfolio were specialized according to the manufacturer's production (JCR, 2011). After years of consolidations, the big four wholesalers accumulated power, as their power on the market today can tell. The majority of Japanese pharmaceutical wholesalers are in some way connected to these big four wholesalers. (CHEManager, 2013; JPWA, 2010; PharmAsia, 2013; Reed Maurer, 2013a)

The big four all have similar product portfolios and cover almost the whole market, therefore the competition relating to products focus on low prices. The reorganizations have made it difficult for wholesalers to survive by only focusing on their core business due to low margins, therefore some wholesalers have expanded their operations to include both manufacturing and dispensing pharmacies (JCR, 2011).

4.3 Mergers and acquisitions, a corner stone in the evolution of pharmaceutical wholesalers

The restructures wholesalers have done, have mainly been through M&As which were necessary due to deregulations made (JETRO, 2005). These M&As led to fewer numbers of wholesalers, lower costs, and economies of scale which made the wholesalers more competitive and efficient, but also to a more diversified business model (JETRO, 2005; Reed Maurer, 2011; Slater et. al., 2008).

In 1970 there were more than 1200 wholesalers who in some way were connected with big pharmaceutical manufacturers like Takeda, Shionogi, Mitsubishi Tanabe, and Daiichi (PharmAsia, 2013). Wholesalers were dependent on manufacturers as they wanted the right to sell the manufacturers drugs in the local area they covered (PharmAsia, 2013; Reed Maurer,

2011). Characteristics of the wholesale business at that time were their local presence with focus on Japan's 47 different prefectures where each manufacturer usually had at least two different wholesalers (OECD, 2006; PharmAsia, 2013). Except from these two wholesalers within each prefecture, it was common for manufacturers to have some extra wholesalers and in total the number often added up to 150-200 different wholesalers for a single manufacturer to cover the Japanese market (PharmAsia, 2013; Reed Maurer, 2011).

Wholesalers tried to acquire distribution rights from pharmaceutical manufacturers. They tried to find manufacturers with a wide product range and many MRs. The MRs tried to promote drugs to doctors and medical institutions, which made wholesalers visible for many potential buyers (Reed Maurer, 2011).

Consolidations increased the area covered by wholesalers, which have made wholesalers focus more on a regional level, and as in the case of the big four groups, the focus is on a national level (PharmaAsia, 2013; Reed Maurer, 2011). By covering a bigger area, pharmaceutical manufacturers became more interested, and that led to a shift in focus towards customers instead of manufacturers (Reed Maurer, 2011; PharmAsia, 2013). Wholesalers bargaining position towards manufacturers have increased (JETRO, 2005). In 1995 those 1200 wholesalers had consolidated and become 251, and by 2013 this number was just over hundred wholesalers covering regional and local areas with the big four groups covering the whole nation with help through branch offices and relation to strong local wholesalers (Reed Maurer, 2013a; PharmAsia, 2013). Today, the big four wholesalers have a similar product portfolio, what differs depends on how wholesalers relationship with foreign pharmaceutical manufacturers is, Mr. Ooi says.

The big four wholesale group’s goal is to cover the whole of Japan, from Hokkaido to Okinawa, though some local wholesalers in specific areas are very strong, and will not be included in an M&A, therefore the big four are dependent on local independent wholesalers to cover the country Mr. Deguchi says. Mr. Urakabe says how Alfresa's mid-term goal between 2002-2012 was, through M&As, to expand their business area with the goal to cover the whole Japanese market through group wholesalers.

Many small and mid-sized wholesalers merged with bigger wholesalers which has made the wholesale market in Japan very concentrated (Nakamura, 2002). The consolidations have eased the burden for pharmaceutical companies as the number of wholesalers needed to cover

the market have been reduced (PharmaAsia, 2013). Wholesalers receive commissions from pharmaceutical manufacturers based on different volume of sales. In addition to these commissions, as incentives for wholesalers to sell as much as possible, there are performance fees. These fees are paid when wholesalers make manufacturers a favor. For example, the reduce in number of wholesalers meant that distribution centers decreased and the burden for manufacturers also decreased as they did not need to handle with the same amount of distribution centers anymore, therefore a performance fee to wholesalers was paid. Other ways is when wholesalers exceed the pre-agreed levels of sales amount included in the contract, wholesalers will receive a performance fee for this effort from the manufacturer, or if they can reduce the number of invoice days, the performance fee will be paid. There are different measures by manufacturers to give wholesalers the extra incentive to act in their favor by providing this performance fee, Mr. Ooi says.

According to Dr. Nakamura, Mediceo merged together with Paltac, becoming Medipal, in order to take advantage of Paltac's widespread and established distribution network. By doing that, Mediceo's distribution costs were lowered. The M&As also increased their operating size and led to the acquisition of improved human resources, Mr. Nagao says. The bigger size of the wholesaler through M&As made them able to spend more money on a new distribution system and distribution centers which contributed to the reduce of the need of branch offices as they could be bypassed by the new distribution system, and therefore Mediceo could reduce costs.

4.4 The need of complementary wholesalers

The big four cover almost the whole Japanese market together, but they do not necessarily own all parts of their distribution system. Mr. Ooi says, when Ferring Pharmaceuticals chose Alfresa as the wholesaler to cover the Japanese market, the health ministry in Japan recommended Ferring to look for complementary wholesalers as Alfresa do not cover the whole Japanese market.

Mr. Ooi mentions that Ferring Pharmaceuticals deals with 14 different wholesalers. The reason is that the strength of local wholesalers is higher than the big four due long lasting relationships with medical institutions and pharmacies. In selected areas MSs have worked for local wholesalers for many years and built up relations with prescribing pharmacies and

physicians which make it difficult for the big four to break through. He adds that even though the big four have a lot of national power, the need of local wholesalers is still there.

As Alfresa lacked a branch office in northern part of Japan, Hokkaido, Ferring decided to start cooperation together with the local wholesaler Moroo after recommendations from Alfresa. Moroo did not have a financial relationship with Alfresa, though they had historical relation and cooperated in the marketing function. Alfresa did not cover the Kyushu area and Shikoku area either, due to strong local wholesalers covering those areas, which made Ferring start with direct sells in those areas. Though Mr. Ooi emphasizes that direct sells only was a short term solution as Ferring see the wholesalers as an important actor in the Japanese pharmaceutical market, and therefore they decided to start business with Medipal and then further expanded their relations with other wholesalers in order to cover the whole Japanese market.

4.5 The governmental impact

4.5.1 Health expenditure

The health care expenditures in Japan are steadily increasing (MHLW, n.d.). The country is the third highest spender in the world when it comes to health care, and the main part is covered by the state. In 2014, health care costs as part of governmental expenditures was 20.3 percent in Japan (World Bank, 2016).

In 2013, 56 percent of total social security expenditures were covered by the premiums. The rest of the gap needs to be covered by the government. As a response to the gap, reforms by the government are ongoing (Deloitte, 2015). For example through the consumption tax rate that was raised from 5 percent to 8 percent in 2014 (Trading Economics, 2016). In 2017, a further increase to 10 percent is planned (International Business Publications, 2016), which together with more frequent price revisions, starting from this year, have brought uncertainties to the industry (R&I, 2015).

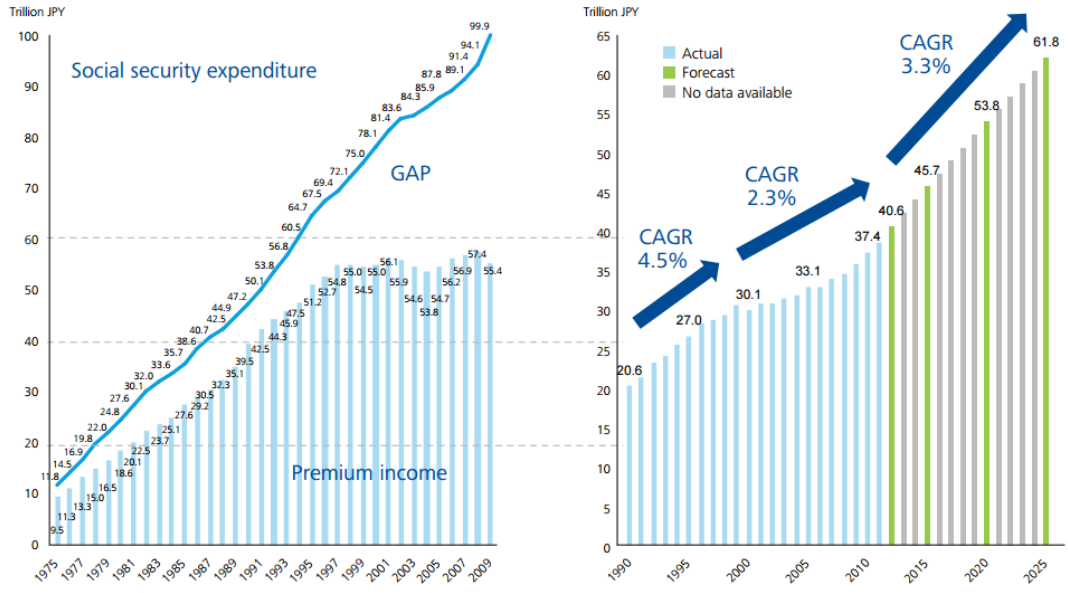

Figure 2*: The gap between social security expenditure and expected national health care expenditures.* (Deloitte, 2015).

In an effort to lower health care expenditures, emphasis has been put on NHI reimbursement price revision and promotion of generic drugs (Bloomberg, 2016; IHS, 2015). The increased usage of generic drugs and price revision, affects wholesalers' sales and profits. In the fiscal year of March 2015, where it ends, the biggest four wholesaler groups had an average operating profit of 0.82 percent and the market growth decreased due to increased consumption tax, the price revision of drugs and reduced sales of branded drugs. The big four wholesaler groups operating profits decreased 21.2 percent compared to the year before. The reason behind this drop is the generic drugs increase in share at the expense of long-listed drugs (IFPW, 2015b). Mr. Urakabe says that the financial conditions is being heavily affected by the government's initiative and adds that in order to survive one of the responds from Alfresa is trying to expand their business to foreign countries as the tendency of lower margins is likely to continue.

Dr. Nakamura mentions that the government tries to reduce the cost of the public health care, but they are not taking the wholesalers margins into consideration. Wholesalers gross profit margins will continue to decrease, though the expected drop in profit is not as big as wholesalers have separated the role of MSs who more efficient perform their information and marketing function, as investments in logistics to specialize in distribution of drugs, in combination with income sources weighted towards other business segments, partly weighs up the lower margins (R&I, 2015).

4.5.2 NHI Reimbursement Price Revision

In Japan, the government decides the end price of prescription drugs included in the price revision scheme (Pacific Bridge medical, 2015). Mr. Oikawa mentioned that the anti-monopoly law is not adaptable to the pharmaceutical industry as the price revision functions in a similar way. The end price is decided through the price revision that from 2016 takes place every year, instead of every second year, as it has been done until now (Pacific Bridge Medical, 2015). The drug prices, decided by NHI reimbursement price revision, follow actual market prices and the goal of the revision is to reflect the actual market price and lower the health care costs in Japan (Suzuken, 2010; The Pharma Letter, 1996). Between manufacturers to pharmacies, via wholesalers, there is a free market price setting, but the price revision set by the government control these prices as it lowers the reimbursement price for end customers (Iizuka, 2008). Price revisions have made the pharmaceutical market more competitive, forcing wholesalers to work under higher cost pressure (The Pharma Letter, 1996).

In 1990, the Japanese government decided to change their approach in reviewing drug prices. Prior to the 1990s, the price revision was reviewed on just the top 10 percent or 19 percent of most expensive drugs, making companies selling their pharmaceuticals for higher prices at these percentage levels to prevent a decrease in end prices and selling the rest of their volume at lower prices (Umemura, 2011).

In 1991 an update to the price revision was done by changing the way to calculate prices in a way determined by the weighted average price of all drugs (Umemura, 2011). This was done in order to promote innovative drugs and to reflect real market prices, avoid fluctuations and making the drug pricing easier (JPMA, 2015b).

The entry price is decided on substitute drugs that exist on the market. As innovation is encouraged, drugs who are safer and more efficient than other drugs on the market will be rewarded with a premium price that will be up to 100 percent more than the existing ones. Between 2008-2014, four price revisions were made, and on average the price reductions on the top 10 selling drugs in Japan fell with 19 percent (EvaluatePharma, 2015)

4.5.3 Price Revision impact on wholesalers

Between 2008 and 2014, the NHI price revision has reduced prices on prescription drugs by between 4.2 percent and 6.2 percent (EvaluatePharma, 2015). This year's revision is expected to land on 7 percent according to Mr. Urakabe.

Wholesalers who are the intermediate actors, between manufacturers and medical institutions has difficulties to raise their profitability (R&I, 2015). Manufacturers are the ones who can control this best by not cutting their part of the cake as much as the price revision does. This means that the margin gap to earn money for pharmacies/doctors/hospitals and wholesalers decreases. Pharmacies and doctors do often have more than one wholesaler they are negotiating with, which means that in the price revision aspect, the wholesalers are very exposed (Reed Maurer, 2011)

Many drugs are priced at a high level due to its efficiency and safety. Wholesalers want to secure that these drugs are being delivered by them and trying to reach exclusive agreements with the manufacturers producing the high priced drugs, in order to reach higher margins and profits, according to Mr. Deguchi. The introduction of a product for Hepatitis C by an American manufacturer was given a very high NHI reimbursement price which made wholesalers trying to get exclusive agreement for the sales of this drug, Mr. Ooi says. He adds that an exclusive agreement with one wholesaler was not reached. However, only three wholesalers; Toho and Suzuken from the big four, together with another wholesaler, were able to reach agreements to distribute the drug on the Japanese market.

4.5.4 Lower inventory margins affect on wholesalers

Wholesalers have seen the period between March and April as a profitable period as there have been an arbitrage opportunity for them (IFPW, 2016a). As the NHI price revision makes the prices effective from 1st of April, the norm has been for wholesalers to buy from manufacturers at new invoice prices on 1st of March. This price revision between manufacturers and wholesalers is a response to the NHI price revision made on the customers price of the drug. It has the same function as the NHI reimbursement price revision, as it lowers prices on drugs. The lower price implemented between manufacturers and wholesalers, a month before the revised prices for customers being activated, have made wholesalers being able to buy drugs for a lower price from manufacturers, but sell at the old higher prices to

pharmacies, hospitals, and clinics. This has made the margins higher during this period, and the extra margin due to the difference between the new price they buy from manufacturers and the old price they sell it on, is called the inventory margin (Pharma Japan Web, 2016).

The inventory margin has been a big income source for wholesalers, estimated income from the inventory margins for the big four are; more than 5 billion yen each year when it comes to Alfresa Holdings and Medipal, while it is over 4 billion yen for Suzuken, and around 3 billion yen for Toho (Pharma Japan Web, 2016).

From 2016, the inventory margin will decrease as 8 of the top 12 manufacturers in Japan will delay the price revision from the beginning of March to the middle of March. The reason behind this change is that manufacturers have had very few orders by the end of February over the years when the price revision was going to be made, while the orders were massive on the 1st of March as wholesalers saw an arbitrage opportunity to increase their inventory margins. Manufacturers saw this as a risk as there might be a disaster causing problems and shortages in the wholesalers inventories. Wholesalers have, from some manufacturers, received refund for drugs remaining on the 1st of March covering the old higher price and the new invoice price (Pharma Japan Web, 2016).

This move by manufacturers is also made because of the more frequent NHI price revision (Pacific Bridge Medical, 2015; Pharma Japan Web, 2016). Manufacturers will see their prices decrease and are therefore not keen to offer the margins to wholesalers and therefore some of the biggest manufacturers delay the price adjustment with half a month (Pharma Japan Web, 2016).

4.5.5 Generic drugs

A way for the Japanese government to keep the expenditures down is to promote the use of generic drugs (IHS, 2015). These drugs are copied versions of the original branded drugs that have the same effect on the patient and are as safe, but the generics are cheaper (Bloomberg, 2016; MarketLine, 2016; MHLW, 2012).

As the generic drugs importance in the Japanese market will rise for every year, the importance of generics for wholesalers will increase. Lower margins on generics, compared to original drugs, means that the volume of sales need to increase to make profits (JCR, 2011).

Mr. Nagao confirms that the decrease of prices lead to lower margins and an increase in sales volume. He adds that it leads to a higher distribution volume, and emphasis on how the generic drugs add to an increased distribution burden for wholesalers.

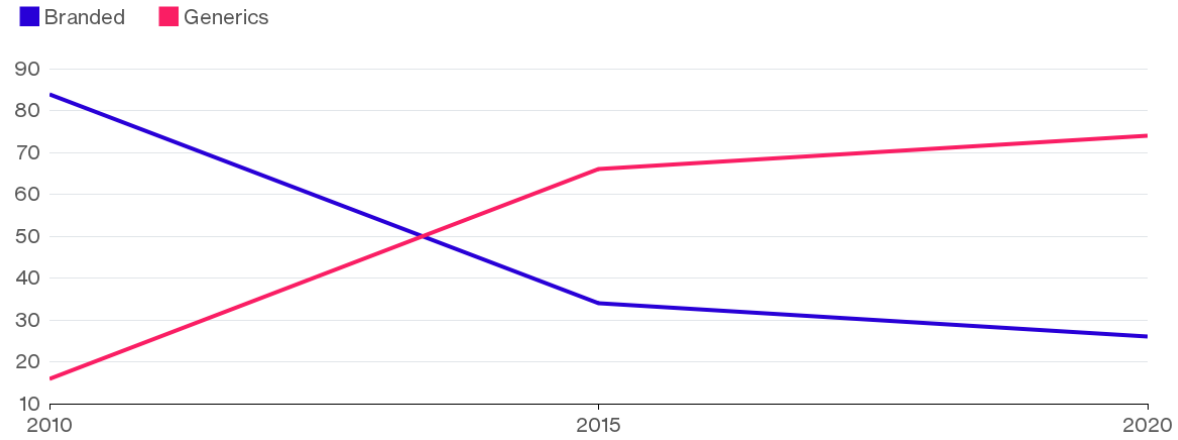

Figure 3: *Past and expected share of generic drugs in Japan.* (Bloomberg, 2016).

In the early 1990's the prices for the new generic drugs had the same listing prices as branded pharmaceuticals. A change in 1994 by the MHLW would however reduce the prices of the newly introduced generics to 90 percent of the price of branded pharmaceuticals. After 1994, the prices of generics have further been lowered. In 1996 the prices were lowered to 80 percent and in 2004 lowered to 70 percent (Jakovljevic et al., 2014). Today the generics introduction prices are set at 60 percent of the original drug and 50 percent if 10 products are introduced with the same effect (IFPW, 2015a).

In the past, there were difficulties for manufacturers of generic drugs to connect with the pharmaceutical wholesalers as the wholesalers were mostly interested in the branded drugs. The task wasn't made easier as the wholesalers had problems in finding customers as uncertainties existed around the generics (Jakovljevic et al, 2014). In 2006, generics share of the pharmaceutical market was 17 percent (JFTC, 2006). However, in later years there has been a significant increase of generic drugs as a portion of all prescription pharmaceuticals (JFTC, 2014). In 2014 the volume share of generics was 58.1 percent (International Business Publications, 2016). In 2020 the government's goal is to achieve a rate of 80 percent or more of generics share of drugs (JGA, 2015; IHS, 2015).

Though the volume is high, the sales numbers are not as high. In 2014, generics value on the Japanese pharmaceutical market accounted for 1059 billion yen, compared with the total

pharmaceutical market value of 9 055 billion yen (Orbis, 2016). However, spending on pharmaceuticals in Japan is expected to increase 3-4 percent the coming five years with the generic market expected to grow 10 percent per year (Bloomberg, 2016).

One of the reasons behind Japan's low share of generic drugs in the past was due to the uncertainty from health care professionals and medical institutions that had difficulties in trusting the drugs quality, supply and information (Hasegawa, 2012; JFTC, 2006). Another reason is when generics enter the market, the price of the original product decreases as well, and as customers only pay maximum 30 percent of the drug's price, the savings for customers are not big enough in order to choose generics over original drugs (Reed Maurer, 2013b). Japanese customers have also a custom of being loyal to brand named drugs (Jakovljevic et. al, 2014). However, the Japanese government has dealt with this problem when they in 2007 initiated the "Action Plan to encourage Generic drug use" which main focus was to secure to keep a stable supply of the drugs, make sure the generics are of high quality and to provide information about the drugs both to medical professionals and the public (Yoshida and Toumi, 2012). Further actions taken to increase the acceptance of generic drugs are taken through different "action programs". These actions have improved the awareness of generic drugs for patients (Hasegawa, 2012).

4.5.6 Generics impact on wholesalers

The shift from branded drugs towards generic drugs means big problems for pharmaceutical wholesalers, as they have been extracting most of their money from the higher margin branded drugs. Even though the wholesalers sell more generic products now than before, it is the products low prices and the high cost of distributing several brands that creates an issue (IFPW, 2015a). As Taisuke Murai, the chairman of JPWA's Research Committee for International Pharmaceutical Distribution, says the price of the generic drugs is low, though the transport cost of generic drugs is the same as for original drugs. The increase of generic drugs will mean more frequent distribution for wholesalers which will result in higher costs. He mentions that wholesalers want to avoid distribution of products worth $500 where the distribution cost will be $1000 (IFPW, 2016b).

As the sale in volume of generics increase, the value of the sales becomes lower. When generic drugs of a branded drug are released, the amount of products is raised by around 15 to 20 times making it difficult to store all the drugs in the distribution centers (IFPW, 2015a).

Dr. Nakamura emphasis the problem wholesalers face with the introduction of generics as the amount of drugs will lead to the need of expanding distribution centers which will raise the costs for wholesalers. It is estimated that nearly 50 percent of the inventory in distribution centers is being taken up by generics, even though the wholesalers sales ratio of the drugs is not even 10 percent (IFPW, 2015a). However, wholesalers are able to select which generic drug manufacturers they want to work with, and often they do not choose all 15-20 generic drugs which occur per original drug, Mr. Oikawa says. He adds that Odashima expects that the generic drugs per original drug will decrease in the future to a level of around five generic drugs per original drug, which will make wholesalers able to cope with the physical storage space needed because of generic drugs. In 2014 Medipal's share of generics was 7.9 percent, while in 2015 the generics share was 9.4 percent. In the case of Toho, the generics share in 2014 was 8.9 percent, and in 2015 9.9 percent (IFPW, 2015a).

The increase of generic drugs raises the information providing burden for MSs. As MSs provide information about a lot of different drugs, their knowledge is not as deep as MRs from manufacturers. However, the MRs are not allowed to compare their own drug with others, which mean that it is up to MSs to provide the comparison information about different generic drugs. With the huge increase of generic drugs on the market, it will be difficult for MSs to provide the necessary information about generic drugs to medical institutions, Dr. Nakamura says.

Dr. Nakamura mentions how wholesalers delegate specialized tasks to subsidiaries, for example subsidiaries who focus on distribution only in order to reduce costs, leaving the information providing to MSs. Mr. Deguchi says that MRs promote their own product as it is not allowed for them to compare their own product with other manufacturers. It is MSs role to provide comparing data of generics to assist pharmacies and doctors in their choice of generic drugs. Mr. Nagao adds that the ongoing search for efficiency is contributing to even lower margins.

With the lower reimbursement price on generic drugs affecting wholesalers profit, it is difficult for wholesalers to afford to expand in scale as they need more distribution space to store the generic drugs, Mr. Deguchi says. He adds that wholesalers try to reduce the number of different generic drugs they deal with and try to reach exclusive agreements with certain generic manufacturers and exclude others.

Though, the exclusive agreement is harder said than done. Mr. Deguchi mentions how Toho started an exclusive agreement with a generic drug manufacturer to deliver and promote their drugs and excluded other generic drugs in order to ease the burden of handling the generic drugs. This exclusive agreement did not end well as the acceptance of generic drugs at hospitals and clinics around Japan differed, whereas some clinics and hospital preferred branded drugs over generic drugs, as they did not believe the quality of generic drugs was as high as the original branded drugs. This made the promotion from the exclusive agreement difficult according to Mr. Deguchi.

4.5.7 The separation of prescription and dispensing

Another reason contributing to the high cost structure is the prescription versus dispensing problem. In an effort to increase profits, medical institutions prescribe and dispense an unnecessary volume of drugs. The government tries to solve this by splitting prescription and dispensing into two separate parts (Wuemura, 2004).

The government wants the physicians to prescribe drugs and move the dispensing operations to independent pharmacies who provide drugs to customers based on guidance from physician's description (Suzuken, 2014). In 1986, 9.7 percent of the drugs were prescribed by a doctor and dispensed by a pharmacy. In 1995, it was 20.3 percent (Wuemura, 2004) and in 2009 that share was 50 percent each (Nakamura, 2013). In 2013, 2/3 of the dispensing is done outside hospitals (Jakovljevic et al., 2014). This is something Mr. Ooi at Ferring Pharmaceuticals confirms as he says the pharmacies are buying the manufacturers goods in an even higher grade every year from wholesalers, instead of hospitals whose share is decreasing which is something that has led to pharmacies getting together in chains to increase their buying power. Mr. Oikawa emphasizes the importance for wholesalers to keep good relations with pharmacies.

4.5.8 Prescription and dispensing, effect on wholesalers

Before the prescription versus dispensing goal, wholesalers mainly delivered drugs to medical institutions as they were the ones who did both the prescribing and distribution (Nakamura, 2010). The prescription versus dispensing goal has made more pharmacies join the ranks of delivery points for wholesalers. With more delivery points wholesalers need to be more efficient with deliveries and negotiation of drugs (Nakamura, 2010). Mr. Oikawa says that the

increase in delivery points mean that wholesalers need to reduce costs by themselves which is a reason to the separation of information provision for MSs and deliveries to delivery specialists.

In 2010, there were around 230 000 delivery points for Japan's wholesalers to cover (JPWA, 2010). This has changed wholesalers sales channel's focus more towards pharmacies (Alfresa, 2005). For example pharmacies share of Suzuken's sale have been increasing steadily. In 2001 it was around 30 percent, that number was more than 50 percent in 2014 (Suzuken, 2014). The many branch offices spread out around Japan help wholesalers control the increase of delivery points, as they contribute to shorter lead times (MHLW, 2007; Nakamura, 2013).

According to Dr. Nakamura, the supply chain is being inefficient as Japanese wholesalers need to meet the requirements of many customers spread out the country in different delivery points. He says that the optimal would be to develop the supply chain based on regular delivery from one or two distribution centers. Though, he emphasis the difficulties due to customers who request irregular delivery, and in an effort to satisfy the customers, wholesalers need to be spread out over the country to be able to respond fast, otherwise the customer might choose another wholesaler.

Dr. Nakamura further mentions that wholesalers are taking care of returning products, and this contributes to the need of being located close to customers. The behavior raises the distribution costs including delivery costs and investment costs for additional distribution centers. Inefficient, yet a sensitive response to the need is a main feature of Japanese supply chain.

4.6 How the wholesalers have responded to the external factors

4.6.1 The importance of added value

A way for wholesalers to respond to lower margins is to add value as complementary to the core business (Nakamura, 2010; PharmAsia, 2013; Reed Maurer, 2011). Wholesalers started to think outside the box, and not only trying to do what was expected from them, to deliver and promote drugs, but to offer something extra outside their core business (Reed Maurer, 2011). Added value leads to a higher profit and a bigger share of pharmaceutical companies as the added value increase the interaction and business between them, Mr. Deguchi says.

Kunio Fukujin, the then CEO of Alfresa, mentioned in 2005 that changes in the environmental will force wholesalers to offer added value (Alfresa, 2005).

Wholesalers had, and still have, different strategies in their use of added value, Dr. Nakamura says. He emphasizes the importance for wholesalers to differentiate from each other as they nowadays have similar product ranges which derives from the consolidations of the wholesalers business. It is not easy for the wholesalers to differentiate themselves (R&I, 2015). Either they try to add value by focusing on low cost operations where they try to keep the stock down, downsize deliveries, and automatize tasks where it is possible. The other way is through high added value where focus is on tailor its services to the demand of customers, Dr. Nakamura adds. Added value created by carrying information is something most of the wholesalers do as they have contact with all buyers, which MRs from manufacturers do not have (Reed Maurer, 2011).

Dr. Nakamura mentions that added value through low cost operations give lower margins compared to wholesalers with focus on specialized high added value. If the distributor's added value is considered low, it is of great importance to have a high sales volume (Celly and Frazier, 1996).

4.6.2 ICT

The old view of wholesalers only doing distribution and sales promotion is getting outdated due to the introduction of ICT (Nakamura, 2010). ICT is being used in business to business relationships through electronical systems (Maruyama, 2004). The development of ICT as added value has made a restructure in the distribution system, as “the wholesale business model has shifted from focus on integrated sales promotion and delivery services to one that separates the two roles” (Nakamura, 2010:67). Services containing ICT have large initial investment costs (Nakamura, 2010).

The evolution of ICT has contributed to the decrease of wholesalers and shorter distribution channels (Hashimoto, 2003). For example, orders done by telephone have higher costs due to the immediate response it requires. Electronical orders through point of sales-systems give wholesalers better control of customers inventory as they constantly have information about their inventories. This lower lead times and decreases the need of branch offices, a change

through the use of ICT that lower costs in the long term and increases control, according to Dr. Nakamura.

A further reason for wholesalers to implement an electronic order system is to reduce the number of mistakes, according to Mr. Oikawa. He adds that electronic orders give wholesalers the opportunity to prepare deliveries on a periodical basis, instead of order through phone where the response needs to be immediate.

ICT has led to integration of distribution centers through automatization of operations in available areas, like orders and pickup, leading to a reduced work force. The information will flow faster through ICT and enable the time between order acceptance and sorting to decrease, something that will lead to wholesalers cover a bigger area (Hashimoto, 2003).

Dr. Nakamura mentions that the big four wholesalers all have shifted to ICT, though they use it in different ways, either with a low cost strategy or through a specialized high added value strategy. ICT in low cost operations is used in a way to keep the product stock as low as possible, automatization of tasks where it is possible, and periodical deliveries. With a specialized high value strategy, wholesalers tailor its services to the customers demand, for example the frequency of deliveries.

We will present how the big four wholesale groups use added value in their operations:

4.6.3 Toho added value

Dr. Nakamura says that Toho has made an improvement in their ordering system through the introduction of ICT. Toho has implemented a point of sales system with electronical orders that are connected with their customers. This system is called ENIF, and has given Toho a competitive advantage when it comes to order system as it has made operations more efficient, for example through lower lead time. Toho experienced large initial investment costs when introducing ENIF. The investment carried a high risk as the contributed extra added value is low, Dr. Nakamura says. Therefore, it is important for wholesalers to get long term profit in return from investments (Nakamura, 2010).

Toho's main focus when it comes to added value is on the users, and especially on pharmacies, according to Dr. Nakamura. With the limited space at pharmacies, Toho offer frequent deliveries where they with the use of ENIF system instantly get information about

the current stock volume and what kind of products that are sold at a certain pharmacy. With the ENIF system, Toho can easily meet the demand of just-in-time services to pharmacies according to Dr. Nakamura. The point of sales system reduces the risk for uncertainty relating to the market and inventories (Hashimoto, 2003).

Japan Pharmaceutical Association did, in 1997 and 1998, an investigation on how pharmacies could handle small packages delivered by manufacturers via wholesalers. MHLW has set a standard on how big the small packages are. The investigation found that in 1555 cases, the pharmacies could not obtain the amount of drugs delivered on a routine basis, due to too small shelves. As a respond, Toho started to offer "divided package sales" which referring to repackage of the drugs that Toho received from manufacturers and made new packages with smaller amounts to fit the requirement that pharmacies need (Shiragami et al., 2001).

In 1997 Toho also developed and introduced ENIF when a hospital in Kawasaki City decided to switch the dispensing operations to pharmacies (Nakamura, 2010). Pharmacies place electronic orders through scanning bar codes with help from a mobile terminal to Toho whose response is immediate as they deliver the required amount to pharmacies, Dr. Nakamura says. As a single pharmacy do not need the same amount as big hospitals, the development of the ordering system included orders that were repacked to contain smaller amounts. This system enabled Toho to offer instant delivery, and as the system proved to give more orders than expected, Toho started to use motorbike courier service to faster deliver drugs to pharmacies (Nakamura, 2010).

Toho offered this added value service as a pharmacy for pharmacies. The pharmacy handles 2400 different prescription drugs and Toho delivers to pharmacies included in the ENIF system (Shiragami et al., 2001). According to Dr. Nakamura, nowadays 30 000 pharmacies have an arrangement with Toho over the use of ENIF.

This point of sales system decreases lead time and as Toho have many small distribution centers, especially in big cities, the distance between distribution centers and pharmacies becomes very short. Though, Dr. Nakamura points out a problem with the rural areas as it is not as easy to use this delivery system due to the lower density of pharmacies. This added value provides a small profit for Toho according to Dr. Nakamura. The introduction of "divided package sales" means increase in the delivery frequency as pharmacies cannot hold big stocks. Frequent deliveries means higher costs, and as "divided package sales" include

fewer amount of drugs, the delivery cost might be more expensive than the worth of drugs (Shiragami et al., 2001).

By implementing the ENIF system Toho saw an opportunity to lower costs, as ENIF system contributes to better control over pharmacies stock, Toho can thereby prepare deliveries during night and deliver to pharmacies early in the morning, Dr. Nakamura says.

4.6.4 Suzuken added value

Suzuken offer distribution tailored for its customer, all the way from manufactuerers to medical institutions and pharmacies. Most common for wholesalers is to offer distribution from wholesalers to medical institutions and pharmacies. With special products that need special treatment, Suzuken offer such controls as low temperature treatment during the distribution of the drug Dr. Nakamura says. He emphasizes Suzuken's efforts with orphan drugs, which have few users, where they offer the help for limited hospitals to deal with these drugs.

Suzuken have a high capability when it comes to marketing function. They were the first one to implement performance fees on manufactureres for work done by their MSs (R&I, 2015). Suzuken group are trying to become the wholesale leader in Japan through a goal where they "are switching from competing in the same services as rivals to competing in capabilities, and are building a framework that can respond flexibly to changes in the environment" (Suzuken, n.d: para 4).

To reach their goal, they are implementing medium-term growth strategies. In between 2011-2014, the growth strategy was to add value to its customers by increase the visiting frequency in order to build stronger relationship and decrease the distance between them. This strategy was based on the idea that all wholesalers have the same product range, and by building stronger ties with customers, Suzuken saw this as an opportunity to differentiate (Suzuken, 2014).

By focusing on each single customer, Suzuken customize their MSs services after the need of customers. They also increased their logistics sales force, introduced in 2011, with focus on pharmacy orders and deliveries in order to make the sales system efficient, as frequent deliveries with a small amount is increasing due to pharmacies demand (Suzuken, 2014).

4.6.5 Alfresa added value

Wholesalers must be able to provide information about the markets to manufacturers in order to be selected. Kunio Fukujin, the former Alfresa CEO mentioned the need of added value, from providing information about drugs, to assist management at pharmacies (Alfresa, 2005).

Alfresa focus on low cost operations where reducing costs by reducing labour, separation of MSs role, and automatization is common tools, Mr. Urakabe says. Other ways to reduce costs for Alfresa is through periodical deliveries many times a day, and specializing, says Dr. Nakamura. For example, Alfresa employ part time workers or female drivers to deliver products as they generally have lower salary than men in Japan. These deliveries have made MSs to focus on promotion of drugs and handed over the role of distribution to Hitachi who become delivery specialists, says Mr. Urakabe. Hitachi and Alfresa had entered into a joint venture prior to the separation of MSs role. The joint venture's reason was to evolve payment and distribution operations, as Hitachi had previous experience with SAP operations which Alfresa could implement after the joint venture and by that reach lower costs.

Mr. Urakabe mention that further ways to decrease costs is to implement electronic ordering system. Today they have around 60 percent of orders made electronically but they want to increase that number to 100 percent. By receiving electronic orders, Alfresa will be able to prepare deliveries on a periodical basis with preparation during night times and deliveries in the morning, and thereby reduce the need of the 200 different branch offices, and rather deliver direct from one of the 22 distribution centers. An important differentiation for Alfresa is the logistics where they deliver either through direct deliveries from distribution centers which is 0.6 times the cost as the indirect deliveries through branch offices, he adds. Today Alfresa have 70 percent of their deliveries through branch offices.

Another added value is the special distribution of products with need of special temperature during transport. Alfresa provide special logistic technology with freeze boxes, where they offer low temperature distribution that lasts for more than 100 hours in order to specialize on orphan drugs, Mr. Urakabe says.

4.6.6 Medipal added value

Medipal and Alfresa are both trying to use added value in order to have a low cost strategy Mr. Deguchi says. By reducing the number of deliveries of products, Medipal are able to lower costs. They are able to reduce the number of deliveries by the installation of branch offices inside big distribution centers and can therefore reduce steps in the delivery of products.

These distribution centers are called Area Logistic Centers (ALC) and are located in urban centers where most of its customers are located. ALCs location in the urban is different from other wholesalers distribution centers who often is located in suburban with branch offices in different local contexts. In ALCs, all products offered by Medipal are represented and can be distributed to customers directly instead of going through a local branch office. These centers do daily distribution four times a day. Today Medipal have six ALCs represented, with a further three planned to be built. These ALCs will be automatized as much as possible to increase efficiency and lower costs (Medipal, 2016a). The integrated logistics system made through the automatization of ALCs enables its customers to manage inventory efficiently (R&I, 2015). Mr. Nagao adds that, in the future, the most important thing is how efficiently the business is being done, and how automatization of system to reduce labour is a big target for Medipal.

As MSs role have been narrowed through, for example the automatization of payment or the role of delivery specialists, has given Medipal room to add value through the use of Assistant Representatives (ARs), Mr. Nagao says. Through education, Medipal have further educated MSs to become ARs to increase their marketing expertise (Medipal, 2016b; R&I, 2015). As Medipal expresses, the communication between MSs and doctors/medical professionals is very important for the information exchange, and by educating MSs to ARs, Medipal want to evolve the gathering and dissemination of information by educate MSs to learn more about diseases and pharmaceutical products (Medipal, 2016b). The company has around 1800 people, which according to Mr. Nagao is half of the MSs workforce at Medipal, that have been further educated in Medical representatives (MRs) exams, making their knowledge even broader adding more value to the business as they become ARs.

The ARs receive deep knowledge about drugs which make them a valuable resource for manufacturers. Their knowledge provide more detailed information about drugs. In addition,

they provide post market surveys and handle drugs with adverse reaction, Mr Nagao says. The ARs will for example help foreign companies establish on the Japanese market by providing the MRs role through ARs. Foreign companies often lack the cultural knowledge which is very important in Japan, something that ARs will help them cope with.

According to Dr. Nakamura, this is a way for Medipal to be attractive for manufacturers as they will reduce costs for manufacturers by using more ARs as complementary for MRs as the wages of ARs is lower. Around 60 percent of Alfresa's costs are generated from labour, so their costs will not decrease through education of MSs, though they will receive more customers and a sales promotion fee from manufacturers for doing the job cheaper than MRs would, which will lead to an increase in margins Dr. Nakamura says.

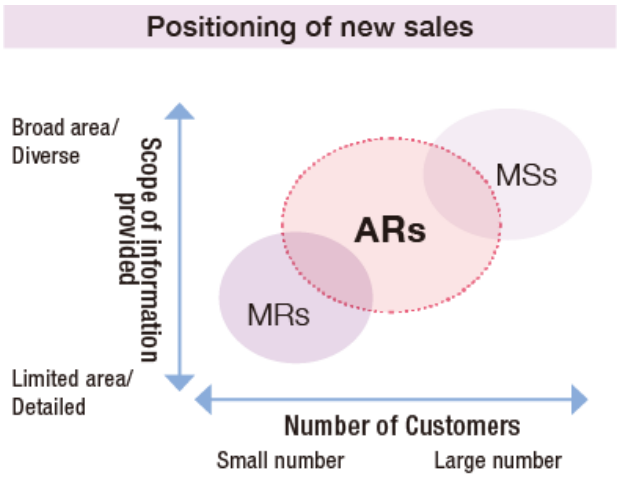

Figure 4: *The role of Assistant representatives*. (Medipal, 2016b).

To start a sales organization in Japan costs a lot of money. Medipal provides a contract sales organization as a solution for that problem. By an agreement, Medipal do marketing and sales for the contractual part, which is another way to add value by Medipal, Mr. Deguchi says.

4.6.7 The need of extending the core business

The main income from the core business for wholesalers has been the drug margin that is calculated as the difference between the price they pay to pharmaceutical manufactures and the price they sell to medical institutions. Though, after the deregulations and reorganizations, this is not the case anymore (JCR, 2011).

With NHI price revision revised downward, in combination with the government's goal to increase the share of generic drugs as well as the prescription vs dispensing goal, makes the profits shrink for wholesalers. This gives rise to the need of other profit sources than wholesalers core business, Mr. Deguchi mentions. Wholesalers differentiation into manufacturing and pharmacy operations is seen as an opportunity as the margins in those parts of the value chain is higher (Nakamura, 2013). Alfresa's mid-term goal have changed from M&As and expanding geographical area, to expand business area by focusing on manufacturing and pharmacy business, and also try to expand to foreign countries, Mr. Urakabe says. He adds that 80 percent of their business is wholesale business. The share of other income sources are limited due to the focus on their core business, though, the prescription drugs are generating a stable income (R&I, 2015). By expanding to other business segments, the margins for wholesalers do not increase, though the profit is being generated from more than only the wholesalers core business, Mr. Deguchi says.

For example, Suzuken was early to diversify into other segments and have built up a strong manufacturing base providing stable income. Through M&As, they expand into different areas when it comes to health care, for example they are involved in insurance pharmacy and nursing care. The income sources for Suzuken are rising from other segments than their core business (R&I, 2015).

5. Analysis

This chapter will present an analysis of the empirical findings which also will be discussed together with the report's theoretical framework, and the earlier research done.

This thesis has investigated how external factors affect the Japanese pharmaceutical wholesalers. Like Scott (2008) says, institutions change under external factors. This has been a clear characteristic in the organizational field of pharmaceuticals wholesalers in Japan. External factors like political, social, and economic are forcing wholesalers to adapt to demands. The most evident demand is the government's different efforts in order to lower health care costs.

Big wholesalers are shaping the industry and forcing smaller actors to make changes, mainly through entering into M&As with them. It is evident how consolidations on a horizontal level have made the distribution chain shorter, just as Maruyama (2004) predicted. Though, in some areas it is found that local wholesalers are stronger than the big four wholesaler groups due to strong local ties. The broader picture shows a clear characteristic of coercive isomorphism as the big wholesalers with big power put pressure on smaller wholesalers to change. Therefore, the presence of smaller wholesalers with strong local ties both confirm and questions Meyer's and Rowan's (1977) findings that smaller players in the organizational field have to adapt to its surrounding in order to survive in the future.

5.1 A market with two faces

In order to remain competitive and survive, there is a clear trend in the industry that wholesalers become more homogenized, as DiMaggio and Powell's (1983) concept of isomorphism indicates.

North (1990) mentions how institutions are the rules and organizations are the players in a game. This is something that correlates with the Japanese pharmaceutical market where the government makes changes in order to keep the costs down which affect wholesalers heavily with the need to respond by expanding their business area and offer service outside their core business. The trend in the pharmaceutical industry is in line with what Meyer and Rowan (1977) stated that by becoming alike its environment organizations receive legitimacy and will survive.

Consolidations have made the number of wholesalers' actors to decrease from 1200 in 1970 to just over a 100 today. Within the core business, the focus has been on price pressing to remain competitive. For example, all wholesalers acquired or merged by Alfresa work under the same low cost strategy which increases the dependency for smaller wholesalers to work under the guidelines made by Alfresa. This is in line with what DiMaggio and Powell (1983) mention, that the higher dependency there are between organizations, the more alike they will become each other as a result of coercive isomorphism. As the size of pharmaceutical wholesalers increased and focus shifted towards regional and national level, the focus changed towards customers, which correlates with the earlier research by Maruyama (2004) who emphasis how the role have changed from sales agents for manufacturers to buying agents for customers.

It is evident how wholesalers' business pattern mainly has changed in the same direction. The goal of the generic drugs, separation of prescription and dispensing, and introduction of ICT have all been contributing to the specializing role of MSs, something that is seen as necessary due to the lower cost structure in the industry. This change correlates with DiMaggio and Powell's (1983) concept of how normative isomorphism leads to professionals at organizations act in similar ways.

DiMaggio and Powell (1983) found out how isomorphism does not necessarily mean more efficient organizations, which is evident in the case of Medipal where Mr. Nagao mentions how M&As did not mean higher efficiency nor profits, but they received human resources and an increased professional network which resembles to normative isomorphism.

Even though the main pattern in the industry is towards isomorphism, there is evidence that points against isomorphism. For example, the big four wholesale groups find it difficult to enter specific areas due to the strength of local wholesalers who do not enter into consolidations with big wholesalers, as local ties with medical institutions and pharmacies are highly valued. The market is not only focused on a national level by the big four with its group companies but also represented with local wholesalers. This goes in line with the critique towards isomorphism where Beckert (2010) mentioned how isomorphism only focusing on one side of the coin and not pays attention to divergence.

5.2 Expanding business segment and change in supply channels

This year's higher expected price revision, together with reduce of inventory margins will further increase pressure on wholesalers to find alternative income sources. The price pressing strategies are not seen as sustainable. The emphasis on alternative income sources cannot be understated and this will accelerate the need for wholesalers to diversify their business domain. As Nakamura (2010) concludes, without deliveries of health care services and business solutions outside their basic wholesale function, they will not survive. The inventory margins cut is evident from coercive isomorphism where higher price cuts from the pharmaceutical manufacturers, with bigger influence, lead to lower margins for wholesalers.

Alfresa's change in their mid-term goal to extend their business domain towards pharmacy and manufacture operations has until today resulted in that 20 percent of their operations are outside their core business. What is evident is how wholesalers strategies differ when it comes to expanding business domain with Medipal only operating within the wholesale business while Alfresa's business domain is widen to include both pharmacies and drug manufacturing. This goes both in line and questions Nakamura's (2010) findings of the importance to find other business segments in order to survive.

The increasing amount of delivery spots due to more dispensing for pharmacies is a future challenge for wholesalers, as the power relationship between wholesalers and pharmacies changes, in favor of pharmacies. As Mr. Urakabe says, Alfresa's sales channels will focus more on dispensing pharmacies. Suzuken seems to follow in the footsteps as more than 50 percent of its customers are pharmacies. More delivery spots and pharmacies will make wholesalers even more exposed. The pharmacies option to choose between different wholesalers due to the same product supply increases the importance for wholesalers to make distribution more efficient. As North (1990) mentioned, historical choices affect decisions being made. Pharmacies increase in bargaining power can be related to what happened with wholesalers as they merged together to further increase their power.

5.3 A trend towards exclusive agreements

Embodied in the price revision is the innovation premium. It is likely that drugs that are reimbursed at a rate of up to 100 percent more than other drugs will lead to wholesalers trying to reach exclusive distribution agreement with that specific pharmaceutical manufacturer.

Maruyama (2004) discussed how exclusive agreements occur from consolidations, which can be questioned. The introduction of the Hepatitis C drug on the Japanese market did not lead to an exclusive agreement, even with the big four presence and coverage of the whole Japanese market. Exclusive agreements for pharmaceutical wholesalers occur from drugs receiving higher reimbursement price than others.

As described by North (1990), uncertainty exists due to the complex problems that can arise in the environment. The changing demographic in Japan is a complex problem for the nation itself, but even though this has led to an increase in generics, which is beneficial to keep health care costs down for the government, it creates a complex problem for pharmaceutical wholesalers. Financial difficulties are expected to increase, for example the extra volume that need to be sold due to lower margins, and the storage space it requires will increase the pressure on wholesalers to build extra distribution centers. The need of extending distribution centers in order to meet the storage demand of the huge amount of generic drugs will be difficult as many wholesalers will struggle to afford these initial investments.

Exclusive agreements are evident with the introduction of generic drugs as wholesalers will increase the effort to sell innovative drugs at the expense of generic drugs. As Mr. Deguchi mentioned, wholesalers enter into exclusive agreements with few generic drug manufacturers. However, as described difficulties can arise with exclusive agreements such as the case of Toho's generic agreement with a manufacturer due to the uncertainty that surrounds generic drugs. It is likely that these problems will decrease year by year as campaigns from the government will increase the knowledge and acceptance of generic drugs, which the campaign in 2007 is proof of. It is seen that the government's goal to reach a higher share of generic drugs and use policies like the 2007 campaign, and 2020 goal, influence all actors in the organizational field as it is aimed towards everyone. Therefore, if an actor, like a wholesaler, does not adapt to this policy they risk to be seen as non-legitimate from other actors in the field. The steady progress of generic drugs share of the market will decrease the problems relating to exclusive agreements of generic drugs which correlates with Meyer and Rowan's (1977) findings that institutional policies have led to wholesalers entering into exclusive agreements in order to survive and adapt to its surrounding, like governmental policies. Also, the increase of generic drugs in the pharmaceutical market questions the findings from Rawwas et al. (2008) that well-known brands are important for driving the inventory at wholesalers. Today half of the inventory at wholesalers is generic drugs, and the

volume continues to increase. The Japanese government has with their policies managed to lessen the uncertainty about the generic drugs. However, they have moved the uncertainty and placed it in the hands of the wholesalers who now have to face the problems instead.

By entering into exclusive agreements, the decrease in burden means that MSs can develop deeper understanding related to the generic drugs they handle. The wholesalers are able to develop an expertise and idiosyncratic knowledge in the relationship and the organization will then rely on the manufacturer or distributor which will give advantages. This resembles what Williamson (1979) mentioned; if an organization choose a distributor, the manufacturer or distributor will develop an expertise in the service provided.

5.4 The importance of added value

Lower margins are characteristic for the pharmaceutical wholesale industry. Due to external forces mentioned, wholesalers have to add value in different ways to attract customers. The higher and more complex demand from pharmacies spread out around Japan puts high pressure on wholesalers, and in order to be the chosen wholesaler, one must distinguish themselves from the rest. This correlates with earlier findings by (Oswald and Boulton, 1995; Rawwas, 2008) of how wholesalers need to add value to their operations in order to increase performance.

ICT for wholesalers has given wholesalers a new field of opportunities to explore and made the industry a lot more efficient. The kinds of ICT that are being used are different. Wholesalers whose ordering system is not electronic but rather manual, will receive orders when the stock at customers are empty, and therefore need to respond fast and have the required amount of drugs available, which lead to a speculative inventory management. Electronic order system makes it possible for wholesalers to be up to date with current stock at customers and can therefore prepare and control deliveries much more efficient. Maruyama (2004) discussed about a shift in inventory management, from a speculative to a postponement approach. The use of ICT and introduction of point of sales-systems have made it possible to increase efficiency through postponement inventory management. For example Toho's ordering system, ENIF, has through the use of ICT changed from speculative inventory management to postponement inventory management. This has made them able to handle the inventory instantly and prepare for deliveries during nights and therefore they are

not as dependent on deliveries through branch offices, and can by that decrease costs, which Maruyama's (2004) earlier research justify.

The increase in control and reduced lead time by ENIF leads to higher margins and more satisfied customers as Toho can meet the just-in-time demand. Alfresa who partly has implemented electronic ordering system which helps them conduct direct deliveries at 0.6 times the costs as indirect deliveries through branch offices, and Medipal's use of automatized ALC's is evident of how ICT is growing stronger within the wholesale industry. This goes in line with earlier research where Hashimoto (2002) pointed out how investments in ICT prevent reduced efficiency while it also reduces lead time.

5.5 Differentiation efforts

Alfresa and Medipal conduct low cost strategies with focus on cutting costs is different from Toho and Suzuken's way of high added value. For example Alfresa with periodical deliveries, female drivers, and separation of tasks through specialization areas, is the opposite of Suzuken who tailor its business after customers demands, with frequent visits to doctors, increased logistics sales force to meet customers more complex requirements, a change in their logistic system, just as Maruyama (2004) found.

Even though the big four wholesale groups purports to conduct a certain strategy, there are clear evidence of the opposite. For example Medipal who purports to add value through a low cost strategy has through the education of MSs to ARs a source that provide high added value. Mr. Nagao mentioned how ARs do not contributes to a lower cost structure within the company but rather add value by offering a more tailored business solution for customers with the introduction of ARs something that correlates to DiMaggio and Powell (1983) findings that organizations adapt to each other's strategies.

Toho’s introduction of an electronic ordering system is being followed by Alfresa who also has introduced electronic order system to their operations. In the case of Suzuken, their special deliveries of orphan drugs have been adopted by Alfresa who also offer that service, though they do not offer the same distribution through the whole value chain. This shows a trend in the industry towards isomorphism relating to mimetic isomorphism, as Alfresa use solutions from other competitors. Further, DiMaggio and Powell (1983) state how strategies

used by a single organization within an industry are likely to be copied as the homogenization increases by time, something that is evident by the actions taken by Alfresa just mentioned.

Medipal's use of the new ALCs can be an answer for inefficiency in the supply chain as Dr. Nakamura explained. The optimal situation would be to have regular deliveries from one or two distribution centers. With the ALCs, Medipal reduce the need of branch offices which lower the costs. However, as Dr. Nakamura mentioned, difficulties arise as customers are widespread throughout the country and complex demand from customers lead to difficulties as irregular deliveries are asked for. In line with Oswald and Boulton's (1995) study, Medipal has adapted their operations in order to cope with the low margin climate in the industry and used the ALCs as an innovative solution.

The introduction of the ALCs with automatization technology provide fewer steps, shorter lead time and lower costs when distribute the product which confirms Hashimoto's (2002) discovery how the use of information technology reduce lead time. Interestingly, the usage of ALCs questions earlier research by Hashimoto (2003) as he discusses how distribution centers was going to be located in the suburban areas due to better traffic condition. However, the need to be efficient seems to have outdated this strategy as ALCs are located in urban areas to reduce branch offices which is possible through the use of ICT.

5.6 Summary of analysis

The pharmaceutical wholesale industry in Japan is experiencing a pattern of isomorphism where external factors force wholesalers to become more alike each other and adapting to its surrounding as described by Meyer and Rowan (1977). Also, uncertainty in the Japanese health care area has led to uncertainty making the government take actions which has created complex problems (North, 1990) for wholesalers by having to deal with lower margins. Even though the trend of M&As is clear in the industry, there are evidence of local wholesalers who are stronger than the big four wholesalers, which proves the relationship based nature of the Japanese society. In response to the lower margins, wholesalers try to add value in different ways to attract customers, though it is evident that efforts to differentiate in the organizational field is affected by isomorphism as wholesalers different strategies tend to overlap on each other's strategies. The price pressing strategies within the core business is not seen as sustainable and there is evidence of wholesalers expanding their business towards other business domains.

The trend in the wholesaler industry is towards exclusive agreements. The lower cost structure gives wholesalers incentives to enter into exclusive agreements in order to reach a higher profit. This is seen as a solution to the government's impact that hit wholesalers hard. Another trend is the presence of wholesalers in other business segments to avoid the low margins caused by external affects. Add to that the different kinds of added value, where ICT has played an important role as it has increased efficiency, and also contributed to a lower cost structure in the industry, and is seen as indispensable for the business in the future.

Further, the main findings connected to DiMaggio and Powell's (1983) isomorphic mechanisms are:

Coercive

- Governmental pressures towards wholesalers due to social external factors like Japan’s demographic situation leading to measurements to reduce health care costs from the government.
- Bigger forces pushing dependent organizations. Wholesale groups conduct M&As with smaller wholesalers.

Mimetic

- Through added value solutions and ICT innovations, wholesalers become more alike its competitors.

Normative

- Increased human resource network through M&As.
- The specialized role of MSs.

6. Conclusions

In our final chapter we will present our conclusions based on our research findings and analysis. We will also give suggestions for potential further research in the future about the studied area.

This thesis have sought to answer the question: "How do external factors affect the Japanese pharmaceutical wholesale industry?".

6.1 Empirical implications

There are two clear ways the pharmaceutical wholesale industry has been affected by external pressures. First, the NHI price revision in combination with the generic drugs goal by the government leads to lower margins for wholesalers. This has led to wholesalers trying to enter into exclusive agreements. The reason to enter into exclusive agreements differs depending on which of the two external factors affecting. The NHI reimbursement price revision lead to lower margins, and therefore they want to reach an exclusive agreement with an innovative drug manufacturer in order to reach the premium and therefore higher margins. The generic drugs drive up costs for wholesalers and by reaching exclusive agreements, the wholesaler can reduce the burden of handling the huge amount of different generic drugs. The exclusive agreements will lead to a more reasonable handling of drugs for the wholesalers and the need of extra distribution centers will be overcome. The wholesale industry will see higher margins due to exclusive agreements.

The second finding is how the increase of delivery spots due to the prescription vs dispensing goal by the government have increased the number and bargaining power of pharmacies. This has switched wholesalers sales channels focus more towards pharmacies. In order to cope with the weaker position, wholesalers have lowered their own cost structure. For the wholesale industry in general, this means tougher conditions as more delivery spots make the deliveries more complex. This has forced the wholesale industry to lower their cost structure in order to cope with the weaker position against pharmacies.

These external effects have been met by the introduction of ICT which has been one of the most common tools as a respond to external factors. By implementing ICT in their operations, wholesalers have increased the control, being able to use postponement inventory

management instead of speculative, and reduce costs by decreasing the use of branch offices. Wholesalers use ICT in different ways in order to make their operations more efficient, which have contributed to a lower cost structure in the industry. By either adding value through low cost operations or high added value, ICT gives wholesalers a competitive advantage. Even though the use of ICT has contributed to an even lower cost structure in the wholesale market, it is seen as indispensable for the business in the future. Just as Oswald and Boulton (1995) discussed in the problem discussion, technology was the solution in U.S., and is also the solution in Japan, in the form of ICT.

6.2 Theoretical implications

Using institutional theory as a framework to explain the research area has been useful in this study to understand how pharmaceutical wholesalers are being affected by surrounding external factors. As shown, this report has found external factors such as social, with the Japanese demographic situation, leading to political external factors from the government and the use of technology implemented in the wholesalers businesses. It is found how the pharmaceutical wholesale business in Japan is covered by uncertainties such as lower prices on drugs from the price revision and the increased use of generic drugs. Like North (1990) mentioned, institutions exist because of existing uncertainties and rules exist to reduce the uncertainty, but as this report has shown, uncertainty has entered the wholesalers business.

DiMaggio and Powell's (1983) mechanisms of isomorphism fit well in the organizational field that has been studied. Most evident of the three mechanisms has been coercive isomorphism where stronger forces, such as the explained actions by the Japanese government and the M&As that has occurred. Although, however not to the same extent as coercive, traces of normative and mimetic isomorphism within the industry has been discovered. Normative with the extended human resource network through M&As and the specialized role of MSs, while mimetic patterns are found in the wholesaler's added value services.

Altogether, this report can conclude that the pharmaceutical wholesale industry in Japan is showcasing patterns of isomorphism, just like Japanese pharmaceutical manufacturers do, as Slater et al. (2008) found out. However, with the nature of low margins for the wholesalers it is found how divergent forces are present as wholesalers try to differentiate themselves by finding unique added value services. This implies that under certain circumstances, like

Japan's health care issues which has led to the tougher climate for wholesalers, isomorphic behavior does not have to be clearly evident.

6.3 Practical implications

The results of this report are aimed to contribute to Lundbeck K.K. needs. Even though it is aimed towards a specific company, it can be of use for all actors in the pharmaceutical organizational field operating in Japan, especially other wholesalers. The report gives valuable information of how the pharmaceutical wholesalers are affected by different external factors which affect the way they work. With a deeper knowledge about the wholesale market that this report contributes with, actors in the industry receive knowledge on how, mainly the big four, wholesalers meet the difficulties on the market and what kind of added value they contribute with. With both specific interviews conducted with relevant people inside big wholesale groups, actors in the industry, and a lecturer, in combination with secondary sources where information have been processed, this report contributes both on an industry specific level and gives an overview of how the pharmaceutical wholesale industry is affected by external factors.

6.4 Future research

The governmental agency MHLW mention how they want provide top quality health care in Japan. Their actions create a tough climate for the wholesalers which have had to cut costs and thus cannot provide the highest quality in service. The society is facing a paradox where one part affects the other. An important characteristic for Japanese pharmaceutical wholesalers is that 98 percent of the drugs go through one of them. It is surprising how the government has not showed more support for the wholesalers, as they are the carrier of the Japanese people's survival. A research in the near future would therefore be of relevance to see if the conditions for the wholesalers have changed with Japan's changing demographics and the government's goal to reduce health care costs. If the wholesalers margins continue to decrease it would be of interest to see if the Japanese government would take any actions towards this in favor for wholesalers.

Further, as seen by this report the industry researched about has shown patterns of isomorphism. Taking this theoretical approach to another market with a different national

condition than Japan would be of interest and then compare the markets to see if the underlying changes lie within the researched nation's domestic conditions.

Finally, to make a better generalization of the industry, it would be necessary to do future research with more actors in the field to be able to conclude more certain how wholesalers in Japan's pharmaceutical market are being affected by external changes. With a changing industry, the factors found in this report might change in the future.

7. References

Alfresa. (2014). Committed to Conquering Challenges. Annual Report 2014. http://www.alfresa.com/eng/investor/library/annual/pdf/2014/annual01.pdf Accessed 8 April 2016.

Alfresa. (2005). Building a true advantage. Annual Report 2005. http://www.alfresa.com/eng/investor/library/annual/pdf/2005/ar05_04.pdf Accessed 17 April 2016.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, *36*(3), 421.

Beckert, J. (2010). Institutional Isomorphism Revisited: Convergence and Divergence in Institutional Change. *Sociological Theory*, *28*(2), 150-166.

Bloomberg. (2016). Japan Takes Aim at Ballooning Drug Prices as Costs Strain Budget. [online] http://www.bloomberg.com/news/articles/2016-02-07/japan-takes-aim-at-ballooning-drug-prices-as-costs-strain-budget Accessed 19 April 2016.

Bryman, A. and Bell, E. (2013). *Företagsekonomiska forskningsmetoder*. Johanneshov: MTM.

Deloitte. (2015). 2015 Healthcare Outlook Japan.[online] http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-2015-health-care-outlook-japan.pdf Accessed 23 April 2016.

DiMaggio, P. J., & Powell, W. W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48*(2), 147.

Eisai. (n.d.a).[online] http://www.eisai.com/ir/individual/word/word_n02.html Accessed 19 April 2016.

Eisai. (n.d.b). [online] http://www.eisai.com/ir/individual/word/word_g02.html Accessed 19 April 2016.

Eisai. (n.d.c). [online] http://www.eisai.com/ir/individual/word/word_p06.html Accessed 19 April 2016.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building From Cases: Opportunities And Challenges. *Academy of Management Journal, 50*(1), 25-32.

EvaluatePharma. (2015). JAPAN SALES, VOLUME, PRICING 2015.

Flath, D. (2014). *The Japanese economy*. Oxford, England: Oxford University Press.

Fool. (2015). 5 Largest Markets for Pharmaceuticals -- The Motley Fool. [online] http://www.fool.com/investing/general/2015/05/12/5-largest-markets-for-pharmaceuticals.aspx Accessed 1 May 2016.

Hasegawa, H. (2012). *Drug pricing system in Japan and the Environment surrounding generic drugs*.

Hashimoto, K. (2000). Geographical Study on Changes in the Spatial Structure of the Distribution System by Informatization. In Polish Academy of Sciences Institute of Geography and Spatial Organization (Ed.), Geographia Polonica :47-62. Warsaw, Poland.

Hashimoto, K. (2002). Information Network and the Distribution Space in Japan. *A Case Study of Consumer Goods Manufacturers in Japan.*

Hashimoto, K. (2003). Restructuring of Distribution Systems with Innovations of IT: *A Case Study of Wholesale Industry in Japan.*

Hasselbladh, H., & Kallinikos, J. (2000). The Project of Rationalization: A Critique and Reappraisal of Neo-Institutionalism in Organization Studies. *Organization Studies, 21*(4), 697-720.

IFPW. (2015a). International Federation of Pharmaceutical Wholesalers. Focus. Vol.22. No. 12.

IFPW. 2015b). International Federation of Pharmaceutical Wholesalers. Focus. Vol.22. No. 17.

IFPW. (2016a). International Federation of Pharmaceutical Wholesalers. Focus. Vol.23. No. 6.

IFPW. 2016b). International Federation of Pharmaceutical Wholesalers. Focus. Vol.23. No. 8.

IGI Global. (n.d). What is Information and Communication Technology (ICT). [online] http://www.igi-global.com/dictionary/information-and-communication-technology-ict/14316 Accessed 30 April 2016.

IHS (2015). *Japan's Comprehensive Strategy for pharmaceutical sector calls for innovation and M&A*. [online] https://www.ihs.com/country-industry-forecasting.html?ID=10659105443 Accessed 19 April 2016.

Iizuka, T. (2008). The Economics of Pharmaceutical Pricing and Physician Prescribing in Japan. *SSRN Electronic Journal*.

International Business Publications. Doing Business in Japan Guide. Volume 1 Strategic, Practical Information and Contacts. (2016). Washington, D.C.: International Business Publications, USA.

Jakovljevic, M., Nakazono, S., Ogura, S. (2014). Contemporary generic market in Japan – *key conditions to successful evolution.*

JCR. (2011). Rating Methodology by Sector: Pharmaceuticals.

JETRO. (2005). Trend in the Pharmaceutical Industry.

JFTC. (n.d). *Chapter I General Provisions : Japan Fair Trade Commission*. [online] http://www.jftc.go.jp/en/legislation_gls/amended_ama09/amended_ama15_01.html Accessed 3 May 2016.

JFTC. (2006). Report on Distribution of Pharmaceuticals (Overview).

JFTC. (2014). Global Forum on Competition. Competition Issues in the Distribution of Pharmaceuticals. Contribution from Japan.

JGA. (2015). Generics-related extract from Basic Policy on Economic and Fiscal Management and Reform.

JPMA. (2015a). Data book 2015.

JPMA. (2015b). Information on Japanese Regulatory Affairs.

JPWA. (2010). Guidebook 2010-2011.

JPWA. (2015). International Comparison of Challenges in and Solutions for Supplying Pharmaceuticals after natural Disasters.

MarketLine. (2016). Generics in Japan.

Maruyama, M. (2004). Japanese Distribution Channels: Structure and Strategy. *The Japanese Economy.* Vol. 32, no.3. pp. 27-48.

Medipal. (2016a). *ALC・FLC | Prescription Pharmaceutical Wholesale Business | Our Business | MEDIPAL HOLDINGS CORPORATION*. [online] https://www.medipal.co.jp/english/business/ethical/alc_flc/ Accessed 11 May 2016.

Medipal. (2016b). *AR | Prescription Pharmaceutical Wholesale Business | Our Business | MEDIPAL HOLDINGS CORPORATION*.
[online] https://www.medipal.co.jp/english/business/ethical/ar/ Accessed 11 May 2016.

Meyer, J. W., & Rowan, B. (1977). Institutionalized Organizations: Formal Structure as Myth and Ceremony. *American Journal of Sociology, 83*(2)

MHLW. (n.d.) Health Insurance Bureau. Providing Health Care for All People without Worries. [online] http://www.mhlw.go.jp/english/org/policy/p34-35.html Accessed 15 April 2016.

MHLW. (2007). New vision for the pharmaceutical industry-*Aiming at the industry with international competitive power taking the mission of innovation.*

MHLW. (2012). Promotion of the Use of Generic Drugs.[online] http://www.mhlw.go.jp/english/policy_report/2012/09/120921.html Accessed 24 April 2016.

MHLW. (2015). Service Guide.

Nakamura, R. (2002). PRELIMINARY REPORT ON THE CURRENT STATE OF MERGERS AND ACQUISITIONS IN JAPAN.

Nakamura, T. (2010). Value-added service provision through ICT by drug wholesalers in Japan *Netcom. Réseaux, communication et territoires*, (24-1/2), pp.63-78.

Nakamura, T. (2013). Regional Differences in the Wholesale Pharmaceutical Industry: An International Comparative Study among Japan, the US, and Europe.

Nakano, Y. & Kubota, J. (2014). Pharmaceutical Antitrust: *In 31 jurisdictions worldwide.*

Nishimura, J. (2005). The Linkage of Trades in Terms of Wholesale Business Formats in Japanese Distribution Systems.

North, D. C. (1990). *Institutions, institutional change, and economic performance*. Cambridge: Cambridge University Press.

OECD. (2006) OECD Studies in Risk Management.

OECD. (2014). Solving the "super-aging" problem.[online] https://www.oecd.org/forum/oecdyearbook/solving-the-super-ageing-challenge.htm Accessed 7 April 2016.

Orbis. (2016). [online] https://orbis-bvdinfo-com.ezproxy.ub.gu.se/version-2016425/Report.serv?_CID=1258&context=3SAGCHWJ69KJ7X1&databaseContext=MarketTrends&SeqNr=2 Accessed 1 May 2016.

Pacific Bridge Medical. (2015). *Japan: Price Revisions, Clinical Trials, and Data Standards*. [online] Available at: http://www.pacificbridgemedical.com/news-brief/japan-drug-price-revisions-clinical-trials-and-data-standards/ Accessed 20 April 2016.

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

PharmAsia. (2013). How Drugs Are Distributed In Japan: Insider Analysis From International Alliances LTD.'s Reed Maurer.

Pharma Japan Web. (2016). *Drug Wholesalers' Inventory Margins Likely to Diminish for FY2016 Price Revision - Pharma Japan*. [online] http://pj.jiho.jp/servlet/pjh/business/outline/1226584274036.html Accessed 27 April 2016.

Powell, W. W., & DiMaggio, P. (1991). *The New institutionalism in organizational analysis*. Chicago: University of Chicago Press.

PR Newswire. (2012). Pharmaceutical Supply Chain in Japan - Periodic Drug Price Revisions by National Health Insurance Increase Competition and Squeeze Profit Margins. http://www.prnewswire.com/news-releases/pharmaceutical-supply-chain-in-japan---periodic-drug-price-revisions-by-national-health-insurance-increase-competition-and-squeeze-profit-margins-165559656.htm Accessed 24 April 2016.

PR Newswire. (2013). Japan Pharmaceutical Market Outlook. [online] http://www.prnewswire.com/news-releases/japan-pharmaceutical-market-outlook-219781781.html Accessed 23 April 2016.

R&I. (2015). R&I Affirms A, Stable: Alfresa Holdings Corp., Medipal Holdings Corp., Suzuken Co., Ltd. [online] https://www.r-i.co.jp/eng/body/cfp/news_release_A/2015/03/news_release_2015-A-0264_01.pdf Accessed 15 May 2016.

Rawwas, M. Y., Konishi, K., Kamise, S., & Al-Khatib, J. (2008). Japanese distribution system: The impact of newly designed collaborations on wholesalers' performance. *Industrial Marketing Management, 37*(1), 104-115.

Reed Maurer, P. (2011). It's Worth Doing Perspectives on the Japan Pharmaceutical Industry. Trafford on Demand Pub.

Reed Maurer, P. (2013a). *Evolution of Japan's pharma wholesalers.* The Pharma Letter. http://www.thepharmaletter.com/article/evolution-of-japan-s-pharma-wholesalers-by-p-reed-maurer [online] Accessed 20 April 2016.

Reed Maurer, P. (2013b). *Rise or demise of Japan's generics.* The Pharma Letter. http://www.thepharmaletter.com/article/rise-or-demise-of-japan-s-generics-by-p-reed-maurer [online] Accessed 24 April 2016.

Sandelowski, M. 2000. Whatever happened to qualitative description? *Res. Nurs. Health Research in Nursing & Health, 23*(4), 334-340.

Scott, W. R. 2008. Approaching adulthood: The maturing of institutional theory. *Theory and Society, 37*(5), 427-442.

Shiragami, M., Morikubo, M., Suzuki, R., & Kudo, I. (2001). Progress and problems in the Prescribing/Dispensing Split and"Divided Package Sales"by Wholesalers. *Yakugaku Zasshi, 121*(1), 105-111

Silverman, D. (2013). *Doing qualitative research: A practical handbook*. London: Sage Publications.

Slater, S., Paliwoda, S., & Slater, J. (2008). Strategic Inertia and the Japanese Pharmaceutical Industry. *Multinational Business Review, 16*(4), 1-24.

Suzuken. (n.d). Investor Relations. [online] https://www.suzuken.co.jp/english/ir/vision.html Accessed 28 April 2016.

Suzuken. (2010). Annual Report. Leading a Pharmaceutical Distribution Industry in Transition. http://cdplus.jp/ir_front/static/uploads/public/japanese/divide/10109987/9987_10/ar10.pdf Accessed 25 April 2016.

Suzuken. (2014). Annual Report 2014. One Suzuken. http://cdplus.jp/ir_front/static/uploads/image_asset.image.8a486431bd413f76.53555a554b454e20436f2e2c204c74642e5f416e6e75616c205265706f727420323031345f452e504446.PDF Accessed 25 April 2016.

The Pharma Letter. (1996). *Japanese Price Cuts: The Myths And Realities - Pharmaceutical industry*. [online] http://www.thepharmaletter.com/article/japanese-price-cuts-the-myths-and-realities Accessed 14 April 2016.

Thompson, J. D. (1967). *Organizations in action; social science bases of administrative theory*. New York: McGraw-Hill.

Trading Economics (2016). *Japan Sales Tax Rate | Consumption Tax | 2006-2016 | Data | Chart*. [online] http://www.tradingeconomics.com/japan/sales-tax-rate Accessed 26 April 2016.

Umemura, M. (2011). The Japanese Pharmaceutical Industry. Its Evolution and Current Challenges. Routledge, Oxon.

WHO. (n.d.). Generic Drugs. [online] http://www.who.int/trade/glossary/story034/en/ Accessed 1 May 2016.

Williamson, O. E. 1979. Transaction-Cost Economics: The Governance of Contractual Relations. *The Journal of Law and Economics*, *22*(2), 233-261.

World Bank. (2016). *Japan | Data.* [online] http://data.worldbank.org/country/japan Accessed 13 May 2016.

Wuemura, J. (2004). Effect of Separation of Medical and Dispensary Services. JCER Researcher Report No. 36.

Yoshida, E., Toumi, M.. 2012. Generic drug market access in Japan.

8. Appendix

8.1 Interview questions

What effects have M&As had on the wholesale business?

What added value do you see wholesalers offer?

How have MSs role evolved due to deregulations and reorganizations?

How are the NHI Price Revision, the government's generic drugs goal, and prescription vs. dispensing affecting wholesalers business?

What does the increase in delivery spots mean for wholesalers?

What implications is ICT having on wholesalers business?

How does an extended business domain affect wholesalers?

How are wholesalers affected by the anti-monopoly act?