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A Study on Distribution System of Pharmaceuticals in the Korea

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【Abstract】

This study examined state of local pharmaceuticals industry and investigated distribution system. The study found out associated problems as well as improvements of distribution system of local pharmaceuticals. Finally, to improve distribution system of local pharmaceuticals, the study investigated distribution system of 10 kinds of pharmaceuticals of 'J' Company being a leading local manufacturer of local pharmaceuticals, and found out improvements of the distribution system. The study collected and compiled 'J' Company's internal slips and reporting material from April 1, 2008 to July 31, 2008, and interviewed persons in charge continuously to find out state and problems of the distribution system.

Keywords: distribution system, wholesale distribution business, pharmaceuticals, pharmaceutical industry

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I. Introduction

The pharmaceutical industry has high added value. The Bank of Korea's business management analysis says that the pharmaceutical industry has added value of 34.24% in 2006 to be much higher than added value of all of manufacturing industries of 20.90%. Furthermore, the value of pharmaceutical industry has become important because of aging population in the Korea.

The pharmaceutical industry can be classified into the three, that is to say, medicine manufacture, wholesale distribution business and retail distribution business such as organization for patients, for instance, drugstores, hospitals and clinics, etc. Like other industries, local pharmaceutical industry has made an unified system of production, distribution and consumption of the medium of medical supplies. To develop pharmaceutical industry, the three areas shall take their roles to develop in balanced way under organic relations.

Since direct business between local pharmaceutical industry and organization for patients such as drugstores, hospitals and clinics, etc in 1965, advanced and unified distribution system of medical supplies such as production, distribution and consumption, etc was rapidly collapsed. For instance, wholesale distribution of medical supplies occupies 80 to 90% in advanced countries (Lee Eui-kyeong,

2007) and no more than 45.7% in the Korea. The collapsed distribution system of medical supplies made local pharmaceutical industry not to do R&D and produce but to do business activities, so that all of local pharmaceutical industries could not emerge from backwardness. As a result, since medical insurance for all of the people and separation of dispensary from medical practice, local prescription medicine market has been governed not by local pharmaceutical businesses having obsolete way but by foreign capital pharmaceutical businesses relying upon development of new medicine. In other words, in 2006, foreign capital pharmaceutical companies' prescription medicine products occupied six among ten of major prescription medicine products, and the highest ranking to the fifth ranking prescription medicine products were supplied by foreign capital pharmaceutical companies. (Ilkanbosa, 2007).

Therefore, this study examined state and distribution system of local pharmaceutical industry from macroscopic and microscopic point of view and found out problems, and it investigated improvements of local pharmaceutical distribution system. The study investigated and found out state and problems of actual cases from microscopic point of view based on 'J' Company that was a leading pharmaceutical company in the Korea.

II. Analysis on State and Problems of Local Pharmaceutical Distribution System

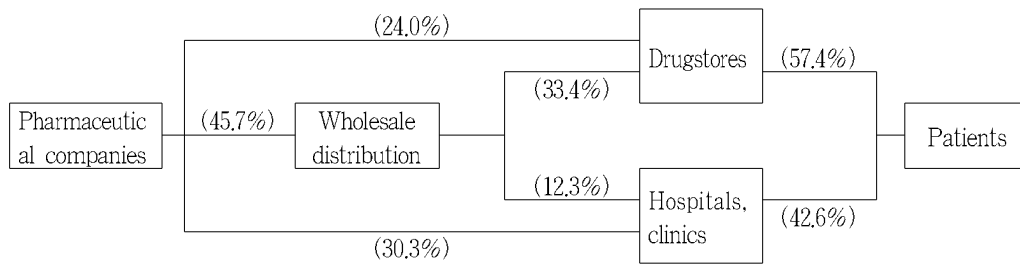
1. State of Local Pharmaceutical Distribution System

1) Ratio of Each Pharmaceutical Distribution System

2007 gross product of medical supplies, etc accounted for 13 trillion and 400 billion Won to be 9.8% up than previous year (Daily Pharm, June 20, 2008). The gross

product accounted for 1.49% of GDP, that is to say, gross domestic product of 901 trillion Won of the same year (the Bank of Korea, Ecos, 2008). Since 2003, the ratio of gross product of medical supplies of GDP has increased continuously. The ratio is not low considering approximate 1.3% in advanced countries.

The ratio of wholesale distribution business of local pharmaceutical market has been no more than 45.7% (Fig 1). The ratio was a little higher than half of 80 to 90% of wholesale distribution in advanced countries. The material has shown backwardness of local wholesale distribution business of medical supplies.



Source: The Association of Honest Report Members of Pharmaceuticals(March 2008)

〈Figure 1〉 Ratio of Distribution System of Medical Supplies in 2007

2) Ratio of Drugstores, Hospitals and Clinics at Pharmaceutical Market

The ratio of drugstores, hospitals and clinics, etc of consumption market of medical supplies has made change greatly

in accordance with system change. The national health insurance system that was in force in 1989 accelerated increase of medical supplies at hospitals and clinics. The ratio of the hospitals and clinics occupied 54.2% at pharmaceutical market in 1993 to increase up to 62.5% in 1999,

while that of drugstores decreased from 45.8% to 37.5%. In August 2000, the separation of dispensary from medical practice was in force to create opposite phenomenon. In other words, drugstores rapidly became center of pharmaceutical

consumption. The ratio of drugstores at the pharmaceutical market increased as many as 18.5% two years from 37.5% in 1999 to 56.0% in 2001, while that of hospitals and clinics rapidly decreased from 62.5% to 44.0%.

<Table 1> Changes of Distribution Channels of Medical Supplies

Classification	2007			2006			2005			2004		
	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total
Drugstores	24.0	33.4	57.4	25.2	35.1	60.3	24.3	34.9	59.2	23.9	35.0	58.9
Hospitals/clinics	30.3	12.3	42.6	26.7	13.0	39.7	26.8	14.0	40.8	26.1	15.0	41.1
Total	54.3	45.7	100	51.9	48.1	100	51.1	48.9	100	50.0	50.0	100

Classification	2002			2001			1999			1993		
	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total	Direct business with pharmaceutical co.	Wholesale distribution	Total
Drugstores	27.8	31.5	59.3	30.3	25.7	56.0	28.3	9.2	37.5	34.1	11.7	45.8
Hospitals/clinics	24.1	16.6	40.7	29.6	14.6	44.0	38.7	23.8	62.5	39.7	14.5	54.2
Total	51.9	48.1	100	59.9	40.1	100	67.0	33.0	100	73.8	26.2	100

Source: Estimation based on turnover from March 2008 to March 1993 of the Association of Honest Report Members of Pharmaceuticals

The ratio of pharmaceutical distribution between drugstores and hospitals and clinics made change to have much influence upon wholesale distribution

business. After the separation of dispensary from medical practice, the ratio of drugstores rapidly increased to raise ratio of wholesale distribution of medical supplies to

increase as many as 15.1% two years, that is to say, 33.0% in 1999, 40.1% in 2001 and 48.1% in 2002. The ratio of drugstores at pharmaceutical market increased because of distribution system of 'small quantity batch and frequent delivery' so that drugstores preferred wholesale business to direct business. Unless large variables are applied in the future, the ratio of drugstore distribution of medical supplies is likely to create effects elevating ratio of wholesale distribution.

3) Ratio of Special Medicine and Common Medicine at Pharmaceutical Market

In 2007, special medicine (health insurance medicine) occupied 76.8% at pharmaceutical market, while common medicine (public medicine, OTC medicine) did no more than 23.2%. <Table 2>. And, the ratio of special medicine increased continuously, while that of common medicine decreased <Table 2>.

In Japan and other advanced countries, special medicine and common medicine generally occupy 85% and 15% respectively. Considering such a fact, the ratio of special medicine in Korea is likely to rise up to 85% in accordance with trends of foreign countries.

The market share of special medicine (for medical treatment) and common medicine (for public use) has made change because health insurance system was in

force and the separation of dispensary from medical practice was introduced and disease types made change.

The change of ratio of special medicine and common medicine at pharmaceutical market is thought to remind local pharmaceutical companies of importance of new medicine development, considering more market government of foreign capital pharmaceutical companies that have 'original new medicine' accompanied by rapid expansion of special medicine market.

4) Expenditure of 「Selling and Administrative Expenses」

The selling and administrative expense that belongs to operating expense can be important basic material that decides on not only economic advantages and efficiency of distribution system of medical supplies but also effectiveness of pricing system. In 2006, the ratio between sales and selling and administrative expense accounted for 36.88%, while the one between average sales and selling and administrative expense of all of local manufacturers did no more than 12.19% being one third. And, expenditure of selling and administrative expenses of pharmaceutical industry has increased from 2004.

The fact has evidenced 'how much pharmaceutical companies spend than manufacturers of other industries do'.

The pharmaceutical companies spent selling and administrative expenses excessively because

〈Table 2〉 Changes of Market Share of Special Medicine and Common Medicine

Year	Special medicine		Common medicine		Total
	Output (billion Won)	Market share (%)	Output (billion Won)	Market share (%)	Output (billion Won)
1990	1,297	41.2	1,850	58.8	3,147
1995	2,471	43.8	3,167	56.2	5,638
1999	3,671	53.2	3,228	46.8	6,899
2000	3,894	60.3	2,563	39.7	6,457
2005	7,005	72.4	2,665	27.6	9,670
2006	7,786	74.5	2,664	25.5	10,450
2007	8,791	76.8	2,652	23.2	11,443

Source: ① 1990~2006: "Statistics of 2007 pharmaceutical industry"

(Korea Pharmaceutical Manufacturers Association)

② 2007: "2007 actual output of medicine, etc" reported by Korea Pharmaceutical Manufacturers Association, June 23, 2008.

they had sales-oriented management strategies by development of easy me-too pharmaceutical products to avoid not only management of uneconomic and ineffective distribution system but also development of new medicine.

5) Expenditure of R&D expenditures

The development of new medicine is said to be one of the most important operation of the pharmaceutical companies. The development shall be very much important at the level of the nation. This is because the people's health dependence on advanced countries may rely upon

development ability of new medicine. Almost no new medicine has been developed in the Korea so far: And, after separation of dispensary from medical practice, foreign pharmaceutical companies dominated local remedy medicine market to lose the people's health sovereignty. Such a thing may produce important situation in the future. The development of new medicine shall rely upon R&D investment. Table 4 has shown actual conditions of R&D investment of local pharmaceutical industry.

〈Table 3〉 Change of the Ratio between Sales and Selling and Administrative expenses
(Unit : %)

Classification	2006	2005	2004
Pharmaceutical industry	36.88 %	34.95 %	34.05 %
Average of local manufacturing business	12.19	12.08	12.18

Source : The Bank of Korea (2008)

The pharmaceutical industry invested R&D expenditure that was 4.99% of the sales in 2004 and was 5.27% to be a little up in 2006. The R&D investment has increased a little year by year to be much lower than that of advanced countries, for instance, 19.4% in the United States, 10.01% in Japan, 31.07% in the UK, 16.39% in Germany, and 16.57% in France, etc.: Furthermore, considering large market scale of medical supplies in advanced countries, local R&D investment of medical supplies is thought to be at stage of toddling. Under such a situation, local pharmaceutical industry may be difficult to be advanced.

6) Wholesale Distribution Margin of Medical Supplies

The gross margin of wholesale distribution can be source of profit creation. However, the gross margin makes pharmaceutical companies bear expenses to

cause complications of distribution system often. The gross margin of local pharmaceutical wholesale businesses in 2001 was thought to be 7.1%: And, it tends to be low continuously every year. For instance, the gross margin was 12.4% in 1994, 7.5% in 2001 and 7.1% in 2006.

The gross margin of recent wholesale business remains very much low considering approximate 1% of net profit to sales ratio of pharmaceutical wholesale businesses at the end of 2007. In other words, the distribution business survival relies upon gross margin of wholesale distribution so that low margin of pharmaceutical wholesale business can be thought to be serious management crisis. The gross margin in average of wholesale distribution business of all of local industries was as high as 14.0% in 2006, so that the pharmaceutical industry was under much bad situation.

〈Table 4〉 Ratio of the sales vs R&D expenditure₁ in Each Country
(Unit : %)

Classification	Korea	USA	Japan	Germany	The UK	France
2006	5.27	19.4				
2005	5.28	18.6	10.01	16.39	31.07	16.57
2004	4.99	18.4	8.64	18.11	29.67	17.36

Source: 2006~2007 Pharmaceutical Industry's Statistics
(Korea Pharmaceutical Manufacturers Association)

2. Problems of Distribution System of Medical Supplies

1) Disadvantages of Direct Deal-oriented Distribution System of Medical Supplies

Normal distribution system of medical supplies in the world has been unified in the process of pharmaceutical companies, wholesale distribution business, drugstores, hospitals and clinics, etc, patients (consumers) in order. However, local distribution system of medical supplies has added one channel from pharmaceutical companies to drugstores, hospitals and clinics, etc to have extraordinary and complicated distribution system. The direct deal distribution system in favor of pharmaceutical companies has produced a lot of adverse effects: For instance, the problems are as follow:

Firstly, deal irregularities have prevailed.

Secondly, sales promotion costs as well as distribution costs were excessively spent to deteriorate profitability and to raise medicine prices.

Thirdly, excessive expenditure of sales management cost has finally reduced R&D costs to prevent development of new medicine having marketability to let foreign capital pharmaceutical companies dominate local pharmaceutical market after the separation of dispensary from medical practice was in force.

Fourthly, the wholesale distribution was

worsened accordingly to make direct deal-oriented irregular distribution system.

2) Small Business System for a Means of Living

A lot of wholesale businesses tend to regard pharmaceutical wholesale distribution business as a means of living because of operation of small business system.

Firstly, the wholesale distribution business has not enough management mind that it shall play a central role of pharmaceutical industry to be a professional distribution business responsible for distribution of medical supplies and to manage wholesale business. Such a thing shall be great obstacle of development of distribution industry.

Secondly, local wholesale distribution business has very small sized distribution facilities, for instance, 3 to 25 persons in charge of warehousing and delivery, 1 to 8 vehicles for transportation, and 106 to 746 m² of warehouse area, so that operation of distribution system largely relies upon manual operation. Under such a condition, acquisition of external competitiveness, reduction of distribution costs and efficient distribution, etc cannot be done at most of the cases.

Thirdly, as a result, the profitability shall be very much low. In other words, the material of the Association of Honest Report Members of Pharmaceuticals has shown that net profit to sales ratio of wholesale distribution business had reached

no more than approximate 1% every year that is about one ninth of 8.7% of pharmaceutical business. Low profit has been made by expenditure of illegal rebate exceeding ability caused by excessive

competition, and excessive expenditure of distribution costs caused by premodern way of inefficient distribution system. And, low profit has close relations with flooding of wholesale distribution businesses.

<Table 5> Changes of Gross Margin of the Wholesale Business Each Year*

Classification	2006			2004			1994		
	Korea		Wholesale business of medical supplies, Japan	Korea		Wholesale business of medical supplies, Japan	Korea		Wholesale business of medical supplies, Japan
	Wholesale business of medical supplies	Average of all of wholesale businesses		Wholesale business of medical supplies	Average of all of wholesale businesses		Wholesale business of medical supplies	Average of all of wholesale businesses	
Gross margin	7.1	14.0	7.4	7.5	17.4	8.3	12.4	12.7	12.3

3) The Market flooded with Wholesale Distribution Businesses and Illegal Deals

Local wholesale distribution businesses of medical supplies are much overcrowded¹⁾. The overcrowded number of the business has triggered price competition and sales

promotion competition. The profitability has been worsened to do business in red and to disclose serious problems of the distribution businesses such as dishonor. Even if low wholesale business margin creates deficit operation, the distribution businesses do illegal business to raise a slush fund for sales promotion and to expand illegal deals that are not transparent.

* The material of Korea has referred to ① 2008 and 1996 business report published by the Association of Honest Report Members of Pharmaceuticals, and ② 2006, 2005 and 1994 Business Management Analysis published by the Bank of Korea, while that of Japan has done handbook of pharmaceutical business 2008, 2007 and 1996 published by JIHO Company.

1) Number of wholesale distributors: ① USA : 85, Denmark : 4, Germany : 134, The UK : 215 (see the 3rd page of 'Medical supplies distribution innovation project', the Ministry of Health and Welfare, November 30, 2000) ② Japan : 128 (see the 26th page of 'the 1st term Korea-Japan medical supplies forum', September 15, 2007) ③ Korea : 1,209 (General and comprehensive wholesale business published by the Association of Wholesale Business, December 31, 2007)

III. Case Study of Distribution System of Medical Supplies

As discussed in previous chapter, state and problems of distribution system of medical supplies have been examined from macroscopic point of view. We also investigated actual conditions and problems

of the distribution system from microscopic point of view based on the case of 'J' Pharmaceutical Company that is a leading company having high ratio of direct deal, and found out improvements of local distribution system of medical supplies.

We collected and investigated internal slips and report material with help of 'J' Company from April 1, 2008 to July 31, 2008, and interviewed the ones in charge continuously to investigate distribution system as well as cost system.

1. Case of 'J' Company (Pharmaceutical Company)

1) Outlook of 'J' Company

The outlook of 'J' Company is as follow (Table 6): the company was founded in 1972, and the sales in 2007 was 104.5 billion Won. The company produces pharmaceutical product that can be covered by medical insurance. As many as 532 employees work for the company, and 234 employees work for sales business. The

company has recorded 5.3 billion Won of current net income with good financial structure.

2) 'J' Company's Distribution System and State

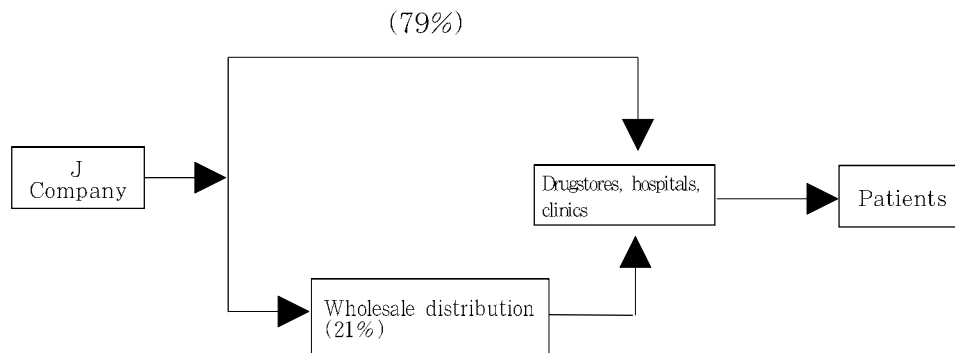
(1) Distribution Channel and Sales of Each Channel

'J' Company's distribution channel is as follow <Fig 2>: In 2007, direct business with drugstores, hospitals and clinics, etc occupied 79% of the sales amounting to 104.5 billion Won, and the sales through wholesale distribution business occupied no more than 21%.

And, 234 workers at sales business department consisted of 224 workers of direct sales business department and 10 workers of wholesale business department. In 2007, annual sales in average per sales businessman was 369 million Won of direct businessman and 2 billion and 195 million Won of wholesale businessman that was as many as 6 times of that of direct businessman.

<Table 6> Outlook of 'J' Company

Foundation date	May 1972	Sales (2007)	104.5 billion Won
Type of business	Manufacture of medical supplies covered by medical insurance	Selling & general administrative expenses (2007)	50.1 billion Won
Number of employees	Total number of employees : 532 (Number of sales business employees : 234)	Current net income (2007)	5.3 billion Won
Number of products produced and sold	153	Capital	12.5 billion Won



〈Figure 2〉 'J' Company's distribution channel of medical supplies

(2) Distribution Margin

'J' Company pays wholesale distribution margin to wholesale distribution business after deducting 7.3% from the value calculated by medicine price covered by medical insurance (upper limit of medicine pay)²⁾. The company, however, does not give distribution margin to drugstores, hospitals and clinics, etc that are direct business customers. This is because the medical insurance system does not admit of margin for drugstores, hospitals and clinics, etc: When either pharmaceutical companies or wholesale businesses give margin to drugstores, hospitals and clinics,

etc, medicine prices covered by medical insurance shall be lowered immediately.

(3) Actual Condition of Product Development Investment

No investment of new medicine has been made so far, and new medicine has been developed based on special medicine having characteristics of me-too product. Therefore, in 2007, the ratio of R&D expenditure to the sales was no more than 2.3% to be much lower than 5.27% of the average of local pharmaceutical businesses (Statistics of 2007 Pharmaceutical Industry published by Korea Pharmaceutical Manufacturers Association).

(4) Comparison on Efficiency of Operating Expenses of Each Distribution Channel

To reflect to improvements of distribution system of medical supplies, we investigated economic efficiency between direct business with drugstores, hospitals

2) 「Upper limit of medicine pay」 indicates 「Medicine price covered by medical insurance」 that has been decided by notice of the Ministry of Health and Welfare. As many as 14,794 medicines have been nominated to be medicines covered by medical insurance as of May 1, 2008 and to be notified at 「Upper limit of medicine pay」. When wholesale distributors of medical supplies including manufacturers sell medical supplies to drugstores, hospitals and clinics, etc, the factory price is known to be uniformly applied by medicine price covered by medical insurance except for hospitals that buy medicines by public tender.

and clinics, etc and indirect business through wholesale business.

We measured the efficiency between both business methods by 'sales per operating expense' that has divided sales of each business system by each operating expense. 'Operating expense' indicates aggregation of selling and general administrative expense and distribution margin. The selling and general administrative expense of both business methods was allocated as follow: The selling and general administrative expense was divided into two, that is to say, direct expense and indirect expense, and indirect expense was put into each business method based on either number of persons or weight of the sales depending upon expense item.

As a result, 'J' Company's distribution channel of medical supplies in 2007 has efficiency of operating expense as follow (Table 7):

In the case of 'J' Company, sales per operating expense of 3.8 Won of indirect business method (wholesale) was more than two times higher than that of 1.8 Won of direct business method. The indirect business method had much higher efficiency of operating expense than the direct business method despite additional expense of 'wholesale distribution margin' because 'J' Company had advantage of wholesale distribution of low expense and high efficiency that could elevate sales by employing less salesmen and paying less

selling and general administrative expense. The wholesale distribution is economic and effective distribution channel that can have economy of scale playing a role of reservoir, good geographical and time access with retail businesses and optimize number of cases of business transaction at distribution process.

In advanced countries, the distribution channel of medical supplies has been usually unified in the process of pharmaceutical companies, wholesale distributors, retailers such as drugstores, hospitals and clinics, etc and patients in order: This is because wholesale business is more advantageous than direct business is as shown in the case of 'J' Company.

3) Problems of 'J' Company's Distribution System of Medical Supplies

(1) Sales-oriented Distribution Channel Not Considering Economic Advantages and Efficiency

As explained before, 'J' Company selected main distribution channel not by 'wholesale distribution channel' having more than 2 times efficiency of sales per expenditure but by ineffective 'direct business channel'. 'J' Company did not make reasonable decision based on 'economic principle'. 'J' Company was thought to consider sales based on distribution channel strategy and to have no idea on economic advantages of the

expenses as well as efficiency of the distribution.

<Table 7> Comparison on the Efficiency of Selling and General Administrative Expense of Each Distribution Channel in 2007

Classification	Sales (100 million Won)		Operating expense (100 million Won)			Sales per operating expense (Won) (A÷B)
	Amount (A)	Ratio	Distribution margin	Selling & general administrative expense	Total (B)	
Direct business method	826	79%		459	459	1.8
Wholesale business method	219	21	16	42	58	3.8
Total	1,045	100	16	501	517	2.0

(2) Bubbles of Medical Insurance Medicine Prices

'J' Company's ratio of sales vs selling and general administrative expense in 2007 is as high as 48% that is much higher than 36.88% of average of pharmaceutical industry and 12.19% of average of manufacturing industry in 2006. Generally speaking, either unreasonable management or product prices with high interests shall have high selling and general administrative expenses. Therefore, considering very high selling and general administrative

expense, 'J' Company's medical insurance medicine price seems to have considerable amount of bubbles. As mentioned before, 'J' Company's unreasonable distribution channel is thought to add much margin bubble exceeding proper level of profits to medical insurance medicine prices so that the company needs not pursue

reasonableness.

(3) Distrust on Wholesale Distribution Businesses

'J' Company thought that wholesale distribution businesses were unable to do commercial distribution and physical distribution that the company expected. In particular, distrust on commercial distribution was large. 'J' Company thought that wholesale

distribution businesses was not the ones who could create new order by sales ability but the ones who had sales business ability to get order passively. Therefore, 'J' Company did not think of efficiency of selling and general administrative expense for sales from the beginning, and it constructed large direct sales business system to raise and manage a lot of direct sales businessmen who could create new order.

IV. Improvement of Distribution System of Medical Supplies

As discussed at previous chapter, we examined state and problems of distribution system of medical supplies. This chapter examined improvement of distribution system of medical supplies.

1. Reinforced Roles and Functions of Wholesale Distribution Businesses

To take the lead of pharmaceutical industry free from influence of pharmaceutical businesses, wholesale distribution businesses of medical supplies are demanded to make change of paradigm of roles and functions of existing wholesale distribution businesses. The wholesale distribution businesses shall be not the ones who buy medical supplies from pharmaceutical companies to sell and deliver it to drugstores, hospitals and clinics, etc based on traditional roles and functions, but the ones who are responsible for doing all of marketing businesses of pharmaceutical industry.

2. Wholesale Distribution Business Manager's Reformed Consciousness

The development of business and industry mainly relies upon each manager's management mind. The managers who think of their business entities as a means of living are unable to overcome such a level

of management, while the ones who think of developed business entities enough to do roles and functions of wholesale distribution businesses shall develop business definitely. Therefore, to develop wholesale distribution industry, managers are demanded to have management mind of firm will of innovation to make change and develop business.

3. Upgraded Commercial Distribution

The wholesale distribution business of pharmaceutical industry has done much passive and simple commercial distribution so far. The wholesale business bought medical supplies from either pharmaceutical companies or other wholesale businesses and delivered it upon request of either drugstores, hospitals and clinics, etc or another wholesale businesses and collected money. The distribution business is not expected to develop by repeating the business process. In the era of market economy and distribution, the distribution business shall always think of customers' situation to investigate and satisfy customers' need. The distribution business shall always keep in mind that not only drugstores, hospitals and clinics but also pharmaceutical companies are customers. It has done active marketing strategies of drugstores, hospitals and clinics that are important customers from its point of view. Therefore, the wholesale distribution business had difficulties. This is because pharmaceutical companies had rights of the

supply to be important customers of the wholesales distribution business.

In particular, medical supplies are said to be special products that have not only keen competition but also monopoly, so that pharmaceutical companies' supply rights often exercise power. The pharmaceutical companies' supply rights can be busy with 'assortment of medical supplies' that is important strategies of the wholesale distribution business. The pharmaceutical companies shall alleviate conflicts of distribution system with pharmaceutical companies to develop. This is because pharmaceutical companies know well that wholesale distribution may be more economic and effective than direct business is.

4. Upgraded Distribution

The physical distribution is generally said to be an economic activity that transports and delivers medical supplies after doing business to create time and space efficiency. Currently, the wholesale distribution business is handling small quantity of medical supplies to have premodern and manual operation of distribution facilities that have low competitiveness and no economy of scale. And, after the separation of dispensary from medical practice, drugstore distribution has rapidly increased to raise distribution expenses greatly (Cho Jae-kuk et. al, 2002).

Therefore, without large distribution

facilities having economy of scale, the wholesale distribution business is not expected to develop. 'Joint distribution' is thought to be important to solve the problem. Each individual wholesale distribution business is unable to keep large distribution facilities because of small quantity of medical supplies to deliver, and it cannot improve physical distribution without large distribution facilities. But, when many wholesale businesses are united, they can have more medical supplies for delivery to expand distribution facilities. The joint distribution can expand and modernize wholesale distribution facilities to elevate efficiency and economic advantage of physical distribution so that the wholesale distribution business of medical supplies can realize motto of medical supplies distribution of 'cheap, quick, exact and safe' to elevate external competitiveness and to be advantageous at competition with foreign capital distribution business. In particular, the wholesale distribution can elevate economic advantages as well as efficiency to get competitiveness.

5. Transparent and Active Distribution Information

The 21st century is said to be the era of information. The medical supplies is special product protecting human health so that quality and transaction (channel) information of distribution process has become important. Regrettably, almost no

one has acknowledged importance of the information in the process of wholesale distribution. Multinational companies such as IMS Korea, foreign capital pharmaceutical companies and Zuellig, etc that have entered the Korean market have been stimulated to construct information system and to make no great change. The distribution information is certain to be urgently required. The distribution information of medical supplies shall be much useful material for pharmaceutical industry. The drug information of quality in distribution process shall be essential to do quality control of medical supplies of either government authority or pharmaceutical companies, and business transaction information shall be required to establish marketing strategies of members of pharmaceutical industry and to be useful at establishment of business transaction order. And, the business transaction information shall be taxation material at the source of government authority to be used usefully at stabilization and management of health insurance finance. Therefore, the distribution information shall be transparent and shall be collected actively in realtime.

First of all, wholesale distribution businesses shall supply and produce distribution information of medical supplies. This is because the wholesale distribution industry plays an important role at

pharmaceutical industry. The wholesale distribution businesses shall supply and produce distribution information to give opportunity acknowledging wholesale distribution business newly and to be likely to contribute to improvement of distribution system very much.

V. Summary

In this study, the distribution system of medical supplies had problems as follow: Firstly, the system had bad effect of direct business-oriented distribution system of medical supplies. Secondly, the system was small for livelihood. Thirdly, wholesale distribution businesses were flooded and illegal transaction prevailed. To investigate the problems exactly, we collected and examined internal slips and reports by help of 'J' Company from April 1, 2008 to July 31, 2008, and interviewed persons in charge continuously to investigate analysis of distribution system and cost system: Firstly, direct business with drugstores, hospitals and clinics, etc accounted for 79 percent of 104.5 billion Won of the sales in 2007, while the sales through wholesale distribution business did no more than 21 percent. In other words, 'J' Company paid wholesale distribution margin to wholesale distributors after deducting 7.3% from transaction calculated in medicine price covered by medical insurance (upper limit of medicine payment). The company,

however, did not give distribution margin to direct business customers of drugstores, hospitals and clinics, etc. Thirdly, considering actual condition of product development and investment, the ratio of sales vs R&D expenditure in 2007 accounted for no more than 2.3% that was much lower than 5.27% of the average of local pharmaceutical businesses. Fourthly, the ratio was very much low considering efficiency of operating expense of each distribution channel.

Therefore, 'J' Company had problems of distribution system of medical supplies: Firstly, the selection of sales-oriented distribution channel did not consider economic advantage and efficiency. Secondly, medicine prices covered by medical insurance had bubbles. Thirdly, distrust on wholesale distribution businesses grew.

And, we investigated state and problems of distribution system of medical supplies to suggest improvements of distribution system of medical supplies as follow: Firstly, the wholesale distribution business shall reinforce roles and functions. Secondly, managers of the wholesale distribution business shall reform consciousness. Thirdly, commercial distribution shall be upgraded. Fourthly, physical distribution shall be upgraded. Fifthly, the distribution information shall be transparent and active.

This study had limitation that associated companies resisted disclosure of material

more than expected. As a result, negative results at improvement of distribution system of medical supplies may be produced. The purpose of the study was to suggest direction of improvement of distribution system of medical supplies in the nation, and associated companies were demanded to cooperate actively to research more precisely.

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〈국문요약〉

국내 제약 산업의 유통시스템에 관한 연구

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본 연구는 국내 제약 산업의 현황과 유통시스템을 조사하였다. 본 연구에서는 국내 제약 산업 유통시스템의 문제점을 찾아내고 그에 따른 개선점도 동시에 제시하였다. 연구는 국내 제약 산업의 유통시스템을 개선하기 위해서 국내 제약 제조의 선도기업인 'J'기업의 10가지 유통시스템을 대상으로 조사하였으며 그에 따른 유통시스템의 개선점도 찾을 수 있었다. 본 연구는 'J'기업의 2008년 4월 1일부터 7월 31일까지의 내부 보고서를 중심으로 자료를 수집하였으며 또한 지속적인 담당자 면접을 통해 유통시스템의 문제를 밝혀냈다. 그 결과 의약품 유통시스템의 문제점으로 첫째, 직접 판매 비즈니스의 부정적 효과를 가졌고 둘째, 생계유지형의 영세한 구조였다. 셋째, 도매유통이 넘쳐나고 불법적인 거래가 보편적이었다. 이러한 문제점을 극복하기 위해서는 다음과 같은 몇 가지 대안이 시급히 마련되어야 한다.

첫째, 도매유통시스템의 역할과 기능을 더욱 강화해야 하며 둘째, 도매유통시스템 관리자의 신중한 유통시스템의 재설계가 필요하다. 셋째, 상적 유통이 더 업그레이드(upgrade) 되어야 하며 넷째, 물적 유통 또한 추가적인 업그레이드가 필요하다. 마지막으로 의약품 유통시스템 문제 해결을 위해서 투명하고 활동적인 정보시스템이 반드시 이루어져야 함을 제시한다.

주제어: 유통시스템, 도매유통비즈니스, 제약업, 제약산업

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