

# Logistics Management in Cement Manufacturing Industry: A case study of Seven Rings Cement in Bangladesh

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**Masters in Procurement and Supply Management**

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## **Certificate from Supervisor**

This is my pleasure to certify that the dissertation entitled “Logistics Management in Cement Manufacturing Industry: A case study of Seven Rings Cement in Bangladesh” is the original work of Mr. Shahjadul Karim that is completed under my direct guidance and supervision. So far I know, the dissertation is an individual achievement of the candidate’s own efforts, and it is not a conjoint work.

I also certify that I have gone through the draft and final version of the dissertation and found it satisfactory for submission to the BRAC Institute of Governance and Development, BRAC University in partial fulfillment of the requirements for the degree of Master in Procurement and Supply Management.

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## **Abstract**

The objective of this thesis was to assess the Logistic Process of Seven Circle BD Ltd. The company is a middle-size company specializing in the Manufacturing of Cement .Main focus on to deliver the goods to the end user via sales and marketing team through different modes of transport. However, the rapid development in the various areas of the logistics industry poses great challenges to the company.

The theoretical framework of the study consists of two major theories: business SWOT analysis and logistics process. The background research was conducted by means of both quantitative and quantitative methods. The qualitative method included a face-to-face interview with the supervisor of the logistics department and several interviews with the company's customers. The quantitative analysis was carried out by means of questionnaires which were sent to the employees of the company.

The results of the study show that there are many important objectives for development in the areas like marketing, information system, customer service of Seven Circle BD Limited. Based on the results, the company should focus on its operations in these areas to face the challenges of logistics industry in the future.

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## **ABBRAVATIONS USED**

B/L	Bill of Lading
BCMA	Bangladesh Cement Manufacturing Association
BSI	Bureau of Standard India
BUET	Bangladesh University of Engineering and Technology
CAPEX	Capital Expenditure
CCA	China Cement Association
CRM	Customer Relationship Management
DMU	Decision-making Unit
EDI	Electronic Data Interchange
GPS	Global Positioning System
HRM	Human Resource Management
JIT	Just-in-time
OPEX	Operation Expenses
OOS	Out of Stock
QC	Quality Control
SCBL	Seven Circle BD Limited
SWOT	A method used to evaluate the Strengths, Weaknesses, Opportunities and Threats in a business venture
OPC	Ordinary Portland cement
PCC	Portland Composite Cement
PPC	Pozzolan Portland Cement

## **1 Introduction:**

The Cement manufacturers strive for their products to reach final customers before they turn their heads to the rival's ones. This research attempts to understand and investigate how Seven Rings Cement Company manages its logistics activities, distribution and applying information technology to achieve competitive advantages. The theoretical framework of the study consists of two major theories: business SWOT analysis and logistics process. The background research will be conducted by means of both quantitative and quantitative methods. The qualitative method includes a face-to-face interview with the supervisor of the Supply Chain department and several interviews with the company's customers. The quantitative analysis will be carried out by means of questionnaires.

The results of the study will show important objectives for development in the areas like marketing, information system, and customer service of Seven Circle BD Limited. Based on the results, the company may focus on its operations in these areas to face the challenges of logistics in the future.

### **1.1 Purpose of the study**

The purpose of thesis is to identify and describe the way Seven Circle BD Ltd manages logistics<sup>1</sup> process and operates its business focusing on several aspects; Logistics, distribution<sup>2</sup> and transportation, which support Seven Circle's Supply Chain activities and how they contribute to competitive advantages for the firm. The main aim is to explore SWOT<sup>3</sup> analysis of the logistics process of Seven Circle BD Limited. Now modern logistics modes are changing rapidly. With the development of technology, logistics industry is now faced with a more complex situation and needs to become flexible. Through the analysis of the strengths, weaknesses, opportunities and threats during the logistics process, the research results will help the company recognize and find out the great improvement and better their development more clearly.

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<sup>1</sup> *Logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations ( Wikipedia )*

<sup>2</sup> *The movement of goods and services from the source through a distribution channel, right up to the final customer, consumer, or user, and the movement of payment in the opposite direction, right up to the original producer or supplier ( <http://www.businessdictionary.com> )*

<sup>3</sup> *A method used to evaluate the Strengths, Weaknesses, Opportunities and Threats in a business venture.*



In addition, cooperation, communication, leadership, teamwork and HRM<sup>4</sup> are key aspects for a company to operate well. Therefore a study on inner management of the logistics department of SCBL is very necessary during the time that they are working in the logistics process.

## **1.2 Structure of the study**

Firstly, the research objectives, problems and limitations of the study are presented to give a general view to start the thesis. Then in the second chapter, current situation and background of the logistics in Bangladesh and basic information of Seven Circle BD Limited are analyzed to focus on the thesis topic logistics process. In the theoretical part, the information that logistics process includes is going to be introduced in details, like the meaning of purchasing, ordering, warehousing, transportation, customer service etc.

## **1.3 Limitations of the study**

The whole thesis period lasts only one & half months. Therefore it was a short time to do the research. Due to time constraint, the primary data will be collected from small sample size. This may not totally represent a wide phenomenon of current company's development of the logistics process. Secondly, unavailability of high official of different cement industry hampered the collection of valuable data. The questionnaires sent to the employees, some were missing, not clearly, or didn't return to the researcher.

## **2 Background of the Cement industries:**

Cement Industry relatively a fast growing industry, is developing in pace with increasing building and construction activities. Cement has long been used as a bonding agent to unite particles or to cause one surface to adhere to another. The most common form of cement, Portland cement, is a powder obtained from burning together a mixture of crushed limestone and clay and obtained clinker, which then grinded and added with gypsum or fly ash. As cement market competition becomes more and more intensive gradually, logistics management will also become more and more important, even can be able to determine whether the company succeeds or fails in their future development. Therefore,

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<sup>4</sup> HRM- Human Resource Management, *The process of hiring and developing employees so that they become more valuable to the organization* (<http://www.businessdictionary.com/>)

cement industry must pay enough attention to do well in logistics work. In this way the corporate will own larger space to develop and compete in market economy.

## **2.1 Development of cement industry in Bangladesh**

Development of cement industry in Bangladesh dates back to the early-fifties but its growth in real sense started only about a decade. The country has been experiencing an upsurge in cement consumption for the last five years. Government gave permission for establishing cement industries in Bangladesh in FY1995. Initially the cement industry took place without the proper analysis of the demand and supply of cement in the country. Within the span of the two to three years, industry attained expanded capacity of the product with stable growth rate of consumption. There were mainly four dominant players in the cement industry in the year 1998 that produced their own cement to meet the demand of their customers. These companies were: Meghna Cement (owned by Bashundhara group), Eastern Cement (currently known as Seven Horse), Chatok Cement, Chittagong Cement (taken over by Heidelberg where the local brand is called Ruby)

After a decade, currently 123 companies are listed as cement manufacturers in the country. Among them 63 have actual production capacity while 32 are in operation. The current installed capacity of the industry is 20.0 mn MT. This installed capacity has been calculated under two conditions below:

1. All factories are in operation
2. Production is at its peak season

Source: BCMA & IDLC research

## **2.2 Current Status of Cement Sector in Bangladesh**

The amount of cement annually consumed in the country is about 25 million tons ( Year 2014 ) , which is internally produced. Cement consumption rose almost three times higher in last ten years. The demand forecast for cement suggest expansion at a rate of 8% percent as the major construction projects like Padma multipurpose bridge, elevated expressway and other road and building projects are under implementation plans in the near future. Real Estate companies and individuals are important consumers of cement and during insignificant government project financing they remain the main consumers in the country. Bangladesh has become surplus cement producing country and now exports part of its produced cement to neighboring eastern Indian states and to Myanmar. Per capita cement consumption in 1999 in the country was only 22 kg per year which reached over 65 kg in 2009. Still

the per capita cement consumption in Bangladesh is fairly low compared to India (150 kg), Myanmar (73 kg), Indonesia (127 kg), Malaysia (529 kg) and Thailand (425 kg).

Historically, Bangladesh did not depend much on cement. It also did not have enough natural resources for manufacturing it. The base materials traditionally used in house building and other construction required little use of cement. Gradual substitution of traditional building structures or pattern by modern high-rise ones has pushed up the use of cement. But as the economy continued to remain agro based, construction sectors had not been able to gain momentum and as the infrastructure development was selective, cement remained a product of low demand. A faster growth in demand for cement has been observed only since mid-1980s, especially with implementation of large infrastructure projects, increased pace of urbanization, construction of apartment buildings and multistoried shopping complexes in urban areas, and in the moneyed rural people for modern houses.

Private local enterprises dominate the current cement production (60%) of the country while multinational cement manufacturing companies like Lafarge Mollins, Cemex, Holcim, Heidelberg account for 40% market share. Clinker is mainly imported from China, Thailand, Malaysia, Philippines, Indonesia and India and used as raw material for cement manufacturing by the companies in Bangladesh. Among the local cement manufacturing companies Shah Cement, Akij Cement, Fresh, Crown, Seven Circle, Aramit, Royal etc. are the major ones. The manufacturing of cement is based on both locally available raw materials and imported clinker. The mills that produce cement from imported clinker are located mainly around Dhaka, Chittagong and Mongla. There are 74 cement companies registered with the relevant government agencies but around 30 companies are in operation in 2010. These mills produced 21 million tones cement per annum. A 50-kg bag of cement sells at Tk. 380-430. Some small manufacturing plants in northern and southern parts of the country had already been shut down in the last few years, as those lost out their competitiveness<sup>5</sup> to big market players. Local raw material based cement production depends on limestone deposits that lie in St. Martins Island, Joupurhat and Sylhet areas. The deposit in Sylhet supported the production of cement in the Chattak and Ayeenpur cement factories in the 1960-1990s. These plants shut their operation due to their supply shortages of limestone and also due to their inability to stand with their market competitors. (BCMA & IDLC)

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<sup>5</sup> Ability of a firm to offer products and services that meet the quality standards of the markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them.

### 2.3 Demand Supply Status of Cement in Bangladesh

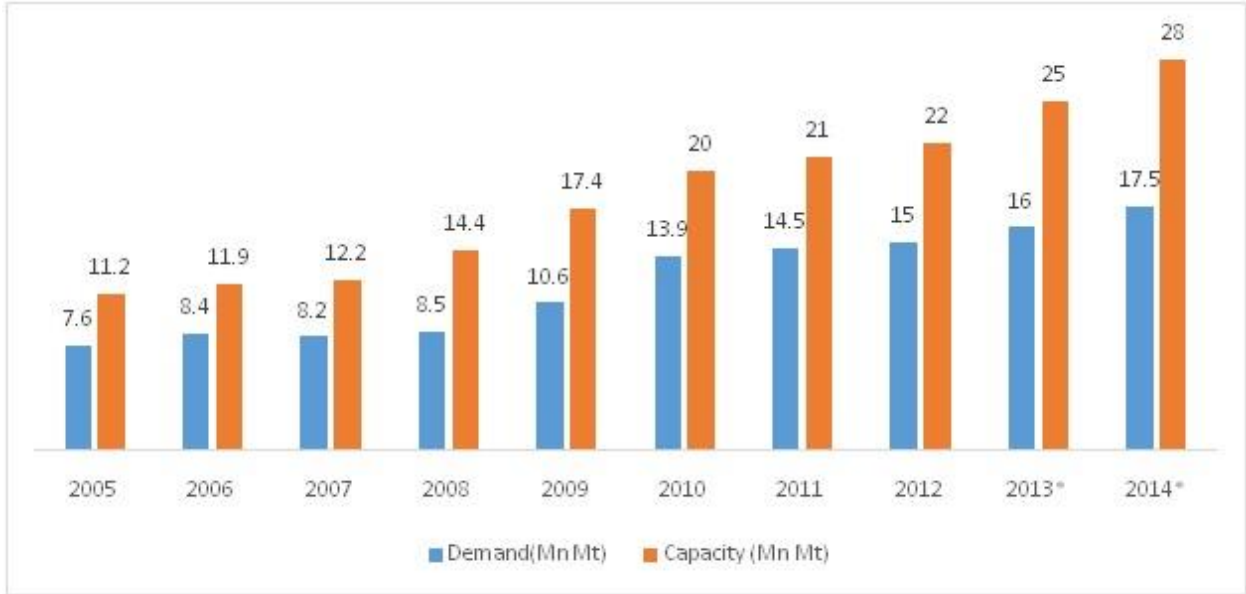


Figure 2-1 : Demand Supply Status of Cement in Bangladesh

Source: IDLC Research Report 2013

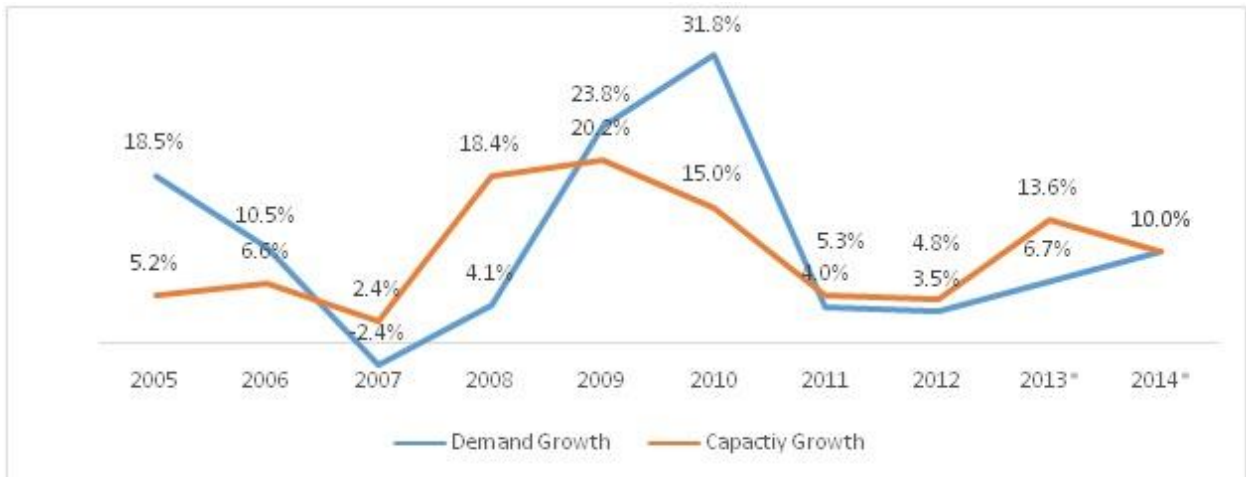


Figure 2-2: Demand Growth Vs Capacity Growth

Source: IDLC Research Report 2013

## 2.4 Industry Structure

Currently, the market size of this industry is USD 1.74 bn (2013). The market is oligopolistic in nature with top ten players controlling up to 85% of market share. There are total 112 players registered out of which 45 players are operating. In addition, the industry is regional and seasonal in nature. The demand for cement is highest during winter as the season is the most favorable for construction. On the other hand, during the rainy season the demand falls drastically as the wet condition is not favorable for construction. In terms of factory location, most of the industries are situated in clusters outside the big cities as they want to remain close to the places where the demand for cement is high due to urbanization and high transportation costs. Also, the factories tend to locate near places with good water source as water is an important ingredient for cement production.



Figure 2-3: Market Share of different cement company in Bangladesh

Source: IDLC Research Report



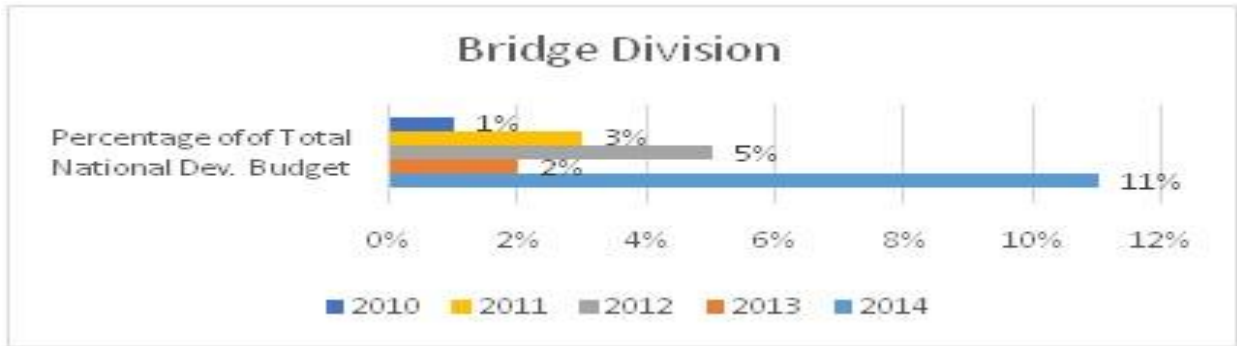


Figure 2-4: Percentage of total National budget against Bridge Division

Source: Ministry of Finance

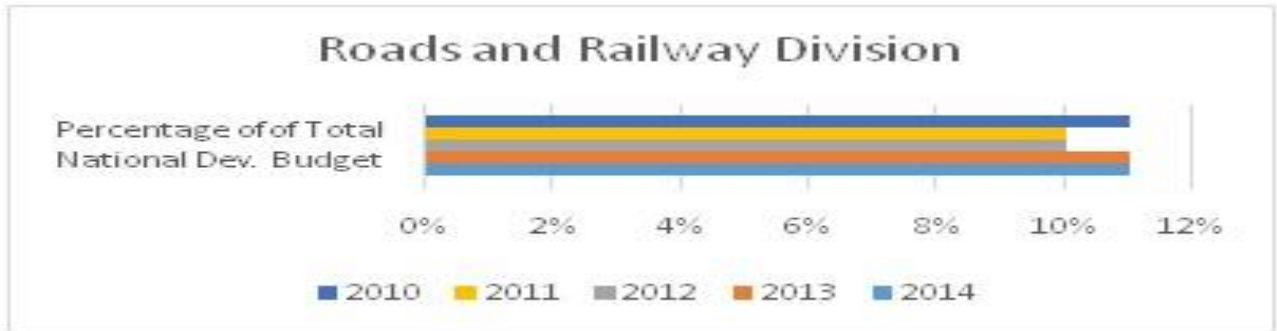


Figure 2-5: Percentage of total National budget against Roads & Railway Division

Source: Ministry of Finance

## 2.5 Logistics Management

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverses flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements.

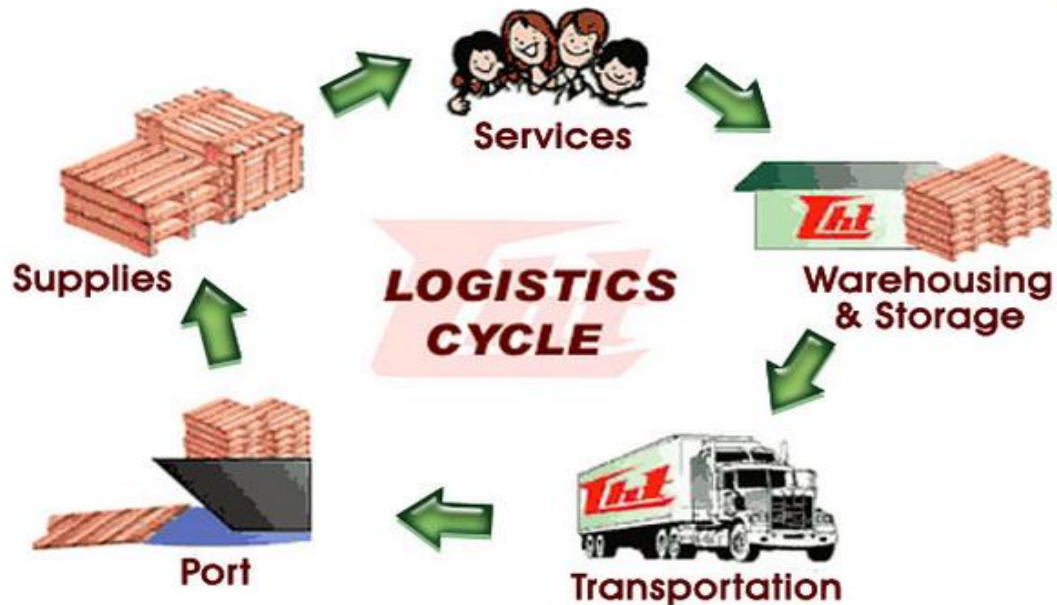


Figure 2-6: Logistics Cycle

As cement market competition becomes more and more intensive gradually, logistics management will also become more and more important, even can be able to determine whether the company succeeds or fails in their future development. Therefore, cement industry must pay enough attention to do well in logistics work. In this way the corporate will own larger space to develop and compete in market economy. (CCA, China Cement Association)

## 2.6 Characteristics analysis of cement logistics

Developing cement modern logistics, except for the characteristics of energy saving, emission reduction and indirect economic benefit, it also can create the new value of cement modern logistics and direct benefits. Not only can it change the present situation of cement logistics fundamentally in Bangladesh and realize cement industrial large-scale development, modernization, inter-provincial and transnational development, but also can provide the condition for accelerating structural adjustment in the cement industry field. (Multi-dimensional world 2008)

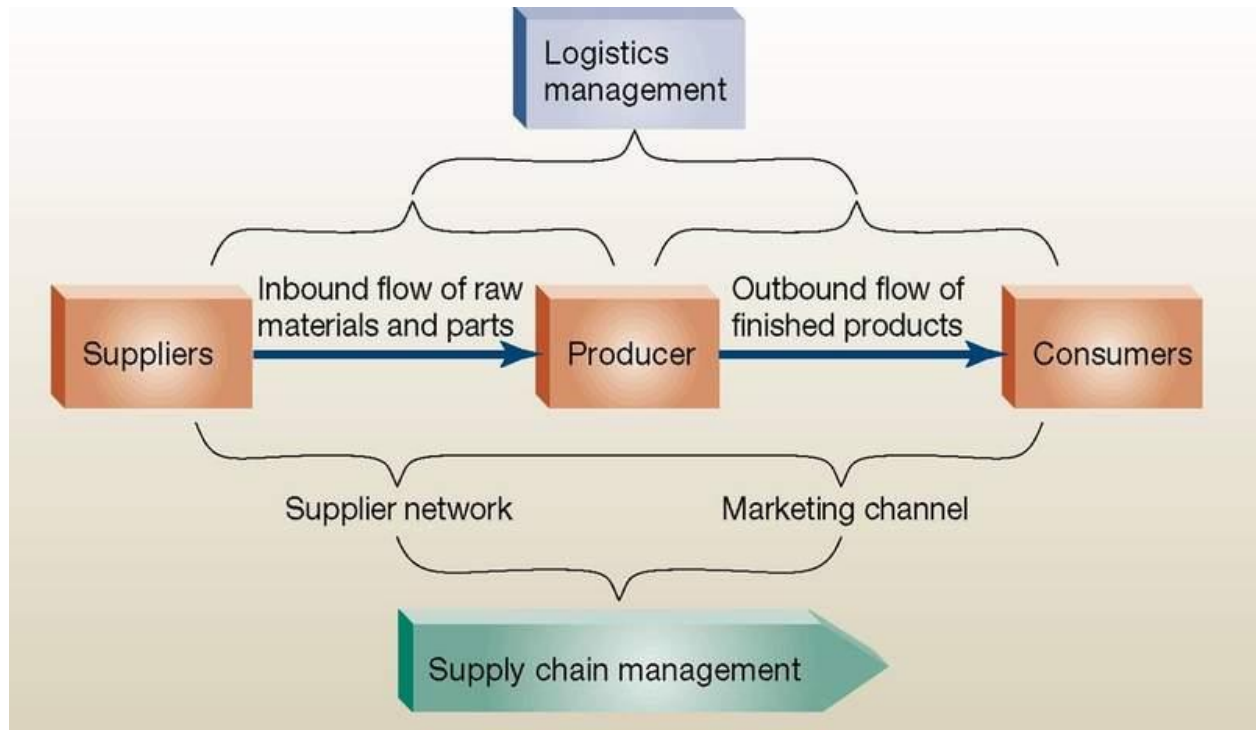
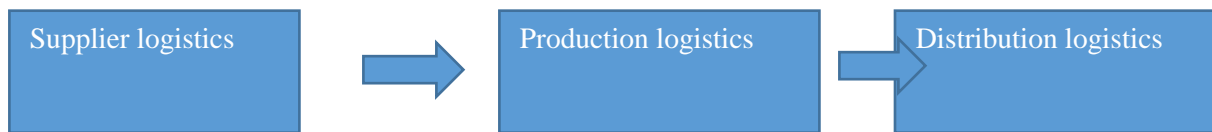
Nowadays, Bangladeshi cement industry nationwide is faced with more and more pressure of market competition and big acquisitions from transnational group in the world. We can see, foreign cement syndication and modern cement logistics service providers join the field, as international modern logistics branches are established, it will be considered as a more tough challenge for our self-

produced and self-marketing cement logistics in Bangladesh. The application of highly efficient modern logistics technology, is becoming a new goal of realizing scientific development in cement industry to reduce the costs from producing to applying and accelerate energy saving and emission reduction.

## 2.7 Choice of logistics for cement industry

Cement is purely logistics driven business. A perfect transportation model can easily enable the best cement producer status. Another important factor is the cost of cement which has a direct bearing on the consumption.

According to the order of every business aspect, cement industrial logistics can be divided into three parts. They are supplier logistics, production logistics and distribution logistics. (Cement Industrial Logistics 2006)





*Figure 2-7: Significant of Supply Chain & Logistics*

Figure 2-7 shows the three parts of cement industrial logistics process and especially the first part supplier logistics and the second part distribution logistics have the biggest effect on cement industry. What logistics information management in cement industry should do is that according to sale information, cement companies should prioritize delivery schedules and meanwhile, exactly master the in-transit information of goods. Besides, it can avoid some logistics risks that may happen during logistics process. Advanced information management software always contributes to information record and management and can make reasonable distribution depending on the logistics information situation. (Cement Industrial Logistics 2006)


### **3 Company Overview: Seven Circle BD Ltd**

Seven Circle Bangladesh Ltd. (SCBL) is a wholly owned subsidiary of Shun Shing Group. The first cement grinding mill was established in Kaligonj, in 2000. It came into commercial production early February of 2001. The plant originally started with an installed annual grinding capacity of 0.50 million MT, and by 2007 the annual grinding capacity expanded to 1.2 Million MT. After further expansion, as of 2011, the total annual grinding capacity is 1.8 million MT.

SCBL acquired land in Khulna to expand further. A new cement grinding plant in Khulna will broaden nationwide coverage of cement delivery and help meet the growing demand for our brand. The Khulna plant, with capacity of 1.3 million MT, started its operations in early 2013

SCBL retails under the brand name Seven Rings. Seven Rings Cement is made with imported raw materials (from China, Vietnam, Thailand, Japan and South Korea), it utilizes a state-of-the-art laboratory, and a PLC system with advanced technology. Seven Rings Cement is recognized as a top cement brand in Bangladesh, customers value the product's high quality and reliability.

### Key Highlights

Brand Name	Seven Rings Cement	
Logo		
Kaligonj Factory	Commercial production on 27th February 2001	Annual Capacity 1.8 Million MT
Khulna Factory	Commercial production on 1 <sup>st</sup> January 2013	Annual Capacity 1.3 Million MT
Certification	ISO 9001:2008 Manufacturer & Exporter of Cement and PP bag	

### 3.1 Cement Manufacturing Process of SCBL

SCBL operates some cement grinding mills; it grinds together all the necessary raw materials in order to produce cement. Find below the general process to produce cement, each factory differs in the ratio of raw materials used in order to produce their product.

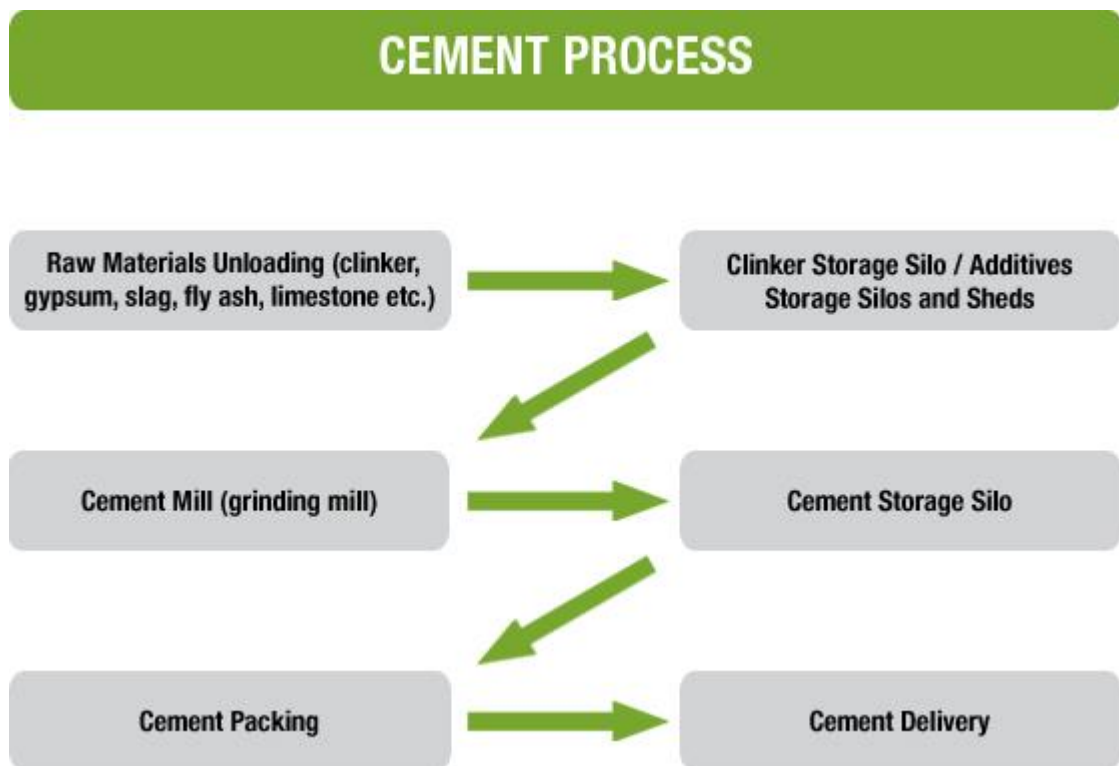


Figure 3-1: Cement End to End process

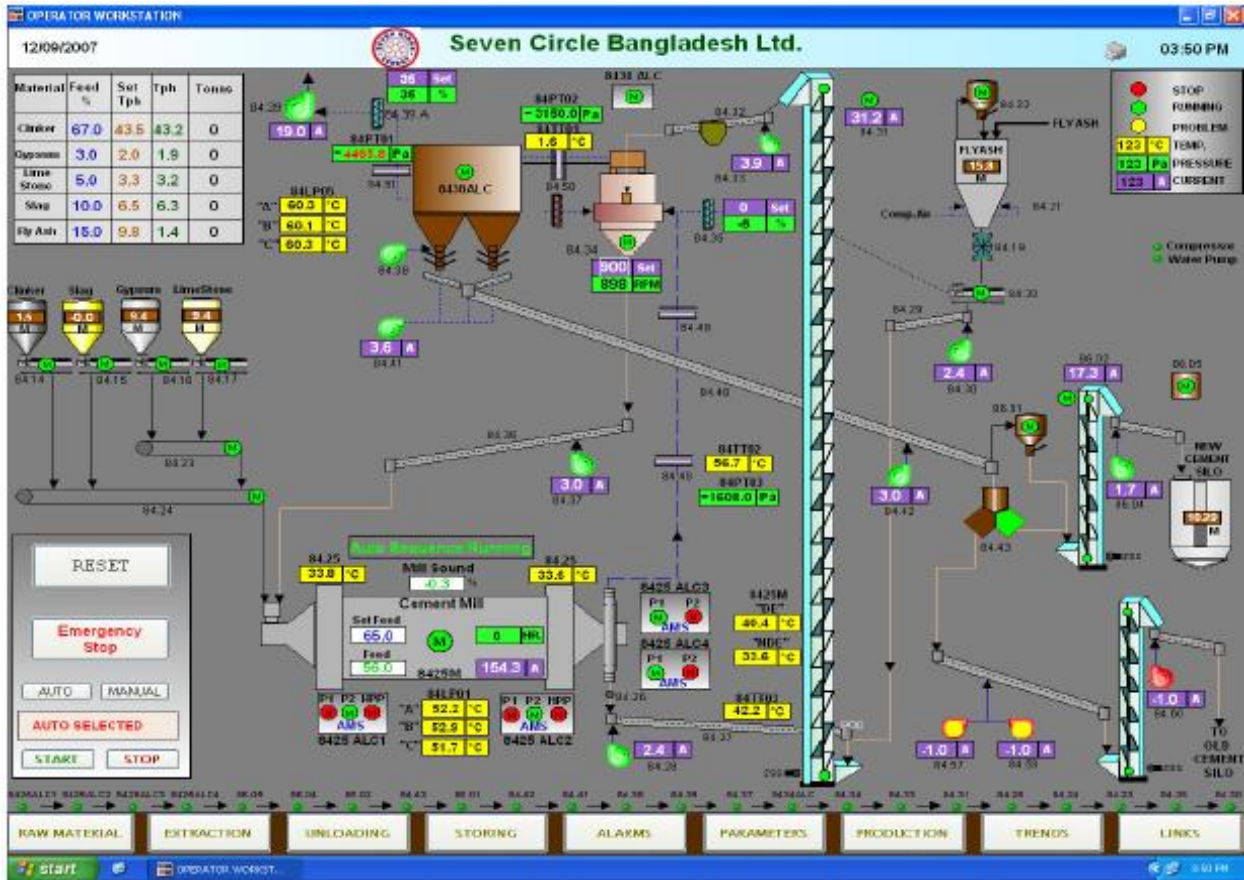


Figure 3-2: Cement Production flow chart

### 3.2 Manufacturing Facilities:

Seven Circle Bangladesh Limited has its very own manufacturing facilities and has its main production point at Kaligonj in Gazipur. The annual capacity of the production plant is 1.8 million MT right now. The company is quickly heading towards the aim to set up its second production unit at Khulna where preliminary establishment work has already been started. The company is hopeful to start the second production unit by 2016 that will have the capacity of producing additional 1 million MT and will fulfill the demand of Seven Rings Cement all over the southern part of the country.

### **3.3 Reason for Having Own Manufacturing Facility:**

As cement industry demands a huge amount of money to be invested, it often causes disaster on return on investment if company doesn't have its own manufacturing facility.

As cement industry falls under the category of heavy industry, it is very difficult to manage the business through other's facility, especially in a developing country like Bangladesh. All the lead competitors in the industry have their own manufacturing facility. In Bangladesh, more or less 35 cement companies are operating their activities who all invested for a long period of time and it shows the competition in the industry. So, to survive and progress, it is important to develop own strategy and operation rather than depending on others.

Considering all the above mentioned reasons Seven Circle Bangladesh Limited has established its own manufacturing facilities

### **3.4 Products**

SCBL produces different grades of cement, with both bulk and bag delivery options for the buyer, under the brand name Seven Rings Cement. The raw materials required for producing Seven Rings is generally imported from the Asia Pacific Region.

Seven Rings PCC has also been exported to India according to Indian standards under the license of Bureau of Standard India (BSI).

Ordinary Portland cement (OPC) is the most common type of cement, as it requires only two basic ingredients; a ratio of cement clinker to calcium sulfate. Generally, producers use around 90% cement clinker, although every producer has their own ratio.



“Seven Rings Gold” is the brand name for the OPC.

Specifications	Composition	
BDS EN 197-1:2003	90 – 100%	Cement Clinker
CEM-I 52.5 N	0 – 5%	Gypsum
ASTM C150 TYPE-I		
Packed in 50Kg net PP/Paper Bag		

Pozzolan Portland Cement (PPC) with its additives causes an increase of the strength of cement over time, thus improving long-term strength. PPC is produced by blending OPC with Pozzolanic materials.

“Seven Rings Special” is our brand name for the PPC we supply; and we use our OPC and blend Fly Ash sourced from India and Gypsum from Thailand.

Specifications	Composition	
BDS EN 197-1:2003	80 – 94%	Cement Clinker
CEM-II/A-M (S-V-L) 42.5N	6 – 20%	Fly Ash
Packed in 50Kg net PP/Paper Bag	0 – 5%	Gypsum

“Seven Rings PPC” is produced exclusively for export to India under the license of Bureau of Standard India (BSI).

Specifications	Composition	
IS 1489( Part 1) :1991	80% Minimum	Cement Clinker
Packed in 50Kg net PP/Paper Bag	15%	Fly Ash
	5%	Gypsum

Portland Composite Cement (PCC) contains Clinker, Gypsum, Limestone and Blast Furnace Slag. The composition of such materials produces higher strength and durability, suitable for general construction.

“Seven Rings Cement” is the brand name for PCC product.

Specifications	Composition	
BDS EN 197-1:2003	65 – 79%	Cement Clinker
CEM-II/B-M (S-V-L) 42.5N	21 – 30%	Fly Ash, Slag, Limestone
Packed in 50Kg net PP/Paper Bag	0 – 5%	Gypsum

### 3.5 Infrastructure

#### 3.5.1 Area

A total of 8,027 m<sup>2</sup> is taken by cement producing and storing. Mill’s unit 1, 2 and 3 take up a total of 2,337 m<sup>2</sup>. While the clinker silo, clinker shed, and 4 cement silos cover 5,690 m<sup>2</sup>

#### 3.5.2 Plant Information

Closed circuit fully automated production process capacity of 6000 MT per day, raw material storage capacity of 70,000 MT, slag dryer technology, pneumatic fly ash unloading system, different cement silos for different finished products with total storage capacity of 10,000MT

#### 3.5.3 Automation Highlights

PLC (Programmable Logic Controller) & SCADA (Supervisory Control and Data Acquisition):

PLC for Unit #1: SIEMENS S7-400

PLC for Unit #2: MODICON Telemecanique

## 4 Quality Control

Seven Rings Cement prides itself in providing quality cement, with two extensive laboratories and advanced testing procedures; the brand is able to maintain consistent quality and performance standards.

SCBL has two sections for quality control – one for cement testing and another is for concrete testing. The testing labs are equipped with all essential and up-to-date equipment.

Cement tests are executed on an hourly basis over the course of a day (24 hours). The cement is collected during production and delivery process. The cement tests are also executed from BUET once in 30 days. All equipment's and instruments of Lab are calibrated from BUET and follow the BSTI regulations.

#### Quality Tests of Seven Rings Cement

- (1) Fineness Test
- (2) Consistency Test / Setting Time Test
- (3) Setting Time Test
- (4) Compressive Strength Test

##### (1) Fineness Test:

Finer cements react quicker with water and develop early strength, though the ultimate strength is not affected. This test analysis by sieve analysis.

##### (2) Consistency Test /Setting Time Test:

This test is performed to determine the quantity of water required to produce a cement paste of standard or normal consistency.

##### (3) Setting Time Test:

In cement hardening process, two instants are very important, i.e. initial setting and final setting.

##### (4) Compressive Strength Test of Cement:

This test is very important. In this test, three molds of (face area 50 cm<sup>2</sup>) are prepared and cured under standard temperature conditions and each cube tested by placing it between movable jaws of the compressive strength testing machine

## 5 SWOT analysis & Logistics Activity

The tools SWOT analysis and logistics process will be used in this study to research on how the cement logistics process of Seven Circle Bangladesh Limited is carried out, what advantages the company may have, where are the good opportunities facing the company and what is the competition doing that the company should be worried about. The following chapters will explain them in details

## 5.1 SWOT analysis

A SWOT analysis (alternatively SWOT matrix) is a structured planning method used to evaluate the strengths, weaknesses, opportunities and threats involved in a project or in a business venture (WIKIPEDIA). SWOT analysis is a strategic tool that can help companies analyze their situation and conditions they are faced with, summarize for their past and make a developing strategy and plan for future life and evaluate. “S” stands for strengths, “W” stands for weaknesses, “O” stands for opportunities, ”T” stands for threats. Strengths and weaknesses belong to internal factors and opportunities and threats are external factors. It was firstly introduced by Learned and other famous experts in 1965 and widely used in strategic management field. (Mind tools-SWOT analysis 2009)

Strengths: characteristics of the business or project that give it an advantage over others.

Weaknesses: characteristics that place the business or project at a disadvantage relative to others.

Opportunities: elements that the project could exploit to its advantage.

Threats: elements in the environment that could cause trouble for the business or project.

SWOT Analysis is a useful technique for understanding your Strengths and Weaknesses, and for identifying both the Opportunities open to you and the Threats you face. Even though its structure is very simple, it can help deal with very difficult affairs. It can be used when you need to make a strategy of development for the company or analyze competitors and market position. (Mind tools-SWOT analysis 2009)

Internal factors analyze the company functions and activities and include strengths and weaknesses. When we analyze them, we can think about such questions as a start. Internal strengths and weaknesses usually mean the internal factors that the organization can control. For example, the organizational mission, financial resources, technological resources, organizational culture, human resource, product feature and so on. (Mind tools-SWOT analysis 2009)

### **5.1.1 Strength:**

1. What advantages does your organization have?
2. What kind of new technology in the organization?
3. What can you do that others are not able to do?
4. What's the difference with others?
5. Why do customers come?
6. Why do we succeed recently

### **5.1.2 Weakness:**

1. What could you improve?
2. What should you avoid?
3. What are people in your market likely to see as weaknesses?
4. What factors lose you sales?
5. What kind of ability do you lack?
6. What do others do better than us?
7. What kind of customers can we not satisfy?
8. Why do we fail recently?

External factors include opportunities and threats, which indicate the factors in the business environment<sup>6</sup> that the organization usually can't control in the business environment. For example, it includes demand, competition, economy, politics, law, society, culture, technology, population environment and so on. These external factors usually can't be controlled by the organization but have significant effects on organizational operation. (Mind tools-SWOT analysis 2009)

### **5.1.3 Opportunities:**

1. What good opportunities can you spot?
2. What interesting trends are you aware of?
3. In the market, what kind of opportunities can suit for us?
4. What technology do we need to learn?
5. What new services can we improve?

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<sup>6</sup> The combination of internal and external factors that influence a company's operating situation (<http://www.businessdictionary.com/>)

6. What kind of new other customers can we attract?
7. How can we become distinctive?

#### **5.1.4 Threats:**

1. What changes have taken place in the market recently?
2. What have the competitors done recently?
3. Can we catch up with changes of customers' demand?
4. As economy and politics change now and then, will they harm the company?
5. Is there something that will threaten the company's existence?
6. What is the plan for 5 or 6 years?

During SWOT analysis, some simple principles should be obeyed in order to make it successful and exact according to true facts. Firstly, have an objective understanding on the company's advantages and disadvantages. Secondly, distinguish the company's current situation and prospect. Thirdly, consider all things in full-scale. Fourthly, compare with the competitors no matter they are better or worse. Finally, keep SWOT analysis simplified and avoid overcomplicating matters and over analysis. The strengths, weaknesses, opportunities and threats are found by using different analyzing methods for instant demand analysis, competition analysis, analyzing the company function etc. (Mind tools-SWOT analysis 2009)

## **5.2 Logistic process**

“Logistics is the management<sup>7</sup> of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations”&“Logistics management is the part of supply chain management<sup>8</sup> that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements” (Wikipedia)

Logistics = Supply + Materials Management + Distribution<sup>9</sup>

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<sup>7</sup>Management in businesses and organizations is the function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively.

<sup>8</sup>Supply Chain Management (SCM) is the management of the flow of goods and services. It includes the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption.

<sup>9</sup><http://log.logcluster.org/mobile/preparedness/logistics/index.html>



“Logistics is the process of strategically managing the acquisition, movement and storage of materials, parts and finished inventory from suppliers through the firm and on to customers.” It requires right product in the right place at the right time. (Christopher 1994, 1)

Logistics is part of supply chains. It connects the relationship between producing and consumption. It is essential for planning and operating a distribution system successfully. The objectives are supplying the right products to the right places at the right times for the least costs. Logistics appears with the development of the economy and the appearance of goods and products, therefore logistics a traditional and old economic activity. (Attwood 1992, 2)

Traditional logistics management was formed from the Second World War and developed in 1950s to 1960s. Traditional logistics mainly regarded logistics as logistics indemnification system and a bridge of sale activity. Modern logistics has a goal of meeting customers’ need and a strategic measure of taking manufacturing, transporting, selling etc. into consideration. Logistics process is a key to execution and achieving results. The objectives in general are accomplishing things and creating value. Detailed speaking, logistics process coordinates all activities involved in acquiring, converting and distributing goods from raw materials source to target group to satisfy customers’ need. And deliver the required levels of customer service in an efficient, cost effective manner. However, pleasing customers is not the only goal for logistics process, but also must operate productively to bring profits for the company. (Byrne &Markham)

Most skills and competencies needed to excel in logistics and supply-chain management are the same skills and competencies needed to excel at disaster relief operations. (Matt Waller)

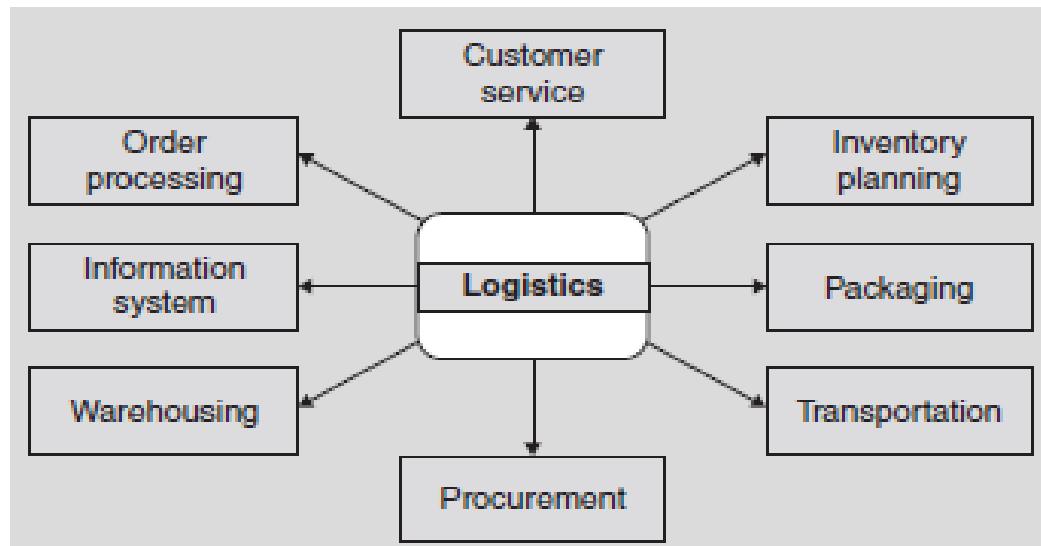


Figure 5-1: Logistic System Component<sup>10</sup>

## 6 Purchasing & Procurement

Purchasing is the activity of acquiring goods or services to accomplish the goals of an organization.

The major objectives of purchasing are to

- (1) Maintain the quality and value of a company's products,
- (2) Minimize cash tied-up in inventory<sup>11</sup>,
- (3) Maintain the flow of inputs to maintain the flow of outputs, and (4) strengthen the organization's competitive position. Purchasing may also involve (a) development and review of the product specifications, (b) receipt and processing of requisitions, (c) advertising for bids, (d) bid evaluation, (e) award of supply contracts, (f) inspection of good received, and (g) their appropriate storage and release.<sup>12</sup>

<sup>10</sup> [www.safaribooksonline.com/library/view/supply-chain-management/9788131760994/xhtml/chapter002.xhtml](http://www.safaribooksonline.com/library/view/supply-chain-management/9788131760994/xhtml/chapter002.xhtml)

<sup>11</sup> The value of materials and goods held by an organization to support production (raw materials, subassemblies, work in process), for support activities (repair, maintenance, consumables), or for sale or customer service (merchandise, finished goods, spare parts)

<sup>12</sup> <http://www.businessdictionary.com/definition/purchasing.html>





Procurement is the act of obtaining or buying goods and services. The process includes preparation and processing of a demand as well as the end receipt and approval of payment. It often involves

- (1) Purchase planning,
- (2) Standards determination,
- (3) Specifications development,
- (4) Supplier research and selection,
- (5) Value analysis,
- (6) Financing,
- (7) Price negotiation,
- (8) Making the purchase,
- (9) supply contract administration,
- (10) Inventory control and stores, and
- (11) Disposals and other related functions.

The process of procurement is often part of a company's strategy because the ability to purchase certain materials will determine if operations will continue. A business will not be able to survive if its price of procurement is more than the profit it makes on selling the actual product.<sup>13</sup>

The purchasing function involves more than obtaining the best price. It also involves buying the best value, which means buying:

- The right quantity and quality
- At the best price
- From suppliers who are reliable and provide good service

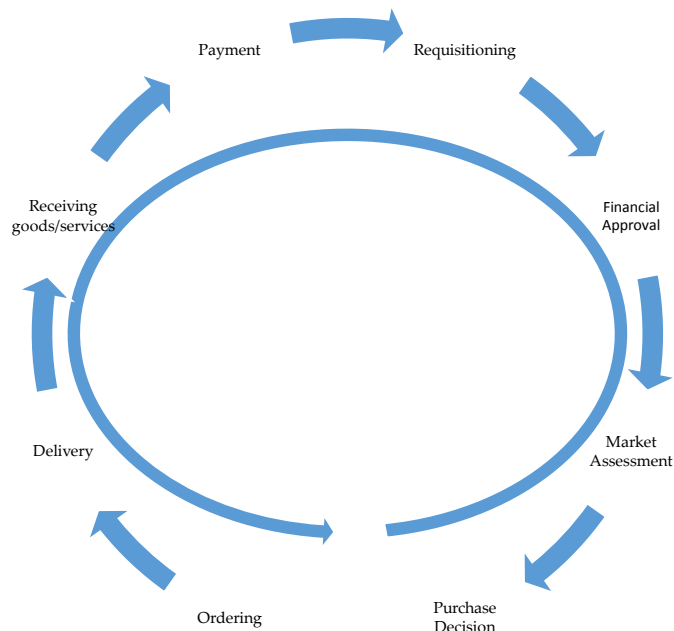
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<sup>13</sup> <http://www.businessdictionary.com/definition/procurement.html>

## 6.1 Procurement Process of SCBL

The fundamental goal of the Procurement or purchasing function at Seven Circle Bangladesh Limited is to acquire optimum quality and quantity of goods and services for the company in a timely manner and at the lowest cost. This also means that the sale is not over when the item is delivered by the supplier. Additional items are often needed along with necessary parts, services or even training in few cases.

## 6.2 Procurement Cycle in SCBL



*Figure 6-1: Generic Procurement Cycle in Seven Circle Bangladesh Ltd.*

### **6.3 Types of Goods & Services:**

- Raw Materials
- Parts
- Maintenance Repair & Operating
- Packaging
- Services
- Vehicle
- Equipment

### **6.4 Procurement Policy:**

Seven Circle Bangladesh Limited has its own procurement policy right from the beginning of its operation in Bangladesh back in 2000. The policy was initially developed by a group of expertise hired by the company. The policy is subject to be reviewed in every 3 years if it becomes necessary to change any regulation of it. Generally, a review committee is formed and the senior management team of the company reserves the authority to approve it.

#### **Salient Features:**

- The policy allows the user departments to procure items up to Tk. 50,000 by following standard procurement practice.
- Separate thresholds are set for procurement of goods and services.
- Members outside of procurement unit are involved each and every assignment to make the process acceptable to others.
- The processes are described very clearly step by step and flow charts are being used to make the process understandable to others.
- The policy represents the worldwide accepted rules and regulations.
- The policy also confirms the involvement of different group of staffs in various stages of assignment that is considered as accepted throughout the world.

## 6.5 Approval Hierarchy

### Approval Hierarchy for Procurement of Goods

Threshold	Method	Approval Level
Up to Tk. 500,000	Collection of Quotations/ Direct negotiation with preferred supplier	Procurement Manager
Tk. 500,000-2,000,000	Collection of Quotations ; at least 2 quotations obligatory	AGM-Supply Chain
Tk. 2,000,000-5,000,000	Collection of Quotations 3 Quotes obligatory	DGM-Supply Chain
Tk. 5,000,000-20,000,000	Limited Tender	GM-Supply Chain
Tk. Above 20,000,000-100,000,000	Open Tender	CEO
Tk. Above 100,000,000	International Tender	CEO and Executive Committee

### Approval Hierarchy for Procurement of Services

Threshold	Method	Approval Level
Up to Tk. 1,000,000	Request for Proposal/Direct negotiation with preferred supplier	Procurement Manager
Tk. 1,000,000-2,500,000	At least 2 proposals obligatory	AGM-Supply Chain

Tk. 2,500,000-5,000,000	3 proposals obligatory	DGM-Supply Chain
Tk. 5,000,000-20,000,000	Limited Tender	GM-Supply Chain
Tk. Above 20,000,000-100,000,000	Open Tender	CEO
Tk. Above 100,000,000	International Tender	CEO and Executive Committee

Figure 6-2: Approval Hierarchy for Procurement of Goods & Services

Apart from above thresholds, in case of all types of works, open tender through national newspapers are mandatory and non-negotiable in any circumstances. In the procurement policy, there are no such separate conditions for CAPEX<sup>14</sup> or OPEX<sup>15</sup> items. Moreover, there has been a special cause made available in the policy to arrange long term contract for crucial raw materials needed to be imported.

## 6.6 Challenges of Procurement Unit:

1. Insufficient quality suppliers for few raw materials throughout the country.
2. Political instability.
3. Sometimes time consuming especially when it needs open tender.
4. Unrealistic behavior from other unit staffs in case of import.

Monopoly business environment created by some of the suppliers

## 7 Supplier Selection & Evaluation:

One of the most important processes performed in organizations today is the evaluation, selection and continuous measurement of suppliers. (Purchasing and Supply Chain Management, 3e Monczka/Trent/Handfield).

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<sup>14</sup> An amount spent to acquire or upgrade productive assets (such as buildings, machinery and equipment, vehicles) in order to increase the capacity or efficiency of a company for more than one accounting period.

(<http://www.businessdictionary.com/definition>)

<sup>15</sup> Day-to-day costs incurred during the normal operation of a business. These expenses include sales and supplies

( <http://www.businessdictionary.com/definition>)

Choosing suppliers is one of the most important considerations before doing purchasing and procurement. The buying process is complex and the process includes decision makers and decision influences, which combine to form the decision-making unit (DMU). Through the marketing analysis, a potential supplier can be selected through different kinds of public information and public channel to establish contact. These channels include initiate enquiry of suppliers and introduction, professional media advertisements, Internet searching etc. (Cooper 1994, 258)

<b>The Sourcing<sup>16</sup> Process</b>	
<b>Supplier Evaluation and Selection</b>	What criteria and methods will we use to evaluate and select suppliers?
<b>Supplier Management</b>	What must we do to manage suppliers effectively and efficiently?
<b>Supplier Development</b>	What efforts should we put forth to improve supplier performance?

*Figure 7-1: The Sourcing Process*

*Ref: (Purchasing and Supply Chain Management, 3e Monczka/Trent/Handfield)*

In the process of choosing suppliers, firstly, the company should use a uniform standard registration system to manage the information that suppliers provide and identify all potential suppliers for items being purchased. A list of factors for evaluating each supplier should consider the place where suppliers registered, registered capital, production areas, equipment, staff, main products, main customers and so on. (Blanchard 1998, 62)

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<sup>16</sup> Sourcing refers to a number of procurement practices, aimed at finding, evaluating and engaging suppliers of goods and services. (Wikipedia)

Supplier Evaluation and Selection Process	
1.	Recognize the need or supplier selection
2.	Identify key sourcing requirements
3.	Identify key sourcing requirements
4.	Identify potential supply sources
5.	Limit suppliers in the pool
6.	Determine method of supplier evaluation and selection
7.	Select supplier and reach agreement

Ref: (Purchasing and Supply Chain Management, 3e Monczka/Trent/Handfield)

Through the analysis of the information and once the factors have been determined, technological capacity, stability of supplies, reliability of resources and comprehensive competitiveness can be evaluated. After evaluating the performance of individual suppliers, among many suppliers, move out of some obvious unsuitable suppliers to incorporate more and finally can receive a suitable supplier record. The management should determine the importance of the factors to its particular situation. (Blanchard 1998, 63)

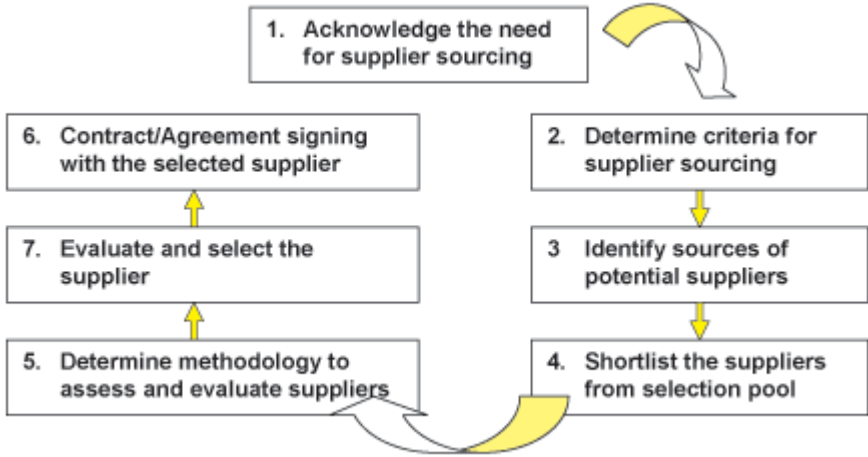


Figure 7-2: Supplier selection process

The supplier selection process culminates in a contract between the buyer and one or more suppliers. The information received from suppliers must be translated into formal contractual terms before contracting can occur. A contract with a supplier specifies what the supplier should do and how they



will be paid by the buyer. At the highest possible level, contract terms relate to either monetary transfers (payment terms) or how the contract will be executed (non-payment terms). Contracts can specify any number of payment and non-payment arrangements. (Supplier Selection by Damian Beil Stephen M. Ross School of Business). After the company and the suppliers reached an agreement of the price and consultation recognizes between both parties they need to sign "purchase contract." In the process of signing the "purchase contract", they primarily negotiate with the trade names, specification model, quantity, price, packaging, origin, shipment, payment terms, settlement, claims and arbitration and after the agreement they write these into their "purchase contracts". (Stock & Lambert 1993)

## **8 Quality in the logistic process**

Supply chain management directly impacts product quality and the overall profitability of a company. For these reasons, quality control in the supply chain is critical for maintaining a competitive edge in the marketplace and reducing operating costs. Without quality control, waste becomes prevalent beyond a tolerable amount<sup>17</sup>. When looking at the procurement of materials from suppliers they will have been given some guidance by the manufacturing department, research and development, or the quality department. This should include a variety of information about the item to be sourced, such as physical description, dimensional measurements, chemical composition, performance specifications, and standards to conform to, or even the brand name of the product.

Physical Description – the purchasing department must know the physical attributes of the part they are required to source. They must be able to communicate that requirement to the potential suppliers to ensure that the specification can be met.

Chemical Composition – this is very important for sourced materials that are used in the chemical process. The quality department should give the purchasing team a detailed list of chemical specifications of the required material. This should include a list of characteristics and specifications that the materials should conform to, as well as the ranges that the materials must lie within.

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<sup>17</sup> (<http://smallbusiness.chron.com/importance-quality-control-supply-chain-management-80588.html> )





Dimensional Measurements – for a part to be used in the manufacturer of a machine the part must conform to certain dimensional specifications.

Performance Specifications – if a part is required to withstand certain forces or perform in a particular manner, the purchasing department must find a supplier that can achieve those specifications. This quality measurement is key for a business if they are to produce finished goods that are reliable in the eyes of their customers. Therefore it is important for the purchasing department to find suppliers who can provide parts that meet quality specifications.

Industrial Standards – some parts required in the production of finished goods must conform to certain industry standards. These standards are set by a number of trade or industry groups who try to maintain a certain level of quality. By having an item that conforms to a particular industry standard, the customer will have a level of confidence in the product. The society has hundreds of standards that relate to different technical aspects of manufacturing.

Brand Name – sometimes the quality department or development team will inform the purchasing department to only source a particular brand name. This may be due to the specific nature of the part made by one company or the level of quality it has over competitors.

The quality of the parts and raw materials that are used by a company makes a difference to the finished products that are sold to their customers. By ensuring that the purchased parts are of a specific quality as defined by the development, manufacturing, or quality departments, the purchasing department are ensuring that the quality of the finished goods are maintained<sup>18</sup>.

Logistics quality control refers to using an advanced approach of quality management scientifically and revolving around quality to take a control of logistics process in system management, including guaranteeing and improving logistics quality, working quality and other activities such as planning, organizing, controlling etc. In every operating step, through the beforehand preparation of controlling, the supervision and track during logistics process, the summary and review of feedback control, collect necessary data and find out effective control. (Wise Geek 2011) The advantages of quality control are to improve company's reputation, reduce operating costs and increase service levels.

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<sup>18</sup> By Martin Murray Logistics/Supply Chain Expert, <http://logistics.about.com/od/qualityinthesupplychain/a/Quality-In-The-Purchasing-Process.htm>



In a logistics department, there are 4 goals for the department to consider. They are service quality, warehousing quality, transporting quality and customer feedback quality.

## **9 Order processing and information system**

An order processing system captures order data from customer service employees or from customers directly, stores the data in a central database and sends order information to the accounting and shipping departments, if applicable. Order processing systems provide tracking data on orders and inventory for every step of the way.

Customer satisfaction is key to long-term success in business, and fulfilling customer orders reliably and accurately is key to customer satisfaction. Order processing systems help ensure that all of your customers' orders are filled on time, since automated systems can reduce errors in order processing. This can enhance the customer experience and maximize your company's profitability. (Definition of Order Processing Systems, by David Ingram, Demand Media)

Order processing and information system lays the foundation for logistics and corporate management information systems. They will offer considerable potential for improving logistics performance. (Stock & Lambert 1993, 515)

“The order processing system is the nerve center of the logistics system.” It initiates such logistics activities as: (Stock & Lambert 1993, 536)

- 1) Determining the transportation mode, carrier and loading sequence
- 2) Inventory assignment and preparing picking and packing lists
- 3) Warehousing picking and packing
- 4) Updating the inventory file, subtracting actual products picked
- 5) Automatically printing replenishment lists
- 6) Preparing shipping documents
- 7) Shipping the product to the customer

This system needs the company to do a lot of effective communications with customers. Slow speed, bad service, low quality and lack of communications can lead to loss of customers. According to the

order of communicating with customers, order processing systems can be divided into 6 parts not only from a customer’s perspective but also from a company’s perspective. (Stock & Lambert 1993, 515)

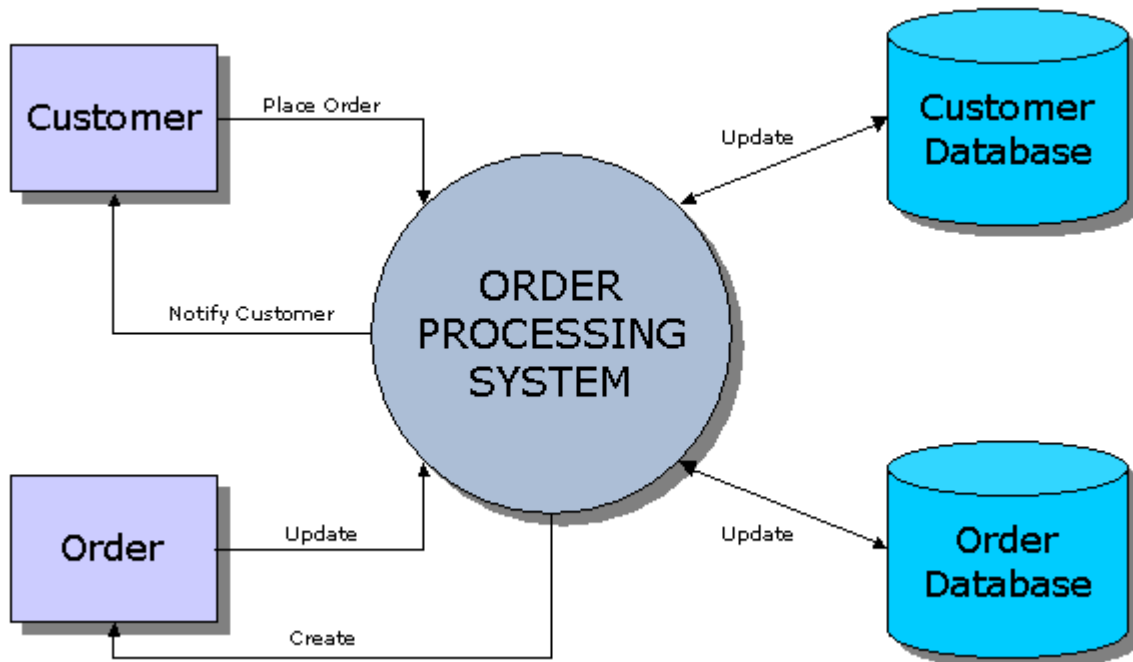


Figure 9-1: Order Processing System

Ref: <http://myweb.lmu.edu/bjohnson/cmsi641web/solutions3.html>

Order preparation refers to collecting necessary information of products or services and all kinds of other activities like sending requirement to purchase in a formal way. It includes choosing suitable suppliers, filling in an order, determining the available stock and informing order information. The second step of order processing system is order transmittal. It can be transferred through manual and electronic modes, such as posting, e-mail, fax, expressage and so on. Then order entry and fulfilling can be conducted at one time to shorten the processing time. At last, the company will report and inform the order status to customers constantly to ensure a good service. (Stock & Lambert 1993)

Information system is one part of logistics system. Original information during logistics process can be collected, stored, analyzed, handled, transferred and used by a person or a computer. It can realize



the connection and cooperation between every link in logistics process and reach the final goal of logistics activities. (Wiley & Sons 1985)

## **10 Customer Service**

Customer service is an important element for making a successful business. You can have a wonderful product, but without excellent customer service the item will never be purchased. The customer interacts with a company through a number of channels and the level of service that is afforded the customer goes a long way to achieving customer satisfaction and in turn more orders for the company<sup>19</sup>.

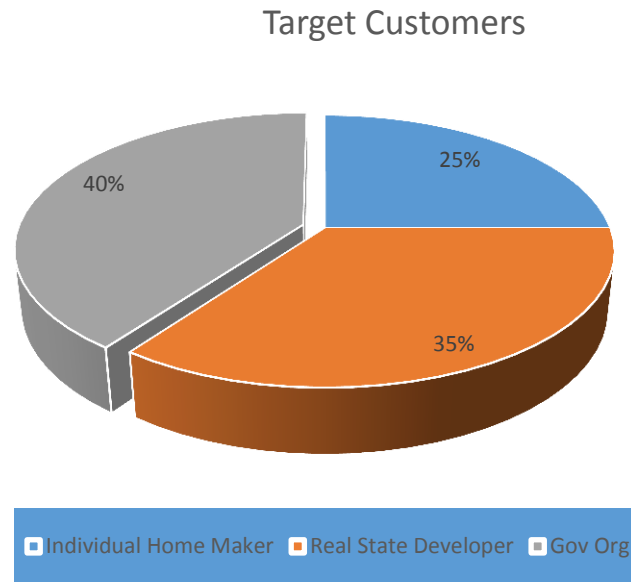
Many companies think that their only contact with the customer is through the sales and marketing staff, but this is no longer the case. The customer interacts through other departments such as shipping, quality control, accounts receivable or a repairs service. Each of these departments must offer the same high level of customer service in order to maintain excellent customer satisfaction. The customer will also interact with a company through its online presence, either a website where they can buy products, or check on shipping, or through social media. These instances also require that the customer receives the highest level of customer service. (By Martin Murray Logistics/Supply Chain Expert)

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<sup>19</sup> (By Martin Murray Logistics/Supply Chain Expert)

## 10.1 Target Customers of SCBL

- ❖ Individual home maker 25 %
- ❖ Real estate developers 35%
- ❖ Govt. Organizations 40%



*Figure 10-1: Target Customers of SCBL*

## 10.2 Customer Service Strategy

A company has a corporate culture, whether that is steeped in tradition over a hundred years or a new technology start-up with a casual approach, and that defines how business is conducted with the customer. No matter what the corporate culture, the focus must always be on the customer. When determining how a company approaches customer service, they will often adopt a customer service strategy that is usually made up for a number of elements.



Figure 10-2: Customer Service Relationship

Ref : D.M. Bowman, Inc.

Communications - Each customer wants to feel that they are your most important customer, so they need to be communicated with so that they never need to contact you because of the lack of information. For example, if you are manufacturing and shipping an item to a customer, then the customer will want to know how far the item is along the manufacturing path, and then when it is shipped, they will require tracking information. If the customer has to call to find out information, they will be less satisfied as it is taking them time to call, and it is costing your company money for someone to spend time finding out the information for the customer. With new technologies such as Customer Relationship Management (CRM) and social media websites it is possible to communicate with the client electronically to inform them of new products, sales, or promotions that may interest them.

Convenience - For a customer there is nothing worse than having to accommodate the limitations of your supplier. Good customer service dictates that you will be available when it is convenient to the customer. If the customer wants a service call before they open for business then providing that is good customer service and will instill excellent customer satisfaction. The convenience also should be



found on your online presence. A customer wants things to be convenient for them, so if they want to be able to review their order, check shipping and send a message, then they need that to be in one location and not spread over many pages, which is not as convenient and leads to poorer customer satisfaction.

Dependability - The customer expects items they wish to purchase to be in stock. Good customer service should aim to have items in stock, as well as providing other services, such as accurate ordering, accurate pricing, and believable delivery dates. Dependability also relates to a company's online presence. If a company's website is not updated, shows the wrong prices, has dead links, or fails to process orders correctly, a customer will simply move on to the next vendor whose systems are dependable. A good customer service strategy should ensure that the company is looking at all aspects of its business to give a customer a feeling of dependability.

## **11 Warehousing**

A warehouse is a planned space for the storage and handling of goods and material (Fritz Institute). In general, warehouses are focal points for product and information flow between sources of supply and beneficiaries. However, in humanitarian supply chains, warehouses vary greatly in terms of their role and their characteristics. Warehousing plays an important part in a company's logistics system. It provides customers with an acceptable level of service and a desired level of customer service at the lowest possible costs. It develops with the development of business and has experienced different periods from original manual warehousing to intelligent storage system through the support of different kinds of advanced technology<sup>20</sup>.

Warehousing and warehouse management are part of a logistics management system, which is itself a component in supply chain management. Although viewed by some as simply a place to store finished goods, inbound functions that prepare items for storage and outbound functions that consolidate, pack and ship orders provide important economic and service benefits to both the business and its customers.

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<sup>20</sup> By Blanchard 1998



**Central Location-** A warehouse provides a central location for receiving, storing and distributing products. As each inbound shipment arrives, responsibility for the goods transfers to warehouse personnel; products are identified, sorted and dispatched to their temporary storage location. Storage isn't a static "thing" but rather a process that includes security measures and maintaining an environment that preserves the integrity and usefulness of the items. Once it's time to move items, each order is retrieved, grouped, packaged and checked for completeness before being dispatched to their new destination.

**Value-Adding Operation-** The objective of a logistics system is to reduce cycle times and overall inventories, lower costs and most importantly, improve customer service. Warehousing increases the utility value of goods by providing a means to have the right products available at the right place in the right time. Operations such as order consolidation, order assembly, product mixing and cross-docking that take place within the warehouse structure also add value to the overall logistics system.

**Economic Benefits-** Warehouses provide a economies of scale through efficient operations, storage capacity and a central location. Economic benefits are realized, for example, through consolidation and accumulation operations. Consolidation operations cut outbound delivery costs for both the business and its customers. Instead of shipping items individually from multiple sources, items are delivered to a central warehouse, packaged together and shipped back out as a complete order. Accumulation operations allow a warehouse to act as a buffer, balancing supply and demand for seasonal and long-term storage. This can be vital to business profitability when demand for a product is year-round but the product may only be available at certain times of the year.

**Service Benefits-** Warehouses can serve as part of a contingency plan to ensure outbound orders are filled in full and on time. A practice called safety stocking allows businesses to maintain a predetermined number of inventory items at its warehouse. On the inbound side, safety stocking means that an emergency such as a transportation delay or a shipment containing defective or damaged goods won't delay filling and shipping customers order. On the outbound side, safety stocking is insurance against out-of-stock items<sup>21</sup>.

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<sup>21</sup> The Importance of Warehousing in a Logistics System by Jackie Lohrey, Demand Media



Effective and reasonable warehousing can help companies speed up the flow of goods and material, reduce distribution costs and guarantee the successful process. Meanwhile warehousing can realize good control and management of logistics if a company is to take advantage of quantity purchase discounts on raw materials or other products.

A warehouse is a long-term risky investment. Because of its customized design, goods may be difficult to sell. Long production runs lead to larger inventories and increased warehouse requirements. The problems existed during warehousing may be low utilization rates, uncertain dimensions, invisible effects and advantages. As these situations may sometimes appear, some resources will be idle however. Reasons may be several aspects.

Warehouses are no longer just for storage. In today's cost-conscious, efficiency-driven environment, many manufacturers are reevaluating their definition of warehousing. Anything that doesn't lend itself to a high-speed, highly mechanized, low-labor environment is being sent to the warehouse. As a result of this shift, manufacturers are gradually expanding the services they expect from their warehousing providers, seeking ways to increase flexibility, improve inventory control, manage costs, and streamline the supply chain.

## **11.1 Innovative warehouse uses**

Manufacturers are gradually expanding the services they expect from their warehousing providers, seeking ways to increase flexibility, improve inventory control, manage costs, and streamline the supply chain

1. Shared space environment: Companies with dramatic seasonal or promotional fluctuations face unique warehousing challenges. They don't want to invest in space that they can't fill year-round, but they must accommodate business surges. A shared space environment accommodates shipping peaks and valleys by balancing multiple manufacturers' requirements with complementary surges.
2. Secondary packaging. Many manufacturers also want to bring functions such as secondary packaging closer to the customer to give them the flexibility to accommodate seasonal fluctuations or delay product configuration until the last minute to meet current demand.
3. Cross-docking. As manufacturers seek ways to move products more efficiently and cost-effectively, many are rediscovering cross-docking—moving product directly from receiving to shipping with little

or no inventory and minimal handling. The process is resurfacing as a way to take costs out of the supply chain, accelerate inventory velocity, and improve service levels.

It has already been mentioned that Seven Circle Bangladesh has the warehouse facilities only for raw materials. The warehouse is situated just beside its Kaligonj production center. The warehouse is situated nearby the production house to minimize the cost of material movement and time saving. As Seven Circle Bangladesh Limited is known for its efficient supply chain strategy, it is important to deliver the raw materials to the production house at shortest possible time.

As Seven Circle Bangladesh Limited stores only the raw materials, it concentrated on the issue of the safety and quality of the raw materials. We all know that the quality of the raw materials significantly influences the ultimate quality of the product. Besides, company believes that it is as important to have own warehouse as having own production facility.

## Brand wise cement storage

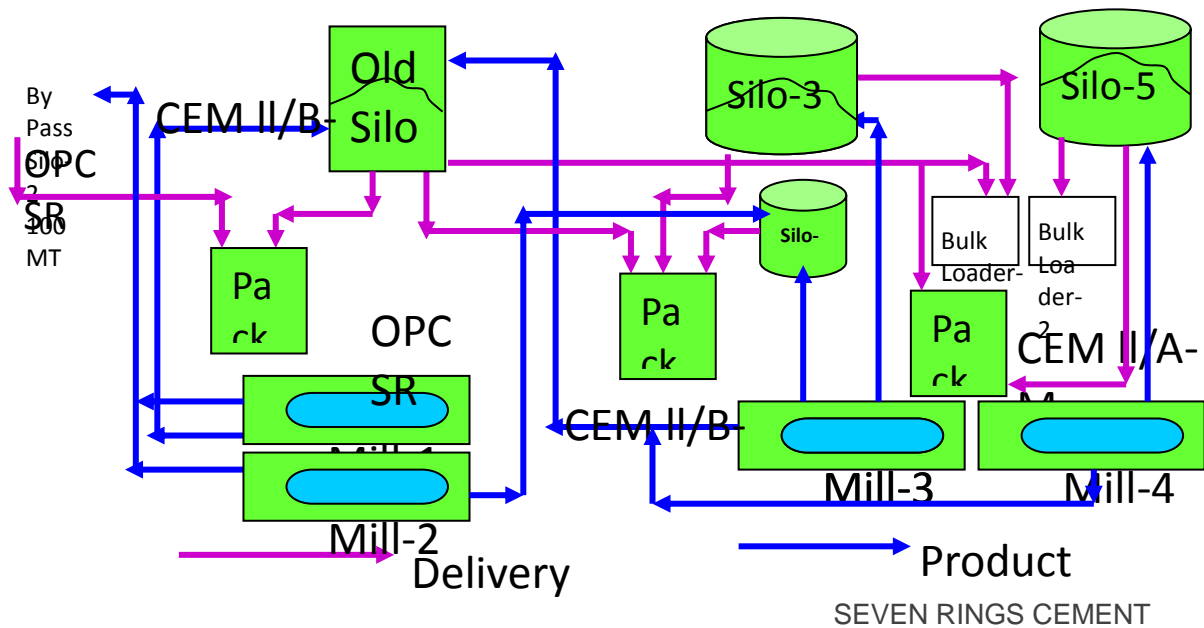


Figure 11-1: Brand wise Cement Storage

## **12 Distribution:**

Distribution is the movement of goods and services from the source through a distribution channel, right up to the final customer, consumer, or user, and the movement of payment in the opposite direction, right up to the original producer or supplier. Distribution is the process of making a product or service available for use or consumption by a consumer or business user, using direct means, or using indirect means with intermediaries. (Wikipedia)

### **12.1 Distribution Centre:**

Distribution center is a special type of warehouse which been designed to fasten the flow of goods and avoid unnecessary storing goods. Today the distribution center concept is widely used by firms at all channel levels and also many products buzz through a distribution center without ever tarrying on a shelf, workers and equipment immediately sort the products as they come in hand subsequently move the products to an outgoing loading dock, and then to the vehicle which will take the products to next stop (Perreault & McCarthy, 2003). Seeing the information latter distribution center speeds up the distribution process and reduces the complication in storing goods. According to Higginson and Bookbinder (2005), DCs handle most products in two ways, receiving and shipping rather than storage and also DCs hold minimum inventories and of predominantly, high-demand items. Nevertheless many of works cited use interchangeably the two terms, warehouse and DC. Three supply-chain trends have had a major impact on the distribution center (Higginson & Bookbinder, 2005):

1. Reduction in the number of warehouse;
2. Greater emphasis on the flow of goods rather than their storage;
3. Increases outsourcing of warehouse/distribution center activities.

### **12.2 Distribution Channel**

The path through which goods and services travel from the vendor to the consumer or payments for those products travel from the consumer to the vendor. A distribution channel can be as short as a direct transaction from the vendor to the consumer, or may include several interconnected intermediaries along the way such as wholesalers, distributors, agents and retailers. Each intermediary

receives the item at one pricing point and moves it to the next higher pricing point until it reaches the final buyer<sup>22</sup>.

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 might lead to dreadful results for the organizations. Distribution channel management follows a structured approach, using criteria which help to evaluate optional channel structures during which alignment (compatibility), trade-offs and channel relationships are considered.

Increasingly, the roles of logistics service firms are included in the decision process for distribution channel, especially when they are a dominant element within the supply chain. All products whether consumer products, industrial products or services require the use of distribution channel. Distribution channel consists of the group of people and firms involved in the transfer of title of products move from producer to final consumer or business user. Most international firms would prefer to run a direct channel distribution however instead the firms themselves are forced to use intermediaries and most distribution channels consider and consist of middlemen, but some do not.

Major Channel of Distribution

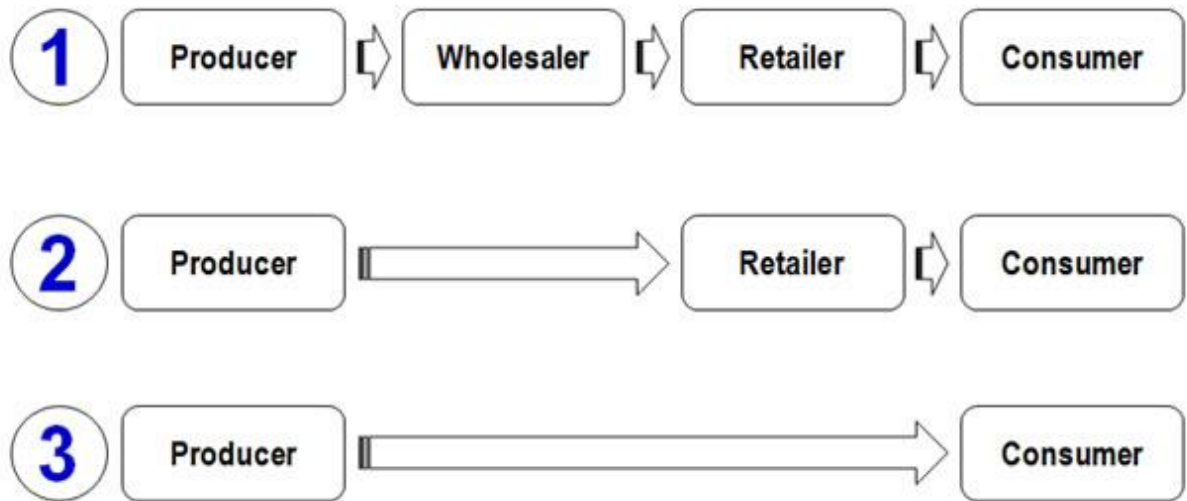


Figure 12-1: Major Channels of Distribution

<sup>22</sup><http://www.businessdictionary.com/definition/distribution>

A channel that has only producer and final customer, with no middlemen providing assistance is called “direct distribution”, whereas a channel of producer, final customer, and at least one level of middlemen represents “indirect channel”. The most common distribution channels can be seen from Figure 12-1 which illustrates major channels of distribution.

**Producer to Consumer:** The shortest, simplest distribution channels for consumer goods involves no middlemen

**Producer to Retailer to Consumer:** Goods ship directly from manufacturers and agricultural producers to large retailers.

**Producer to Wholesaler to Retailer to Consumer:** If there is a traditional channel for consumer goods, this is the one normal way. The small Retailers and manufacturers by the thousand find this channel the only economically feasible choice. Wholesalers that sell to large retail chains/or small retail store.

### 12.3 Distribution Channel of Seven Rings Cement

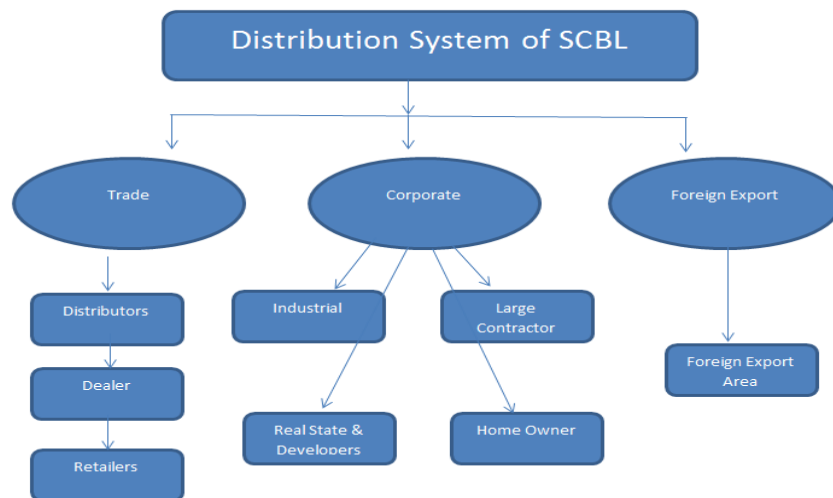


Figure 12-2: Distribution Channel of Seven Rings Cement

The above diagram shows the distribution system of SCBL. They are mainly involved with three parties which are the Trade, corporate and foreign export. In the segment of Trade, SCBL is involved

with trading business with the distributors, dealers and retailers. Their Corporate segment includes Industrial (various industries making their own buildings), Large Contactors, Real Estate & Home Developers and Home Owners (individuals making their own houses). The third segment of SCBL's distribution system refers to those countries and individuals who are involved with the export activities of SCBL. Currently SCBL are exporting their products in India and Nepal.

### **13 Transportation:**

Logistics involves a movement of goods from point-of-origin to point-of consumption. This kind of activity is called transportation. Transport is responsible for the physical movement of materials between points in the supply chain. It moves a company's products to markets at a certain long distances due to geography factors. Another main function is for warehousing in a short time. There are some major business decisions affected by transportation, like product decisions, market area decisions, purchasing decisions, location decisions and pricing decisions. (Waters 2003, 309)

Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these functions and sub-functions into a system of goods movement in order to minimize cost maximize service to the customers that constitutes the concept of business logistics. The system, once put in place, must be effectively managed. (Fair et al., 1981) Traditionally these steps involved separate companies for production, storage, transportation, wholesaling, and retail sale, however basically, production/manufacturing plants, warehousing services, merchandising establishments are all about doing transportation. Production or manufacturing plants required the assembly of materials, components, and supplies, with or without storage, processing and material handling within the plant and plant inventory.(

Transportation service has some characteristics. One of the most important impacts of transportation is customer service and the most important transportation service characteristics are dependability, time-in-transit, market coverage, flexibility, loss and damage performance and the ability of carrier. There are a lot of methods for transporting goods from one place to another one or other areas, such as rail, air, water, pipelines, motor.

Road transportation: Road infrastructures are large consumers of space with the lowest level of physical constraints among transportation modes. However, physiographical constraints are significant

in road construction with substantial additional costs to overcome features such as rivers or rugged terrain. Road transportation has an average operational flexibility as vehicles can serve several purposes but are rarely able to move outside roads. Road transport systems have high maintenance costs, both for the vehicles and infrastructures. They are mainly linked to light industries where rapid movements of freight in small batches are the norm. Yet, with containerization, road transportation has become a crucial link in freight distribution.

**Rail transportation:** Railways are composed of a traced path on which wheeled vehicles are bound. In light of more recent technological developments, rail transportation also include monorails and maglev. They have an average level of physical constrains linked to the types of locomotives and a low gradient is required, particularly for freight. Heavy industries are traditionally linked with rail transport systems, although containerization has improved the flexibility of rail transportation by linking it with road and maritime modes.

**Pipelines:** Pipeline routes are practically unlimited as they can be laid on land or under water. Physical constraints are low and include the landscape and pergelisol in arctic or subarctic environments. Pipeline construction costs vary according to the diameter and increase proportionally with the distance and with the viscosity of fluids (from gas, low viscosity, to oil, high viscosity). Pipeline terminals are very important since they correspond to refineries and harbors.

**Maritime transportation:** Because of the physical properties of water conferring buoyancy and limited friction, maritime transportation is the most effective mode to move large quantities of cargo over long distances. Main maritime routes are composed of oceans, coasts, seas, lakes, rivers and channels. The construction of channels, locks and dredging are attempts to facilitate maritime circulation by reducing discontinuity. Maritime transportation has high terminal costs, since port infrastructures are among the most expensive to build, maintain and improve. High inventory costs also characterize maritime transportation. More than any other mode, maritime transportation is linked to heavy industries, such as steel and petrochemical facilities adjacent to port sites.

**Air transportation:** Air routes are practically unlimited but constraints are multidimensional and include the site (a commercial plane needs about 3,300 meters of runway for landing and takeoff), the climate, fog and aerial currents. Air activities are linked to the tertiary and quaternary sectors, notably finance and tourism, which lean on the long distance mobility of people. More recently, air transportation has been accommodating growing quantities of high value freight and is playing a growing role in global logistics.

Telecommunications: Cover a grey area in terms of if they can be considered as a transport mode since unlike true transportation, telecommunications often does not have physicality. Yet, they are structured as networks with a practically unlimited capacity with very low constraints, which may include the physiography and oceanic masses that may impair the setting of cables. High network costs and low distribution costs characterize many telecommunication networks, which are linked to the tertiary and quaternary sectors (stock markets, business to business information networks, etc.). Telecommunications can provide a substitution for personal movements in some economic sectors<sup>23</sup>.

### **13.1 Decision strategies in transportation**

Transportation decisions can be characterized as strategic or tactical. The basic requirements of transportation are on time, accurate, economic and safe. How to make a strategy to choose a suitable and reasonable transportation method depends on five important aspects for considering. They are transporting distance, segments, tools, time and fees. Besides, there are other factors that can affect the choice like categories of goods, time limits, quantities etc.

Types of transporting routes should be based on place of departure and destination. The shortest, the most convenient and the most economic benefit route should be considered and designed through geometry, such as simple annular, compound annular, pattern of crossing lines etc. Especially, the start place can be the same one as the final destination. Only in this way, can the goods be delivered and carried in double ways. The targets of choosing routes are high effectiveness, low costs, best distribution service level, the shortest mileage and the smallest volume of the circular flow. (Bowersox & Closs & Cooper 2010, 355)

Categories of making a transporting plan have a short-term, long-term and daily one. A program composition has four steps. Firstly, collect program materials. Then make a program map. Next balance capacity and volume. Finally work out running plans of vehicle. With development of technology, Global Positioning System (GPS) can help people make a most suitable route for transferring goods and after vehicle begin transporting, according to true facts, now and then adjust to the route. At last, GPS will offer best advice for a satisfactory route. Until arriving at one destination, the company can arrange another route in order to reduce free time of vehicle to the lowest. (Waters 2003, 325)

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<sup>23</sup> *Transportation Modes: An Overview, Authors: Dr. Jean-Paul Rodrigue, Dr. Brian Slack and Dr. Claude Comtois*



## 13.2 Transport System in Seven Circle Bangladesh Limited:

There are 4 types of transports in Seven Circle Bangladesh Limited. It has been observed by the company that it is pretty benefit worthy to have own transports rather going for third part lead transport system. The fear of losing the control over the movement of product, the company is committed to increase its investment in its own transport fleet. The transports are available in Seven Circle Bangladesh Limited are:

- Coastal Cargo Vessel: 32 in quantity
- Water Vessel: 5 in quantity
- Open and Covered Vans: 300 in quantity
- Bulk Cement Carrier: 20 in quantity



Figure 13-1: Different transport use by SCBL

### 13.3 Action Flow of Transport/Distribution Department:

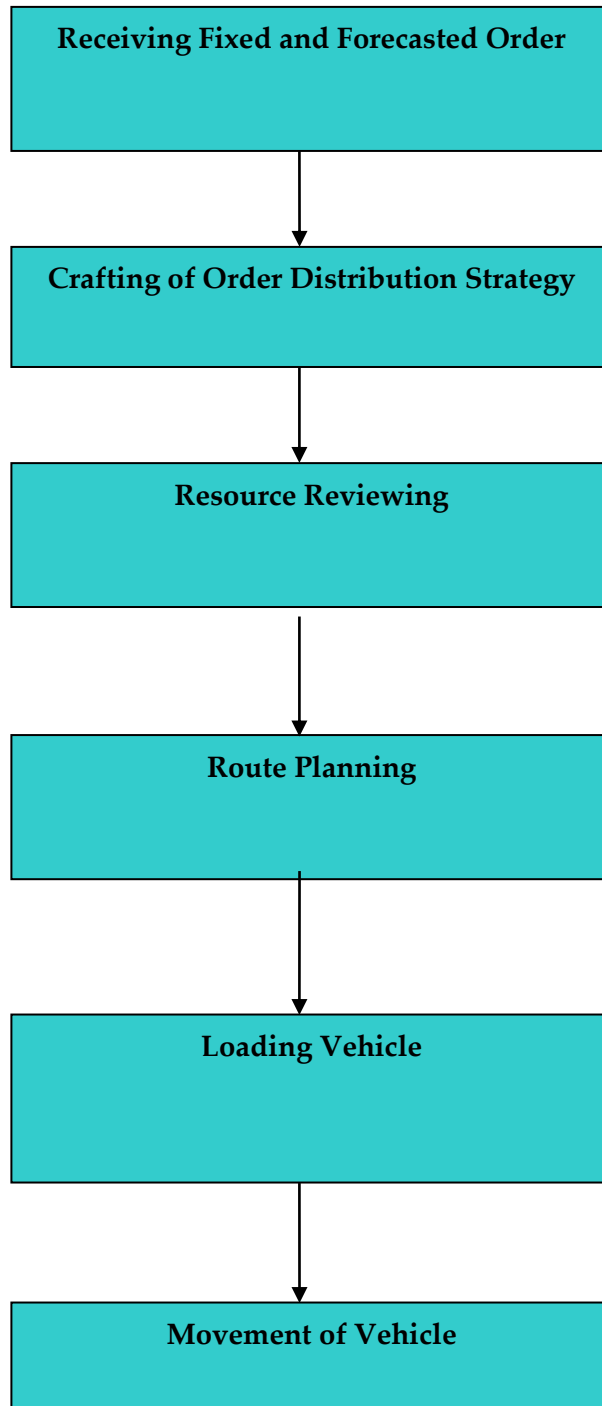


Figure 13-2: Action Flow of Transport/Distribution Department

### **13.4 Safety Arrangement in Warehouse and Transport:**

Seven Circle Bangladesh Limited has established 13 numbers of Fire Hydrants Point around the Warehouse situated in Kaligonj, Gazipur. Fire Hydrants system is one of the recent ways of response against any fire related circumstances. Moreover, all the transport drives and helpers are offered day long training on Fire extinguishing so that they can response against any mishap. All the transports are equipped with moveable fire extinguisher. First aid box is one of the pre-requisite to be ensured by logistics department before one transport start for its destination.



*Figure 13-3: Fire Hydrants Point*

## **14 The research method and data analysis**

The research part was carried out by two types of interviews and a questionnaire. The objective of the research was to analyze the logistic process of Seven Circle BD Ltd through the strengths, weaknesses, opportunities and threats during logistics process. The primary data is supported by the company. Two types of interviews include a personal interview with Mr. Shahjahan Kabir, the Head of SCM and a theme interview about customer service through 15 telephone interviews with

customers of the company. A questionnaire survey is referred to inner management during logistics process for the employees in SCBL. From these research methods, the data analysis will be presented afterwards.

## 14.1 Primary data collection

Data collection is a term used to describe a process of preparing and collecting data systematically for a particular purpose from various sources that has been systematically observed, recorded, organized. Data are the basic inputs to any decision making process in business. Primary data is the specific information collected by the person who is doing the research, specifically for a research project and it is important for all areas of research. When secondary data is unavailable and inappropriate, primary data can be collected to suit the purpose. There are a number of popular ways to collect primary data. It consists of surveys, interviews and focus groups, which show a direct relationship between potential customers and companies. In the research process, primary data was collected through personal interview with Mr. Shahjahan Kabir , the Head of SCM . The data in recent years shows the situation of the cement logistics process in SCBL, including the production, transport vehicles, sales, revenue and profit tax, financial condition, income of employees etc.

## 14.2 Interviews

An interview is a conversation between two or more people where questions are asked by the interviewer to elicit facts or statements from the interviewee. Interview as a method for a qualitative research involves a face-to-face meeting between interviewer and interviewee to ask a series of questions. The qualitative research interview is to describe and the meanings of central themes in the life world of the subjects. The main task in interviewing is to understand the meaning of what the interviewees say. There are seven stages of an interview investigating. They are designing, interviewing, transcribing, analyzing, verifying and reporting. (Kvale 1996, 88)

Besides, cover both a factual and a meaning level, though it is usually more difficult to interview on a meaning level. The interviewer can pursue in depth-information behind the topic. For an interviewer, there are some important tasks that should follow: (Research methods knowledge base 20/10/2006)

- Locate and enlist cooperation of respondents;
- Motivate respondents to do good job;
- Clarify any concerns;



- Observe quality of responses;
- Conduct a good interview.

There are some specific types of interviews, such as face-to-face interviews, panel interviews, telephone interviews, group interviews and sequential interviews. (Prospects 04/2009) In this research part, the interviews include a face-to-face interview of SCBL and a telephone interview on customer service. The personal depth interview was conducted with Mr. Shahjahan Kabir, who is the Head of SCM in SCBL. In the meantime, telephone interviews with customers about customer service were used to gather feedback and explore the need, complaints, evaluation, suggestions for improving the condition of company's logistics process and finding more opportunities to keep a long-term relationship with customers.

### **14.3 Questionnaire for employees**

Questionnaire, with a list of research or survey questions, is one of a range of ways for getting information from people and collecting appropriate data when doing a social investigation. Researchers work out questions or tables to ask respondents for opinions, suggestions, demands, feedback, complaints etc. according to the research topic and objectives. (Gillham 2000, 16)

In this study, the questionnaire was for employees about inner management during logistics process in SCBL. The questions were designed to find out problems during the logistics process, how to become cost effective, desire and suggestions for improving working efficiency. The data collected is calculated in Excel.

Successfully, not only the respondents reflect their opinions, satisfaction, complaints during their departmental daily work in logistics process, but also present some practical and useful recommendations for the company to improve inner management and better the business environment in SCBL.

### **14.4 Data analysis**

Data analysis is a process of collecting, analyzing data and turning data into information in an organizational way. It is conducted through a series of appropriate statistical tools to analyze the data collected. The objectives are to maximize the development of the data function and to find out the information for helping people make a judgment and get an accurate conclusion. With the

development of technology, computer science is widely applied to offer numbers of useful tools to analyze data analysis.

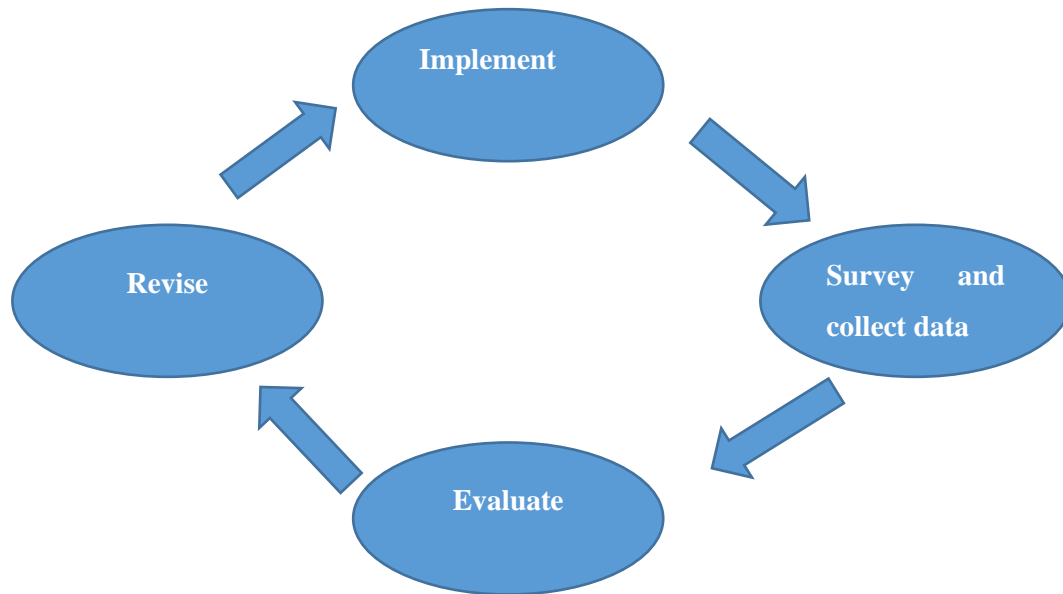


Figure 14-1: The data analysis process

Figure 14-1 is a continuous flow chart and represents the data analysis process. The process consists of four parts: revising, implementation, survey and collecting data and evaluation before the data analysis. (Office of prevention programs 2007)

## 14.5 ANALYSIS OF THE RESEARCH RESULTS

In order to seek the strengths, weaknesses, opportunities and threats during logistics process in SCBL, two types of interviews and a questionnaire were conducted in the thesis research part. All the results and findings were analyzed and illustrated with the help of Excel.

### 14.5.1 Findings from the interviews

The first face-to-face interview was with Mr. Shahjahan Kabir. He is the Head of Supply Chain Management in SCBL. The research topic is the logistic management of SCBL and he pointed out how the company runs the daily business, what the strengths and weaknesses the company is faced



with and opportunities for the future and threats or risks that should be avoided or prevented in advance. The interview took place on June 2015.

The second theme interview was about customer service and made in June, 2015. There were 30 customers to be interviewed in plans but only 20 of them showed the interest and desire to accept the interviews. Finally they all provided suggestions to improve the company's customer service and the logistics process.

Interview with Mr. Shajahan Kabir, head of SCM of SCBL.

In this interview, first of all, Mr. Motiar (Manager- Supply Chain) presented a brief introduction of the logistics department in SCBL. The logistics department in SCBL was founded 2001.

Their target groups are various, such as construction corporate, individuals, building material industry, related governmental department etc. especially construction projects in DHAKA & south zone of Bangladesh. The trays, stations, means of transportation and handling equipment in SCBL have adopted national and industrial standards. Taken as a whole, transportation, warehousing and delivery tasks have been regulated and standardized in present rules of the company.

However, some other aspects are in need of making standards to regulate the management such as information system, ordering, customer service etc.

(Manager-SCM of SCBL, interview taken on 15<sup>th</sup> June 2015)

Besides, Mr. Motiar briefly introduced how their customer service system works in daily business operation, especially collecting feedback from customers. When their orders are successfully made, they will receive a piece of paper that offers several questions for evaluating and making comments during every step from ordering to transporting. After the business is done, they can send the paper as feed-back tool to customer service of SCBL for the staff to collect feedback. Almost every season, the company will have a seasonal meeting. The representative of customer service department will present a SWOT analysis and future plan to the company and also let the other departments get to know their weaknesses for improvement. (Manager-SCM of SCBL, interview taken on 15<sup>th</sup> June 2015)

SCBL has its own official website for publishing news, information, introducing the products, displaying different kinds of colorful activities, informing modern related new technologies of cement logistics and keeping in touch with target groups. With the rapid development of modern high



technology, which accords with national standards, such as GPS, it is easier for the company to follow the track of goods. (Manager-SCD of SCBL, interview taken on 15<sup>th</sup> June 2015)

In the interview, Mr. Motiar mentioned that there still have been some big risks and threats that can be seen during logistics process. For instance, as it is an industry and their main product is cement, environmental pollution could exist somehow every day. There are three wastes in the factory, including air, water and dust wastes when producing and transporting cement. Energy consumption and cross infection are two serious problems that are difficult to be solved. High costs and investment are put into the facilities, transportation fees, warehousing, compensation etc. even though the destination for transporting is not far from the company. This is not an effective way for future development.(Manager-SCD of SCBL, interview taken on 15<sup>th</sup> June 2015)

Finally, Mr. Motiar suggested when the department evaluates the performance of the logistics process in the future, SCBL should deepen the research concerning several strong points. The evaluating system include service quality control, punctual delivery ratio, dispatching error rate, ordering accuracy, warehousing and transporting management, customer satisfaction and environmental improvement. (Manager-SCD of SCBL, interview taken on 15<sup>th</sup> June 2015)

### **14.5.2 Interview with customers about customer service**

There were 15 customers that accepted the telephone interviews. The reason to contact them is to cooperate with customers to accomplish periodical assessment, investigate their demand, complaints and collect the feedback for the company. When asking the source of getting to know SCBL the beginning, they shared two choices. One is from the advertisement of the company and the other one is from the recommendation of other customers. There are several construction companies. Cement is one of the essential materials for building houses. All of them have a long-term relationship with SCBL.

They showed that the strengths which attracted them to make a decision to choose SCBL should be good quality of cement and reasonable price standard among the cement industry. One Manufacturing plant located near the Dhaka city and another in at the Khulna which covers almost both part of the country. Both factories are located beside the river. The road transportation is quite convenient through logistics from several express ways.





Most of the interviewees have sent the inquiries to the company before the business started. Two thirds of them preferred using telephone as a method for contacting and other choices were through the e-mail, the official website and individual visit. They reflected the fastest and most effective way to send the complaints to customer service is still to pay a visit to their office. Other ways, like letters, e-mails, faxes etc. are very slow, not clear to read or couldn't be replied in time however.

During the period of solving problems, 50 % customers showed the satisfaction about the attitude of the staff when they were served. All mentioned that it is a good manner to serve every coming's customer a bottle of water in hot summer. Other 7 interviewees said they didn't care about their attitude and paid more attention on the staff's working effectiveness of solving their problems. For the improvement, they hoped the equipment and package should be improved. Especially when the rainy seasons come, cement can't be wet in water. So it is in need of taking more measures to prevent water.

### **14.5.3 Findings from the questionnaire**

The questionnaire was designed for employees in logistics department of SCBL about inner corporate management during logistics process. 70 copies of the questionnaire were sent and 50 copies valid answers were received with the participation of employees in different fields of logistics department in three weeks. Some copies were not returned so they were invalid.

The research starts from asking for individual information of the employees in SCBL, like gender, age, educational level and department in the company. The objective is that, from this information, we can get a general view of the employees. No matter how old they are, what the educational level is, who they are and where they work, all of them are part of the company. To get to know their demands, complaint, expectation, goals or recommendation, these are basic requirements although the information mentioned will definitely not affect the answers of the survey a lot.

### 14.5.4 Results from the questionnaire:

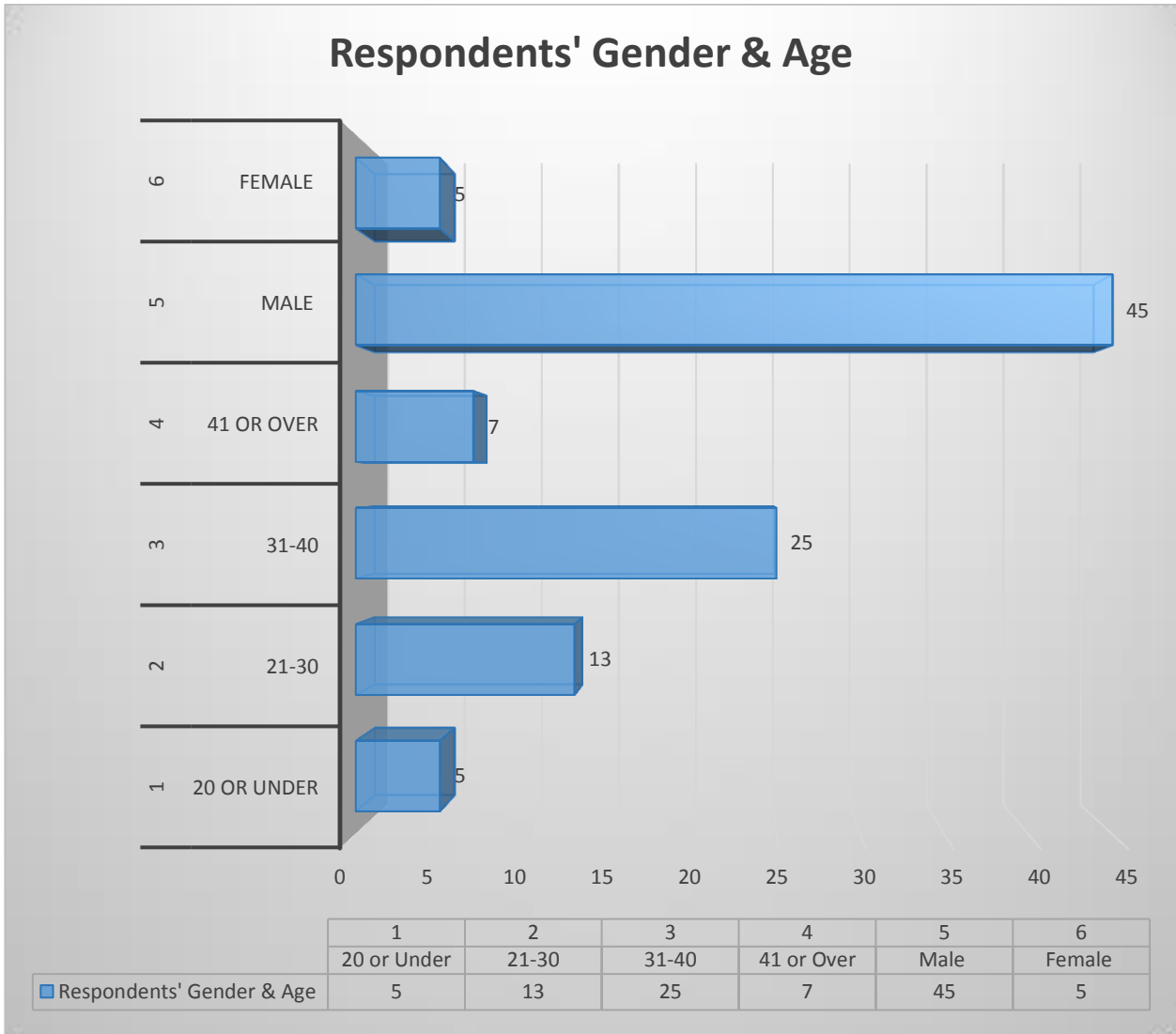


Figure 14-2: Respondents' genders and ages in SCM of SCBL, n=50.

In research results, there are in total 50 respondents in the SCM of SCBL participating in this questionnaire. Figure shows the gender and age proportion of the sample. 45 respondents are male and

5 are female. The ratio of the respondents in the age group under 20 years old is 10%, 26% in age group 21-30, 50 % is in age group 31-40 and 14 % is in age group over 41.

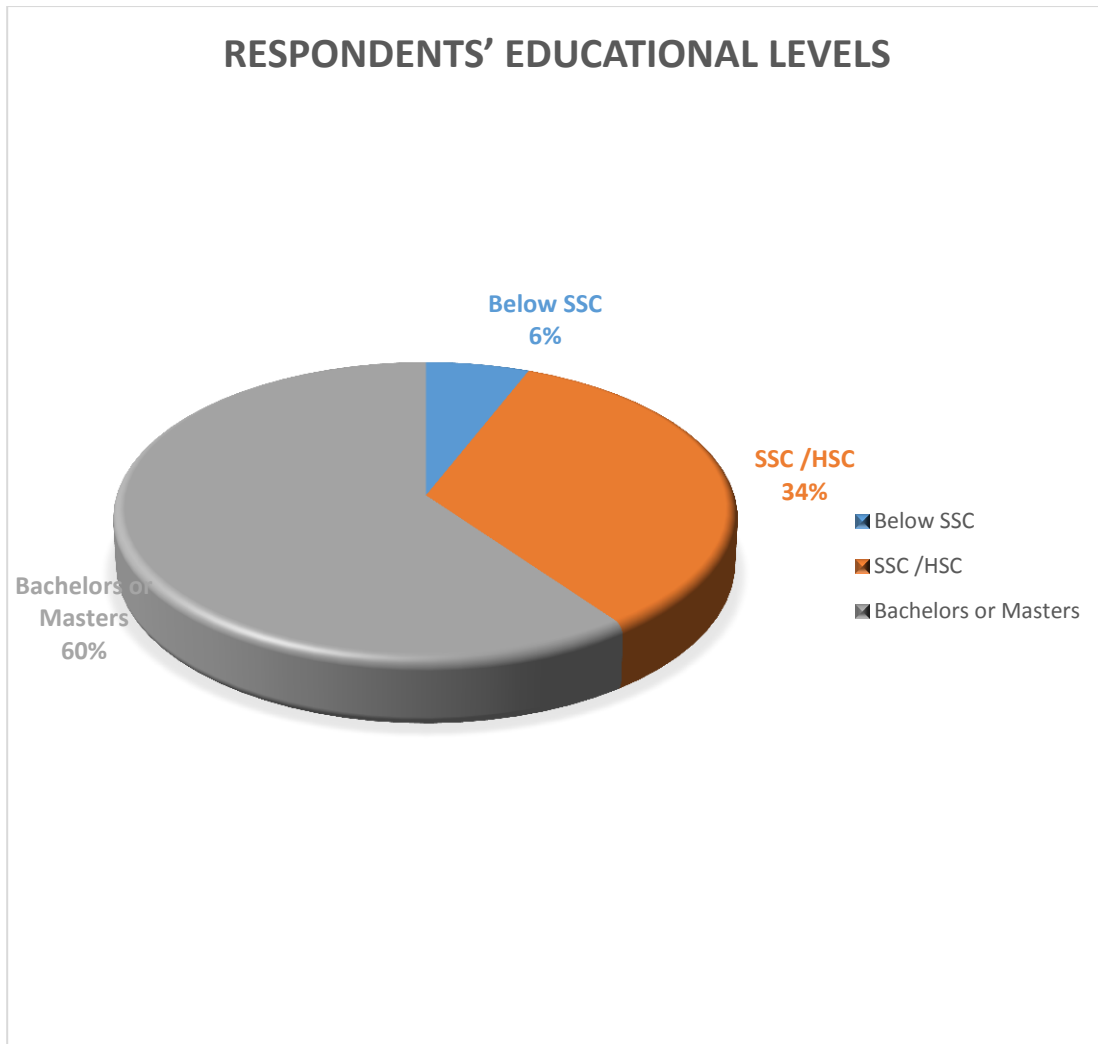
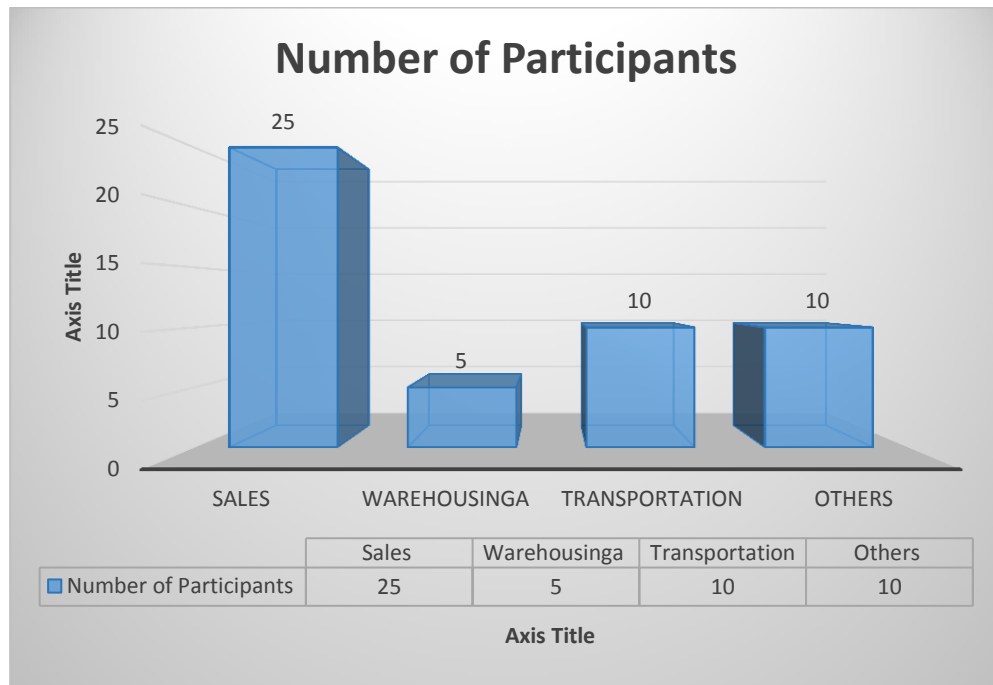


Figure 14-3: Respondents' educational levels, n=50.

From the Figure 14-3, we can see that 30 employees (60 %) of the respondents are Bachelors or Masters Level and 17 people (34 %) SSC/HSC level. Other 3 people (6 %) are in below SSC level. They are working in different fields of SCM



*.Figure 14-4: Respondents' responsibility field in SCBL, n=284.*

The diagram in .Figure 14-4 shows different fields during logistics process in SCBL. The 50 respondents belong to and are responsible for sales, warehousing, Transportation and other work. Overall, 50 % of the respondents are engaged in sales department. Their tasks are to contacting potential and target customers, selling cement, seeking challenges with price competition. 10% people are working in warehousing and 20 % are working in transporting cement. The respondents in other fields are 20 %.

## SWOT analysis

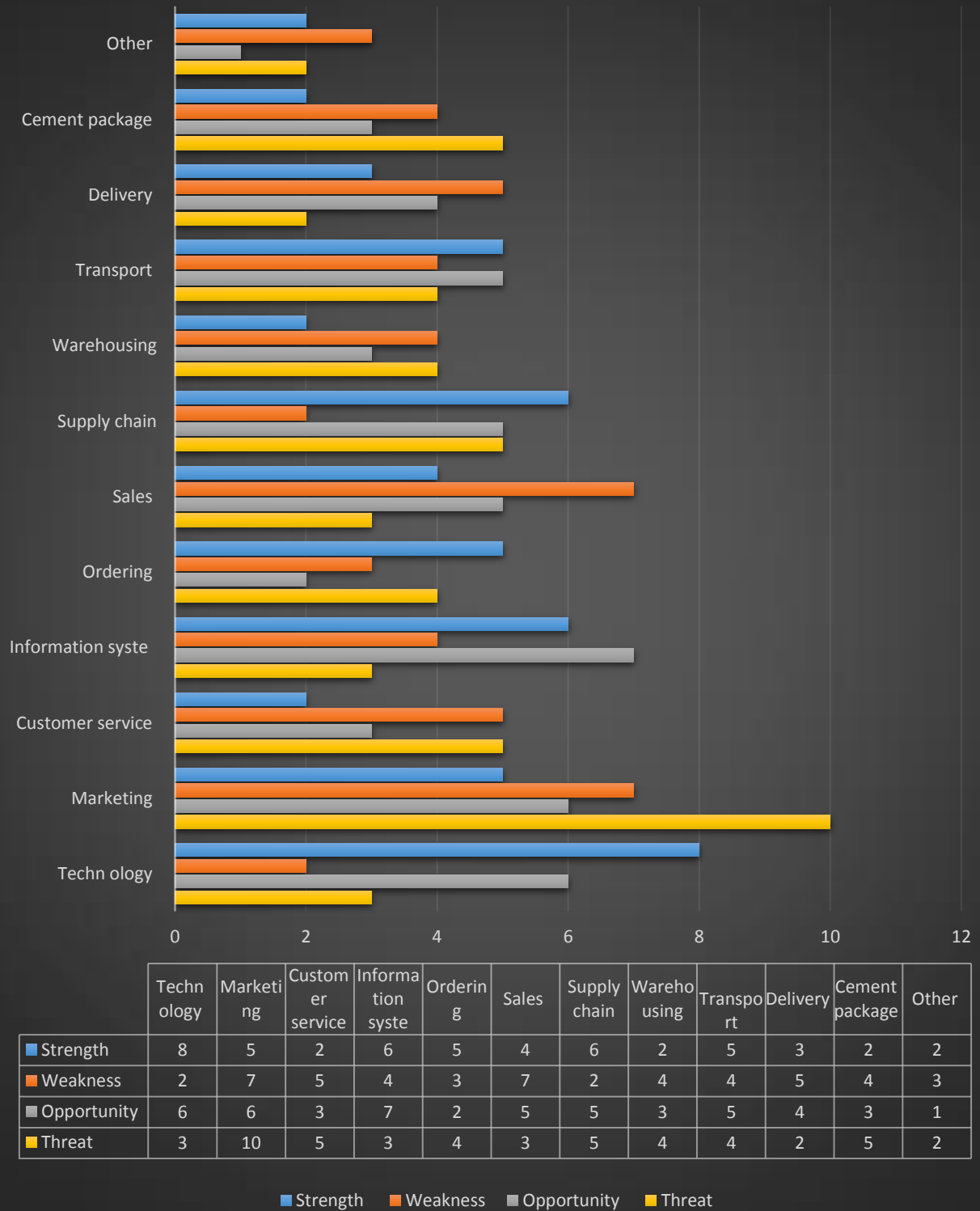


Figure 14-5: SWOT analysis in SCBL during the logistics process, n=50

From several aspects, the respondents show their point of views towards the strengths, weaknesses, opportunities and threats during the logistics process. Firstly, as we can see 16 % of the respondents give their opinions of technology as the strength, 12 % consider supply chain is a great strength and only 4 % think of the cement package. When mentioning the company’s weakness, most respondents prefer to choose delivery, marketing& Sales in need of improving. 14 % people are willing to pay more attention to information system and meanwhile, supply chain (10 %), delivery (8%) and other aspects are considered by the proportion 2 %. Risks and threats usually lead to failure and loss. 16 % selected marketing as a threat for the company and 10 % are concentrating on customer service. The following figures will present the detailed information of the respondents’ opinions on the SWOT analysis results.

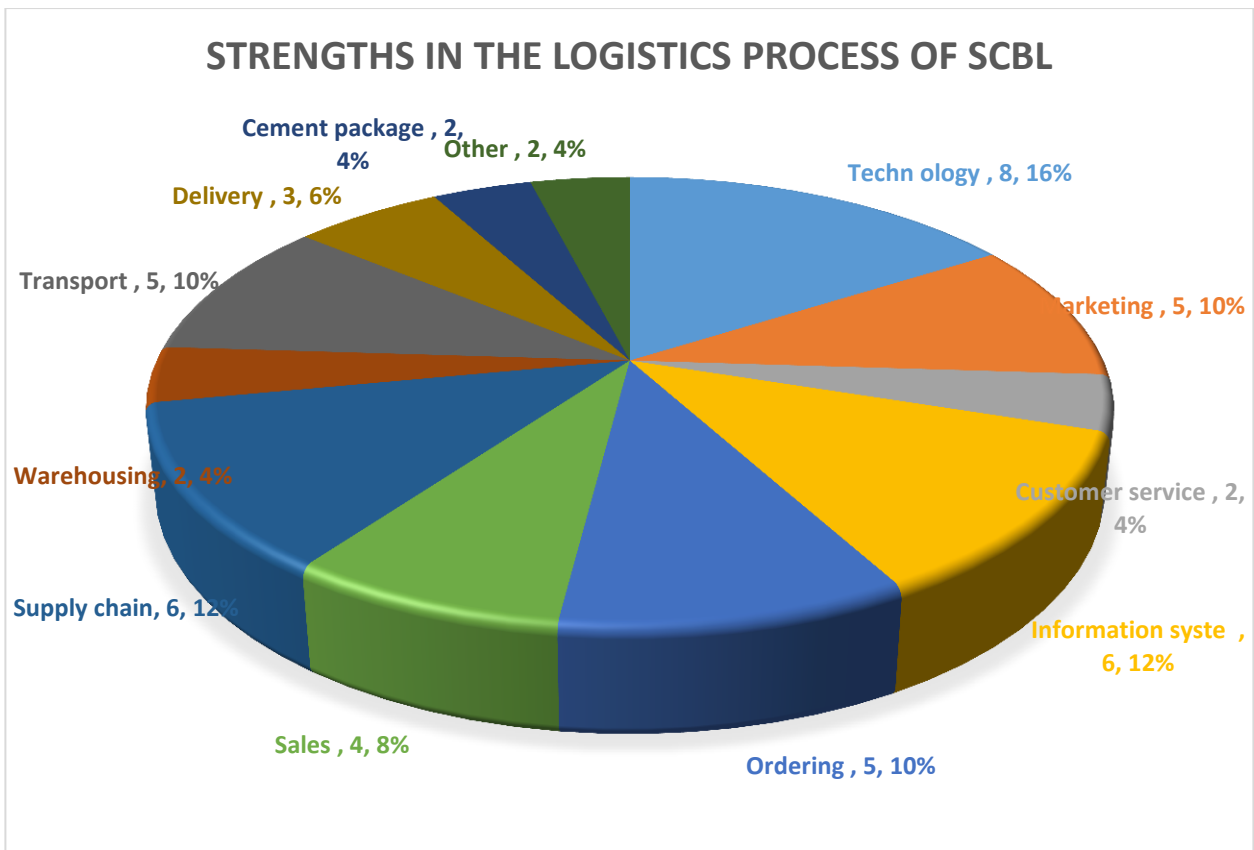


Figure 14-6: Strengths in the logistics process of SCBL, n=50.

From several aspects, the respondents show their point of views towards the Strengths, weaknesses, opportunities and threats in the logistics process. Firstly, as we can see in Figure 18, 16 % of the

respondents give their opinions of technology as the strength, 12 % consider supply chain is a great strength and only 4 % think of the cement package and transport are strengths for the company. Marketing & customer services have the same proportion to be the strengths of SCBL.

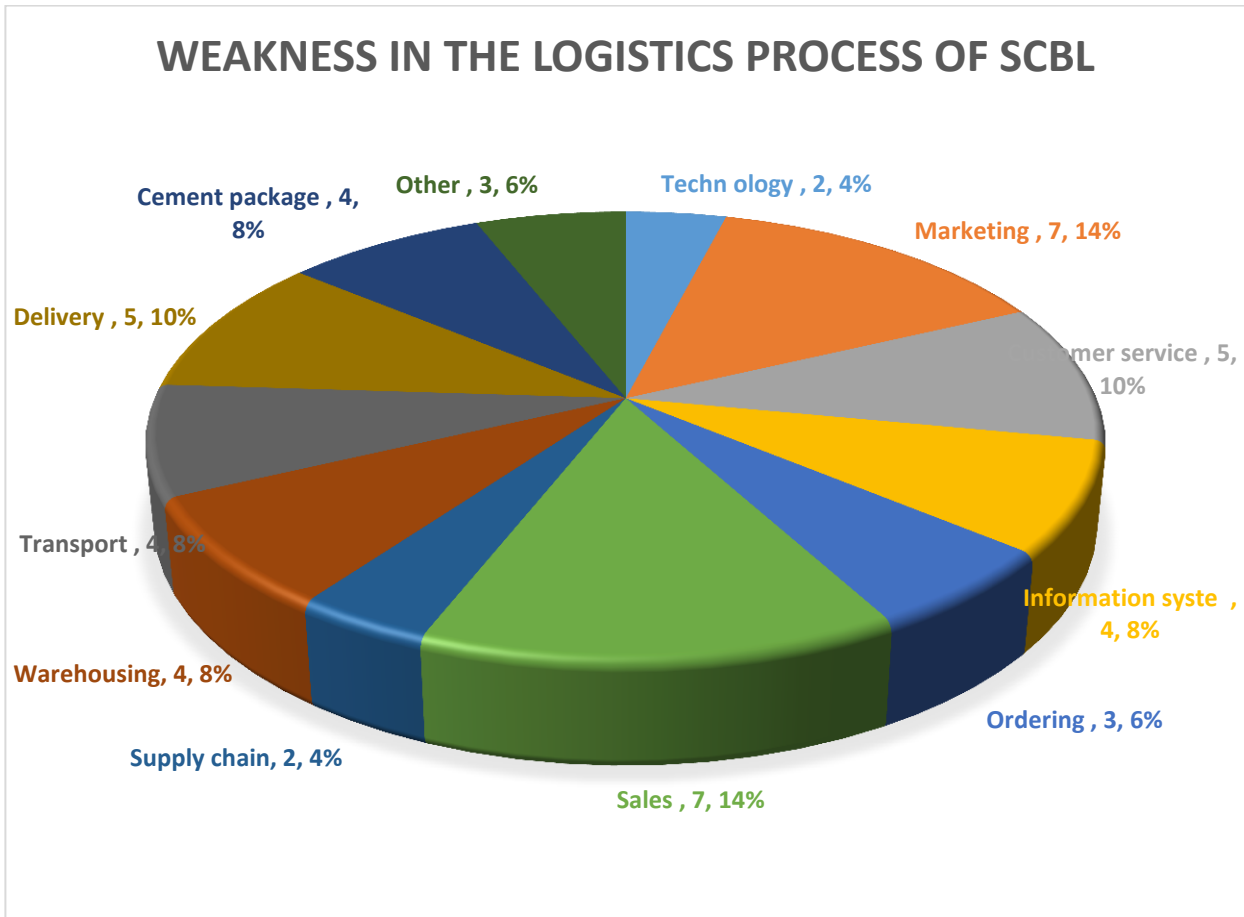


Figure 14-7: Weaknesses in the logistics process of SCBL, n=50

Figure 14-7 shows when mentioning the company's weakness, most of the respondents chooses Marketing & sales 14 % as the biggest weakness. People who decide information as weaknesses of the company have almost the same proportion 8 %. Customer service can be obviously seen also with a big weakness. 10 % of the respondents think so. Cement package and warehousing are regarded by 8 % of the respondents as weaknesses. Therefore, the company should improve delivery and marketing process.

## OPPORTUNITY IN THE LOGISTICS PROCESS OF SCBL

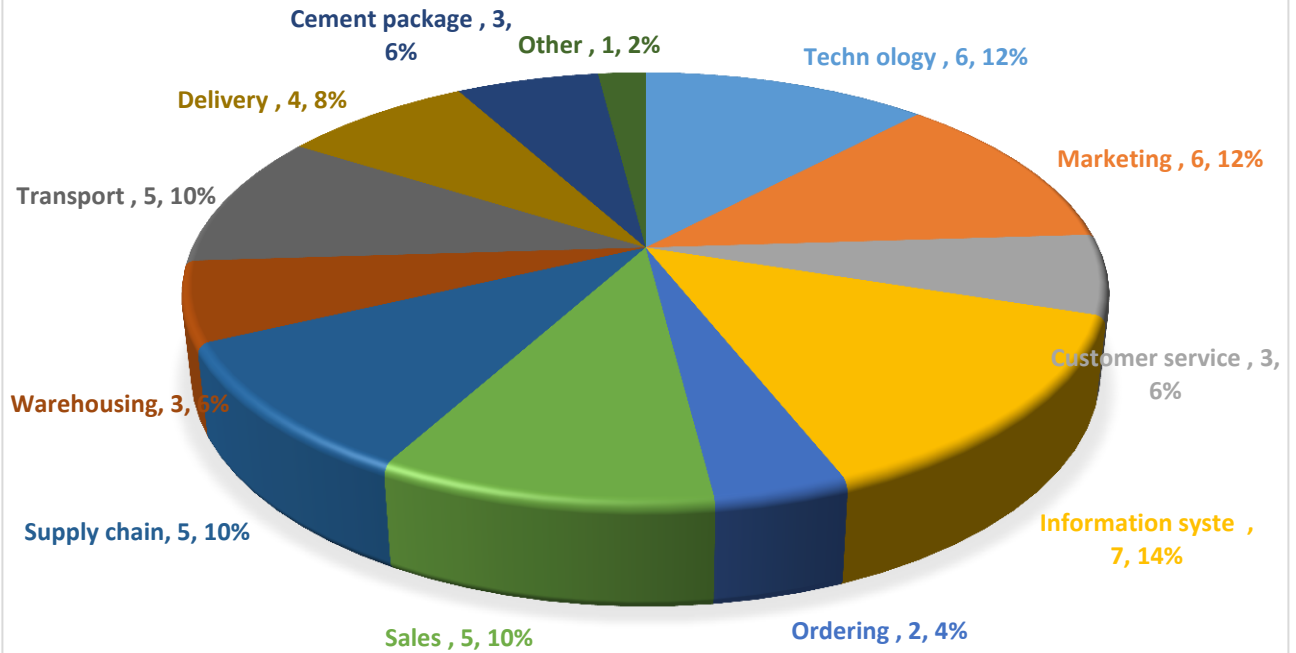


Figure 14-8: Opportunities in the logistics process of SCBL, n=50.

Figure 14-8 indicates in their opinions, two big opportunities will be information system 14 % and technology 12 % in modern logistics development. Sales and marketing also take two big proportions 10 % and 12 %. Other aspects, like delivery, supply chain, warehousing, customer service and other aspects are all regarded as opportunities to better develop by the respondents.





Figure 14-9: Threats in the logistics process of SCBL, n=50.

In Figure 14-9, 20 % of people pay more attention to marketing as a threat for the company and meanwhile customer service and supply chain are considered by several large proportions like 10 %, and 10 %. Risks and threats usually lead to failure and loss. 10 % selected cement package as a threat for the company and 8 % of the respondents think of ordering and 4 % as delivery. From 3 % to 8 % of them are concentrating on transport, sales and other aspects to be considering threats.

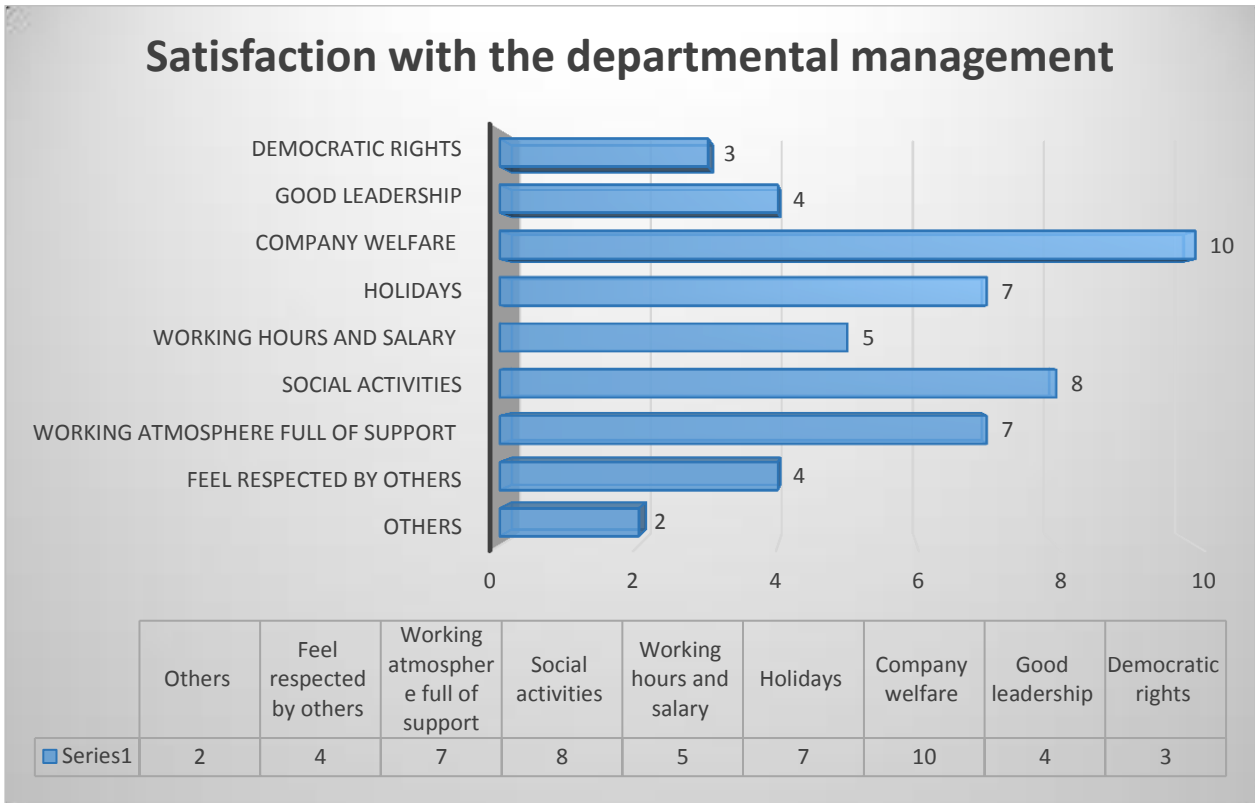


Figure 14-10: Satisfaction with the departmental management, n=50.

This question is with a multiple choice and can be selected with 3 answers to show the satisfaction of employees with the departmental management. The result can help the company get feedback and improve human resource management. As Figure 14-10 shows, we can get useful message from a range of options and answers. Through Excel analysis, about 16 % of the respondents feel social activities and 20% feel company welfare as their satisfactory aspects. Almost the same percentage 14 % of the respondents are satisfied with holidays and working atmosphere full of support. What’s more, meanwhile about 10 % agree with working hours and salary and feel respected by others. The minority of people show their satisfaction with democratic rights and good leadership however.

## 15 SWOT analysis of the logistics process of SCBL

According to the analysis of the results above, it is easier to get to know the main strengths, bad weaknesses, future opportunities and dangerous threats of the logistics process of SCBL.

In SCBL, we can see in order to better development of the logistics process the company should pay attention to all parts' cooperation, like warehousing, marketing, customer service, transportation, information system etc.

Strengths	Weakness
<ul style="list-style-type: none"> <li>• Market leader with countrywide presence.</li> <li>• A high standard of cement quality, huge innovations &amp; know-how</li> <li>• A suitable geography location, adjacent with river &amp; road communication</li> <li>• Satisfactory customer service in SCBL</li> <li>• Being innovative and flexible in market changes</li> <li>• Availability of skilled manpower</li> <li>• Manufacturing capabilities with national high quality standards in construction field</li> <li>• The company has obtained the ISO 9001-2000 making it a reliable producer for production of quality products in the international market</li> </ul>	<ul style="list-style-type: none"> <li>• High price than national competitors</li> <li>• Old facilities and existing workload too great</li> <li>• Promotional activities are not strong in electronic media, printing media or outdoor activities</li> <li>• Warehouse &amp; transportation security</li> <li>• Low investments in supply chain</li> <li>• Environmental problems in logistics process.</li> <li>• Waste management</li> </ul>
Opportunity	Threat
<ul style="list-style-type: none"> <li>• Good chance to explore rapidly increasing cement markets.</li> <li>• Application of modern technology</li> <li>• Opportunity for export in international Market</li> </ul>	<ul style="list-style-type: none"> <li>• Increase the price of raw materials &amp; dependency on international market for raw materials.</li> <li>• Energy cost</li> <li>• Environmental issue</li> </ul>

<ul style="list-style-type: none"> <li>• Opportunity to spread marketing &amp; distribution channel</li> <li>• Great potential for growth and profitability</li> </ul>	<ul style="list-style-type: none"> <li>• Governmental policies</li> <li>• Economic downturn</li> <li>• Challenging regional market competition and price inflation stands out outside</li> <li>• Rapid development of smaller industries</li> </ul>
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### 15.1 Strengths

SCBL was founded in a suitable locations ( Gazipur, Dhaka & Labonchora , Khulan ) to develop cement production and logistics in Bangladesh. Both Mills are situated besides the river & highway. So the transportation is also very convenient. The company’s products have a high standard of quality. It has been widely applied in construction projects, building roads, bridges and Flyovers. In continuous years the cement of SCBL has been designated as exempt products and has passed ISO9001: 2000 quality management system certification. The company transports cement by their own transportation logistics modes to reduce operating costs. SCBL has there are hundred Trucks & forty vessels on its own fleet. For more than 10 years, many customers are satisfied with the logistics system and customer service. Furthermore, SCBL constantly develops new products/mixtures with higher durability, sustainability and an improved ecological balance sheet in order to meet the growing expectations from shareholders towards greenhouse gas reduction. Finally and due to SCBL- RTD & WTD , the company is logistically independent in what way transportation costs for the moisture-sensitive and heavy products can be reduced, which in turn reduces the supplier power. The development of modern logistics industry keeps the company innovative, creative, flexible and informed on market changes and challenges. Besides, the company has availability of skilled manpower, manufacturing capabilities with national high quality standards in construction field and higher operational efficiency of employees.

### 15.2 Weaknesses

In spite of above strength, there are also some weaknesses in SCBL. In the logistics process, cement sales, ordering and purchasing are affected a lot by the radius of transportation. It expands the market barriers for SCBL. For instance, labor costs for workers of duties in warehousing, transporting and

producing management are under an increasing level. Due to the fact that cement and aggregates are high-volume production products, SCBL has built up high capacities of those products. In the wake of the financial crisis, prices suffered a drop due to the declining demand of construction building materials which in turn led to large excess capacities in the industry. As a result, SCBL was urged to close down plants and introduced an austerity program in order to reduce operating costs. Promotional activities are not strong in electronic media, printing media or outdoor activities. There is great existing workload and limited security control in warehousing and transportation in the logistics department. Furthermore there are no advance technology in SCBL to handle the waste generate from the mills. In the logistics process, there are a series of environmental problems for SCBL to solve and keep sustainable development.

### **15.3 Opportunities**

Bearing in mind that the world population is to grow by 3 billion people within the next 40 years, the potential for expansion of the Building Materials Industry is enormous. Especially BRIC states are expected to experience a significant population growth. Due to the sound global strategic position of SCBL and its intact capital structure, the company is in a good position to continue its expansion strategy in order to acquire the necessary market/regional knowledge of its competitor. Efficient and environmental friendly handling of natural resources is a cornerstone within the Building Materials Industry. The attitude of the company turns more positive in recent years and it has more awareness of high and rising energy costs. During every busy season of cement sale, there are many practical measures to be taken to develop cement logistics. The effects on making full use of warehousing volume, serving customers actively, keeping sustainable development, repairing and renewing devices are very obvious. Faced with new situation and introduction of modern logistics modes focusing on reducing costs to seek development, seizing opportunities to increase corporate overall strengths, tamping foundation of the inner management and expanding global market as a future goal with the application of new technology, like GPS. Finding a mixture/production process, in which carbon dioxin emission is significantly reduced, will lead to a first mover advantage within the industry. Besides, less emissions will also go along with less energy costs with regards to the production process and is clearly in favor of the company's overall cost structure

## **15.4 Threats**

The Building Materials Industry is highly exposed to energy providing companies (coal, fuel, gas) due to fact that the production process requires a lot of energy. Consequently, growing prices would lead to higher production costs and would affect customers badly. The competition of regional market has intensified. As transportation and harbor costs have increased, they have resulted in inflation of cement prices. Additionally, the demand for cement is growing faster than the emissions per ton are falling posing a clear threat to the environment. This situation could lead to production restriction in the future what would have impacts on sales revenue of companies. Furthermore, even higher efforts and spending in terms of R&D have to be undertaken to improve products. Being highly active in emerging markets also bears the threat of unknown and unpredictable governmental actions and policies. Hence, production capacities might be reduced or employees might be largely influenced by the governments what would have negative impacts on the production process and revenues. Lastly, There is a clear link between GDP of a country and the consumption of cement and aggregate products. In terms of an economic slowdown this would lead to a reduction in sales revenue again

## **16 Conclusions**

The purposes of this thesis are to research on the logistic management of Seven Rings Cement industries through the strengths, weaknesses, opportunities and threats during its logistics process. The thesis is separated into two parts: theoretical part and practical part. The theoretical part mentions information about logistics process in details. Logistics is a part of supply chain. Here according to the case company and the real working process, mainly introduced purchasing and ordering, customer service, warehousing and transportation. The short-term objective is to improve the conditions of working process, service for customers and get feedback from employees of SCBL about their complaints, satisfaction and demand of the company's and departmental inner management. The long-term purpose would be to expand the cement product to a bigger market through the modern logistics mode and to satisfy more customers with both good quality of cement and better customer service. Meanwhile, employees can show their loyalty and sense of belonging to the company.

The second part is research part. In this part, both qualitative and quantitative research methods have been used. In the qualitative research, through two different types of interview – personal interview and telephone interview, and a questionnaire, it is better to understand logistics process is a key to

execution and achieving results for a company, customer service survey has reflected the affection on customers' feelings, evaluations, opinions and comments towards products and related services and a good inner management leads to a good future for development and improvement.

For a developing country like Bangladesh, cement industry has a lucrative future. The government is looking to invest further in infrastructure while encouraging FDI in secondary sector. In addition, the standard of living of the population is increasing giving rise to demand for Real Estate.

Most cement factories are currently operating below their full capacity. Since demand of cement is positively correlated to GDP growth and with rising growth forecasts, demand for construction materials like cement is set to increase further in the coming years

## **17 Recommendations:**

1. Share all information between supply chain members to reduce raw materials cost.
2. Introduce movable e-crane to load & unload raw materials.
3. Designing in the best quality and reliability right-the-first-time
4. Exchange data between suppliers, carriers & manufacturers.
5. Outsource transportation system to minimize cost & risk associated with delivery
6. To respond dynamically to the need of the end customers according to SCM
7. Enhanced customer service for greater competitive advantage.
8. Set benchmarks goal for the Logistics process to achieve competitive advantage from others through cost, quality & risk mitigation



## **Appendix1. Interview Questions with Seven Circle BD Ltd:**

1. Can you present a brief introduction of the working process in cement logistics?
2. How SCBL select the distribution channel? Please explain.
3. How does SCBL decide on the location of the Dealers or Wholesalers?
4. Does SCBL have its own DC? What are the types of ownership?
5. Do you work with any logistics service providers?
6. Whom do you regard as your target group?
7. How do you collect feed-back from your target groups/customers?
8. What do you think of the effects of new technologies on cement Logistics?
9. What is the lead time for supplier & for customer?
10. What is the P2P Cycle & O2C cycle of SCBL?
11. How does SCBL deal with supplier failure? Does the company have more than one supplier for similar kind of product?
12. What kind of WMS does SCBL use? How does it help firm's operation?
13. What are the biggest risks and threats and how do you deal with them in daily business life?
14. What will be the most important strengths and strong points in your logistics process in the future?
15. Are there any training programs for the logistics staff?
16. Does SCBL use any vehicle tracking tools? If yes, how it works?



## **Appendix2. Interview questions for customers of SCBL**

1. How did you get to know about SCBL?
2. What attracted you to make a decision to choose it?
3. Can you make a comment on the company image?
4. When you have an inquiry or need to present more demand, can the customer service office solve the complaints in time or give a quick response?
5. How about their attitude of the staff when they are serving customers?
6. What do you think the speed of transporting the products? Is it fast or slow?
7. According to the current situation of SCBL and modern logistics development, what aspects do you think are their most important strengths and weaknesses?
8. According to the current situation of SCBL and modern logistics development, what would be the biggest opportunities and threats in their marketing environment?
9. What suggestions would you like to tell the company to make improvement for the customer service?

## **Appendix3. Interview Questions with Supplier**

Please explain your working process in supplying goods to SCBL.

Do you use information system compatible with SCBL?

How do you maintain Lead Time for supplying materials?

Is there any development program held by SCBL?

Do you think you have the mutual benefits operating with SCBL?

How SCBL set supplier evaluation & performance measurement?



#### **Appendix4. Questionnaire for employees involves with logistics process of SCBL**

1. Your gender

Female  Male

2. Your age

21-30  31-40  41 or over

3. Your educational level

Primary School  Middle or High School

College or University

4. Your responsible field in SCBL

Sales  Warehousing  Transportation  Other

5. What is your most attractive issue in your current job?

Stability  High income  Social position  Entertainment

Bright future for your career  your interest  Diversity  Challenge

Other, what?

7. In the following aspects, what is the strength in the company during the logistics process?

Technology  Marketing  Customer service  Informational system  Ordering  Sales

Supply chain  Warehousing  Transport  Delivery  Cement package  Other, what?

8. What is the weakness in the company during the logistics process?

Technology  Marketing  Customer service  Informational system  Ordering  Sales

Supply chain  Warehousing  Transport  Delivery  Cement package  Other, what?

9. What is the opportunity in the company during the logistics process?

Technology  marketing  Customer service  Informational system  Ordering  Sales  Supply

chain  Warehousing  Transport  Delivery  Cement package  Other, what?



10. What is the threat in the company during the logistics process?

- Technology  Marketing  Customer service  Informational system  Ordering  Sales  Supply chain  Warehousing  Transport  Delivery  Cement package  Other, what?

11. What aspects are you satisfied with the departmental management? (Choose three)

- Feel respected by others
- Working atmosphere full of support
- Social activities
- Working hours and salary
- Holidays
- Company welfare
- Good leadership
- Democratic rights
- Other, what? \_\_\_\_\_

Thank you for your cooperation!



## 18 REFERENCES

Literatures

Chopra, S., & Meindl, P. (2007).

Supply chain management: strategy, planning, and operation. 3. ed.

Anderson Kristin & Kerr Caro 2002

Customer relationship management. The McGraw-Hill Companies, Inc. USA.

Attwood Nigel 1992.

Logistics of a Distribution System. 4th edition. Billing and Sons Ltd. Worcester

Blanchard Benjamin, S. 1998.

Logistics engineering and management. 5th edition. Prentice Hall, Inc.

Bowersox Donald J. & Closs David J. & Cooper M. Bixby 2010 .

Supply chain logistics management. 3rd edition. The McGraw-Hill Companies, Inc.

Christopher Martin 1994 .

Strategy of Distribution Management. 8th edition. Butterworth-Heinemann Ltd. London

Cooper James 1994 . Logistics and distribution planning. 2nd edition. Great Britain by Biddles Ltd.

CIPS Course Books. Contexts of procurement and supply , 1st Edition, 2013

CIPS Course Books. Management in procurement and supply, 1st Edition, 2013

CIPS Course Books. Operations management in supply chains, 1st Edition, 2013

CIPS Course Books. Sourcing in procurement and supply , 1st Edition, 2013

Gillham Bill 2000 .Developing a questionnaire. 2nd edition. Great Britain by CPI Bath.

Harding Mary Lu & Michael 1991 . Purchasing. 2nd edition. Barron's Educational Series, Inc.

Kvale Steinar 1996 . Interviews: an introduction to qualitative research interviewing. Illustrated edition. Sage publications, Inc. Thousand Oaks California



Londe Bernard J. La & Cooper Martha C. 1989

Stock James R. & Lambert Douglas M. 1993 . Strategic logistics management. 3rd edition .Graphic Composition .Inc. USA

Transportation Modes: An Overview, Authors: Dr. Jean-Paul Rodrigue, Dr. Brian Slack and Dr. Claude Comtois

#### Internet Sources

Article Source: Company Introduction. Official site of Seven Circle BD Ltd

<http://www.shunshinggroup.com/>

Article Source: Cement makers coming of age, Published: Monday, November 25, 2013, Mohammed Alamgir Kabir, additional managing director of Crown Cement.

<http://archive.thedailystar.net/beta2/news/cement-makers-coming-of-age/>

Cement Industry Overview in Bangladesh

<http://www.scribd.com/doc/130016871/Cement-Industry-Overview-in-Bangladesh#scribd>

Research Report: Cement Sector of Bangladesh

[http://www.idlc.com/sector\\_coverage/1332569363Research%20Report%20on%20Cement%20Sector%20of%20BD-Initiation,%20April%2005,2011.pdf](http://www.idlc.com/sector_coverage/1332569363Research%20Report%20on%20Cement%20Sector%20of%20BD-Initiation,%20April%2005,2011.pdf)

Flash Note on Current Dynamics of Bangladesh Cement Industry, February 08, 2015

[http://www.idlc.com/sector\\_coverage/1423371406Flash%20Note%20on%20Current%20Dynamics%20of%20Bangladesh%20Cement%20Industry..pdf](http://www.idlc.com/sector_coverage/1423371406Flash%20Note%20on%20Current%20Dynamics%20of%20Bangladesh%20Cement%20Industry..pdf)

Market Insight: Cement Sector

<http://lightcastlebd.com/blog/2014/10/market-insight-cement-sector>



Speed up cement industrial scientific development

<http://press.idoican.com.cn/detail/articles/20081209066112/>

Discover new opportunities. Manage and eliminate threats.

[http://www.mindtools.com/pages/article/newTMC\\_05.htm#business](http://www.mindtools.com/pages/article/newTMC_05.htm#business)

The Difference between Traditional and Modern Logic and the Difference it Makes.

<http://vereloqui.blogspot.com/2012/12/the-difference-between-traditional-and.html>

Logistics solutions, quality control inspection, global logistics

<http://www.shine-cargo.com/quality-inspection-services.html>

Definitions

<https://en.wikipedia.org/wiki/Logistics>

<http://www.businessdictionary.com/>

<http://log.logcluster.org/mobile/preparedness/logistics/index.html>

Martin Murray Logistics/Supply Chain Expert,

<http://logistics.about.com/od/qualityinthesupplychain/a/Quality-In-The-Purchasing-Process.htm>

Order processing Systems

<http://myweb.lmu.edu/bjohnson/cmsi641web/solutions3.html>

Cement Industry SWOT Analysis By Megan Pratz, eHow Contributor

[http://www.ehow.com/about\\_6754859\\_cement-industry-swot-analysis.html](http://www.ehow.com/about_6754859_cement-industry-swot-analysis.html)

Improvement of Logistics and Supply Chain Management in the Cement Industry: a Literature Review,

Piyush Shukla, Lochan Sharma , M.Tech, Department of Industrial Engineering, LPU, Punjab-144411 Assistant Professor, Department of Industrial Engineering, LPU, Punjab-144411

[http://www.ijeit.com/Vol%204/Issue%2010/IJEIT1412201504\\_21.pdf](http://www.ijeit.com/Vol%204/Issue%2010/IJEIT1412201504_21.pdf)