DISTRIBUTION SYSTEM OF PHARMACEUTICALS PRODUCTS: A STUDY ON SQUARE PHARMACEUTICALS LIMITED

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Abstract: *The aim of the study is to understand the current scenario of the pharmaceutical industry and the product distribution system of this industry in Bangladesh. As we know, distribution includes all activities that enable the transfer of material and/or economic product over tangible and/or intangible goods from one economic subject to another. Pharmaceuticals distribution is different from the general product distribution system. To understand the distribution system, Square Pharmaceuticals Limited (SPL) has been selected as the present market leader in the country. SPL is the leading generic pharmaceutical manufacturer in the country which producing quality essential and other ethical drugs and medicines. The distribution system of SPL is somewhat different from other pharmaceutical companies. How the distribution happens and how the company sets the distribution network studied here. This study thus attempts to examine several problems related with the distribution channel and at the end of the paper a few recommendations are given on the basis of the problem.*

Keywords: Pharmaceuticals, Distribution, Generic, SPL.

INTRODUCTION

Distribution is one of the most important business activities as it ensures the visibility and availability of the particular product in the market. Distribution encompasses a system of all activities that are related to the transfer of economic goods between manufacturers and consumers (Domschke and Schield, 1994). A channel of distribution facilitates the movement of a product from the producer to the final customer. In many cases, these channels include an organized network of producers, wholesalers, and retailers that develop relationship and work together to make products conveniently available to customer. By ensuring proper distribution of products to the customers help the companies to sustain in the market for a long time.

Pharmaceutical is one of the fastest growing sectors in Bangladesh. After tobacco, pharmaceutical is the second largest revenue generating industry in this country. Physical distribution of pharmaceuticals products in Bangladesh has evolved in a unique way that is not similar to general items. Pharmaceutical industry in our country is more retail oriented and bulk of distribution is done by companies (Khan and Sharmin, 2011). Most of the pharmaceutical companies

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distribute their products from their own warehouses located in different parts of the country. In our country the industry is expanding with more than 265 manufacturers, rising to new heights with new and improved products. Among all the manufacturers, Square Pharmaceuticals Limited (SPL) is the present market leader in the Bangladeshi pharmaceutical industry (Chowdhury, 2010). SPL is the largest pharmaceutical company in Bangladesh and it has been continuously holding 1st position among all national and multinational companies since 1985 for delivering quality medicine timely to the consumer (Annual Report of Square Pharmaceuticals Limited, 2011). SPL maintainsits own distribution channel that is fully different from other pharmaceutical manufacturers in our country. Pharmaceuticals product distribution has its own way and regulation to distribute any product on the market. In this study, it is focused on howSPL distributes its product to the customer by applying its unique way of distribution.

LITERATURE REVIEW

Channel of distribution determines the route along which goods and services travel from producer/manufacturer through marketing intermediaries (such as wholesalers, distributors, and retailers) to the final user of the product. Channels of distribution provide downstream value by bringing finished products to end users (Ostrow, 2009). This flow may involve the physical movement of the product or simply the transfer of title to it. It can be defined as a distribution channel, a distribution chain, a distribution pipeline, a supply chain, a marketing channel, a market channel, and a trade channel etc. (Rosenbloom, 2004). Consequently a good number of research works have been conducted on this issue in different folds. A brief review of literature regarding pharmaceuticals product distribution in home and abroad has been presented in the following paragraph.

Kotler and Keller (2011) described that most producers do not directly sell their goods to the final users or the end users; between this two, it stands a set of intermediaries performing a variety of functions, these intermediaries constitute a marketing channel. Basically, marketing channels defines as the sets of interdependent organizations involved in the process of making a product or service available for using or consumption to the customer. Hill (2010) defines that distribution channel comprises of one or more companies or individuals who participate in the flow of goods and services from the manufacturer to the final user or consumer. Rosenbloom (2004) mentions distribution channels have traditionally been seems as a network that made of interdependent institutions that have banded together for purposes of trade and mutual advantage. Coyle and Bardi (2003)studied that channel of distribution consist of one or more companies or individuals who participate in the flow of goods, services, information, and finances from the producer to the final user or consumer. Ridgeway (1962) suggested despite the differing goals of independent channel

partners, the distribution channel needs to function effectively as an integrated system so as to reduce the redundancy of work effort and the possibility of the inefficient allocation of distribution tasks and functions among channel participants.

Lei et al. (1996) depicts that pharmaceutical as an industry which is unique among manufacturing industries, which demand a lot in terms of innovations and fulfilling the demand of customer through proper delivery of products. The management of knowledge can be considered as the principal dynamic capability for firms. Lall (1985) identifies that the nature of the pharmaceutical industry is such as to invite policy interventions in almost all aspects of its operation from production to distribution. Pharmaceuticals manufacturer needs to follow some strict rules and regulation before going to manufacturing and distribution. Love (2006) Studied, the pharmaceutical industry in Bangladesh was reported as the largest in the least-developed countries with a total market size of $0.5 billion, which has been experiencing a healthy annual growth rate of 22 % for the last couple of years. Herein, the expansion of distribution of pharmaceuticals product in the local and foreign market has a great contribution for the economy.

Sampath in his study in 2007, a total number of registered 237 pharmaceutical firms are operating in Bangladesh. As top 10 firms enjoy 70% of the total market, the big firms have considerable reputation and they enjoy greater price differentials. A total number of 450 generic drugs are available in 5300 different brands, in 8300 different strengths and dosage forms, are sold in Bangladesh through different channel of distribution in the country. Chowdhury (2007) has revealed a statistics which shows that, a handful of companies have made their presence in 68 different export destinations, including UK market, one of the most regulated markets in the world, with a volume of trade worth $0.0257b (TK. 1.8b). The export value remains insignificant, accounting for only 5% of the total domestic market size. Vanduzer (2003) in his report has emphasized that, about 97% of the drugs consumed in Bangladesh are produced domestically of which 93% occupied by local producers with a good flow of direct distribution. Sampath (2007) mentioned that we are largely depending on many countries for sourcing of raw materials, in order to reduce dependency on foreign sourcing the industry needs to build its own backward linkage. Right at this moment, Bangladesh can produce 10-12 APIS (Active pharmaceutical Ingredients). Only four companies: Square, Beximco, Gonoshastho, and Drug International Produce APIs. Currently, six top local firms in Bangladesh are trying to secure skills and scientific infrastructure in order venture into API production and reverse engineering. If we can produce APIs at a low cost, we can manufacture directly and distribute our products at a minimal cost.

Nitun et al. (2007) studied that pharmaceutical industry functions in a unique environment as compared with other industry verticals. Highly regulated nature of the pharmaceutical business makes specific functions associated with these processes distinctly different. Saxena (2008) focused on pharmaceutical

marketing procedure that, a specialized field where medical representatives form the backbone of entire marketing effort works in a group. Pharmaceutical companies appoint medical representatives and assign them defined territories. Medical representatives meet doctors, chemists and stockiest as per company norms. Medical representatives try to influence prescription pattern of doctors in favor of their brands. This is a direct form of product distribution by the companies

Bhuiyan et al. (2011) mentioned that, the Bangladeshi pharmaceutical industry is mainly dominated by domestic manufacturers. Of the total, local companies are enjoying a market share around 80%, while the MNC's are having a market share of 20%. Purchasing power of urban areas account for 85% of the modern market. The five major market- Dhaka, Chittagong, Comilla, Sylhet and Khulna account for 70% of the entire market. In rural areas, the vast majority of the population goes to unqualified Allopaths, un-trained paramedics, untrained midwives and traditional healers for treatment. They take up a large share of market. The pharmaceutical market can also be grouped on the basis of demographic concentration. The main consumer of pharmaceutical products is the above 16 years. The pharmaceutical industry as a business sector is performing relatively well in Bangladesh. Dhaka division is contributing as high as 35% and Chittagong division with 21% of the total sales of total pharmaceutical industry. The main reason for this is the high density of doctor's community in these two divisions. Record shows that around 55% of the doctors and 58% of the chemists are within Dhaka and Chittagong divisions. Rajshahi account for 20%, Khulna account for 14%, Sylhet account for 6%, and Barisal account for 4% of the national sales. Shariat and Razzak (2006) argued that some significant problems are prevailing in this sector. They also claimed that pharmaceutical industry in Bangladesh has achieved remarkable growth and has ample opportunity to grow in future. Pharmaceutical industry in this country is still at its growth stage and the companies are generating new demands for their new products. The market has experienced a tremendous rate of new product introduction, enjoying the patent free market environment.

Now a days pharmaceutical industry in Bangladesh is growing more competitive with many dimensions. More than 265 manufacturers are operating in this industry with various product categories (Khan and Sharmin, 2011). Domestically, Bangladeshi companies including the locally based MNCs produce 95%-97% of the drugs and the rest are imported. The domestic market is highly concentrated and competitive. However, the local manufacturers dominate the industry as they enjoy approximately 87% of market share, while multinationals hold a 13% share. Another notable feature of this sector is the concentration of sales among a very small number of top companies. The top 10 players control around two-third of the market share while the top 15 companies cover 77% of the market (BAPI and newspaper reports, 2011). Among all SPL leading the market by introducing highest number of brands every year. Last year, they

introduced 109 new medicines in the market, where Incepta Pharmaceuticals Ltd(IPL) introduced 88 new brands in the market (Bhuiyan et al., 2011). Every pharmaceutical manufacturer maintains different ways of distribution but most of them follow one another. The flow of raw materials and production determines the distribution of pharmaceuticals product throughout the country on the basis of demand (CPMP, 1999). Direct print media or air-media advertisement of any product is strictly prohibited in our country. Expert team, sales team and other forms of direct and indirect communication can be used to promote pharmaceuticals products. In this study, it is focused that among different distribution systems and different distribution channel of pharmaceutical manufacturer show Square Pharmaceuticals Limited (SPL) maintains their own distribution route and capture the largest share by holding the first position in the market. Square Pharmaceuticals is the stand out market leader with a market share of 19.3% which posted domestic revenue of BDT 11.2 billion in the last four quarters (Annual Report of SPL, 2010). Their nearest competitors are Incepta Pharmaceuticals and Beximco Pharmaceuticals with market shares of 8.2% and 7.6% respectively. Incepta and Beximco had BDT 4.9 billion and BDT 4.4 billion in domestic sales for the last four quarters. Although a number of MNCs is operational in Bangladesh market, no MNCs are in the top ten in terms of domestic sales (BAPI, 2011).

Table 1: Domestic Market Share of Companies

Top Companies	Revenue Apr'09-Mar'10 (MM BDT)	Market Share	Revenue 2009 (MM BDT)	Market Share
Square Pharmaceuticals	11,158	19.3%	10,701	19.5%
Incepta Pharmaceuticals	4,919	8.5%	4,524	8.2%
Beximco Pharmaceuticals	4,415	7.6%	4,239	7.7%
Opsonin Pharmaceuticals	2,817	4.9%	2,614	4.8%
Eskayef Pharmaceuticals	2,788	4.8%	2,520	4.6%
Acme Laboratories	2,717	4.7%	2,640	4.8%
Renata Limited	2,623	4.5%	2,495	4.5%
ACI Limited	2,466	4.3%	2,460	4.5%
Aristopharma	2,355	4.1%	2,240	4.1%
Drug International	2,283	3.9%	2,132	3.9%
Sanofi-Aventis	1,700	2.9%	1,634	3.0%
GlaxoSmithKline	1,266	2.2%	1,229	2.2%

Top Companies	Revenue Apr'09-Mar'10 (MM BDT)	Market Share	Revenue 2009 (MM BDT)	Market Share
Novo Nordisk	1,005	1.7%	878	1.6%
Sandoz	936	1.6%	908	1.7%
Novartis	675	1.2%	558	1.0%
Others	13,691	23.7%	13,158	24.0%
Total	57,815	100.0%	54,929	100.0%

Source: BAPI and Newspaper Reports, 2011

A brief review of literature on pharmaceuticals product distribution shows that the issue has not been studied with its due importance in pharmaceuticals sector, the most rising socio-economic sector of our country. The present study is an attempt to have a deeper look into the issue by describing the ways of distribution of pharmaceuticals product through different channels by Square Pharmaceuticals Limited.

OBJECTIVES

The broad objective of this study is to understand and analyze the process of distribution of the pharmaceuticals products in Bangladesh, specifically Square Pharmaceuticals Limited (SPL). The specific objectives of this study are:

1. to show the present pharmaceuticals market condition in Bangladesh.

2. to explore the way of Square Pharmaceutical's distribution system.

3. to determine the problems and constraints regarding the distribution of Square pharmaceutical's distribution system.

4. to identify how the distribution system will be operated more profitably and forth some recommendations are given.

METHODOLOGY

In social sciences research the basic instruments for collecting data includes the study of documents, interviews, observations, and questionnaires (Blaxter et al., 1997). Corbetta (2003) also argues that,

> *"...three fundamental actions underlying the techniques of qualitative research are observing, asking and reading."*

This research uses interviewing method to collect reliable and credible data. This study is basically quantitative in nature based on both secondary and primary data. Different national and international published literatures, journals,

brochures, articles, researches, case studies etc. are followed for gathering data from secondary sources regarding pharmaceuticals distribution. Both primary and secondary data analyses are selected as the basic research method. Annual report of Square Pharmaceuticals Limited (SPL) is reviewed to identify and find out necessary information in this regard. Documents on distribution systems and related issues were considered in this regard and, while selecting the documents from where data was to be extracted, it is considered the relevancy of issues to the study.

Considering the approach of research methodology of this study some may find the chosen approach of qualitative methodology inappropriate, claiming – it does not use numeric fact figures that are easier to figure out and perceive, resulting ease in understanding any phenomenon; and it allows direct interview method that may facilitate understanding individual issue. One limitation of this research is dearth of updated secondary data. Reliability of secondary data in the context of Bangladesh is another crucial limitation. While using secondary data, researcher was cautious and judgmental to avoid the limitation related to reliability issue. In this study we have studied on distribution of pharmaceuticals product that is very common and necessary but there are several special and emergency product or medicine items which follow a different form of distribution network- a major form of distribution of this industry has also not been studied in this report. Further research is apprehended to address all these issues not incorporated in this paper.

PRESENT STATUS OF THE PHARMACEUTICALS INDUSTRY AND THE DISTRIBUTION PROCESS

The Government is committed to ensure the quality of pharmaceutical products manufactured domestically. The Directorate of Drug Administration has, therefore, been upgraded into Directorate General of Drug Administration. Good Manufacturing Practice (GMP) in pharmaceutical industries helps produce good quality medicine of international standard. Currently, Bangladesh is exporting as many as 187 brands of medicines and raw materials to 92 countries including USA and UK. Almost all essential drugs are now manufactured in the country. Pharmaceuticals industry is the core of healthcare sector of Bangladesh. The pharmaceutical sector attained a growth of 22.30% during the year 2011 as against 23.80% during the previous year. The national pharma market growth of the past few years are given below:

Table 2: Market growth of Pharmaceuticals Industry

Year	National Market Growth Rate
2007	15.80 %
2008	6.91 %
2009	16.83 %
2010	23.80%
2011	22.30%

Source: IMS Report, 2011 (Annual Report of SPL: 2011-12)

The growth trend indicate positive outlook. The growth of the economy at 6.7% during FY 2011-12 offers scope for further growth in investment for expansion in this sector.

Being part of healthcare sector, its performance is related to demographic variables like population growth as well as economic growth and healthcare policy. The following table represents changes in our demographic variables, economic growth and performance of Pharmaceuticals industry:

Table 3: Economic Growth and Performance of Pharmaceuticals Industry

Indicator Name	Unit	2005	2006	2007	2008	2009	2010
GDP growth (annual %)	%	5.96%	6.63%	6.43%	6.19%	5.74%	6.7%
Health expenditure (% of GDP)	%	3.21%	3.40%	3.46%	3.32%	3.35%	3.21%
Pharmaceuticals market size	BDT (Bn.)		35.42	37	40	54.93	68
Pharmaceuticals Industry Growth				%			
Pharmaceuticals Export	$ (Mn.)	18.18	26.96	37.74	46.54	45.71	50

Source: Shawon, S. A. (2011)

Currently, a total of 265 allopathic manufacturing units are producing 22903 brands of medicines and raw materials worth Tk.10,000 crore annually. More than 97 percent of the total domestic requirement is met by local production. Again, a sizeable quantity of *Unani, Ayurvedic* and *Homoeopathic* medicines are also being produced in the country with significant contribution to the healthcare sector of the countryway (Bangladesh Economic Review, 2012).There are two public pharmaceutical laboratories to assess the quality of drugs. A plan has been

taken to establish one more modern and self-contained laboratory very soon. The drug price policy together with the drug list is being amended to make the essential drugs available at affordable price to the marginal users. Steps have been taken to modernize the drug testing laboratory under the Institute of Public Health by bringing it under the supervision of the Directorate General of Drug Administration. National Drug Policy 2005 has been updated and revision of the Drug Control Ordinance 1982 is under way (BAPI and Bangladesh Economic Review, 2012).

There are 265 licensed pharmaceutical companies in Bangladesh (DGDA, 2012). The industry contributes 1% to the country's GDP and is the third largest industry in terms of contribution to government revenue (Saad, 2012). The market is almost self-sufficient in meeting local demand as 97% of the drugs are manufactured locally and in 2011 the retail market size was estimated around BDT 84 billion (Saad,2012). The Bangladesh pharmaceutical industry is exporting to 92 countries (Hasina,2012) and the exported products worth more than US$ 50 million in 2012 fiscal year (Ahmed, 2012). Generation of revenue of in pharmaceutical industry largely depends on the distribution of medicine.

Pharmaceutical product distribution in our country is different from the distribution of other necessary goods. Direct marketing of any pharmaceuticals product in our country is strictly prohibited in the code of Pharmaceutical Marketing Practices (CPMP, 1994). Whereas different promotional activities can be taken in many folds. The code describes that, "Promotion" means those informational and marketing activities, undertaken by a pharmaceutical company or with its authority, the purpose of which is to induce the prescribing, sales, or use. It includes the activities of representatives and all other aspects of sales promotion in whatever form, such as journal and direct mail advertising; participation in exhibitions; the use of audio-cassettes, films, records, tapes and video recordings; the use of view data systems and data storage devices such as memory discs accessed and reproduced on television apparatus, visual display units and the like; the provision of samples, gifts and hospitality. (CPMP, 1994). The pharmaceutical distribution channel is indirect with usually three channel members i.e., depot/C&F, stockiest and chemist. (Saxena, 2008). But in our country there are three types of pharmaceuticals distribution channel in Bangladesh: (a) Public hospitals, (b) Private hospitals, and (c) Private pharmacies or drug stores.

Public hospitals are collected the medicine mainly from the state-owned Essential Drugs Company Limited (EDCL), whereas private hospitals and pharmacies collect their medicine from the private producers. However, public hospitals can also source from private pharmaceuticals through tender bids. (Chowdhury, 2010)

In the private sector, there is a network of distribution of medicine from the production to consumer. Small and medium scaled pharmaceutical companies

sell their product directly to wholesalers from the factory and the large companies usually have a complementing distribution network of their own; from their factories, the drugs are taken to a central depot in Dhaka, then to the zonal depots in the different regions and from there, they are sold both to wholesalers and to retailers through trained sales representatives or distribution assistants.

Pharmaceutical products must not be promoted prior to the grant of the product license before authorizing its sale or supply. Pre-registration feasibility studies, awareness campaigns or promotional activities of any other form, may be conducted with prior approval of the licensing authority of the relevant authorities and that should be confined to a reasonable extent (CPMP, 1994). Retail-sales of drugs in Bangladesh are allowed only under direct supervision of a pharmacist registered with the Pharmacy Council of Bangladesh (CPMP, 1994). The licenses for retail pharmacies and for wholesalers are also being controlled by the Drug Administration of Bangladesh. In addition, drugs like antibiotics can also be found in village shops etc. without proper supervision. Whereas the law forces no over-the-counter (OTC) drugs, requiring all drugs to be dispensed through a prescription, in fact all medicines are available without any prescription (BAPI, 2011). Pharmaceutical firms can directly sell and distribute their products to private sector pharmacies, the government and its public health care facilities, or to international organizations operating in Bangladesh. Selling to Government organization are not as profitable as to the sale of private sector because the government pays less, on consignment, and at times, after a long delay.

Pharmaceutical firms are unable to target to go with public facilities because doctors become acquainted with the firms' drugs and then prescribe them in their private practices. In another way, drugs are not always readily available at public finger point so that patients receiving treatment in an adverse way, they may still go to a private pharmacy to procure the required drugs. Except some of the legal pharmacies, the rest are illegal which are serving without any license or a licensed pharmacist on staff. Pharmacists need have varying education levels and many lack adequate training and skill. Almost all of the pharmacies are individual medicine shop, though some chains are starting to develop, especially in urban areas.

According to sales trends and schedule, large pharmacies generally buy medicines from the distributor or they bring it from different importers. The medium and small pharmacies generally have affiliation with medical doctors. Their sales are therefore usually skewed towards that medical professional's preferences. Several brands of each drug, with variable quality levels, are on the market in the whole country. In urban areas, the pharmacies tend to sell higher quality brands, whereas in more rural areas, pharmacies tend to sell lower quality, lower cost brands. This is due to a district's local demand and influence son a brand selection. The pharmacies tend to keep brands that largely associated with people who hold power in that district level. Areas those are situated at

remote distant from the city consume increasingly more indigenous medicines such as ayurvedic and herbal medicines. Indigenous medicine has a sizeable market size. Medicinal properties of plants and plants leafs were known even to pre-historic men and many of these plants have been used as the traditional medicine for hundreds of years with reputation as efficacious remedies (Ghani, 1998). Phytotherapy known to be an alternate or different system of medicine for the people living in the suburban/ rural areas (Nandankunjidam, 2006). According to the WHO, about 80% of the world's population relies on traditional medicine for their primary health care (Behera, 2006). Majority of the users are from low-income bracket with little or no education. However, indigenous medicine is a niche market and it is generally not considered as a competitive threat to mainstream medicine.

The top established pharmaceutical manufacturing firms have established extensive sales and distribution networks. Most pharmacies have the relation with 10-50 pharmaceutical firms and those are supplying their daily medicines. Hundreds of medical representatives of top pharmaceutical companies visit pharmacies daily to take drug orders. The success in sales for pharmaceutical companies have become extremely marketing oriented. They usually boost their sales by giving incentives to pharmacies and to doctors in the form of higher commission so that they would recommend their products to patients.

PRODUCT DISTRIBUTION SYSTEM OF SQUARE PHARMACEUTICALS LTD.

Entry System of Distributing the Products: The entry system of distribution product is upheld in two folds, these are: (a) Indoor products supply management, and (b) External distribution to the ultimate customer by middlemen and channels.

Before production it is necessary to collect the raw materials from different national and international source. Collection of raw materials from different sources is the precondition of production. Raw materials are sent the processing unit. Processing unit or factory produces the product. The production of any medicine starts according to the demand of the whole country. Whenever the product is produced it is necessary to accumulate and store in a place which must be dry and safe to preserve any medicine. After the batch wise preservation of product, it needs to make a clearance for shifting to go down. Before shifting, leveling and packaging is also necessary with the clearance of tax payment and vat to the government.

After paying the vat of 17% the products shifts to duty paid go down or store house. The duty paid go dwon is the central distribution center for the whole country. From the central distribution store the products are sent to the peripheral distribution store on the basis of the geographical location.

Figure 1: Flow of Medicines from Central Distribution to Peripheral Store
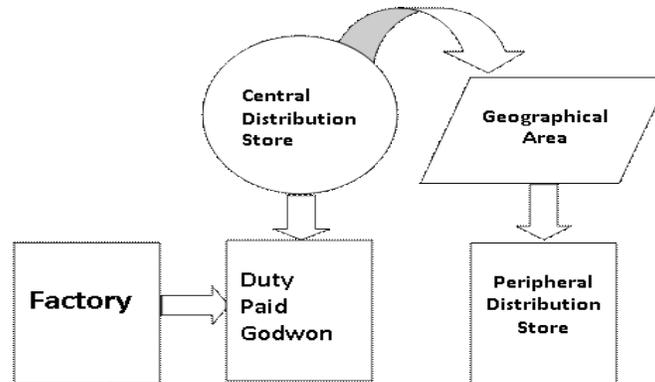
Source: Developed by the Author

Peripheral store decorate the products and arrange it according to different geographical areas. According to the geographical circumstances peripheral store deals with the demand of medicines. Peripheral distribution management is different from another dept. management.

On the peripheral store product management deals with two ways: (a) For new product or new arrival product and (b) For the existing product or survival product.

For new Product or new Arriving Product: When the product is new on the market, its management is different and it has different appeal on the market. For a new product the market is unknown to all but it has latent demand. For a new product detail information is delivered from production unit and research unit to the distributers and customers about the raw materials and processing of the product. Manual of the product is given inside the pack of the medicine. It describes the details of a newly launched product. Different marketing and promotion activities are also needed to induce a product in the market. A "full-demand" of a medicine collects and generates from the customer after getting information from different sources. According to the demand, massive production gets running the product batch wise schedule. When the product is available, it sends on the basis of demand to the different outlet. Then, the depot gets the message about the entire product and collects it. It is basically "Outside-In" concept. Information flows from the organization to middlemen and seller and after all to the ultimate consumer.

For the Existing Product: Existing product follow a pre-determined or scheduled routine on a specific level. For each and every product a minimum order level is fixed and the production level is also fixed before delivering any item.

The actual and potential market demand is the prime concern for the company because existing product is the basic production base for the company. On the

demand of existing geographical areas medicines are sorted and counted by following minimal order level.

The peripheral store is the accumulation place for whole country's demand. Peripheral store makes the combination of all order that comes from different places. Then it sends to central distribution center. The central distribution gets order from peripheral store and fixes a batch or production schedule according to potential market demand and order. Fixing one product on the production then another product is going to be ready for production on the machine. On the market the product that goes better will get the priority on the time of scheduling the batch or production table. It's the priority based production system on the accumulation of whole market needs and wants.

The batch wise production or schedule is maintained on the basis of the demand and potentially requirement of the market. Schedule can be of different type, i.e.,

Figure 2: Maintenance of Schedule for Medicines by Central Distribution Store
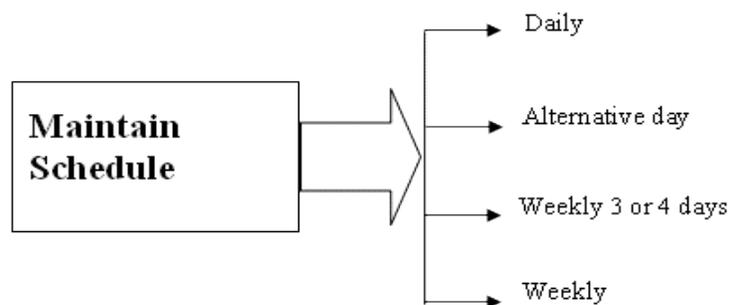
Source: Developed by the Author

According to the demand of every product the schedule is maintained by the central distribution store. The production unit can't provide the whole demand at a time. After getting the entire information about actual demand from the market by the peripheral store, the batch is maintained routinely by the central distribution center.

From the peripheral distribution system the basic information about the demand is given to the central distribution store. The central distribution maintains the routine of production. After the production is completed, the central distribution maintains the schedule of supply and sends it to peripheral distribution store.

**Figure 3: Sending Orders from Peripheral Store to
Central Distribution Store**
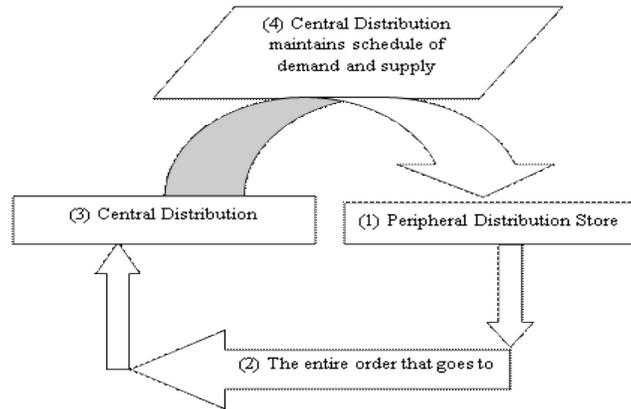
Source: Developed by the Author

The continuation of the product delivery to the peripheral distribution store is the completion of internal distribution of the firm. The peripheral distribution always maintains an order list of the entire market. So, on the basis of the entire demand of the market peripheral distribution store gets ready to distribute the medicine on the different places. Geographical areas are arranged by different depot on different location. Peripheral store sends the medicine to different depot premises.

After getting the product from peripheral store, depot does a lot of work. Depot premises work severally after getting the product. It has different work needs to perform. These are:

Figure 4: Functions of Depot Premises
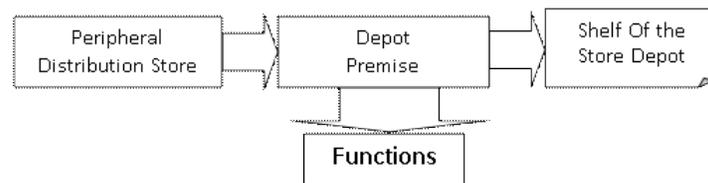
1. Confirming the entry in front of the premise
2. Head of the depot recognize the product
3. Get the list of the order and product
4. Physically check the product according to the list
5. Confirming to the peripheral store
6. Informing the peripheral store for any disruption or unmarked product.
7. Sending product on store shelf

Source: Developed by the Author

A depot store is the main point for any geographical area. The depot store shelf is maintained according to the group of the product. Different product is put on different shelf. As like a departmental store different shelves are used for different products. When the list is checked by the head of the depot he orders it to supervisors for window dressing of the products. Now the display is completed and sorted according different medicine group. Then the depot store gets ready to deliver of items. Order of different medicine is stored by the depot and depot maintains the delivery schedule of different customers.

Process of Accumulating Order by the Depot Store: Depot gets order from different sources. Getting the information about the needs and wants is not an easy task. Different sources and planned way is maintained to get the order and information. The sources of information are– retail stores, medical centers, chemist shops, clinics, hospitals, NGOs, govt. bodies etc. provide basic information about their needs and demands. Medical Representative (MR) collects the order and information from these sources. Physicians of an area are one of the major sources of order and prescription. Physician prefers medicine for the patients. Medical Representative (MR) personally contacts with the physicians and provide them sample of the medicine and try to persuade the physicians for write up of their medicine. Physicians may or may not support the Medical Representative (MR). Whenever, the product is really beneficial then the physicians refer it to the patients. After getting the order from different medicine shops the Medical Representative (MR) sends the order to the depot store. This is the backward pull strategy of disseminating information.

Figure 5: Process of Accumulating Orders by Depot Store
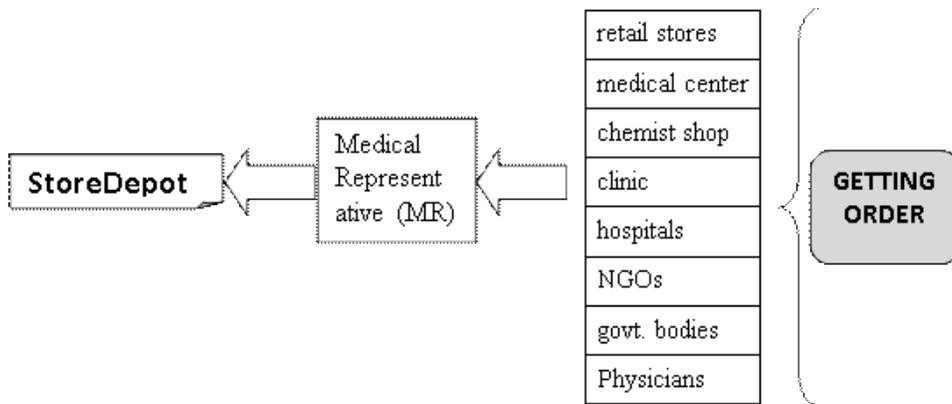
Source: Developed by the Author

Basically by generating order from the entire customer demand, the depot store accumulates the order and sends it to the peripheral store.

The Way to Distribution from Depot to Retailer and Customer: The area wise depot store gets the order from the MR of different dispensing areas. The Medical Representative (MR) has the list of the order. By selecting any specific area or dispensing area an order list is prepared by the depot. Matching the order list is important here. For the specific dispensing area grading or sorting of product is made according to order. Different packing and packaging is done according to the order for handling and delivering easily. Then the invoice is made on order. For individual client, individual packing and invoice needs to prepare. Then the logistical arrangement is needs to ready for delivering on distinctive areas. Special team for logistics and delivery is informed about the inventory. Inventory management handles the invoice. Packages of the product are handed over to the carrying van and to a supervisor. Medicines are delivered on two sequences on the basis of the feasibility of order and invoice, these are: (a) From starting to the ending point and (b) From the ending to the starting point.

Distribution starts sequentially. After delivering the package to the store or specific order center according the invoice the collection of fund is important. Transaction happens mostly on cash. Sometimes for a few of honored client or order center the due facility is given but it's rare. Whenever the cash is collected it is necessary to make the fund into specific bank. The supervisor of the delivery section of the van makes the DD (Demand Draft). It is necessary to make the DD before the closing hour because carrying cash is risky. So, instant DD is important to not to lose any amount. If any product is undelivered then it again returns to the depot store and make the report to the manager of the depot. Which product is delivered and which is undelivered everything needs to be informed to the depot.

Figure 6: The Way of Distribution from Depot to Retailer to Customer

Store Depot. Shelf

Dispensing Area and the specific location

Grading and sorting according to invoice

Preparing invoice according to order

Making logistical arrangements according to location

Logistical distribution logistics on the basis of the sequence

Delivering the product and collecting fund

Reporting to depot
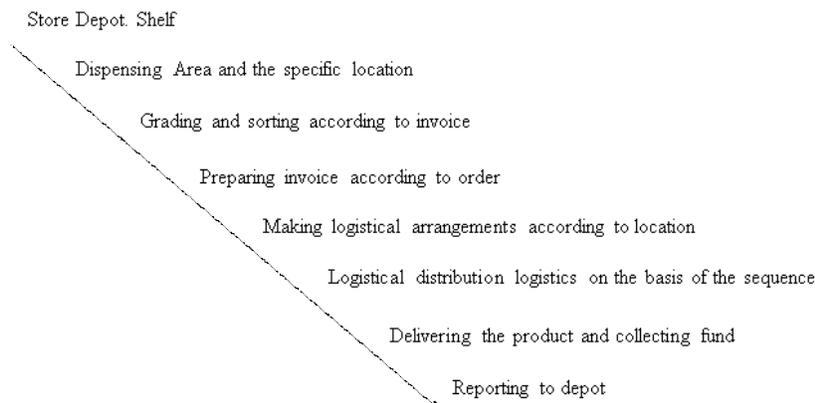
Source: Developed by the Author

DESIGN OF DISTRIBUTION NETWORK

Square pharmaceuticals follow two types of distribution channels for the two types of customers: (a) Distributor storage with carrier delivery for the hospitals, clinics, and medical care centers, and (b) Retail storage from where customer directly pick up the medicine.

Distributor Storage with Carrier Delivery: Square pharmaceuticals provide direct shipping from the central depot to the hospitals, clinics, and medical care centers. This network provides the following facilities: (a) Faster response time, (b) Lower transportation costs, (c) Faster time to market, (d) Easier order visibility (e) Easier return ability, (f) Infrastructure information, and (g) Better customer experience.

Retail Storage with Customer Pickup: In this networks system, customers walk into the retail store and place an order by phone and pick the medicines at the retail store. The advantages of using the network are: (a) Lowest transportation costs, (b) Fastest response time, (c) Very good customer experience, and (d) Easier return ability.

In the whole country the distribution network for retail pickup is given below:

Table 4: Retail Storage with Customer Pickup

Depots			
Dhaka	Barisal	Feni	Sylhet
Pabna	Mymensingh	Tangail	Barisal
Rangpur	Comilla	Faridpur	Narayangonj
Bogra	Chittagong	Jessore	Rajshahi
Khulna	Maizdee	Dinazpur	Brahammanbaria

Source: Annual Report of Square Pharmaceuticals Ltd (SPL),2011.

SWOT Analysis of Distribution Network: The early collaboration of Square with multinational corporations provided the opportunities for technology transfer and exposure to standards of good quality manufacturing in developed country markets. There are some strengths, weaknesses, opportunities, and threats of square Pharmaceutical Limited, which are given:

Table 5: SWOT Analysis at a Glance

Strengths	Weaknesses
1. Square Pharmaceuticals Limited (SPL)is the market leader pharmaceutical industry in our country. That's why most people choice Square's medicines. 2. SPL has strong distribution channel in the whole country 3. It has own distribution depot. 4. It maintains timely delivery. 5. Have good supply chain management practices. 6. It has its own carrier and van to supply the medicine. 7. Experienced delivery team and sales team. 8. Continuous communication and delegation with doctors. 9. Have a good socially responsible marketing and maintain CSR	1. The company needs more distribution outlets to fill up the current market demand. 2. It needs to introduce time demanded product, especially the product for anticancer drugs or cancer medication. 3. It needs to setup community service for the rural people. 4. Needs to deliver medicine to the remote corner of the country by its own delivery service. 5. Political problems are also one of the big problems. 6. There are also limited numbers of supporting employees
Opportunities	**Threats**
1. The Bangladeshi Government is intending to establish a common effluent treatment plant for all producers of API in a bid to revitalize the API park project. 2. The company is planning to manage more distribution outlets. 3. The company can introduce home delivery medicine on an emergency situation.	1. There are many new generic pharmaceuticals competitors entered into the market. 2. There are some numbers of new products introduced by the competitor's. 3. Have some government rules and regulations

Source: Developed by author

PROBLEMS RELATING THE DISTRIBUTION SYSTEM OF SQUARE PHARMA

Earlier it is mentioned that in our country pharmaceuticals companies are facing the problem of backward linkages which are primarily engaged in the last steps of value addition. R & D (Research and Developments) expenditure in the pharmaceutical sector is relatively low, only 1 % most strikingly this proportion of R&D expenditure is also common in textile and garment industry (Sanpath, 2007).

There are some problems relating to distribution of SPL:

1. There are limited numbers of vehicles to distribute the products. Government does not pay close attention to manage more vehicles for proper medicine distribution.

2. There are also limited numbers of supporting employees in the organization. It is a major problem that every employee does not show empathy toward organization. That's why, friendly relationships don't build.

3. Political problems are also a big problem. Government does not provide the exclusive rights for pharmaceutical products, which is fully consistent with the flexibility provided for LCDs under the WTO general council decision from 2002 on exclusive marketing rights.

4. Difficult to reach remote areas, because of unplanned R & D, incapacity of domestic research and development institute, disillusions of scientist and researchers and cogent focus among core university faculties working on medical sciences.

5. Employee turnover is also a major problem. Employees want various facilities and benefits. If the company cannot provide proper facilities and benefits, employees will switch the job and join the other organization. Too much pressure is also the reason behind employee turnover.

6. Sometimes timely distribution of medicines is not always possible due to some reasons such as, improper route, traffic jam, extortion problems etc.

The problems relating to distribution of Square Pharmaceuticals Limited (SPL) can be divided in two categories: (a) Micro problem and (b) Macro problem.

Micro problem deals with the organizational management system. On the other hand, macro problem deals with the Governmental system. The following table shows the problems at a glance:

Table 6: Problems of Distribution System of SPL

Micro Problem	Macro Problem
1. Limited number of supporting employees in the organization. 2. Limited number of vehicles to distribute medicines. 3. Difficulties to reach the remote areas because of various reasons. 4. Employee turnover	1. Political problems. 2. Timely distribution is not always possible. 3. Improper route, traffic jam, extortion problems etc.

Source: Developed by Author

RECOMMENDATIONS

The world is changing. Bangladesh is also changing with some recent developments and improvements. Pharmaceuticals is the second largest revenue generating industry in Bangladesh and the country looks well set to merge as a global hub for quality medicines. Square pharmaceutical Limited is contributing to our national economy. As per need of the demands, there must be harmony among procurements, productions, distributions and marketing systems of company. Access to affordable, good quality medicines through local production depends on the availability of scientific and technological capabilities.

1. There are some recommendations that must be taken to improve the distribution system of square pharmaceuticals Limited:

2. Government must pay close attention to manage more vehicles for proper distribution of medicines. Contractual agreements can be done between the company and government for the betterment of the company.

3. There must be supporting employees in the organizations. Incentives, bonuses, and packages can motivate employees to work for their organization.

4. The company should be free from political problems. The government should provide exclusive marketing rights for pharmaceutical products which is fully consistent with the flexibility provided for LCDs under WTO general council decision from 2002 on exclusive marketing rights.

5. Planned R&D, capacity of domestic research and development institutes, illusion of scientists and researchers and cogent focus among university faculties working on medical sciences can remove the problems of reaching to the remote areas.

6. Employee turnover can be reduced if the company ensures proper benefits and facilities.

7. Timely distribution of medicines must be ensured possibly. Government must take steps to reduce improper route, traffic jam and extortion problems etc.

CONCLUSION

An organization's functions are considered as complete, when the organization can deliver the products at right time, at right place. So, without intermediaries, no producers can deliver their products. Few producers sell their goods directly to the final users. Thus, distribution channels help to make a product or service available for use or consumption by the consumer or business users. Square Pharmaceuticals Ltd. (SPL) is the key member of Square group. Square Pharmaceuticals Limited (SPL) is the leading branded generic pharmaceutical manufacturer in the country producing quality essentials and other ethical drugs and medicines. The distribution system of SPL is somewhat different from other

pharmaceuticals companies. The entry system of distribution product is upheld in two fold- "Indoor products supply management" and "external distribution to the ultimate customer by middlemen and channels". The actual distribution systems start from factory to central distribution store or duty paid godown to peripheral distribution store. The peripheral store product management deals with two ways- "For new product and for existing product". From the peripheral distribution store, central distribution store gets the order and send the medicines. From the peripheral distribution store, depot premises do a lot of functions and send to shelf of the store depot. A depot store is the main point for any geographical area. Medical representative (MR) collects the order and information about different customers group and sends them to the depot store. Then logistical distribution and delivery of the medicines occur. If any product is undelivered then it again returns to the depot store and make the report to the manager of the depot. There are also some micro and macro problems relating to the distribution of Square Pharmaceuticals Ltd. such as limited numbers of supporting employees, limited numbers of vehicles, employee turnover, political problem etc. But there are some recommendations to address the problems of distribution of SPL. Government must pay close attention to manage more vehicles for proper distribution of medicines. Employee turnover should be reduced by arranging some incentives. Planned R & D, timely distribution of medicines must be ensured possibly.

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