

YANGON INSTITUTE OF ECONOMICS

DEPARTMENT OF COMMERCE

**A STUDY ON
SUPPLY CHAIN MANAGEMENT PRACTICES OF
CARBONATED SOFT DRINKS INDUSTRY IN YANGON**

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APRIL, 2012

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CARBONATED SOFT DRINKS INDUSTRY IN YANGON**

**A thesis submitted as a partial fulfillment of the requirement for the
Degree of Master of Commerce**

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Abstract

This thesis aims to present the SCM practices of three major firms that produce carbonated soft drinks in Yangon. Those firms are MGS Beverages, Pinya Manufacturing and Loi Hein Company Limited. It is found that the supply chain of three firms starts purchasing and ordering of raw materials, transforming of these materials into intermediate and finished products, collecting the empty glass bottles back from the market, and then distribution of these products. They use international supply chain in purchasing ingredients. In internal supply chain of branding, MGS uses 3 brand names, Pinya uses 2 brand names, and Loi Hein uses 5 brand names. In pricing, all three firms apply competition-oriented pricing for all glass bottles products and demand-oriented pricing for PET bottles soft drinks. The soft drinks bottles are packed with cases/shell or plastic packs. Moreover, they practise the same distribution channels. MGS is a market leader in Yangon CSDs market.

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LIST OF ABBREVIATIONS

ASEAN	Association of South East Asia Nations
ASP	Application Service Provider
CO ₂	Carbon Dioxide
COD	Cash On Delivery
CSDs	Carbonated Soft Drinks
EDI	Electronic Data Interchange
ERP	Enterprise Resource Planning
FDA	Food and Drug Administration
FIFO	First In First Out
LHC	Loi Hein Company
LIFO	Last In First Out
MFI	Myanmar Foodstuff Industry
MGS	Myanmar Golden Star
PET	Polyethylene Terephthalate
QC	Quality Control
R&D	Research and Development
SaaS	Software as a Service
SCM	Supply Chain Management
SLORC	State Law and Order Restoration Council
U.S	United States
UMEHL	Union of Myanmar Economic Holdings Limited

Chapter 1

Introduction

The purpose of many businesses is to make a profit. Today, many businesses are facing the various challenges. One of the challenges is to retain their current customers. It is important to retain their current customers because much of the profits in the most businesses rely on repeat customer. For the business long-term survival, the business must create long-term customer relationships. Thus, the business must provide greater degree of customer satisfactions. Businesses are now seeking the way to expand their profit and sales and to keep and attract their customers.

In soft drink industry, businesses are combating with intense competitions. Moreover, many businesses are now facing the challenges of competing in the global competitive marketplace. Therefore, the life cycles of products become shorter and shorter. In such scenario businesses need to provide with the right products, the right numbers, the right time, the right place and the reasonable prices to fulfill their target market needs. In doing so, businesses increasingly find that they must rely on effective supply chain to compete in the global market. A supply chain is dynamic and involves the constant flow of information, product, and funds between different stages. Businesses must have the efficient supply chain management to achieve competitive advantages. Successful supply chain management requires a chain from managing individual functions to integrating activities into key supply chain processes. A well-designed supply chain management can provide lower costs and greater customers satisfaction.

Therefore, supply chain management plays a vital role in today's business world. The definition of the supply chain is the movement of materials as they flow from their source to the end customer. Although this supply chain definition sounds very simple, effective management of a supply chain can be a real challenge. Supply chain management is a cross-functional approach including managing the movement of raw materials into an organization, certain aspects of the internal processing of materials into finished goods, and the movement of finished goods out of the organization and toward the end-consumer. If the businesses cannot manage their

supply chain effectively, they cannot provide their market segments needs and cannot achieve long-term survival in their competitive marketplace. To achieve the competitive advantage, the business must have the ability to create and manage the effective supply chain process. Most supply chains are actually networks. Businesses can manage to achieve the maximization of their profit in each network. In order to understand the nature of supply chain management in soft drink industry, this study focuses on supply chain management of carbonated soft drink industry in Yangon.

1.1 Rationale of the Study

In the twentieth-first century, nearly all businesses recognize the importance of supply chain management. Effective supply chain management is increasingly seen as a requirement to achieve competitive advantage. The purpose of supply chain management is to improve trust and collaboration among supply chain partners. However, managing the supply chain to be effective is not always easy because of uncertainty demand and many others. Businesses must try to minimize the effect of uncertainty in the supply chain. For the organization long-term survival, it is important to establish the effective supply chain strategies.

Among the industry, soft drink industry is more difficult to achieve the customer satisfactions. A soft drink is a non-alcoholic beverage typically containing water and a flavoring agent. Many are carbonated and sweetened, and may contain additional ingredients such as fruit juice. In the soft drink industry, the business must promise to their customers that their goods are the healthful and freshness. Moreover, the taste, brand name, trademarks, logo and packaging of their products need to confirm with the culture of the target markets audiences.

Each business has brands that are unique in packaging and image however, any of the product differences that may develop are easily duplicated. In addition, this industry requires high capital for manufacturing equipments, sophisticated technologies, reliable delivery and shrewd marketing. However, all the inputs within the soft drink industry are commodity items. Therefore, access to these inputs is not a barrier to enter the industry. Moreover, this industry's products are low differentiation and high buyer power. Therefore, businesses are not easy for their survival and

capturing market share. In today's businesses in Myanmar, soft drink industry is of growing important and more and more competitive one. Because of their competition are not only local but also global, businesses are becoming harder to satisfy and retain their customers. The effective entry barrier and tool for competitive advantage in this industry is company's ability to establish and manage its supply chain effectively.

The main rationale of this study focuses on how good supply chain management can impact on the market share position of the company in carbonated soft drinks industry. Firstly, three main flows of supply chain management in carbonated soft drinks firms are presented. This paper will be focuses on companies in the carbonated soft drinks industry how major supply chain decisions are established. Internal supply chain activities and logistics management practices are explained. In addition, reverse logistics activities of carbonated soft drinks firms are described. Finally, the recommendation will be present the overall conditions of supply chain management practices and give an advice to success in the competitive market place.

1.2 Objectives of the Study

This study is done with the following objectives:

1. To explore the four major supply chain decisions of carbonated soft drinks industry in Yangon
2. To identify the internal supply chain activities of carbonated soft drinks industry in Yangon
3. To present the distribution channels applied by carbonated soft drinks Industry in Yangon

1.3 Methods and Design of the Study

This study uses complete enumeration method and descriptive method to arrive objectives. Both quantitative and qualitative research design are used. Literature review is made on materials about designing and managing the supply chain, the history of soft drinks, the logistics management, supply chain management,

operation management, marketing management and strategic management in the library and the internet websites. Survey and questionnaire are used to collect data to understand and examine on the situations.

1.4 Scope and Limitations of the Study

Three major companies are producing and distributing carbonated soft drinks in Myanmar. They are Pinya Manufacturing Co. Ltd, Myanmar Golden Star (MGS) Beverages Co. Ltd, and Loi Hein Co. Ltd. The data is gathered from these three companies. All of their factories are located in Yangon Region. In the soft drinks industry, this paper focuses on three major carbonated soft drinks manufacturers of their supply chain management.

However, supply chain management is a very broad area, it would be impossible for a single thesis to cover all of the relevant areas in depth. In addition, nearly all suppliers are foreign countries because all raw materials are not fully supported by home country. Number of suppliers and company main suppliers cannot be described because these data are companies' confidential data. Therefore, this study ignores suppliers' side.

1.5 Organization of the Thesis

This thesis consists of five chapters. Chapter one is introduction chapter and it comprises of the rationale of the study, objectives of the study, methods and design of the study and scope and limitations of the study. In chapter two, the theoretical background is stated by presenting about supply chain management and decisions, procurement management, operation management, distribution strategies and reverse logistics. History of carbonated soft drinks industry, profiles of all three major firms and market share condition is described in chapter three. Chapter four is a descriptive chapter. The supply chain management activities of MGS, Pinya and Loi Hein are described in this chapter. Chapter five is conclusion chapter. Findings, discussions, and recommendation are shown in that chapter.

Chapter 2

Theoretical Background of the Study

2.1 Historical Development of Supply Chain Management

Six major movements can be observed in the evolution of supply chain management studies: Creation, Integration, and Globalization, Specialization Phases One and Two, and SCM 2.0.

1. Creation Era

The term supply chain management was first coined by a U.S. industry consultant in the early 1980s. However, the concept of a supply chain in management was of great importance long before, in the early 20th century, especially with the creation of the assembly line. The characteristics of this era of supply chain management include the need for large-scale changes, re-engineering, downsizing driven by cost reduction programs, and widespread attention to the Japanese practice of management.

2. Integration Era

This era of supply chain management studies was highlighted with the development of Electronic Data Interchange (EDI) systems in the 1960s and developed through the 1990s by the introduction of Enterprise Resource Planning (ERP) systems. This era has continued to develop into the 21st century with the expansion of internet-based collaborative systems. This era of supply chain evolution is characterized by both increasing value-adding and cost reductions through integration.

3. Globalization Era

The third movement of supply chain management development, the globalization era, can be characterized by the attention given to global systems of supplier relationships and the expansion of supply chains over national boundaries and into other continents. Although the use of global sources in the supply chain of organizations can be traced back several decades (e.g., in the oil industry), it was not

until the late 1980s that a considerable number of organizations started to integrate global sources into their core business. This era is characterized by the globalization of supply chain management in organizations with the goal of increasing their competitive advantage, value-adding, and reducing costs through global sourcing.

4. Specialization Era—Phase One: Outsourced Manufacturing and Distribution

In the 1990s industries began to focus on “core competencies” and adopted a specialization model. Companies abandoned vertical integration, sold off non-core operations, and outsourced those functions to other companies. This changed management requirements by extending the supply chain well beyond company walls and distributing management across specialized supply chain partnerships.

5. Specialization Era—Phase Two: Supply Chain Management as a Service

Specialization within the supply chain began in the 1980s with the inception of transportation brokerages, warehouse management, and non-asset-based carriers and has matured beyond transportation and logistics into aspects of supply planning, collaboration, execution and performance management.

At any given moment, market forces could demand changes from suppliers, logistics providers, locations and customers, and from any number of these specialized participants as components of supply chain networks. This variability has significant effects on the supply chain infrastructure, from the foundation layers of establishing and managing the electronic communication between the trading partners to more complex requirements including the configuration of the processes and work flows that are essential to the management of the network itself.

Supply chain specialization enables companies to improve their overall competencies in the same way that outsourced manufacturing and distribution has done; it allows them to focus on their core competencies and assemble networks of specific, best-in-class partners to contribute to the overall value chain itself, thereby increasing overall performance and efficiency. The ability to quickly obtain and deploy this domain-specific supply chain expertise without developing and

maintaining an entirely unique and complex competency in house is the leading reason why supply chain specialization is gaining popularity.

Outsourced technology hosting for supply chain solutions debuted in the late 1990s and has taken root primarily in transportation and collaboration categories. This has progressed from the Application Service Provider (ASP) model from approximately 1998 through 2003 to the On-Demand model from approximately 2003-2006 to the Software as a Service (SaaS) model currently in focus today.

6. Supply Chain Management 2.0 (SCM 2.0)

Building on globalization and specialization, the term SCM 2.0 has been coined to describe both the changes within the supply chain itself as well as the evolution of the processes, methods and tools that manage it in this new "era".

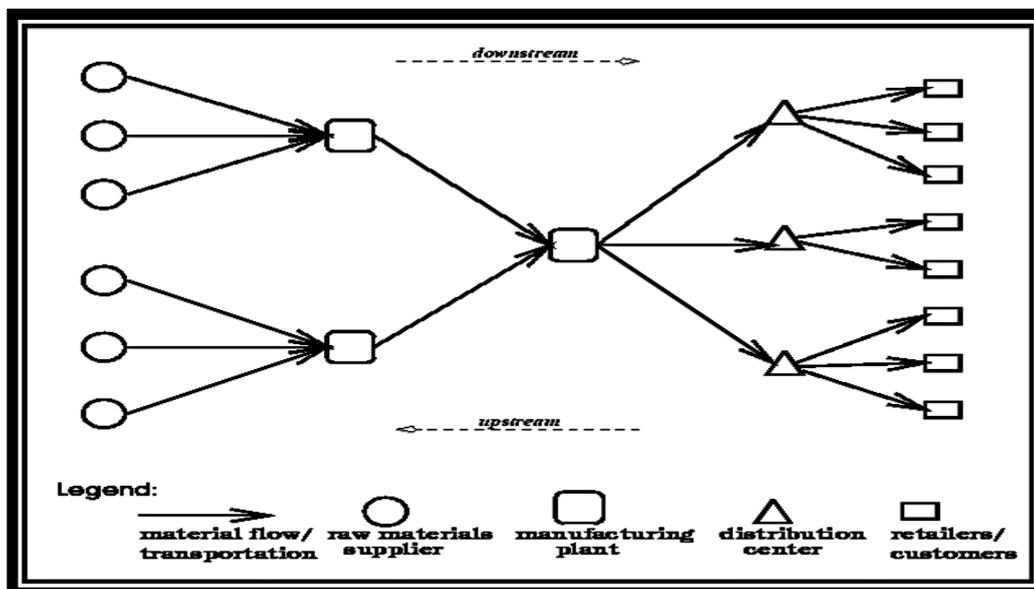
Web 2.0 is defined as a trend in the use of the World Wide Web that is meant to increase creativity, information sharing, and collaboration among users. At its core, the common attribute that Web 2.0 brings is to help navigate the vast amount of information available on the Web in order to find what is being sought. It is the notion of a usable pathway. SCM 2.0 follows this notion into supply chain operations. It is the pathway to SCM results, a combination of the processes, methodologies, tools and delivery options to guide companies to their results quickly as the complexity and speed of the supply chain increase due to the effects of global competition, rapid price fluctuations, surging oil prices, short product life cycles, expanded specialization, near-/far- and off-shoring, and talent scarcity.

2.2 Supply Chain Management

Fierce competition in today's global markets, the introduction of products with shorter and shorter life cycles, the heightened expectations of customers have forced business enterprises to invest in, and focus attention on, their supply chains. In a typical supply chain, raw materials are procured at one or more factories, shipped to warehouses for immediate storage, and then shipped to retailers or customers.

A **supply chain** is a network of facilities and distribution options that performs the functions of procurement of materials; transformation of these materials into intermediate and finished products; and distribution of these finished products to customers.

Figure: 2.1 An Example of a Supply Chain



Source: <http://www.eil.utoronto.ca/profilies/rune/node5.html#scex>

Figure 2.1 shows an example of a supply chain. Materials flow downstream, from raw material sources through a manufacturing level transforming the raw materials to intermediate products (also referred to as components or parts). These are assembled on the next level to form products. The products are shipped to distribution centers and from there on to retailers and customers.

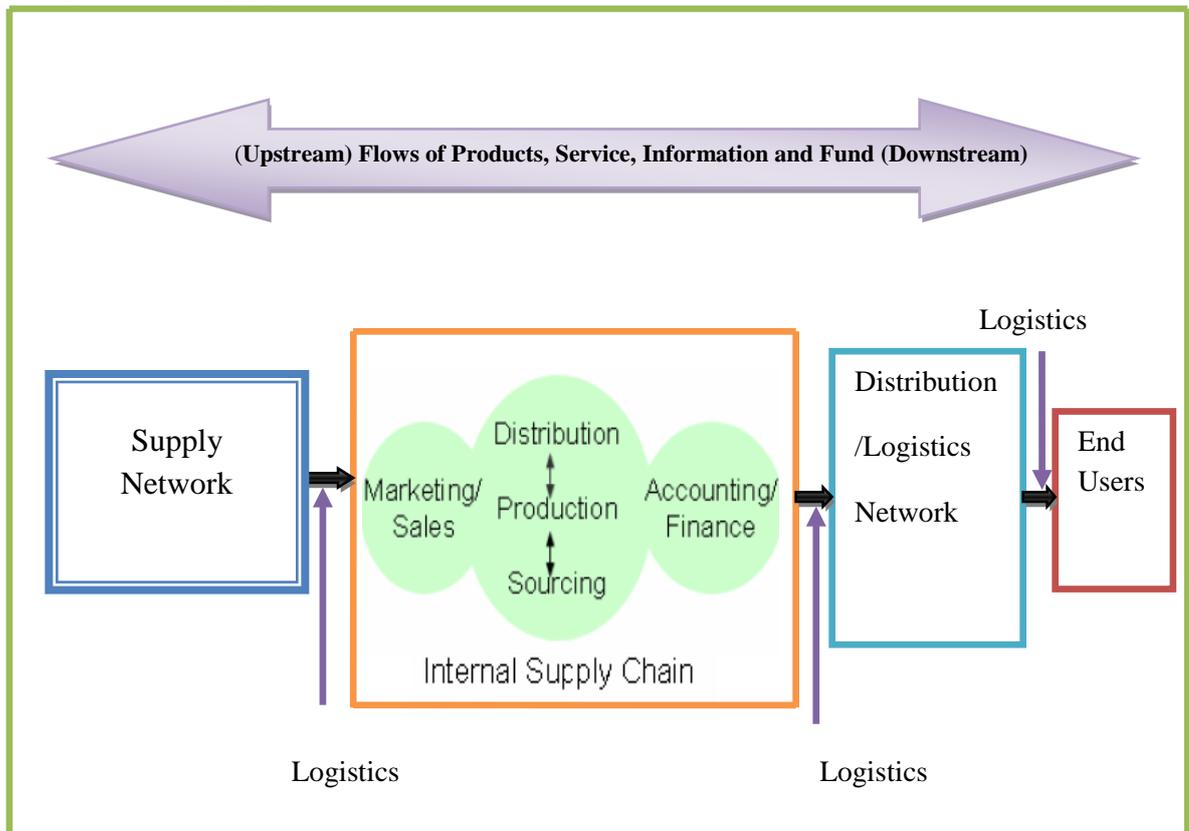
The stakeholders of a typical supply chain include supplier, manufacturer, distributor, retailer and customer. Thus, SCM aims at movement of goods and services from one end of this chain to the other through different stages so as to improve the efficiency, productivity and profitability of the entire process.

A supply chain essentially has three main parts:

1. **Supply** focuses on the raw materials supplied to manufacturing, including how, when, and from what location.

2. **Manufacturing** focuses on converting these raw materials into finished products.
3. **Distribution** focuses on ensuring these products reach the consumers through an organized network of distributors, warehouses, and retailers.

Figure: 2.2 Supply Chain in Business Environment



Source: SCM: Concept, Technique, and Practices- Enhancing Value Through Collaboration, World Scientific Publishing Co. Ltd.

In figure 2.2 shows that the supply chain includes internal supply chain functions, an upstream supplier network, and a downstream distribution network. Logistic function facilitates the physical flow of material from the raw material producer to the manufacturer, to the distributor, and finally, to the end user.

The **internal supply chain** includes sourcing, production, and distribution. Sourcing or purchasing of the company is responsible for selecting suppliers, negotiating contracts, formulating purchasing process, and processing order. Production is responsible for transforming raw materials, parts or components to a

product. Distribution is responsible for managing the flow of material and finished goods inventory from the manufacturer to customer.

The **supplier network** on the left-hand side of figure 2.2 consists of all organizations that provide materials or services, either directly or indirectly. The **distribution network** on the right-hand side of figure 2.2 is responsible for the actual movement of materials between locations. Distribution management involves the management of packaging, storing, and handling of materials at receiving docks, warehouses, and retail outlets. A major part of distribution management is transportation management, which includes the selection, and management of external carriers or internal private fleets of carriers.

Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements. Supply chain management flows can be divided into three main flows:

1. The product flow
2. The information flow
3. The finances flow

The product flow includes the movement of goods from a supplier to a customer, as well as any customer returns or service needs. The information flow involves transmitting orders and updating the status of delivery. The financial flow consists of credit terms, payment schedules, and consignment and title ownership arrangements.

2.3. Supply Chain Decisions

Supply chain management decisions are made from the strategic through the tactical to the operational level. On the strategic level, long-term decisions are made. These are closely linked to corporate strategy. Decisions made on the tactical level are medium term. The operational level of supply chain management is concerned with the very short term decisions and focus on activities over a day-to-day basis.

There are four major decision areas in supply chain management:

1. Location,
2. Production,
3. Inventory, and
4. Transportation (Distribution)

1. Location Decisions. The geographic placement of production facilities, stocking points, and sourcing points is the natural first step in creating a supply chain. The location of facilities involves a commitment of resources to a long-term plan. Once the size, number, and location of these are determined, so are the possible paths by which the product flows through to the final customer. These decisions are of great significance to a firm since they represent the basic strategy for accessing customer markets, and will have a considerable impact on revenue, cost, and level of service. These decisions should be determined by an optimization routine that considers production costs, taxes, duties and duty drawback, tariffs, local content, distribution costs, production limitations, etc. Although location decisions are primarily strategic, they also have implications on an operational level.

2. Production Decisions. The strategic decisions include what products to produce, and which plants to produce them in, allocation of suppliers to plants, plants to distribution centers, and distribution centers to customer markets. As before, these decisions have a big impact on the revenues, costs and customer service levels of the firm. These decisions assume the existence of the facilities, but determine the exact path(s) through which a product flows to and from these facilities. Another critical issue is the capacity of the manufacturing facilities and this largely depend the degree of vertical integration within the firm. Operational decisions focus on detailed production scheduling. These decisions include the construction of the master production schedules, scheduling production on machines, and equipment maintenance. Other considerations include workload balancing, and quality control measures at a production facility.

3. Inventory Decisions. These refer to means by which inventories are managed. Inventories exist at every stage of the supply chain as either raw material, semi-finished or finished goods. They can also be in-process between locations. Their

primary purpose is to buffer against any uncertainty that might exist in the supply chain. Since holding of inventories can cost anywhere between 20 to 40 percent of their value, their efficient management is critical in supply chain operations.

4. Transportation Decisions. The mode choice aspect of these decisions is the more strategic ones. These are closely linked to the inventory decisions, since the best choice of mode is often found by trading-off the cost of using the particular mode of transport with the indirect cost of inventory associated with that mode. Each mode has its own significance depending upon the geographical location and product to be transported. Each differs in cost and time taken to transport the goods from one place to another. There are five basic modes of transportation, as follows;

- 1) Rail
- 2) Road
- 3) Air
- 4) Water
- 5) Pipeline

Roadways are the most common means of transportation. It is something that connects all the places. Motor carriers have the flexibility because they are able to operate in all kinds of roadways. While air shipments may be fast, reliable, and warrant lesser safety stocks, they are expensive. Meanwhile shipping by sea or rail may be much cheaper, but they necessitate holding relatively large amounts of inventory to buffer against the inherent uncertainty associated with them. Pipelines operate on twenty-four hour basis, seven days per week and are limited only by commodities changeover and maintenance. Unlike other modes there is no empty container or vehicle that must be returned. Pipelines have high fixed costs and low variables costs among transport modes. Since transportation is more than 30 percent of the logistics costs, operating efficiently makes good economic sense. Shipment sizes, routing and scheduling of equipment are key in effective management of the firm's transport strategy.

2.4 Supplier Selection Methods

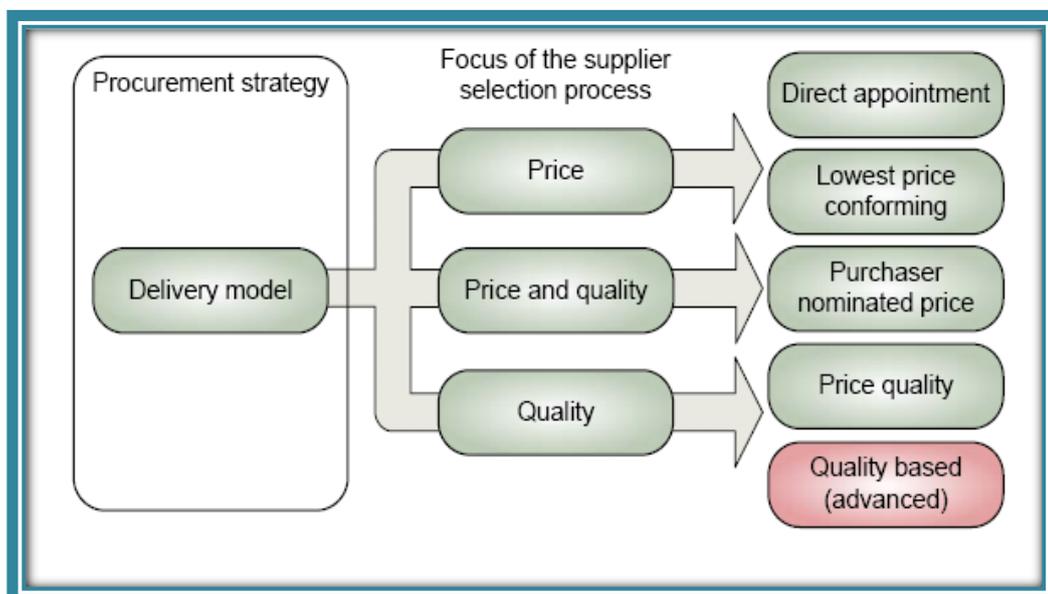
Supplier selection methods contain the following:

1. Direct appointment
2. Lowest price conforming
3. Purchaser nominated price
4. price quality
5. Quality based.

An approved organization must use one of these supplier selection methods. As shown in the following diagram, these supplier selection methods have been grouped to assist approved organizations to assess the relative importance of price and quality:

1. Focus on price – all participants must meet quality requirements and the supplier is then chosen on the basis of price.
2. Focus on both price and quality – the quality attributes of the suppliers are graded and the preferred supplier is selected by balancing price and quality.
3. Focus on quality – the preferred supplier is selected on the basis of quality, with the price being negotiated afterwards.

Figure: 2.3 Suppliers Selection Methods



Source: NZ Transport Agency's Procurement manual, 1st Edition

2.5 Procurement Management in Supply Chain

The fundamental goal of the procurement or purchasing function is to acquire optimum quality and quantity of goods and services for the company in a timely manner, and at the lowest total cost. This also means that the sale is not over when the item is delivered by the supplier. Additional items may be needed in future along with the necessary parts, services or even training in few cases. These all should be facilitated by the purchasing function. Purchasing provides a major opportunity to reduce costs and increase contribution margins. Because the cost and quality of goods and services sold is directly related to the cost and quality of goods and services purchased, organizations must examine a number of strategies for effective purchasing.

The significance role of the purchasing in organizations today is based on the size of expenditures for goods and services, as reflected in the organization's balance sheet and cost of manufacturing or service operations. In fact the whole concept of purchasing function is now changing from the traditional material controlling to managing supply chains.

Purchasing is the acquisition of goods and services. The objective of the purchasing activity is

1. To help identify the products and services that can be obtained externally.
2. To develop, evaluate, and determine the best suppliers, price and delivery for those products and services.

Despite the apparent complexity of managing supply chains, some organizations are thriving and exploiting their supply chains for competitive advantage. As companies strive to increase customer value by improving performance while simultaneously reducing costs, many companies are turning their attention to purchasing and to supply management- to part of supply chain management that focuses on the management of inbound goods and services into a firm. Organizations can realize major benefits from their focus on purchasing and supply management;

1. Cost reduction or improvement
2. Improved material delivery
3. Shorter cycle time, including product development cycle times

4. Access to product and process technology
5. Quality improvement

Purchasing and supply management also has a major impact on quality. A supplier can make or break a company, in terms of providing products and services that either exceed their customers' expectations, or fail miserably to meet them. A poor quality product can shut down a company's operations. Finally, purchasing also can improve product and process designs and help introduce new technology faster into products and services.

2.5.1 Capital Equipment Purchasing

Capital equipment purchasing involves buying assets intended for use over one year. There are several categories of capital equipment purchases. The first includes standard general equipment that requires no special design requirements. Examples include general purpose material handling equipment, computer systems and furniture. A second category includes capital equipment designed specifically to meet requirement of the purchaser. Examples include specialized production machinery, new manufacturing plants, specialized machine tools, and power generating equipment.

Several features separate capital equipment purchases from other purchases. First, capital equipment purchases do not occur with regular frequency. A production machine, for example, may remain in use for 10 to 20 years. A second feature is that capital equipment investments requires large sum of money. This can range from several thousand dollars to hundreds of millions of dollars. High-dollar contracts will require finance and executive approvals. Finally, capital equipment purchasing is highly sensitive to general economic conditions.

2.5.2 Outsourcing

In the 90s, outsourcing was the focus of many industrial manufacturers; firms considered outsourcing everything from the procurement function to production to manufacturing. One “easy” way to increase profit is by reducing costs through outsourcing. Outsourcing occurs where organizations decide to buy in services or products that were previously produced in-house. Two important principles were established when searching for candidates for outsourcing: first, that an outside supplier can provide better value for money than in-house provision; second, that core competences should not normally be outsourced since these activities critically underpin competitive advantage.

Some of the motivations for outsourcing are,

1. Economies of scale
2. Risk pooling
3. Reduce capital investment
4. Focus on core competency
5. Increased flexibility

These benefits come with new and considerable risks. These include

1. Loss of competitive knowledge
2. Conflicting objectives

2.5.3 Make or Buy Decisions

The ‘make or buy’ decision for a particular activity or components is critical. This is the outsourcing decision. Choosing products and services that can be advantageously obtained externally as opposed to produced internally is known as the make- or- buy decision. The purchasing department’s role is to evaluate alternative suppliers and provide current, accurate, complete data relevant to the buy alternative. Table 2.1 lists a variety of considerations in the make-or- buy decision.

Table: 2.1 Considerations for the Make-or-Buy Decision

Reason for Making	Reason for Buying
1. Lower production cost	1. Lower acquisition cost
2. Unsuitable suppliers	2. Preserve suppliers commitment
3. Assure adequate supply (quality or delivery)	3. Obtain technical or management ability
4. Utilize surplus labor or facilities and make a marginal contribution	4. Inadequate capacity
5. Obtain desired quality	5. Reduce inventory costs
6. Remove suppliers collusion	6. Ensure alternative sources
7. Obtain unique item that would entail a prohibitive commitment for a supplier	7. Inadequate managerial or technical resources
8. Maintain organizational talents and protect personal layoff	8. Reciprocity
9. Protect proprietary design or quality	9. Item is protected by a patent or trade secret
10. Increase or maintain size of the company (management preference)	10. Frees management to deal with its primary business

Source; Jay Heizer and Barry Render, Operation Management, 6th Edition (2001)

2.6 Operation Management in Supply Chain

Operation management is the process whereby resources or inputs are converted into more useful products. Although the terms operations management and production management are similar in meaning, there are two points of difference. This term is more frequently used where inputs are transformed into intangible services. Viewed from this perspective, operation management will covered such service organizations as banks, airlines, utilities, super bazaars, educational institutions, libraries, consultancy firms and police departments in addition to, of course, manufacturing enterprises.

Manufacturing process has been with us from the very inspection of mankind. In early days, human used to manufacture goods on their own to fulfill their requirements, but as time past, human started specializing in manufacturing of certain goods and then began to manufacture these goods for the outside world at a price. Slowly industries developed, which employed people to manufacture specific goods.

Manufacturing is thus defined as “To make or process (a raw material) into a finished product, especially by means of a large-scale industrial operation”. Thus manufacturing involves the entire process of converting the raw material into a finished good item. It would include the machines used, the personnel involved, inventory handling, warehousing etc.

Manufacturing management is the management of all the processes, which are involved in manufacturing, i.e. the conversion of raw materials to finished product. It would include the management of personnel, management of raw materials, planning for production etc. Manufacturing management is an age-old process with age-old ideas, but in this era of competitive market, organizations are trying innovative ways of planning in order to improve their profits.

2.7 Internal Supply Chain (Marketing)

2.7.1 Branding

Branding refer to decisions about product names, including brands, brand names, brand marks and trademarks. A brand is a name, term, design, symbol, or any other feature that identifies one seller’s good or service as distinct from those of other sellers. A brand may identify one item, a family of items, or all items of that seller.

Branding helps consumers identify the specific products they like or dislike so that they can purchase the product that satisfy their need. Branding also help consumers evaluate the quality of products, especially when they cannot judge a product’s characteristics. In addition, a brand that symbolizes status can provide a psychological reward to consumers. Branding also benefit sellers because brands identify their products, which encourages repeat purchases by consumers. When consumers become loyal to a specific brand, the producer’s share of that product market achieves a certain level of stability. Moreover, brands that have some degree of consumer loyalty can command premium prices. Branding can facilitate the introduction of a new product that carries the name of an organization’s existing products because buyers are already familiar with the firm’s existing brands. Finally, branding expedites promotional efforts because the promotion of each branded product indirectly promotes all other products with a similar brand name.

2.7.2 Pricing

(A). Choosing a Pricing Method

Pricing method is a systematic procedure for setting prices on a regular basis. The pricing method structures the calculation of the actual price. Pricing methods are based on demand, cost, and competition.

1. Demand-oriented pricing

Pricing method based on the level of demand for a product.

2. Cost-oriented pricing

Price is determined by adding a dollar amount or percentage to the cost of the product to achieve the desired profit margin.

3. Competition-Oriented Pricing

Competition-Oriented Pricing is a pricing method in which an organization sets prices on the basis of its competitors' price rather than its own costs and revenues.

(B). Pricing in Organizational Markets

Business-to-business marketers face several additional issues, including how policies that pertain to geographic factors, price discounting, and price discrimination influence pricing decisions.

1. Geographic Pricing

Geographic pricing involves reductions for transportation and other costs associated with the physical distance between the buyer and the seller. Organizations may specify that a price is F-O-B (free on board) factory—that is, it excludes transportation charges and indicate a shipping point. F-O-B factory is the price of the merchandise at the factory, before it is loaded for shipment. Thus the buyer must pay for shipping and is responsible for any loss or damage claims against the shipper.

To avoid the difficulties of setting different prices for each customer, a business-to-business marketer may employ uniform geographic pricing. Uniform geographic pricing (sometimes referred to as postage –stamp pricing) results in a fixed average cost of transportation. A regional price that takes advantage of a uniform pricing system is called a zone price. This pricing policy adjusts prices according to primary

geographic regions; as the transportation cost increases, the price increases. Organizations that absorb all or parts of their customer's actual shipment cost are using freight absorption pricing. This method might be used when a seller wants to do business with a certain customer or to obtain more business. Sellers using freight absorption pricing assume that the increase in business will cause the average cost to fall and offset the extra freight cost. This strategy is used to improve market penetration and to maintain a hold in an increasingly competitive market.

2. Price Discounting

Discounts are commonly employed in organizational markets to provide intermediaries with a reduction in the list price. The six common types of discounts are quantity, trade, cash, allowances, rebates, and seasonal discounts.

a. Quantity Discount

A quantity discount is a price reduction that reflects the economy of purchasing in large quantities. Quantity discount can be cumulative or noncumulative. A cumulative discount is a quantity discount accumulated over a specified period of time. A noncumulative is a one-time price reduction based on the dollar amount of the order, the number of units purchased, or the product mix purchase.

b. Trade discount

A trade (or functional) discount is a reduction off the list price that a manufacturer gives to an intermediary for performing certain functions. Such discounts are usually expressed in terms of a percentage off the list price. Intermediaries are given trade discounts as reimbursement for performing activities such as selling, transporting, storing, doing final processing, and perhaps providing credit services.

c. Cash Discounts

Business-to-business marketers often offer a price reduction known as a cash discount to buyers that make prompt or cash payments. Such discounts are a common practice and are sometimes a major concern in setting prices. Cash discounts are based on cash payments or cash paid within a stated period of time.

d. Allowances

An allowance is a commission in price offered by a seller to a buyer, usually to boost sales. Trade-in-allowances are price reductions given for turning in a used item when purchasing a new one. Such concessions help buyers afford new purchases that they might not otherwise make.

e. Rebates

A rebate is a refund or part of the purchase price given by the seller to the buyer. Rebates are commonly used to increase the sales of durable good during slow periods.

f. Seasonal Discounts

A seasonal discount is a price reduction offered to buyers that buy goods or services out of season. These discounts allow the seller to maintain steadier production during the years.

2.8 Logistics Management**2.8.1 Packaging Concept**

Packaging can be defined as “an art, science and technology to protect, preserve and present the products effectively to satisfy the consumers”. In terms of logistics it is explained as the technique of preparing goods for transport, while in industry terms, packaging is the design for packing. Packaging serves as a link between production and consumption. It contributes in minimizing losses and link between production and consumption. The basic role of packaging in any industrial organization is to carry the goods safely through a distribution system to the customer. Primarily the package must: identify the product; contain, protect, preserve, and communicate to physical distribution efficiency. The package should also be easy to-handle, store, open, inspect, dispose, reuse and recycle.

Packaging is generally perceived in its traditional role-developing materials for containing a product or designing coverings for the product’s protection. Package design (and change) is usually performed as a specific task to meet a well-defined marketing or manufacturing need.

I. Importance of Packaging

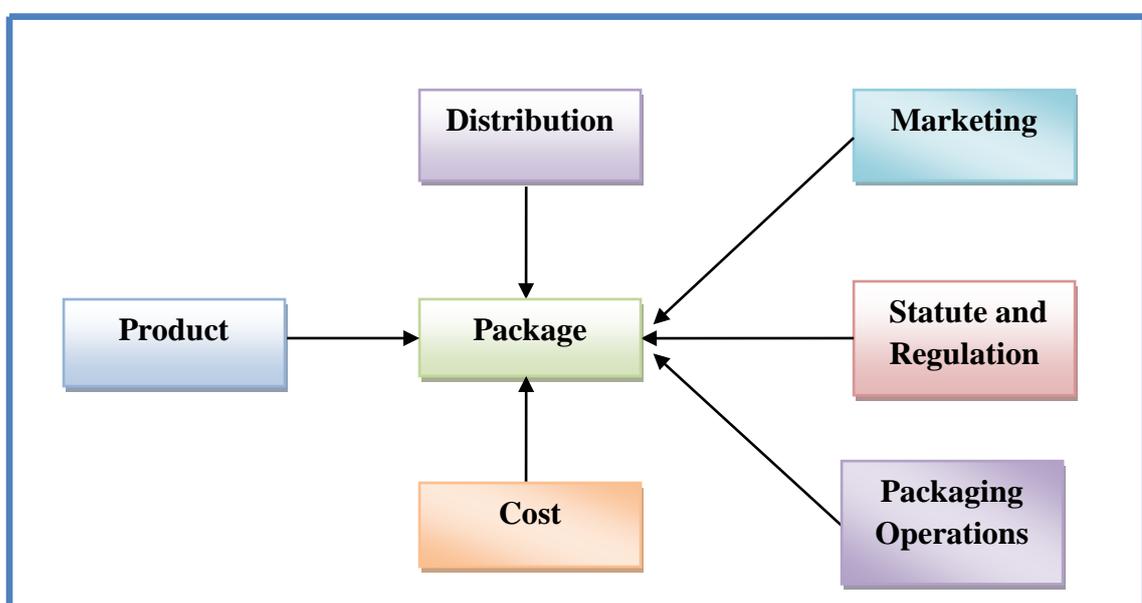
Packaging in its broadest and most creative use, is more than just material and protection. Packaging has the capability to increase shelf space, thus reduce costs and increase profits through the entire product supply chain. An optimally design package satisfies the needs for everyone-from the product designer to the retailer-with the form and function that yields higher net profits all long the way to the consumer. An optimally design package is, simply, a high net profit package.

Packaging design can directly affect the costs and effectiveness of each of these critical activities. An effective package design will maximize merchandising, shelf presence, product presentation, and marketing and consumer acceptance. An effective package design will reduce costs for materials, handling, storage and distribution. Package design offers the greatest single opportunity for reducing logistics costs and improving profitability with very little investment.

II. Logistics Requirement of Packaging

It is generally recognized that packaging is the one universal component that links all functional levels of operations in delivering a product to the customers. Figure 2.4 illustrates that packaging is influenced with all other activities in getting product from production line to market place.

Figure: 2.4 Factors Influencing Design/ Selection of Package



Source: Rahul V. Altekar (2009), Supply Chain Management, 6th edition

III. Factor Influencing Design/ Selection of Package

1. Product (Nature of Contents)
2. Distribution
3. Marketing
4. Statue and Regulation
5. Packaging Operations
6. Cost

All these factors influence the design of packaging. But from logistics point of view packaging is an integral part of distribution and plays a major role in delivering the goods in right condition to the end user.

2.8.2 Distribution Strategies

Companies have to decide on the number of intermediaries to use at channel level. Three strategies are available:

1. Exclusive distribution
2. Selective distribution, and
3. Intensive distribution

Exclusive distribution means severely limiting the number of intermediaries. It is used when the producer wants to maintain control over the service level and outputs offered by the resellers. Often it involves exclusive dealing arrangements. By granting exclusive distribution, the producer hopes to obtain more dedicated and knowledgeable selling. It requires greater partnership between seller and reseller.

Selective distribution involves the use of more than a few but less than all of the intermediaries who are willing to carry a particular product. It is used by established companies and by new companies seeking distributors. The company does not have to worry about too many outlets; it can gain adequate market coverage with more control and less cost than intensive distribution.

Intensive distribution consists of the manufacturer placing the goods or services in as many outlets as possible. This strategy generally used for items such as

tobacco products, soap, snack foods, and gum, products for which the consumer requires a great deal of location convenience.

Intensive distribution increases product and services availability but may also result in retailers competing aggressively. If price wars ensue, retailer profitability may also decline, potentially dampening retailer interest in supporting the product.

2.9 Reverse Logistics

Reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or achieving proper disposal to the satisfaction of the customer or consumer. Remanufacturing and refurbishment activities may be part of the procedure. Reverse logistics includes processing returned merchandise due to damage, seasonal inventory, restock, salvage, recalls, and excess inventory. It also includes recycling programs, hazardous material programs, obsolete equipment disposition, and asset recovery. Reverse logistics stands for all operations related to the reuse of products and materials. The reverse logistics process includes the management and the sale of surplus as well as returned equipment and machines from the hardware leasing business. Normally, logistics deal with events that bring the product towards the customer. In the case of reverse, the resource goes at least one step back in the supply chain. For a practitioner, the disposition choice is determined by the most profitable alternative:

1. **Reconditioning** – when a product is cleaned and repaired to return it to a “like new” state
2. **Refurbishing** – similar to reconditioning, except with perhaps more work involved in repairing the product
3. **Remanufacturing** – similar to refurbishing, but requiring more extensive work; often requires completely disassembling the product
4. **Resell** – when a returned product may be sold again as new
5. **Recycle** – when a product is reduced to its basic elements, which are reused – also referred to as asset recovery.

Chapter 3

History of Carbonated Soft Drinks Industry

3.1 The Historical Origins of Soft Drinks

Soft drinks are enormously popular beverages consisting primarily of carbonated water, sugar, and flavorings, go back in history to the effervescent mineral waters from natural springs. These carbonated mineral waters were sometimes called “seltzers,” apparently after the name of the natural springs of carbonated water near a small German village called Niederselters.

Two thousand years ago Greeks and Romans recognized the medicinal value of mineral water. Early societies would bathe in these natural springs believing that they contained health improving minerals.

Later Arabic chemists developed sherbets. These Sherbets were the first juice and carbonation drink and were made from crushed fruit, berries, herbs or flowers. Muslim shopkeepers sold what they called a Sharob to the European traders coming through the Middle East. Out of the Muslim Sharob, came the French Sorbet. Around 1265, the Sherbet Dandelion & Burdock was introduced in England and was instantly very popular. This led to the development of other carbonated drinks in the Western World.

Not much later in England an important discovery was made that would revolutionize soft drinks. In 1767, Joseph Priestly discovered a method of infusing water with carbon dioxide. The invention is known as carbonated water. Another Englishman named John Nooth improved the carbonated water designed and began selling his product to pharmacies throughout England. Like the ancient societies, the carbonated soft drink was believed to aid in good health.

Later two Swedish Chemists improved on the work done by the English. Torbern Bergman invented a process that produced carbonated water from chalk by using sulfuric acid. This allowed carbonated water to be produced in large amounts. Later John Jacob Berzelius began to add flavors to the carbonated water.

The important step came in 1784 when citric acid was developed from lemon juice. Since then, soda became the inevitable result.

Soft drink history in America began with the discovery of the natural springs in New York. Since it was believed that these mysterious pools could cure everything from arthritis to indigestion, they soon attracted physicians and scientists who began studying the tiny bubbles fizzing from these waters. Scientists eventually proclaimed the air being released as gas carbonium -- simple carbon dioxide. Soon afterwards they perfected a way of producing artificially carbonated water in the laboratory. With that development, it was only a matter of time before soft drinks made it into the hands of the American public.

By the 1830's, both artificial and natural mineral waters were considered healthy and refreshing products in America. But pharmacists, believing they could improve upon their curative properties, experimented with a multitude of ingredients from birch bark to dandelions. And while no miracle cures developed, some very interesting flavors and tastes were discovered. In 1871 the first soda was given a trademark. This soda was ginger ale. Ginger ale, root beer, sarsaparilla, lemon and strawberry were among the most popular of the early flavors and are all part of soft drink history.

Until the 1890s soft drinks were produced manually, from blowing bottles individually to filling and packaging. Then, in 1892, soft drink history took a big turn when the "crown cap" was invented. Tiny in design, the crown completely revolutionized the soft drink industry by preventing the escape of carbon dioxide from bottled beverages. In fact, it was the dominant soft drink closure for more than 70 years.

The advent of motor vehicles spawned further growth in the soft drink industry. Vending machines, serving soft drinks in cups, became regular fixtures at service stations across the country. In the late 1950s aluminum beverage cans were introduced, equipped with convenient pull-ring tabs and later with stay-on tabs. Lightweight and break-resistant plastic bottles came into use in the 1970s, though it was not until 1991 that the soft drink industry used plastic PET (Polyethylene Terephthalate) on a wide scale.

Soft drink manufacturers have been quick to respond to consumer preferences. In 1962 diet colas were introduced in response to the fashion of thinness for women. In the 1980s the growing health consciousness of the country led to the creation of caffeine-free and low-sodium soft drinks. The 1990s ushered in clear colas that were colorless, caffeine-free, and preservative-free.

3.2 Historical Background of Carbonated Soft Drinks Industry in Myanmar

Carbonated soft drinks have been consumed in Myanmar since the colonial days. In those days and even before 1988, carbonated soft drinks were consumed under the name of **Belatyae** by people from all walks of life.

The production of carbonated soft drinks was also started in Myanmar since then, and the well-known carbonated soft drinks plant “**Diamond**” was established in 1926 by Mr. Du Bern and Mr. AD in Yangon.

In 1940, carbonated soft drinks plants were increased to 12 plants in Myanmar. Since then, the culture of carbonated soft drinks consumption has been widely spread in Myanmar. After independence, people consumed “Belatyae” which came in different bottles and sizes.

In 1968 December (16), all carbonated soft drinks plants were nationalized and they were operated under the Foodstuff Industries of Ministry of Industry No. (1). During the socialist period, it was the government who took the role of a state monopoly to produce certain soft drinks. In spite of being a monopoly producer, those soft drinks produced by the government was indeed of good quality. However, the production was insufficient. Due to insufficient supply, a lot of soft drinks entered the Myanmar market through illegal means across the borders.

After 1988, the State Law and Order Restoration Council (SLORC) government replaced the socialist regime and the government announced to practice the market oriented economy. Therefore, the turning point for the carbonated soft drinks industry came in 1989 when the government in a bid to develop the beverage market, allowed private sector participation. As a first step the government handed

over marketing and distribution activities of its lemon brand- Sparkling, to a private company called **Loi Hein**.

Also in 1989, the government allowed formation of a Joint Venture between U.S multinational Pepsi and a local company **Myanmar Golden Star (MGS)**. Although there is no market research data available, it is believed that Pepsi- MGS had quickly climbed up to the top notching at more than 70% of the market.

In 1997, Pepsi had to pull out of Myanmar market because of the US government put economic sanctions on Myanmar. Therefore, the whole responsibility and ownership happened to fall into the hands of MGS Company. At the same time, MGS launched new own brand of **Star, Quench and Crusher** respectively.

After that Loi Hein also launched **Fantasy** products (Cola, Sparkling, Frito etc.,) in co-operation the government.

A new company called **Pinya Manufacturing Company Ltd** had entered in the Myanmar carbonated soft drinks (glass bottle) market in 1988 with an umbrella brand called Max, offering a wide range of flavors such as cola, orange, lemon, tamarind, pineapple, etc. Max grabbed the opportunity available and jostled it's way to own a sizeable share of the CSDs market.

These three companies have been major players dominating the Myanmar carbonated soft drinks market until today. After their domination of the bottle market for over a decade new products with PET (Polyethylene Terephthalate) bottle "**Max plus**" (500 ml) under the Pinya brand and "**Blue Mountain**" (380 ml) under the Loi Hein brand were also launched almost at the same time to the market. However, MGS is left behind in this new market.

Sprite, 100 Plus and 7-Ups with 1.5 liter PET bottles were popular in the market previously. Pinya Co., Ltd followed suit this market by launching "**Max Plus**" in 1.5 liter PET bottles. There is also another new brand, named "**No 1**" in 1.5 liter of PET bottles in the market which is produced under the entity of Star diamond Co., Ltd. However, these two new brands are not as popular as Sprite, 100 Plus and 7-Ups in the market.

Nowadays, MGS Beverages, Pinya Manufacturing and Loi Hein are the three dominant carbonated soft drinks companies in the market. Based on the market consumption in Yangon CSDs market, MGS Beverages is the market leader with 46% share of volume and closely followed by Pinya and Loi Hein.

3.3 Profiles of Three Major Carbonated Soft Drinks Firms in Myanmar

In the carbonated soft drinks industry in Myanmar, there are three major firms- MGS Beverages, Pinya Manufacturing and Loi Hein Co.ltd. All three firms are located in Yangon Region. The profiles of these firms are summarized as follows.

3.3.1 Myanmar Golden Star (MGS) Beverages Company Limited

MGS Beverages Company was set up on May 25, in 1990 as a joint venture with Pepsi Cola Company at New York, American which is standing at the first one in the world Beverages firms until 1997 and manufactured and sold Pepsi Cola. The initial capital was USD 500 millions and MGS posses 60% of its share. In November 22, 1991 started its operation with producing the Pepsi Cola products in Myanmar. The factory is situated in Mhawbi and the area is 5.75 acres. MGS Beverages Co. Ltd has two bottling plants, the first one is in Yangon and the second one is in Mandalay. The Mandalay MGS Beverages plant was founded on May 1, in 1995 to penetrate and expand market share in upper Myanmar.

In December 1996, when Pepsi Cola Company decided to pull out of the country because of U.S sanctions, MGS Beverages overtook the whole 100 percent ownership of the company. As Pepsi Cola Company did not allow by using its formulas and its brand name, MGS Beverages has been running its company by applying own formulas and its own brands such as Star, Crusher and Quench. Now, it is standing as a sole proprietorship.

Labor employment in MGS beverages Co. Ltd is about 400 people in Yangon plant and over 150 people in Mandalay plant. The Head Office is located at No. 7/8, Bahosi Housing, Lanmadaw Township in Yangon. The chairman of MGS is U Thein Tun. The organization chart of MGS's plant in Yangon is shown in appendix-1.

3.3.2 Pinya Manufacturing Company Ltd

Pinya International Trading was formed in 1990 and it firstly distributed Pokka soft drinks, Tiger Beer and ABC Stout in Myanmar. The company expanded its business to production sector and formed the Pinya Manufacturing Company Ltd in 1997 and its commercial operation started on February 23, in 1998. The soft drinks production plant and head office is situated at No. 37/38, Bamaw Atwin Wun Street, Zone 3, Hlaing Thar Yar Township in Yangon and its compound is 6.213 acres. The initial investment was 3109 million Kyats. The company has 9 shareholders. Total employee have 440 who work 41 people in management level, 174 people in production level, 10 people in sale and distribution level and the rest of 215 people in operational level. There are 8 departments in the Pinya Manufacturing Company. The organization chart of Pinya Manufacturing Company Limited is shown in appendix-2.

3.3.3 Loi Hein Company Ltd

Loi Hein Company Limited was established in 1996 by Dr Sai Sam Htun, the Chairman of the company. Loi Hein Company Ltd is 100% owned by citizen and it started its operations in 1992 when the SLORC government first allowed private sector participation in industrial establishment. Pakokku Cigarette factory is the first joint venture factory to assist with the distribution and marketing of Duya and Khabaung Cigarette. This is the first step for the Loi Hein Company to enter into the business Field. With the boom of soft drinks market, the company expanded the production of soft drinks as a joint venture with Myanmar Foodstuff Industry (MFI) under Ministry of Industry I, and Union of Myanmar Economic Holdings Limited (UMEHL). Production with Diamond soft drinks plant started in 1996 and with Dagon soft drinks plant in 1997. The company is supporting raw materials, technologies and quality control units to the joint venture factories and then taking responsible to make marketing, distribution and selling the finished products of the joint venture factories.

Diamond factory which is located on Warden Road produces Fantasy brand in glass bottles. The factory runs two shifts per day. Loi Hein Company supports raw materials especially glass bottles from foreign country and technicians. Dagon factory

which is located on Uwisara Road only produces Pop Soda in can for Loi Hein. Mandalay carbonated soft drinks factory is used to be a joint venture factory between Loi Hein Company and MFI from 1996 to 2011. But Loi Hein Company purchased its factory from Ministry of Industry I in 2011. This factory produces eight kinds of carbonated soft drinks such as Lemon Sparkling, Fantasy Orange, and Cream Soda.

In 2000, in association with Osotspa Co. Ltd (Thailand) LHC launched Shark energy drink and quickly gained market leadership. In 2002, Loi Hein launched its first own brand, Alpine, that quickly became the market leader in bottled purified drinking water. In 2008, in association with Green Spot Co., Ltd (Thailand) LHC developed and launched a non-carbonated California Orange soft drinks. Moreover, Loi Hein was appointed exclusive distributor for SPY Wine Cooler manufactured exclusive distributor for SPY Wine Cooler manufactured by Siam Winery Co. Ltd (Thailand) in 2009. So, the company also distributes the SPY Cocktail and the SPY Wine.

Blue Mountain factory is established in 2009 and located in Shwepyithar Township. The factory runs 2 shifts with 31 permanent workers and 89 daily workers. The factory produces six kinds of carbonated soft drinks with PET bottles. At present, Loi Hein is producing “Alpine”, “Life”, and “Blue Mountain” purified drinking water and “Shark” and “Royal Lipo” energy drink in its Alpine Factory. This factory also produces PET empty bottles, cap and packaging plastic for its own used.

The Company head office is situated at No.117, Wardan Road (Kele Road), Lanmadaw Township, Yangon. The company has two branches in Mandalay and Nay Pyi Taw. Loi Hein Company has 1656 total employees in which 705 are permanent workers and 961 are daily workers. There are 9 departments in the Loi Hein Company. The organization chart of Loi Hein Company Limited is shown in appendix- 3.

Chapter 4

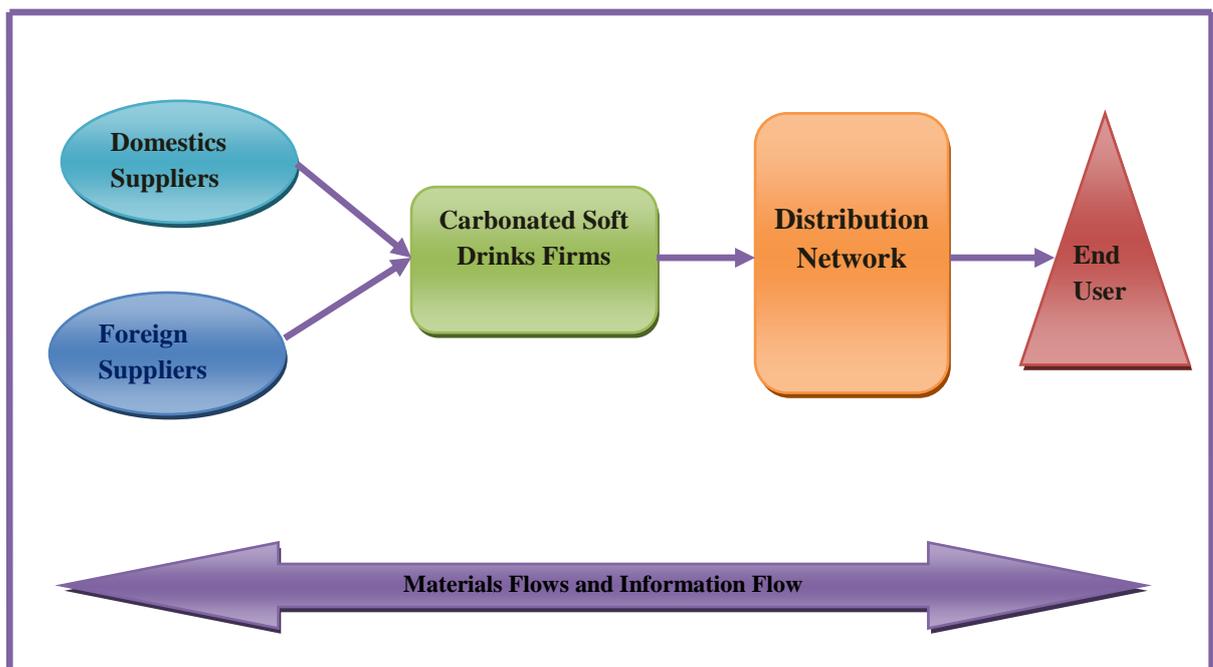
Supply Chain Management Practices of Carbonated Soft Drinks Firms in the Study

4.1 Supply Chain Management Practices of Carbonated Soft Drinks Industry

A. Materials and Information Flows of Supply Chain Management

Supply chain management is naturally an important component in fulfilling customer needs and providing value. Equally important, supply chain management determines the availability of products, how fast they will arrive in the market, and at what cost. Supply chain management implies that the ability to respond to customer requirements is the most basic function of this discipline. This function includes not only the physical attributes of product distribution, but also the related status information and access to this information. Materials flow and information flow of carbonated soft drinks industry is shown in figure 4.1.

Figure: 4.1 Materials and Information Flows of Supply Chain Management in Carbonated Soft Drinks Firms



Source: Own Complication Based on Surveyed Data (2011)

The supply chain of carbonated soft drinks firms start purchasing and ordering of raw materials, collecting the empty glass bottles back from the markets, converting raw materials into finished goods, delivering to the branch offices, marketing and distributing of these products.

Water and CO₂ can be own produced by all three firms. One of the main ingredients of sugar, and salt are provided by domestics market. Others ingredients such as glass bottles, crown cap, shell/case, critics acid and coloring agents are imported. All three firms select their suppliers who can provide the best quality, reasonable price and reliable delivery.

In this industry, production process of carbonated soft drinks is similar. However, all three firms established their own quality control system. Their production amount is based on the market consumption.

All three firms have been producing 285ml glass bottles since their beginning. Pinya and Loi Hein have been launching their new products with PET bottles since 2010. Also, MGS has been introducing another two types of bottle such as 380 ml PET bottle and 250 ml glass bottles.

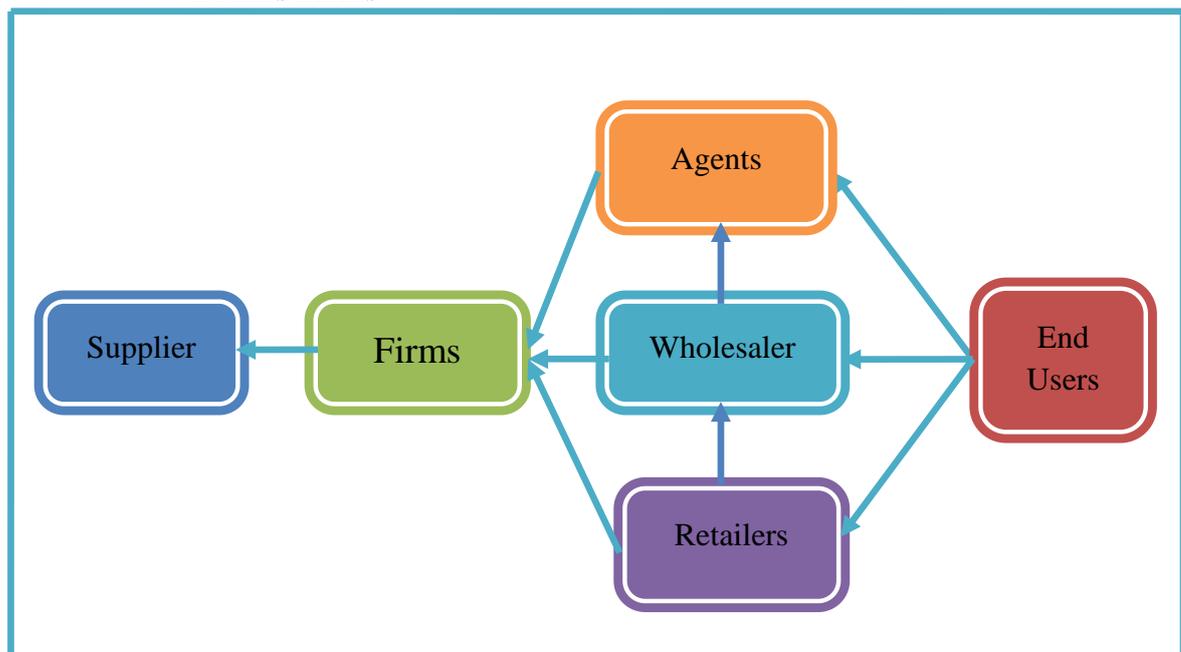
All three firms use the same types of distribution channels to deliver their products. Soft drinks firms must also decide on the number of intermediaries to use at each channel. They have been using all three strategies: exclusive distribution, intensive distribution and selective distribution. In modern times, all three firms are constantly trying to move from exclusive distribution to more intensive distribution to increase and maintain sales and market share.

In the carbonated soft drinks industry, firms communicate with their respective partners to get business information or to do their businesses by means of face to face method, telephone, fax and e-mail.

B. Financial Flow of Supply Chain Management

All three companies of bottle product lines mostly practice COD (cash on delivery) system in Yangon carbonated soft drinks markets and use the distribution practice of replacing the old bottles with the new ones. However, there are also one month-credit systems for some wholesalers who distribute the products to the remote areas. Financial flows of carbonated soft drinks firms are shown in figure 4.2.

Figure: 4.2 Financial Flow of Supply Chain Management in Carbonated Soft Drinks Firms



Source: Own Complication Based on Surveyed Data (2011)

The retailers are required to pay a deposit of 2920 kyats (price of the case/shell is 1000 and price for a bottle is 80 kyats. There are 24 bottles in a case/shell) before placing their first order from any brand of the soft drinks. Once the first order is placed, the salespeople visit the retailers on the basis of two or three times a week to replace the empty bottles which cost about 175 kyats per bottle for any flavor except the “Power” flavor which cost about 195 kyats per bottle for refill. However, the most common selling price to the end user is about 300 kyats per bottle.

There are also different prices ranging from 250 to 350 kyats per bottle at different outlets depending upon the demand, location, and physical decoration of the contact points and population of the consumers in that particular region.

From the customer's perspective, credit systems have worked quite effectively and also much have attractiveness. There are of course both advantages and disadvantages of providing such kinds of systems. In terms of advantages, it attracts large number of customers and retailer outlets and provides sufficient incentives.

4.2 Supply Chain Decisions of Carbonated Soft Drinks Firms

Four major supply chain decisions are location decisions, production decisions, inventory decisions, and transportation decisions. Detailed aspects of three major firms' supply chain decisions will be discussed in the following.

1. Location Decisions

Location decisions are very important for the company long-term survival. In the soft drinks industry, the firm must decide the plant location related to the facts that especially having good water supply, convenience of transportation and having good electricity supply. Among these factors, good water supply is essential in producing high quality soft drinks.

Different purification systems are used depending on water resource which is located in respective township. To produce high quality soft drinks, water supply naturally must have pH range between 6.5 and 8.5. If water supply has between these ranges, it is easy to purify. Building the soft drinks plant where has good water supply is one of the competitive advantage of this firm.

Coordinating with MGS Co. and the technicians of water from Germany tested 90 places, to construct the MGS's soft drinks production plant. From these places, MGS selected the best and suitable place. Moreover, MGS's head office and sales center are located in center of town, so, it is very convenient for transportation. Therefore, MGS carefully decided about its location.

However, Pinya decided the location of its plant where it has convenient for transportation and good electricity supply rather than good water supply. The production plant and head office is located in Hlaing Tharyar Township. Pinya directly distributes its products from its bottling plant. So, it can save the transportation costs. Lately, Pinya also emphasized to have good water supply.

Therefore, Pinya is manufacturing PET bottles carbonated soft drinks which is its new product by taking Max Plus, in Crystal Spring Company's factory that is also producing international quality of purified drinking water namely as Max₂ O. This factory is situated in Mhawbi. At present, Pinya is building its next bottling plant in Mhawbi which has good water supply to achieve more market place.

All of the Loi Hein's joint venture carbonated soft drinks plants are located in downtown. Diamond factory is located on the Wardan Road next to the head office of Loi Hein. Therefore, the company can manage its joint venture factory effectively. Moreover, Dagon factory which produces Pop Soda in can for Loi Hein, is situated on the Uwisara Road and its water source naturally has a pH rating of 6.5. Therefore, this water is easy to purify. As a result, this factory can produce high-quality soft drinks with it. This factor is a competitive advantage of the company.

In conclusion, if the company decides the best location, it will get a competitive advantage and achieve more market place and survive the long-term. For these reasons, location decisions are essential for one of the supply chain decisions.

2. Production Decisions

All three carbonated soft drinks firms have been producing the various flavors. However, the production amount of each flavor is not the same. The firms more produce the flavor that has high customer preferences. Among the flavor, orange, cola, sparkling and power flavor are the most popular flavor of carbonated soft drinks. Most popular flavor of carbonated soft drinks is shown in table 4.1.

Table: 4.1 Most Popular Flavors of Carbonated Soft Drinks

Flavor	Share of Percentage
1. Sparkling	26.59%
2. Orange	21.90%
3. Cola	15.33%
4. Power	12.81%
5. Others	23.37%
Total	100%

Source: View Marketing Research and Services Company 2010 Survey

According to table 4.1, sparkling is the most popular carbonated soft drinks in Yangon. Sparkling has a contribution of 26.59 percents in flavor followed by Orange which has a contribution of 21.90 percent while Cola and power are holding 15.33 and 12.81 percent respectively. The rest of 23.37 percent are others.

However, the customers' tastes are different from one region to another. Among the MGS products, while Quench sparkling sells best in Yangon, Star power is the most popular in Mandalay. For the above reasons, the firm must truly decide which products are more produced and how many products are distributed to different regions.

Sales are concerning with the season. Mostly, in the summer, soft drinks are good demand. The soft drinks firms must try to ensure that supply shortages don't occur in summer. If the firm doesn't feed demand, it will lose market shares. However, soft drinks sales generally drop by 50 to 75 percent in the rainy season. Therefore, soft drinks firms must know not only consumers' preferences but also demand changes. As a result, the firms can manage their production and distribution effectively and efficiently and can maintain its market position.

Nowadays, three major carbonated soft drinks firms always make the market survey. By making the market survey, the firms can know market demand and consumers' preferences. Moreover, they can also know competitor products, innovation and new technology. Based on the survey, the firm decides the types and amount of its each product to ship branch offices in different regions. Because each market position of three major carbonated soft drinks firms is not very different, they also try to launch the new products, to use more sophisticated technologies, and to get more information about the market to become as a market leader in the carbonated soft drinks industry.

3. Inventory Decisions

Inventory decisions are the critical backbone of the cost effective supply chain. They also affect physical distribution costs and the level of customer service provided. Inventory exist both raw materials and finished products.

Firstly, the firm must decide raw materials inventory. A larger inventory ensures product availability and lowers order processing costs because orders are placed less frequently. On the other hand, lowers the overall cost of carrying inventory but rises order processing costs because reorders are more frequent. In the carbonated soft drinks industry, raw materials inventory is decided based on the production plan. Production plan fluctuates depending on the market demand and the demand always changes. Seasonality is an issue that is concerned with the market demand.

Essential raw materials of carbonated soft drinks, such as citric acid, flavoring, coloring agent, and glass bottles are imported. Unless raw materials which are ordered from abroad obtain in time, the production will delay. If the production delays, it will not fulfill the demand.

In the carbonated soft drinks industry, glass bottles inventory plays a vital role. In 2004 summer, MGS could not fulfill all the orders it received because it did not have enough glass bottles. To fulfill this requirement, the company bought many more bottles to fulfill the summer season demand.

To decide the effective inventory decision, various department of the company must coordinate because marketing department's promotion affects on the sales and sales affect on the production plan. The production plan also affects on raw materials procurement and inventory. For these reasons, in MGS, production department, import/export department, marketing department and finance department hold the meeting to get the coordination among monthly.

Logistics department in Loi Hein, and supply chain department in Pinya are responsible to control the raw materials requirements. According to production plan, raw materials inventory level is used to decide. Three carbonated soft drinks firms issue the raw materials by using first in first out (FIFO) method.

Finished goods inventory is also essential to fulfill the demand. In Pinya, finished goods are stored in large warehouses with good ventilation, clean and light. The storage time is only one week. These finished goods are distributed and sold during one week.

Both MGS and Loi Hein, finished goods are shipped to each distribution center as possible as quickly. One benefit of carbonated soft drinks is that having good ventilation stored at below room temperature, these carbonated soft drinks are good condition up to eight months. All three firms distribute the finished goods by using first in first out (FIFO) method.

4. Transportation Decisions

Transportation is essential to all organizations because it makes products available to consumers when and where they want to purchase them. In addition, transportation costs are more than 30% of the logistics costs. Therefore, the firm must identify the effective and efficient transportation modes. The firm can select the various transportation modes. There are five basics modes of transportation- railways, waterways, roadways, airways and pipeline. If the transportation costs are higher than the production costs, the selling price of the product will be too high. The modes of transportation that use three major carbonated soft drinks firms are illustrated in table 4.2.

Table: 4.2 The Modes of Transportation used in Three Major Carbonated Soft Drinks Firms

Modes	MGS	Pinya	Loi Hein
1. Roadways	Purchasing & Distribution	Purchasing & Distribution	Purchasing & Distribution
2. Waterways	Purchasing & Distribution	Purchasing & Distribution	Purchasing & Distribution
3. Railways	Purchasing & Distribution	Purchasing & Distribution	Purchasing & Distribution
4. Airways	Purchasing	Purchasing	Purchasing
5. Pipelines	None	None	None

Source: Surveyed Data (2011)

In three major carbonated soft drinks firms, raw materials are carried from abroad by using the waterways. Using the airways is seldom. The modes of roadways and railways are used to carry the domestic raw materials. Pipelines are not used in the soft drinks industry.

Three major firms practise the door-to-door-system about their finished goods. All three companies have their own delivery vans to distribute their products regularly

to the respective areas. They use separate vans for glass bottle product lines and PET bottle product lines. Roadways, waterways and railways are suitably used to ship the sales branches and distributors over the country.

4.3 Suppliers Selection of Carbonated Soft Drinks Firms

Three major firms deal with the suppliers who are reliable partners. The company identifies the most appropriate suppliers through trade directories, contacts with other companies and trade show. People, who can provide high standard of quality and reasonable price, are selected as a supplier. They select a supplier based on the quality and price of the materials, suppliers' flexibility, and on time delivery. However, supplier who suffers from a poor reputation is rejected. Unless raw materials which are ordered obtain in time, the production will delay. Therefore, the supplier must send the materials to the plant on time. The method, terms and time of delivery are clearly established when ordering.

All three firms do their businesses with the suppliers by making at least one year contracts. Moreover, they that fear a shortage of main materials are willing to buy and hold large inventories. Therefore, they usually sign long-term contracts with suppliers to ensure a steady flow of materials. Three major firms limit the quality of raw materials which are dispatched by each supplier.

Nevertheless, if the dispatched materials from a supplier have low quality compared with the company's standard, these items will be changed with new ones at once. Moreover, the company notices the first warning to the supplier who behaves the error. If this supplier behaves an error in second time, the company will not conduct with this supplier to do its business absolutely. This supplier is sack out on the company's supplier lists. The company orders the materials from another supplier who is a reliable partner that is believable.

Soft drinks firms order the raw materials from their suppliers by means of in person, telephone, fax, and by e-mail.

4.4 Procurement/Purchasing Management Practices of Carbonated Soft Drinks Companies

The fundamental goal of the procurement or purchasing function is to acquire optimum quality and quantity of goods and services for the company at the lowest total costs. Raw materials are ordered depending on the production plan. Production plans may not be the same monthly. If raw materials delay to reach the production process, the company will not fulfill the orders that it received. Production plans are changed depending on seasonality, and promotions of marketing department.

In MGS, production department, import/export department, marketing department and finance department hold the meeting to decide the amount of raw materials to be ordered among monthly.

In Pinya, managers from all departments hold the meeting every week to decide the production plan. Ordering and purchasing of raw materials are only the responsibilities of supply chain department of the company.

In Loi Hein, logistics department is responsible to control the materials requirements. This department also has to calculate how many should be ordered and how much cost is. This department orders the necessary raw materials according to the production plan in the right quantity at the right cost and time.

Moreover, all three companies have drawn the yearly plan for raw material requirements, the amount of production, sales target and estimated profit for each product.

4.4.1 Capital Equipments Purchasing and Their Capacity

MGS Beverages only produced 240 bottles within one minute, since MGS had a machine. This company had increased to produce from 240 to 360 bottles within one minute by using two machines since on August 5, in 1993. On April 24, in 1995 its production rate about 600 bottles within one minute by using three machines. At present, MGS Beverages has four machines and it can produce 480,000 bottles a day. Although CO₂ which is essential for soft drinks had bought from cement factory,

MGS Beverages could produce CO₂ by itself in 1995. Now, CO₂ is being manufactured 250 Kg per hour.

Pinya has two machines which can produce 500 bottles within one minute per machine. A pair of machine that produces CO₂ can produce 2400 tons an hour. The machines used in Pinya have good quality because of using all machines which are made in U.S. A. Furthermore, all machines are safe for purification because of using the cleaning system.

The machine use in the Diamond factory is over 10 years old, so Loi Hein Company upgraded with new machines. Soft drinks machine which made in Korea was installed at Diamond factory on September 12 in 1996 and a machine that produces CO₂ which made in Switzerland was installed on July 1 in 1997. The factory has two machines which can produce 300 bottles within one minute per machine and CO₂ can produce 250 Kg per hour.

4.4.2 Essential Raw Materials and Sources for Carbonated Soft drinks Industry

A. The Ingredients of Typical Carbonated Soft Drinks

The ingredients of carbonated soft drinks are as follow:

1. Purified water
2. CO₂
3. Sugar
4. Critic Acid
5. Flavoring
6. Preservatives
7. Coloring Agent
8. Vacuum Salt

The ingredients of carbonated soft drinks are purified water which has been carbonated or saturated with carbon dioxide gas, sugar, vacuum salt, flavoring, critic acid, and coloring.

In order to obtain soft drinks with uniform flavor and high quality, it is necessary to have water that is more pure than what is normally available. To get it, water which has been approved by health authorities for drinking is treated to improve its appearance, taste, and aroma and to eliminate certain minerals. All three firms also conduct chemical and microbiological tests on the water used to produce soft drinks to make sure it is safe. Different purification systems are used depending on types of local water.

Carbonated water constitutes up to 94% of a soft drink. Carbon dioxide adds that special sparkle and bites to the beverage and also acts as a mild preservative. Carbon dioxide is a uniquely suitable gas for soft drinks because it is inert, non-toxic, and relatively inexpensive and easy to liquefy.

The second main ingredient is sugar, which makes up 7-12% of a soft drink. Used in either dry or liquid form, sugar adds sweetness to the soft drinks, enhancing the "mouth-feel," an important component for consumer enjoyment of a soft drink. Sugar also balances flavors and acids.

The overall flavor of a soft drink depends on an intricate balance of sweetness, tartness, and acidity (pH). The most common acid in carbonated soft drinks is citric acid, which has a lemony flavor. Acids add sharpness to the background taste and enhance the thirst-quenching experience by stimulating saliva flow. To impede the growth of micro-organisms, preservatives are added to soft drinks. Preservatives are added to prevent or slow changes in color, smell and taste.

Very small quantities of other additives enhance taste, mouth-feel, aroma, and appearance of the soft drinks. There is an endless range of flavorings; they may be natural, natural identical (chemically synthesized imitations), or artificial (chemically unrelated to natural flavors). Emulsions are added to soft drinks primarily to enhance "eye appeal". For example, Sun Set Yellow is added to produce power flavor and cloudifiar is added to produce Lychee flavor.

B. Sources of Essential Ingredients for Carbonated Soft Drinks Industry in Yangon

A bottle of carbonated soft drinks comprises of purified water, carbon dioxide gas, sugar, flavoring (syrup), citric acid, preservatives, and coloring agents. Sources of ingredients are illustrated in table 4.3.

Table: 4.3 Essential Ingredients and Their Sources

Types	Local/Abroad
1. Purified Water	Local
2. CO ₂	Local
3. Sugar	Local
4. Salt	Local
5. Citric Acid	Abroad
6. Flavoring (emulsion & artificial)	Abroad
7. Preservatives	Abroad
8. Coloring agent	Abroad

Source: Surveyed Data (2010)

Water is sourced locally. Pinya use water from the Hlaing Thar Yar Industrial Zone and then treat it with its own purification and storage methods. Both MGS and Loi Hein treat the water for soft drinks in order to avoid bacteria and other health risks.

Carbon dioxide that is essential ingredient for carbonated soft drinks can be produced by three major soft drinks firms for their own used.

Sugar is also the main raw material and highest costs for soft drinks production. As the sugar used for soft drinks is locally produced, all soft drinks firms purchase from local market. Salt is also purchased from local firms.

Others materials such as citric acid, flavoring, and preservatives are imported from foreign countries.

4.4.3 Outsourcing Activities of Carbonated Soft Drinks Industry

To carry out its business processes, a company needs resources namely labor power, materials, information and energy. Traditionally, most companies owned and controlled resources that entered their businesses. But today's situations have changed. Some resources under their control are not performing as well as those that they could obtain from outside.

Most soft drinks companies today outsource less critical resources if they can be obtained from outside at better quality. Outsourced resources may include hiring survey teams, hiring sales fleet, and hiring foreign experts to do business. Both MGS and Pinya purchase some empty glass bottles from local plants. These are both advantages and disadvantages of outsourcing these kinds of materials.

In the case of MGS company imports of empty bottles passed through a number of import procedures and sometimes delay may cause serious troubles in the manufacturing process. If the imported bottles for one reason or another arrive late, the manufacturing process may come to total halt which may lead to interruption of the distribution process. Relying on outside sources may be good if one thinks in terms of quality than those local ones. If imported channels can be more effective, it would directly contribute to the whole production and distribution processes.

4.4.4 Make or Buy Activities of Carbonated Soft Drinks Firms

Make activities of three major carbonated soft drinks firms are illustrated in table 4.4.

Figure: 4.4 Make Activities of Three Major Carbonated Soft Drinks Firms

Types	Companies Names
1. Purified Water	MGS, Pinya, Loi Hein
2. CO ₂	MGS, Pinya, Loi Hein
3. PET Empty Bottles	Loi Hein
4. Caps	Loi Hein
5. Packaging plastics	Loi Hein

Source: Surveyed Data (2010)

Carbonated water constitutes up to 94% of a soft drink. All three firms can produce CO₂ in their plants. They treat the water with their own purification and storage methods.

In addition, Loi Hein can produce PET empty bottles, caps and packaging plastics for its own used. These raw materials are essential to produce non-returnable bottle of carbonated soft drinks. Nowadays, the consumer behaviors have gradually changed from glass bottles to disposal containers (PET bottle) due to the feelings of easy-to-carry and value for money. Therefore, this production is a competitive advantage of Loi Hein Company in the carbonated soft drinks industry.

Buy activities of three major carbonated soft drinks firms are illustrated in table 4.5.

Figure: 4.5 Buy Activities of Three Major Carbonated Soft Drinks Firms

Types	Companies Names
1. Flavoring	MGS, Pinya, Loi Hein
2. Critic Acid	MGS, Pinya, Loi Hein
3. Preservatives	MGS, Pinya, Loi Hein
4. Sugar	MGS, Pinya, Loi Hein
5. Salt	MGS, Pinya, Loi Hein
6. Glass Bottles	MGS, Pinya, Loi Hein
7. Shell/Cases	MGS, Pinya, Loi Hein
8. Crown Caps	MGS, Pinya, Loi Hein
9. PET Empty Bottles	MGS, Pinya
10. Caps	MGS, Pinya
11. Packaging plastics	MGS, Pinya

Source: Surveyed Data (2010)

All three firms purchase raw materials such as flavoring, critic acid, and preservatives to produce carbonated soft drinks. Moreover, they also purchase glass bottles, shell/cases and crown caps. Except Loi Hein, both MGS and Pinya purchase PET empty bottles, caps and packaging plastics from other firms. The Alpine factory owned by Loi Hein, produces PET empty bottles, cap and packaging plastic for its own used.

4.5 Operation Management

4.5.1 Processes

The typical production process of carbonated soft drinks is described in following:

1. Uncaser
2. Bottle Washer
3. Empty Bottle Inspection
4. Water Treatment
5. Syrup Preparation
6. Inter Mixed
7. Filling and Capping
8. Produce Bottle Inspection
9. Packing
10. Clean In Place

Production process of carbonated soft drinks is illustrated in appendix- 4.

4.5.2 Essential Machines in Soft Drinks Industry

There are essential machines to produce carbonated soft drinks as follows:

1. Purifying Water Machine
2. Purifying Sugar Machine
3. Bottle Washing Machine
4. A Pair of Machine that can produce CO₂
5. Filling Machine
6. Mixing Machine
7. Corking Device
8. Case Packing

These machines are essential machines for soft drinks firms. So each company invested them depending on their financial background.

4.5.3 Products Types and Sizes of Three Major Firms in the Study

Among three major firms, MGS has eight product lines. They are orange, cola, lime, lychee, tamarind, pineapple, and power. It is producing two sizes of glass bottles (285 ml and 250 ml) and only one size of PET bottles (380 ml). In 285 ml orange flavor, there are two brands such as crusher orange and star orange. In addition, there are three sizes used in the flavor of orange, lime and cola. The others have only one size of 285 ml glass bottle.

In Pinya, it is manufacturing 9 kinds of products such as orange, cola, lychee, cream soda and power. It is producing with 285 ml glass bottles. In addition, the flavor of orange, cola, and lemon lime are also produced with 500 ml and 1.5 L PET bottles.

Loi Hein is producing ten flavors of products. There are two sizes of glass bottles (285ml and 250ml) and each size of tin can and PET bottles. For soda water, it is produced with 330ml tin can and 380ml PET bottles. Only Lemon Sparkling is produced with 250ml glass bottle and 330ml in cans. Six kinds of Blue Mountain carbonated soft drinks is been producing with PET bottles.

Products types and sizes of three major firms are illustrated in appendix-5.

4.5.4 Quality Control

Carbonated soft drinks manufacturers adhere to strict water quality standards. Microbiological and other testing occur regularly.

In MGS, carbonated soft drinks are produced mainly based on consumers' preferences and own taste. The main department of the factory is QC department. Firstly, purified water is mixed with sweetness, tartness, aroma, and flavor proportionately. Purified water means that it is treated with calcium hydrochloride. Cane sugar is only used for soft drinks. Sugar sample are tested for quality standard. The empty glass bottles are tested that whether each bottle can accept 285ml weight. The empty glass bottles in store room are also tested in three times by using auto machines. Moreover, these bottles are tested that whether they include caustic or not. For confirming the quality standard, soft drinks sample are tested once in 15 minutes. For interest of the public health, soft drinks sample are also monthly tested in FDA.

In Pinya, quality control is conducted from raw materials to finished goods. Raw materials and packaging products are also tested. Empty bottles inspection and filling bottles inspection are conducted. In addition, quality control involve water treatment test, flavor test, CO₂ and Acid level test, pH level test and sugar sample test. Pinya's quality control process involves nine check points at which its products are checked every 15 minutes. All tanks and pumps are used closed loop system and it includes five stages of automatic cleaning system.

Loi Hein emphasizes quality control in three areas. They are raw materials, the production process and the finished products. Quality control is the responsibility of R & D department and it checks randomly the finished products, raw materials, intermediate materials and packaging materials before going to production line, and work-in-process. Sugar sample test, empty bottles inspection and filling bottles inspection are also conducted. CO₂ volume and pressure is also measured. Moreover, all tanks and pumps are washed with water and steam water from boiler.

4.6 Internal Supply Chain

4.6.1 Branding

In carbonated soft drinks, all three firms create one or more of their brand names. Brand names of three major firms are illustrated in table 4.6.

Table: 4.6 Brand Names of Three Major Companies

Company Name	Brand Names
1. MGS	Star, Crusher, and Quench
2. Pinya	Max, and Max Plus
3. Loi Hein	Lemon Sparkling, Fantasy, POP, Blue Mountain, and Super Fantasy

Source: Surveyed Data (2010)

MGS uses 3 major brand names for its products. These are Quench, Crusher, and Star. Branding in MGS is based on the flavor of soft drinks. Quench brand name is used only for lime flavor. Star brand is used for orange, cola, power and tamarind flavor. Crusher brand is used for orange, lychee, and soda water.

In Pinya, it use the umbrella brand called Max for all its glass bottles carbonated soft drinks. Max Plus brand name is used for its new products of carbonated soft drinks with PET bottles.

Loi Hein uses five major brand names for its carbonated soft drinks. These are Lemon Sparkling, Fantasy, Blue Mountain, POP, and Super Fantasy. In Loi Hein, branding is based on the sizes and types of soft drinks bottles. Both sizes of 285 ml and 250 ml glass bottles and 330 ml cans lemon flavor carbonated soft drinks are produced by using the brand name of Lemon Sparkling. Fantasy brand name is used for 285 ml glass bottle size and Blue mountain brand name is used for 380 ml PET bottle size. POP Soda brand name is used only for soda water with tin can. Super Fantasy brand name is used for energy drink (power flavor) with 285 ml glass bottle.

Brand Shares of carbonated soft drinks is shown in table 4.7.

Table: 4.7 Brand Shares of Carbonated Soft Drinks Firms

Brand Name	Brand Shares
1. Quench Sparkling	12.78%
2. Crusher Orange	11.57%
3. Star Cola	10.13%
4. Max Orange	8.19%
5. Star Power	8.33%
6. Max Lemon	8%
7. Lemon Sparkling	6%
8. Max Cola	5%
9. Max Power	5%
10. Max Lychee	4%
11. Fruito	3%
12. Others	18%
Total	100%

Source: View Marketing Research and Services Company 2010 Survey

According to table 4.8, MGS Beverages' brands of Quench sparkling is the fastest moving product with a market share of 12.78% followed by Crusher orange contributing 11.57% while Star cola with 10.13% respectively. Max orange which is Pinya brand that also contribute 8.19%. These four products hold over 42% of the total market consumption.

4.6.2 The Pricing Orientation of Carbonated Soft Drinks Firms

All three firms apply two types of price orientation in the market. For same sizes and flavor, they practise competition oriented pricing that is a pricing method in which an organization sets prices on the basis of its competitor price rather than its own costs and revenues. They set the same prices for 285 ml and 250ml glass bottle soft drinks. However, for PET bottles soft drinks, they use demand oriented pricing. The pricing orientations of MGS, Pinya and Loi Hein are shown in table 4.8.

Table: 4.8 Pricing Orientation of Carbonated Soft Drinks Firms

No.	Company Name	Sizes and Types of Carbonated Soft Drinks	Pricing Orientation		
			Competition-Oriented Pricing	Cost-Oriented Pricing	Demand-Oriented Pricing
1	MGS	285ml glass bottle	Yes	No	No
		250ml glass bottle	Yes	No	No
		380ml PET bottles	No	No	Yes
2	Pinya	285ml glass bottle	Yes	No	No
		1.5L& 500ml PET bottles	No	No	Yes
3	Loi Hein	285ml glass bottle	Yes	No	No
		250ml glass bottle	Yes	No	No
		380ml PET bottles	No	No	Yes

Source: Surveyed Data (2011)

As shown in table 4.8, competition-oriented pricing is used for 285 ml and 250ml glass bottles regardless of flavor and brand. For the differentiated products (PET bottles) of firms, they use the demand-oriented pricing. Cost-oriented pricing is not used absolutely by three major firms.

4.6.3 The Pricing Methods of Carbonated Soft Drinks Manufacturing Firms

The major customers of soft drinks manufacturing firms are organizational buyers who purchase for resale to end consumers. Thus the major customers are wholesalers and retailers. Three carbonated soft drinks manufacturers practice two pricing methods. These are:

1. Geographic pricing method and
2. Discount pricing methods

1. Geographic Pricing

The prices are varied with the distance between factories and distribution points (areas of wholesalers and retailers). The transportation service is offered by manufacturers. The pricing is same for all areas within Yangon. However, the higher prices are set for the areas apart from Yangon. The price of product is set based on original factory price and transportation charges.

2. Discount Pricing

The four types of discount pricing are practiced in all three major players of soft drinks market. Those are quantity discount, cash, trade and seasonal discount. Types of pricing discounts are practised by three major firms that are illustrated in table 4.9.

Table: 4.9 Types of Pricing Discounts in Carbonated Soft Drinks Firms

Company Name	Types of Pricing Discounts					
	Quantity	Trade	Cash	Allowances	Rebates	Seasonal
MGS	No	Yes	No	No	No	Yes
Pinya	Yes	Yes	Yes	No	No	Yes
Loi Hein	Yes	Yes	No	No	No	Yes

Source: Surveyed Data (2010)

a. Quantity Discount

MGS does not practise the quantity discount policy. The Pinya practises quantity discount at the new product launching time. Two months after introduction, it uses quantity discount. It practises the discount policy of 1 package (12-bottle case) free for 10 packages purchase at the time of giving discount. Loi Hein has been practicing quantity discount on 380 ml PET bottle (Blue Mountain). Its discount policy is that one package (12-bottle) free for five packages purchased.

b. Trade Discount

All three firms use the trade discount system for wholesalers and agents. The prices for them are lower than those for retailers. The listed prices are discounted at a particular percentage for wholesalers and agents.

c. Cash Discount

Both MGS and Loi Hein do not practise the cash discount. Pinya has been practicing 2% cash discount on 1.5L PET bottle (Max Plus) for 10 packs and more.

d. Seasonal Discount

All three firms usually reduce prices in low demand seasons of cold season and rainy season. In the rainy seasons, for 285 ml glass bottles, each of the three manufacturer gives 1 case/shell (24 bottles) free for 10 cases and 1-2 bottles free for 1 case/shell purchase. Since other sizes of bottles are competed with demand-oriented, they do not practice the seasonal discount for them in low seasons.

4.7 Logistics Management

4.7.1 Packaging of Carbonated Soft Drinks

In Yangon, carbonated soft drinks are packed with case/shell or plastic package. However, there are some differences in packaging of various manufacturing firms.

a. Packaging in MGS Beverages

The packaging of MGS's carbonated soft drinks is shown in table 4.10.

Table: 4.10 Packaging of Carbonated Soft Drinks in MGS Beverages

No.	Types of Bottle	Packaging Size
1	285 ml glass bottle	24-bottles case
2	380 ml PET bottle	12-bottles plastic pack
3	250 ml glass bottle	12-bottles plastic pack

Source: Surveyed Data (2010)

In MGS Beverages, there are 3 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles case for 285 ml glass bottle, 12-bottles plastic pack for 380 ml PET bottle and 250 ml glass bottle.

b. Packaging in Pinya

The packaging of Pinya's carbonated soft drinks is shown in table 4.11.

Table: 4.11 Packaging of Carbonated Soft Drinks in Pinya

No.	Types of Bottle	Packaging Size
1	285 ml glass bottle	24-bottles case
2	500 ml PET bottle	12-bottles plastic pack
3	1.5 liter PET bottle	12-bottles plastic pack

Source: Surveyed Data (2010)

In Pinya, there are 2 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles case for 285 ml glass bottle, 12-bottles plastic pack for 500 ml PET bottle and 1.5 liter PET bottle.

c. Packaging in Loi Hein

The packaging of Loi Hein's carbonated soft drinks is shown in table 4.12.

Table: 4.12 Packaging of Carbonated Soft Drinks in Loi Hein

No.	Types of Bottle	Packaging Size
1	285 ml glass bottle	24-bottles crate
2	380 ml PET bottle	12-bottles plastic pack
3	Tin Can (330 ml)	24 cans cartons
	Tin Can (250 ml)	

Source: Surveyed Data (2010)

In Loi Hein, there are 3 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles crate for 285 ml glass bottle, 12-bottles plastic pack for 380 ml PET bottle and 24 cans carton for two types of tin can (330 ml and 250 ml tin cans).

4.7.2 Distribution Management of Carbonated Soft Drinks

Distribution channel management is very critical for the firms when they decide to enter one or more markets. Distribution channel structures are not difficult to change. However, primary wrong decisions about the distribution channel might lead to dreadful results for the organizations.

In MGS, the distributions way are the east district, the west district, the south district and the north district in Yangon. These four districts are distributed by the respective salesmen. Townships in Yangon are organized as divisions. There are seven divisions and each division is distributed by using the average of six ways. Salesmen distribute and sale to each outlet in each township according to Route map. For branch offices in the Lower Myanmar, products, those are manufactured from

Mhawbi plant, are sold and distributed by delivering their own trucks. For the Upper Myanmar market, products are manufactured in its Mandalay plant. The selling prices of branch offices are not the same. It is because transportation costs are different from one region to another. MGS distributes its products to more than 17,000 retailers throughout the country through a network of 500 dealers and wholesalers.

Pinya identifies the specific ways of 34 townships in Yangon city to distribute its products, and delivers its products by using own vans. It has 15 distribution branches all over the country. Railways, roadways, and waterways are suitably used to distribute its branch offices. Nowadays, Pinya is distributing its products to more than 15,000 retail outlets all over the country. It also has two main agents who take care of the distribution of its products to area that are difficult for its branches offices to reach. Pinya distributes its products as far north as Myitkyina and south to kawthaung.

In Loi Hein, door-to-door department is responsible for distribution of glass bottles carbonated soft drinks in the Lower Myanmar. Before 2007, the company distributed the products up to the sales target which is identified by the company. There are 12 distributors in Yangon and 17 distributors in other regional area such as Bago, Pyay, Magwe, Taunggyi, Patheingyi, Thaketa, Mawlamyine, Pyimawza, Myeik and Dawei. The distributors are paid the commission but the rates are different according to the location. Distribution and selling of all kinds of Blue Mountain carbonated soft drinks is the responsibility of distribution and marketing department. The products are distributed through more than 20,000 retailers and about 60 wholesale networks.

For carbonated soft drinks companies, delivering returnable bottles back to the plants is very costly and resource consuming. Returnable bottles are collected without separately, the salespeople visit the retailers on the basis of two or three times a week to replace the empty bottles with the soft drinks glass bottles.

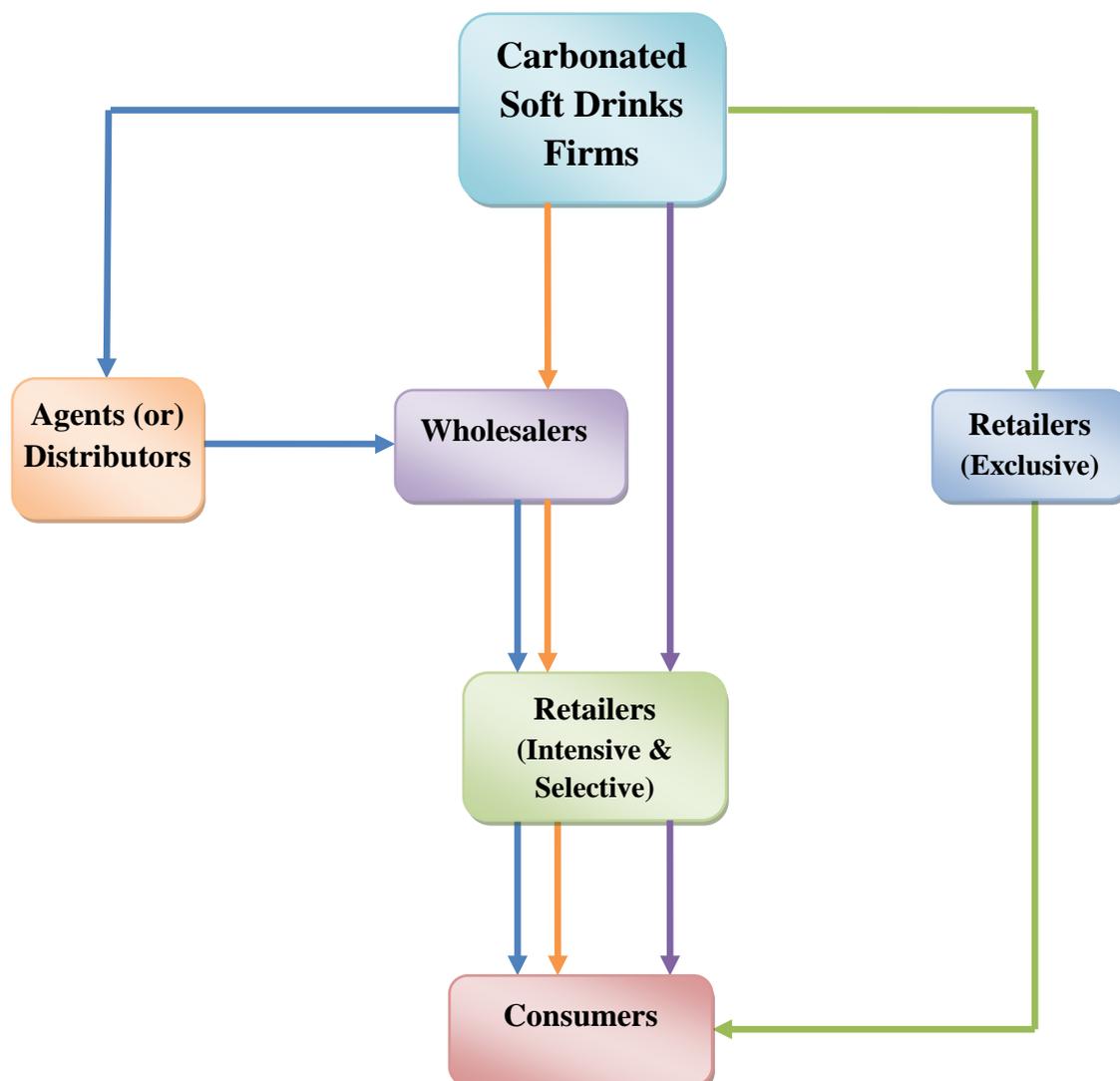
4.7.3 Distribution Strategies of Carbonated Soft Drinks Firms

Carbonated soft-drink firms must decide on the number of intermediates to use at each channel level. The intermediates play very important roles whose activities would have strong impact on the sales of the products to the end users. There are three distribution strategies are being used in the carbonated soft drink firms. They are;

- a. Exclusive distribution style
- b. Selective distribution style
- c. Intensive distribution style

Distribution strategies of carbonated soft drinks firms are shown in figure 4.3.

Figure: 4.3 Distribution Types of Carbonated Soft Drinks Firms



Source: Own Complication Based on Surveyed Data (2011)

In the area of exclusive distribution, all three firms have their own exclusive outlets which main objective is to maintain and control over the service offered by these outlets. These outlets are heavily provided with the promotional gifts like deep freezer coolers, clocks, sign boards and etc. Keeping own outlet is another way of promoting own brands.

All three firms mostly use the intensive distribution style where they distribute their products to as many outlets as possible. The main objective of this system is to meet the needs of the customers more easily wherever they are. Three major firms also use the selective distribution style in which there are only intermediaries who are willing to sell their products. This strategy helps the company to gain adequate market coverage with more control and less cost.

However, all three strategies are practiced to a certain degree in the market depending on the market competition. Sales force personnel serve as the company's personal link to the customers. It is the sales representatives who bring back the much-needed information about the customers to the firms.

4.8 Reverse Logistics

4.8.1 Returnable Bottles of Carbonated Soft Drinks

In the carbonated soft drinks market, one important factor is to consider the reverse logistics. For carbonated soft drinks producers, delivering returnable (glass) bottles back to the plants is very costly and resource consuming. However, returnable bottles have been the mainstay of the carbonated soft drinks industry since its beginning. Therefore, returnable bottles play a critical role in the carbonated soft drinks markets.

Competing in the carbonated soft drinks market, the rotation of bottles seems to depend on the stock of bottles and rate of speed of bottles to the producers. Production and distribution problems become very big when returned bottles do not arrive at the production plant in time.

At present, the rent for a glass bottle is 80 kyats and a case/shell is 1000 kyats. Retailers need to pay a deposit of 2920 kyats before placing their first order from any brand of the carbonated soft drinks because of being 24 bottles in a case.

Pinya manufacturing company has widely lent bottles and shell without taking any deposits to some high consumption outlets to gain competitive advantages. It lends 24 empty glass bottles and a case by making the contract.

Both MGS and Loi Hein mostly provide bottles and case without taking any deposit in their promotional period or promotional area. However, their practices are less common in the Yangon market. To avoid their sales decrease because of retailers refuse to stock the bottles with deposits, Loi Hein and MGS ought to provide their glass bottles and case anytime and anywhere.

Returnable bottles are collected without separately, the salespeople visit the retailers on the basis of two or three times a week to replace the empty bottles with the soft drinks glass bottles. All three companies have their own delivery vans to distribute their products regularly to the respective areas. They use separate vans for glass bottle product lines and PET bottle product lines.

The black-market for empty bottles are also popular among retailers whose price is less than 2920 kyats (a deposit) per case. The salespersons are also sometimes in a habit of selling their bottles to the retailers at the price of 2920 kyats and replace them again by with empty bottles from the black-market which is under the market price. Moreover, the retailers are free to buy the empty bottles anywhere underground market whichever makes more gain or convenience for them.

Today, global soft drinks makers are now favoring PET bottles instead of glass. In Myanmar, there were two new products with disposal containers were launched in the market, in early 2010. They are Blue Mountain (Loi Hein) and Max plus (Pinya). Today, three major firms use plastic (PET) bottles and are the latest sign the local carbonated soft drinks industry is moving away from the once dominant returnable (glass) bottles. This is because glass bottles cost more and harder to store. Customers also prefer their drinks in plastic bottles, which don't have to be returned to the shop.

Among three major companies, only Loi Hein can produce PET empty bottles, caps, and packaging plastics in its plant and other firms purchase from outside. This is a competitive advantage of Loi Hein in non returnable carbonated soft drinks market.

4.9 Impact of Supply Chain Management On Company's Market Share Position

The Literature on Supply chain management have evidenced that the good supply chain management leads to increase market share, improve customer satisfaction and more competitive in the market place that lead to sustainable success of the businesses. The previous discussion noted that MGS Co., Ltd is better performance in the some area of supply chain management that leads to possess larger share of market in the industry.

The market share position of three companies is shown in table 4.13. The data shown in figure is represented for 2010 Yangon local carbonated soft drinks market.

Table 4.13 Market Share Gained by Three Major Firms

Firms Name	Market Share Percentage
1. MGS Beverages Co., Ltd.	46%
2. Pinya Manufacturing Co., Ltd.	36%
3. Loi Hein Co., Ltd.	14%
4. Other Firms	4%
Total	100%

Source: View Marketing Research and Services Company 2010 Survey

According to table 4.13, MGS gained the largest market share in Yangon local carbonated soft drinks market. It is followed by Pinya and which had more market share than Loi Hein in 2010.

Chapter 5

Conclusion

In Myanmar, three major companies of MGS, Pinya and Loi Hein produce and distribute carbonated soft drinks. These three major firms of supply chain management practices from the aspects of three main flows of supply chain management, four major supply chain decisions, suppliers selections, procurement management, operation management, internal supply chain, logistics management, and reverse logistics are studied in this study.

5.1 Findings of the Study

All three companies under study has used more or less similar business model. Supply chain of carbonated soft drinks firms start purchasing of raw materials from suppliers. Materials flows from supplies to production firms, and firms transforms these materials into intermediate and finished products, and then distribute these finished products to distribution centers to wholesalers to retailers to customers. All three companies of bottle product lines mostly practice COD (cash on delivery) system in Yangon carbonated soft drinks markets.

In location decisions, MGS more emphasized having good water supply. However, both Pinya and Loi Hein more emphasized having good electricity supply and convenient for transportation.

About the production, three major carbonated soft drinks firms are producing various flavors and they are more producing the flavor that has high customer preferences. At present, all three firms have been introducing their new products with PET bottles and they are trying to replace in the place of returnable glass bottles.

In inventory decisions, all three firms carefully decide their inventory to achieve the cost effective supply chain. Raw materials inventory are decided based on the production plan.

Because it makes products available to consumers when and where they want to purchase them, transportation is also important in supply chain decisions. All three

firms suitably used the transportation modes. Especially, waterways are used to carry the raw materials from abroad. Domestic raw materials are carried by using roadways and railways. Pipelines are not used in the soft drinks industry. Three major firms practise the door-to-door-system and roadways, waterways and railways are suitably used to ship the sales branches and distributors over the country.

All three major firms select their suppliers based on quality, prices, suppliers' flexibility, and on time delivery. They also emphasize reputation of the suppliers. All three firms do their businesses with the suppliers by making at least one year contracts. Moreover, to avoid the shortages of main materials, they usually sign long-term contracts with suppliers to ensure a steady flow of materials. Three major firms limit the quality of raw materials which are dispatched by each supplier.

They used international supply chain in purchasing ingredients like flavors, coloring agents, glass bottles and crown caps to produce their products. All three firms purchase the raw materials based on their production plan. Production plans are changed depending on seasonality, and promotions of marketing department. In MGS, production department, import/export department, marketing department and finance department hold the meeting to decide the amount of raw materials to be ordered among monthly. In Pinya, managers from all departments hold the meeting every week to decide the production plan. Ordering and purchasing of raw materials are only the responsibilities of supply chain department of the company. In Loi Hein, logistics department is responsible to control the materials requirements. This department also has to calculate how many should be ordered and how much cost is. This department orders the necessary raw materials according to the production plan in the right quantity at the right cost and time.

They specialized in operational aspects such as mixing, bottling and packaging, marketing and distribution. All three firms emphasize their quality control processes. They are practicing competition oriented pricing for glass bottles carbonated soft drinks and demand oriented pricing is used for their new products of PET bottles. Therefore, they set same prices for 285 ml and 250ml glass bottles regardless of flavor and brand. Cost-oriented pricing is not used absolutely by three major firms.

Three carbonated soft drinks manufacturers practice two pricing methods: geographic pricing method and discount pricing methods. The pricing is same for all areas within Yangon. However, the higher prices are set for the areas apart from Yangon. The price of product is set based on original factory price and transportation charges. Therefore, all three firms use geographic pricing method.

In the logistics of packaging, MGS practices 3 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles case for 285 ml glass bottle, 12-bottles plastic pack for 380 ml PET bottle and 250 ml glass bottle. In Pinya, there are 2 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles case for 285 ml glass bottle, 12-bottles plastic pack for 500 ml PET bottle and 1.5 liter PET bottle. In Loi Hein, there are 3 styles of packaging in terms of units per package and packaging materials. Those are 24-bottles crate for 285 ml glass bottle, 12-bottles plastic pack for 380 ml PET bottle and 24 cans carton for two types of tin can (330 ml and 250 ml tin cans).

All of these companies distribute their products in national market not only urban but also rural areas of the country. Although all three firms use the same types of distribution channels, MGS is a leader in carbonated soft drinks industry because it can effectively and efficiently manage its distribution channels. Moreover, it has more knowledge and experiences in the market condition because of the oldest players in carbonated soft drinks industry.

In the carbonated soft drinks market, one important factor is to consider the reverse logistics. For carbonated soft drinks producers, delivering returnable (glass) bottles back to the plants is very costly and resource consuming. Production and distribution problems become very big when returned bottles do not arrive at the production plant in time. At present, the rent for a glass bottle is 80 kyats and a case/shell is 1000 kyats. Retailers need to pay a deposit of 2920 kyats before placing their first order from any brand of the carbonated soft drinks because of being 24 bottles in a case.

Returnable bottles are collected without separately, the salespeople visit the retailers on the basis of two or three times a week to replace the empty bottles with the soft drinks glass bottles.

5.2 Discussion on Findings

According to study, in four major supply chain decisions, only MGS decided the best location, especially its bottling plant. As a result, the oldest player of MGS has been dominating the carbonated soft drinks market since its beginning. All three major firms select their suppliers based on quality, prices, suppliers' flexibility, and on time delivery. Most of the ingredients required for carbonated soft drinks are imported. Although production process is similar, each firm conducts its quality control differently. However, all three firms certainly emphasize their quality control to produce high quality soft drinks. In the area of internal supply chain, MGS has largest brand share with its brand Crusher (orange) and Quench (sparkling). All three firms apply competition-oriented pricing for glass bottle soft drinks. For carbonated soft drinks with PET bottles, they practice demand-oriented pricing. The soft drinks bottles are packed with cases/shell or plastic packs. Normally, the manufacturers pack as 24-bottle case, and 12-bottle packs. All three firms use the same distribution channels. Nonetheless, MGS has been drawing its distribution route map effectively and efficiently.

5.3 Recommendations

At present, most of the ingredients needed for carbonated soft drinks production are imported. This is a major weak point of carbonated soft drinks industry and production is depending on the raw materials from foreign country. Because of no import substitution, raw materials requirement is a big need for Myanmar carbonated soft drinks industry for penetrate the global market. Today, global soft drinks makers are now favoring PET bottles instead of glass. This is because glass bottles cost more and harder to store. Customers also prefer their drinks in plastic bottles, which don't have to be returned to the shop. For these reasons, all three firms should strive to replace with PET bottles in glass bottles market in carbonated soft drinks industry. In the supply chain management point of view, the market leader (MGS) should try to be widely produced PET bottles for maintaining its market share in carbonated soft drinks industry. In the near future, when ASEAN opens its doors and eliminate custom barriers, a large variety of imported soft drinks may enter into the market. Hence, local carbonated soft drinks firms should manage for achieving effective supply chain to success in global competitive market.

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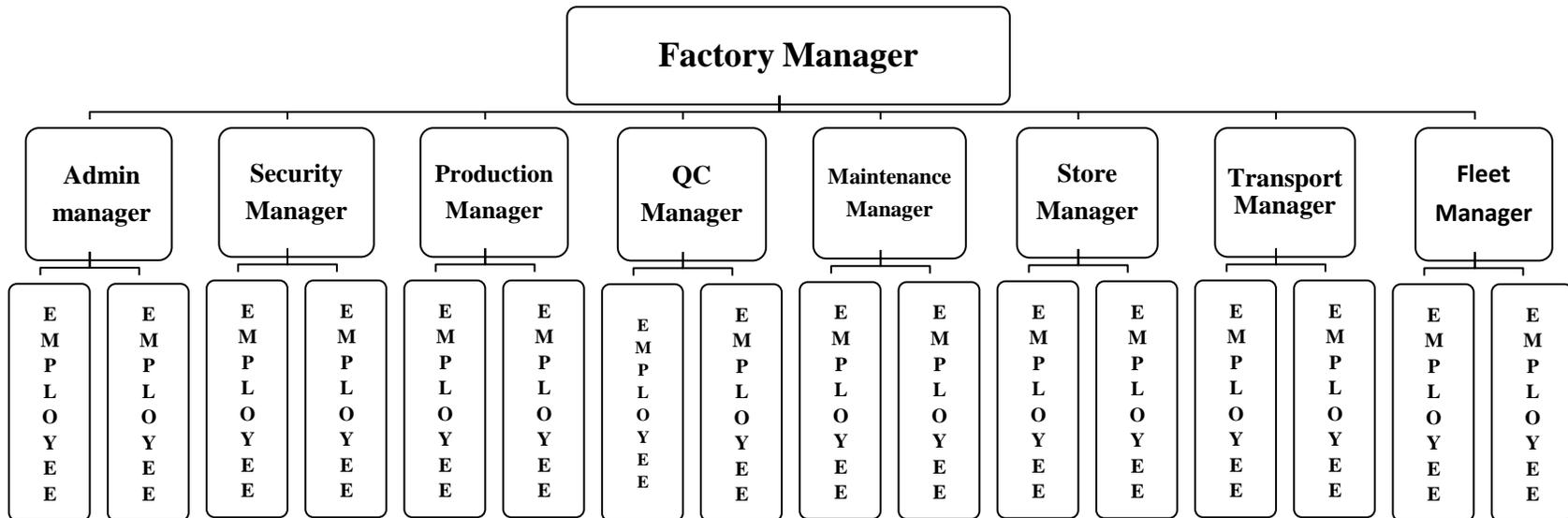
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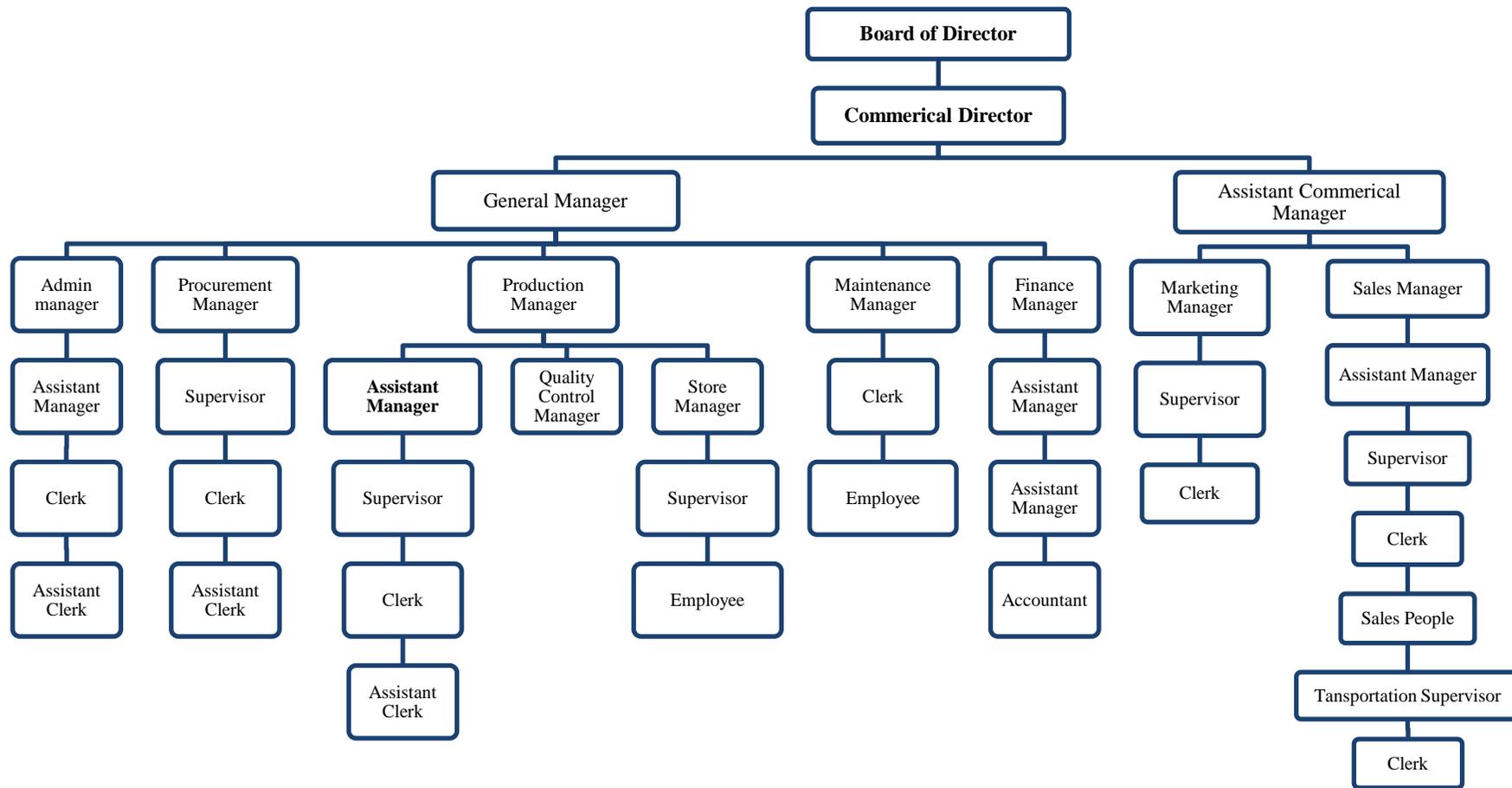
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Organization Chart of MGS Soft Drinks Factory in Yangon

Appendix-1

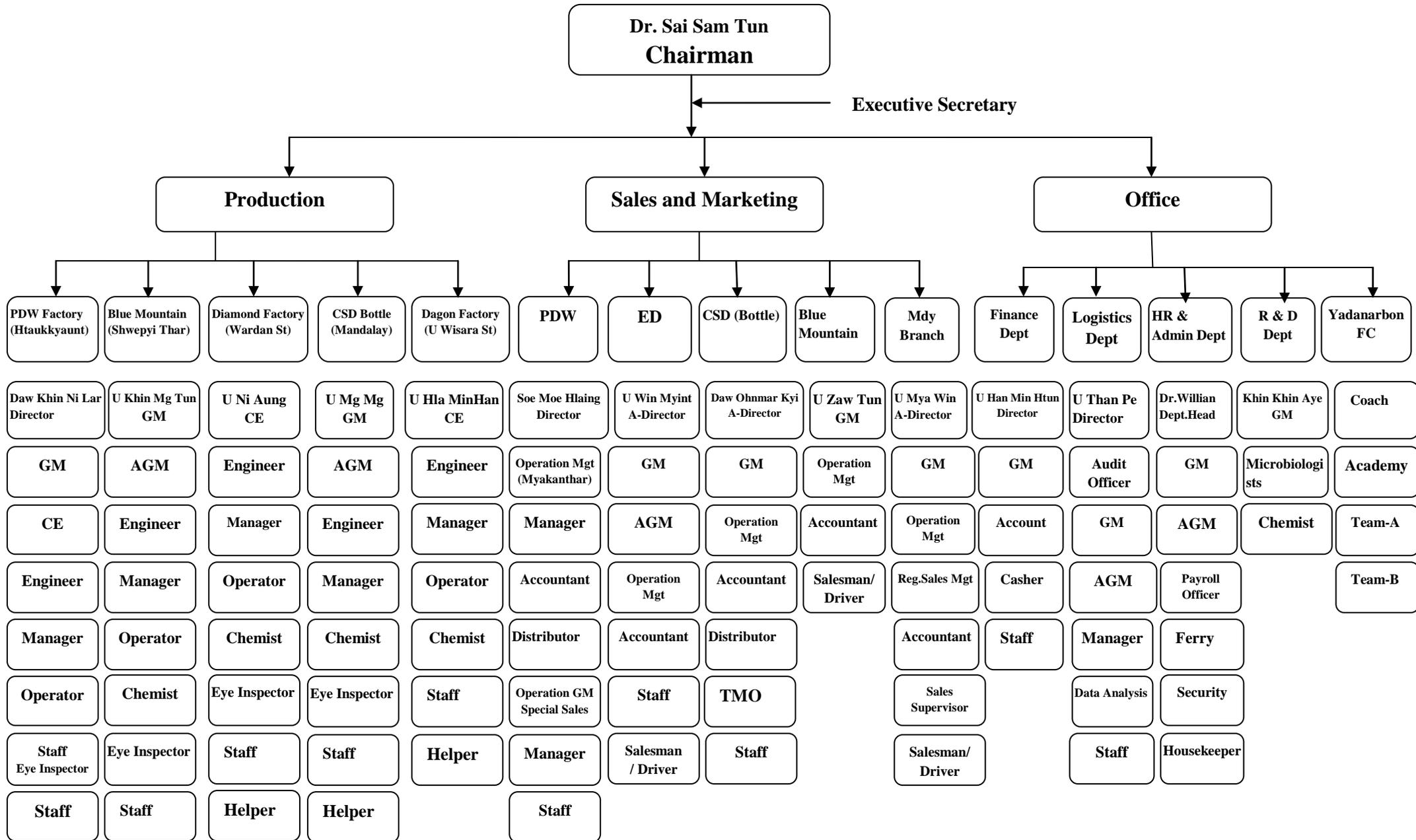


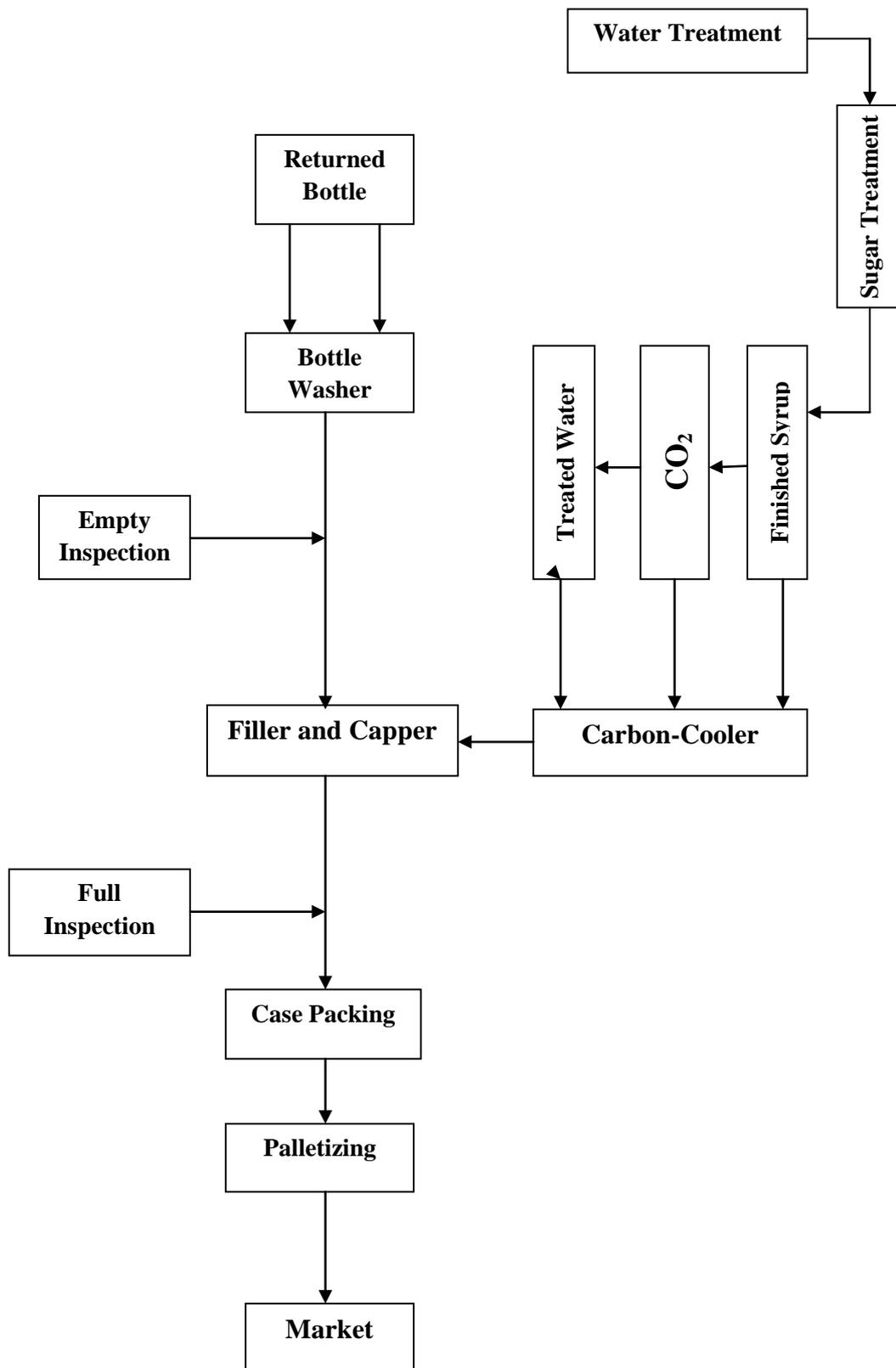
Source: MGS Beverages Company Limited



Source: Pinya Manufacturing Company Ltd

Organization Chart of Loi Hein Company., Ltd





Products Types and Sizes of Three Major Firms in the Study

Products and Sizes of MGS Beverages Co. Ltd

No	Flavor	285ml glass	250ml glass	380ml PET
1.	Orange	✓	✓	✓
2.	Cola	✓	✓	✓
3.	Lime	✓	✓	✓
4.	Lychee	✓		✓
5.	Tamarind	✓		
6.	Soda	✓		
7.	Pineapple	✓		
8.	Power	✓		✓

Source: Surveyed Data (2012)

Products and Sizes of Pinya Manufacturing Co. Ltd

No	Flavor	285 ml glass	500 ml PET	1.5 L PET
1.	Orange	✓	✓	✓
2.	Cola	✓	✓	✓
3.	Lemon Lime	✓	✓	✓
4.	Power	✓		
5.	Lychee	✓		
6.	Tamarind	✓		
7.	Cream Soda	✓		
8.	Pineapple	✓		
9.	Soda	✓		

Source: Surveyed Data (2012)

Products and Sizes of Loi Hein Co. Ltd

No	Flavor	285ml glass	250ml glass	330ml can	380ml PET
1.	Orange	✓			✓
2.	Cola	✓			✓
3.	Lemon Sparkling	✓	✓	✓	✓
4.	Power	✓			
5.	Lychee	✓			✓
6.	Tamarind	✓			
7.	Soda Water			✓	✓
8.	Pineapple	✓			
9.	Fruito	✓			
10.	Cream Soda	✓			✓

Source: Surveyed Data (2012)

Questionnaire

1. Company Name
2. Address
3. Established Year
4. Compound of the Plant
5. Initial Capital
6. Type of the Company
7. No. of Shareholders
8. No. of Employee

9. Could you please describe the brand names of the company's products?
.....

10. Could you please describe the flavor names from the company produced?
.....

11. Could you please describe the carbonated soft drinks types and sizes from the company produced?
.....

12. Could you please describe the need of raw materials to produce the different kinds of carbonated soft drinks?
.....

13. How did you decide the plant location?
.....

14. How do you decide the production plan?
.....

15. How do you decide the inventory of raw materials and finished goods?

.....

16. What methods are used to issue raw materials and finished goods from store?

Methods	Raw Materials	Finished Goods
1. FIFO		
2. LIFO		
3. Average		

17. How do you choose the transportation modes to carry and distribute the products?

.....

18. How do you select the company's suppliers?

.....

19. Could you please describe the types of machines in your company used?

.....

20. Could you please describe the capacity of each machine that is using in your company?

.....

21. Could you please describe the raw materials that acquire from abroad?

.....

22. Could you please describe the raw materials that can be provided from home country?

.....

23. How do you check the quality of raw materials?

.....

24. How do you check the quality of carbonated soft drinks?

.....

25. How do you check the quality of finished goods?

.....

26. Could you please describe the pricing methods for your company's products?

.....

27. Could you please describe the discounting policies for your company's products?

.....

28. Could you please describe the packaging types of your company's products?

.....

29. Could you please describe the company's distribution types?

.....

30. How do you collect the empty bottles from the market?

.....

31. Could you please describe the rent for

1. One glass bottle	Kyat
2. One case/shell	Kyat

32. Could you please describe the company's intention to achieve more market place?

.....