Dissertation Report on Logistics Management in Bengal Cement Limited

Dissertation submitted in partial fulfillment of the requirements for the degree of Master in Supply Chain Management

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Letter of Transmittal

January 15, 2022

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Subject: Submission of dissertation report.

Dear Sir,

With humble honor and respect, I am submitting my dissertation report on "Logistics Management in Bengal Cement Ltd. As per partial accomplishment of the requirements for the MSCM degree, this dissertation has been carried out under the supervision of you.

This report is an integral part of our academic courses in completion of the MSCM program which has given me the opportunity to have an insight into the Logistics Management in Bengal Cement Ltd. I hope this report reflects on the contemporary issues on the Logistics Management system that are being practiced by organizations in our country.

In completing the report, I tried my best to blend all my knowledge and imparted every available detail and also attempted to avoid unnecessary amplification of the report. I humbly request you to accept this report for your kind evaluation.

Sincerely,

_____

Akash Basak

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Letter of Authorization

Certified that this dissertation report titled “Logistics management in Bengal Cement Ltd “. Is the bona fide work of Akash Basak, who carried out the research under my supervision. Certified further that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate

……

Amir Husen
Assistant Professor
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Abstract

The objective of this thesis was to assess the Logistic process of Bengal Cement 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 and the engineers 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 Bengal Cement Ltd. Based on the results, the company should focus on its operations in these areas to face the challenges of logistics industry in the future.

Abbreviations 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
BCL	Bengal Cement 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	Portland Pozzolana Cement

List of Figure:

Figure 2-1: Demand Supply Status of Cement in Bangladesh..... .5
Figure 2-2: Demand Growth Vs Capacity Growth..... 6
Figure 2-3: Market Share of different cement company in Bangladesh..... 6
Figure 2-4: Percentage of total National budget against Bridge Division..... 7
Figure 2-5: Percentage of total National budget against Roads & Railway Division 7
Figure 2-6: Logistics Cycle 8
Figure 2-7: Significant of Supply Chain & Logistics 9
Figure 3-1: Cement End to End process..... 11
Figure 3-2: Cement Production flow chart.....12
Figure 5-1: Logistic System Component.....20
Figure 7-1: Order Processing System 23
Figure 8-1: Target Customers of BCL.....24
Figure 8-2: Customer Service Relationship..... 25
Figure 9-1: Brand wise Cement Storage 29
Figure 10-1: Major Channels of Distribution 31
Figure 10-2: Distribution Channel of Bengal Cement ……..... 32
Figure 11-1-4: Different transport use by BCL 37-38
Figure 11-5: Action Flow of Transport/Distribution Department 39
Figure 11-6: Fire Fighting System..... 40
Figure 12-1: The data analysis process..... 43
Figure 12-2: Respondents' genders and ages in MSCM of BCL, n=50. 46
Figure 12-3: Respondents' educational levels, n=50..... 47
Figure 12-4: Respondents' responsibility field in BCL, n=284..... 48
Figure 12-5: SWOT analysis in BCL during the logistics process, n=50 49
Figure 12-6: Strengths in the logistics process of BCL, n=50..... 50
Figure 17-7: Weaknesses in the logistics process of BCL, n=50 ……..... 51
Figure 12-8: Opportunities in the logistics process of BCL, n=50.....52
Figure 12-9: Threats in the logistics process of BCL, n=50..... 53
Figure 12-10: Satisfaction with the departmental management, n=50..... 54

Table of Content

Letter of Transmittal i
Letter of Authorization ii
Acknowledgement iii
Abstract iv
Abbreviations v
List of Figure vi
1 Introduction: 1
1.1 Purpose of the study 1
1.2 Structure of the study 1
1.3 Limitations of the study 2
2 Background of the Cement industries: 2
2.1 Development of cement industry in Bangladesh 2
2.2 Current Status of Cement Sector in Bangladesh 3
2.3 Demand Supply Status of Cement in Bangladesh 5
2.4 Industry Structure 6
2.5 Logistics Management 7
2.6 Characteristics analysis of cement logistics 8
2.7 Choice of logistics for cement industry 8
3 Company Overview: Bengal Cement Ltd. 9
3.1 Cement Manufacturing Process of BCL 11
3.2 Manufacturing Facilities: 12
3.3 Reason for Having Own Manufacturing Facility: 12
3.4 Products 14
3.5 Infrastructure 15
3.5.1 Area 15
3.5.2 Plant Information 15
3.5.3 Automation Highlights 15
4 Quality Control 15
5 SWOT analysis & Logistics Activity 16
5.1 SWOT analysis 16

5.1.1 Strength: 17
5.1.2 Weakness: 17
5.1.3 Opportunities: 18
5.1.4 Threats: 18
5.2 Logistic process 19
6 Quality in the logistic process 20
7 Order processing and information system 22
8 Customer Service 23
8.1 Target Customers of BCL 24
8.2 Customer Service Strategy 24
9 Warehousing 26
9.1 Innovative warehouse uses 28
10 Distribution: 29
10.1 Distribution Centre: 29
10.2 Distribution Channel 30
10.3 Distribution Channel of Bengal Cement 32
11 Transportation: 33
11.1 Decision strategies in transportation 35
11.2 Transport System in Bengal Bangladesh Limited: 36
11.3 Action Flow of Transport/Distribution Department: 39
11.4 Safety Arrangement in Warehouse and Transport: 39
12 The research method and data analysis 40
12.1 Primary data collection 41
12.2 Interviews 41
12.3 Questionnaire for employees 42
12.4 Data analysis 43
12.5 Analysis Of the research results 43
12.5.1 Findings from the interviews 43
12.5.2 Interview with customers about customer service 45

12.5.3 Findings from the questionnaire 46

12.5.4 Results from the questionnaire: 47

13 SWOT analysis of the logistics process of BCL 56

13.1 Strengths 57

13.2 Weaknesses 57

13.3 Opportunities 58

13.4 Threats 59

14 Conclusions 59

15 Recommendations: 60

16 References: 61

Appendix1. Interview Questions with Bengal Cement Ltd.: 63

Appendix3. Interview Questions with Supplier of BCL 64

Appendix4.Questionnaire for employees involves with logistics process of BCL 64

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 Bengal 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 Bengal Cement Ltd. 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 Bengal Cement Ltd manages logistics process and operates its business focusing on several aspects; Logistics, distribution and transportation, which support Bengal Cement's Supply Chain activities and how they contribute to competitive advantages for the firm. The main aim is to explore SWOT analysis of the logistics process of Bengal Cement Ltd. 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.

In addition, cooperation, communication, leadership, teamwork and HRM are key aspects for a company to operate well. Therefore, a study on inner management of the logistics department of BCL 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 Bengal Cement Ltd.

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 four 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, 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: Meghan Cement (owned by

Bashundhara group), Eastern Cement (currently known as Seven Horse), Chatok Cement, and 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

In case of a prolonged lockdown, the cement industry will suffer a lot as during the event of an economic crisis, individuals and corporates tend to direct their expenses toward essential items –cement as a construction material will certainly not fall into that category. On the contrary, the government would accelerate expending in infrastructure projects in a bid to offset major setback on its economy. That should give cement manufacturers a breathing space as they are likely to expect an increase in demand once the government eases the lockdown. Another good news for the industry is that the price of key raw materials has already fallen to 10-15 per cent in the international market due to coronavirus outbreak. To overcome the current crisis what the cement industry now need is the working capital which has hit hard due to low revenue from sales and slow collection of receivables. In a letter to the government, Bangladesh Cement Manufacturers Association (BCMA) has requested to defer the payment of utility bills for at least six months. The association has further requested the withdrawal of minimum advanced income tax (AIT) of raw materials hitch is currently 3 per cent and importers have to pay it up front regardless of whether they are making a profit on not.

The silver lining for the Bangladesh cement industry is that a BDT 30,000 crore working capital loan package for industries and service sector to combat the potential fallout of the COVID-19 crisis. At a subsidized 4.5% interest rate, cement manufacturers are also eligible to avail this loan to pay their workers and other operational activities.

At present, per capita cement consumption in Bangladesh is about 182 kg, but it will not stay there for too long. We foresee a Cement growth of 8% in 2019 and after that, it may continue with 10 % growth for the next five years. Whereas population growth is expected 1 to 1.2% during these periods. Which is internally produced. Cement consumption rose almost three times higher in last ten years. As the major construction

projects like Padma multipurpose bridge, elevated expressway, Terminal three 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, Tiger, Bengal, Basundhara, 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. 380-480. 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 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)

2.3 Demand Supply Status of Cement in Bangladesh

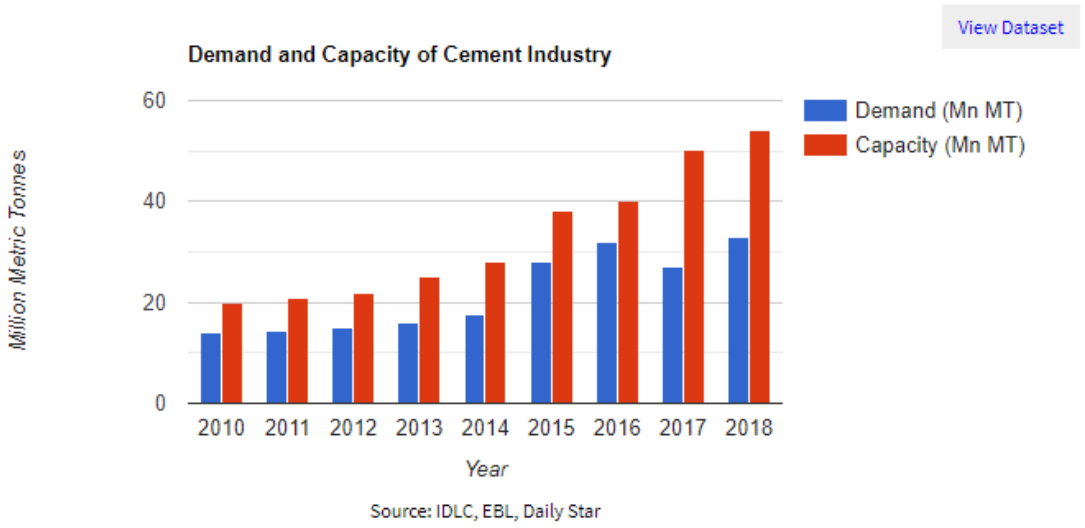


Figure 2-1: Demand Supply Status of Cement in Bangladesh

Source: IDLC Research Report 2020

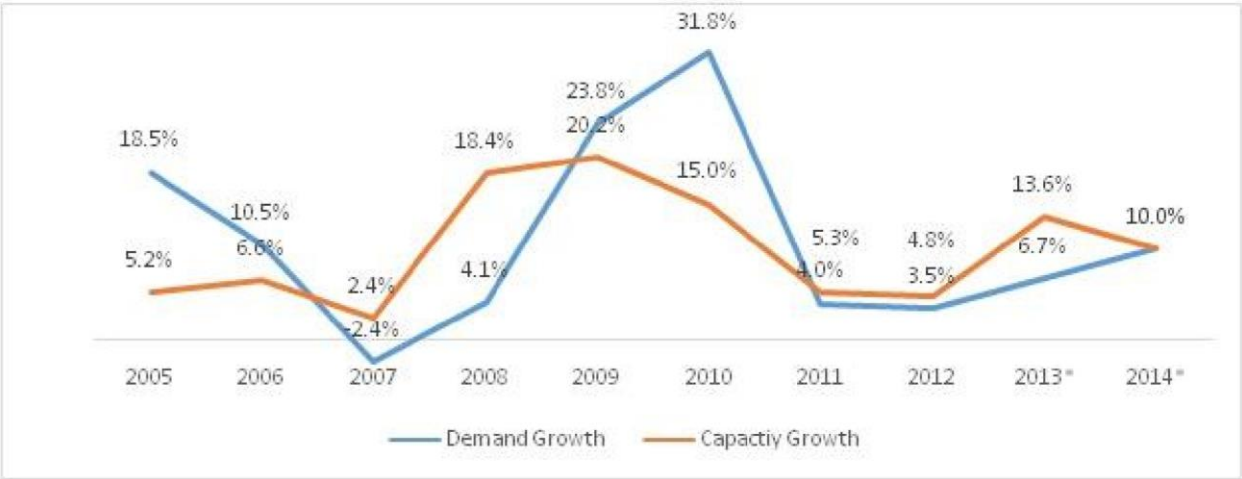


Figure 2-2: Demand Growth Vs Capacity Growth

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

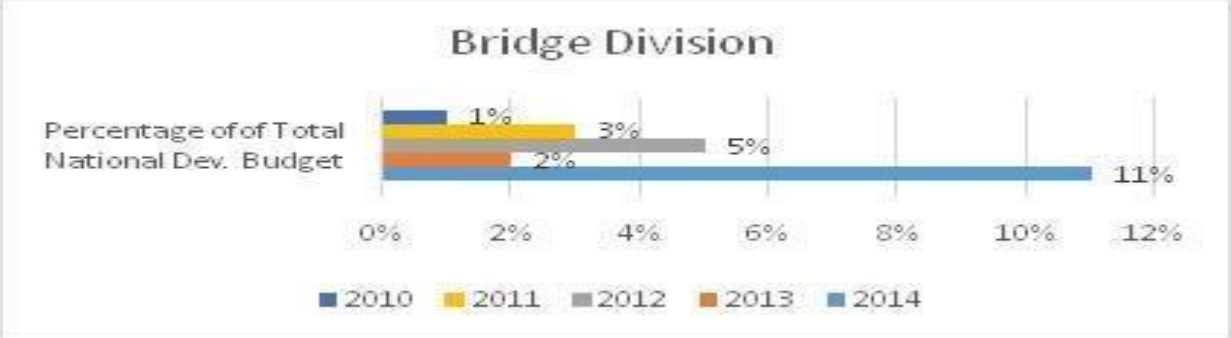


Figure 2-4: Percentage of total National budget against Bridge Division

Source: Ministry of Finance

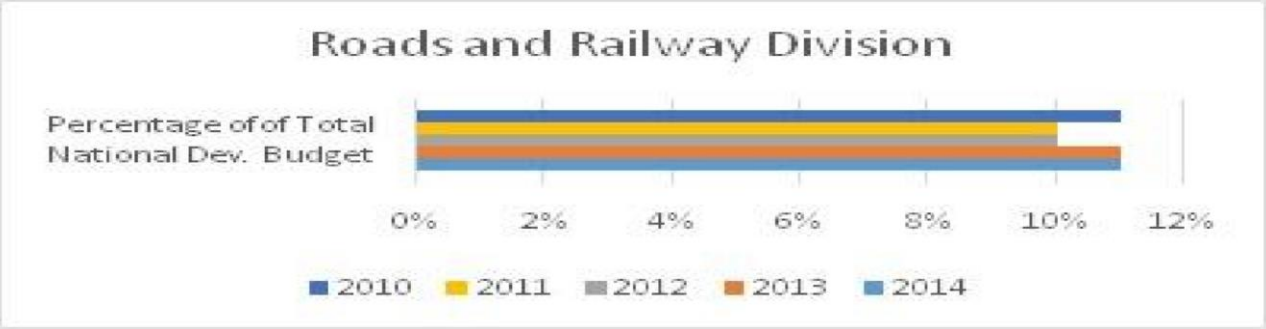


Figure 2-5: Percentage of total National budget against Roads & Railway Division

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.

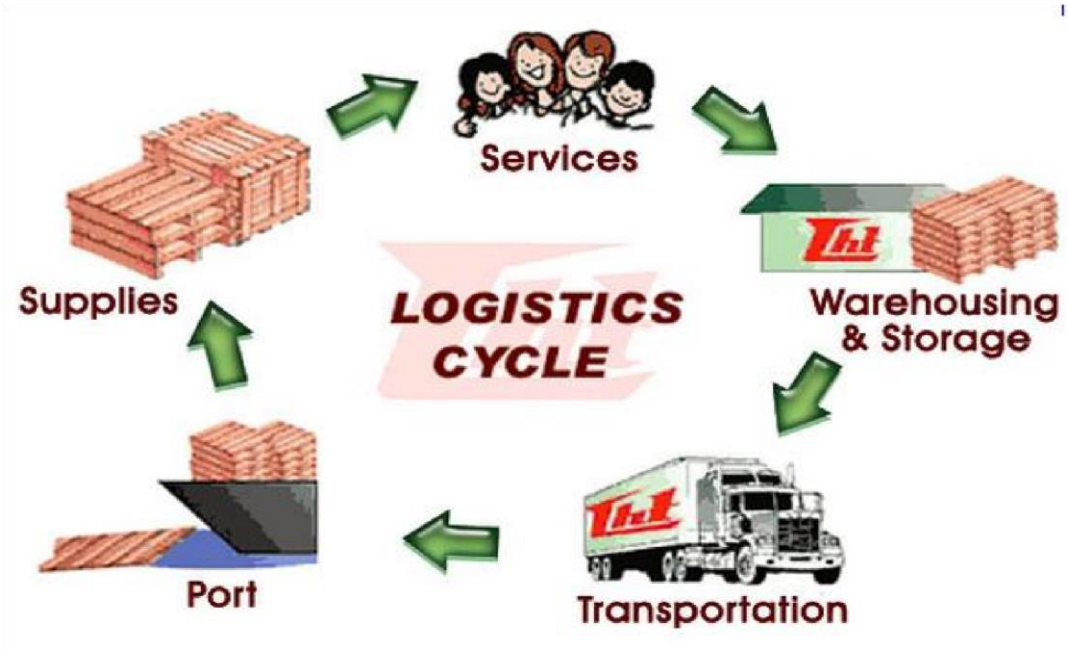


Figure 2-6: Logistics Cycle

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

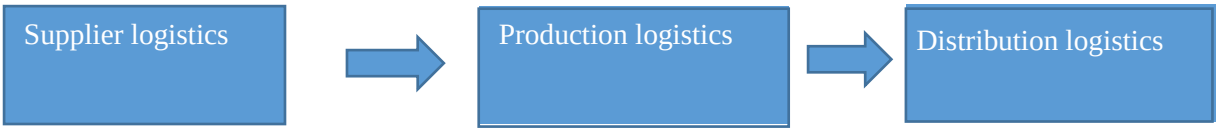
Developing cement modern logistics, except for the characteristics of energy saving, emission reduction and indirect economic benefit, it also can create the new value of cement modern logistics and direct benefits. Not only can it change the present situation of cement logistics fundamentally in Bangladesh 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)



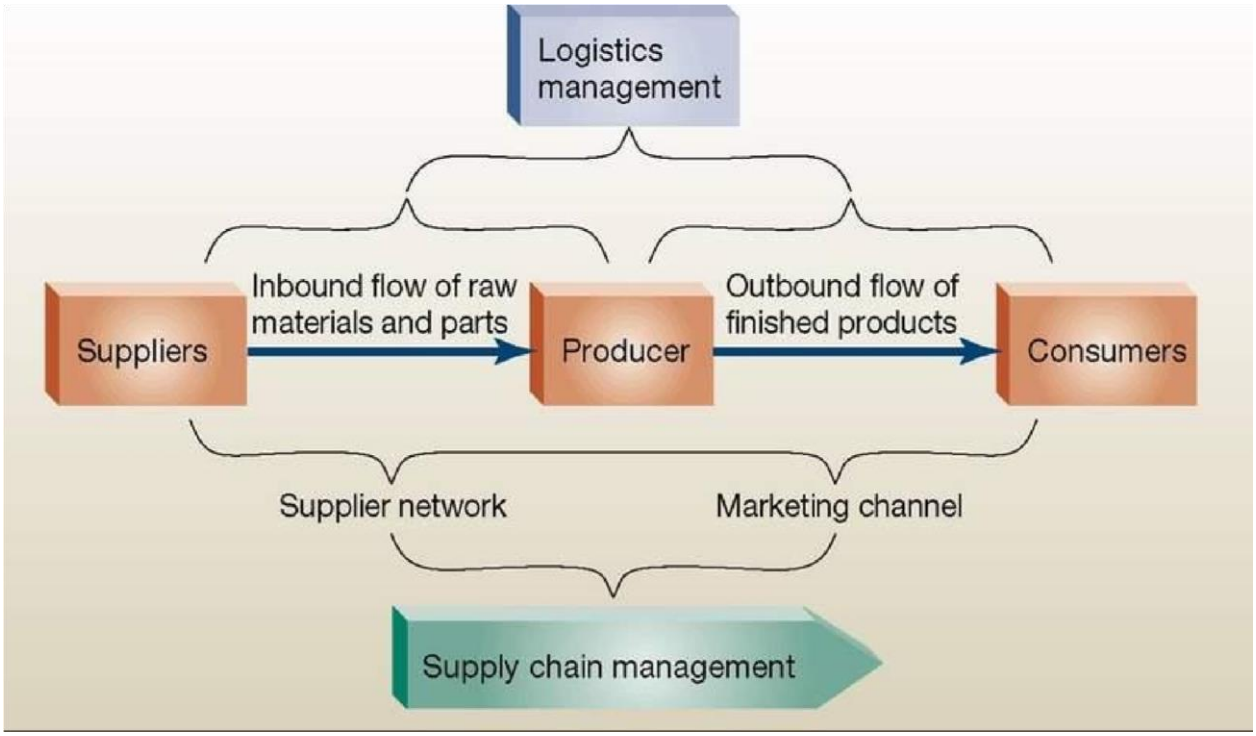


Figure 2-7: Significant of Supply Chain & Logistics

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: Bengal Cement Ltd.

In order to meet up the local and global spontaneous growth in demand for cement, Bengal Group of industries came up with their new diversification in the cement industry known as "Bengal Cement Ltd." Thereby the group established a world class factory with 1.4 million MT yearly capacity situated at Baradi, Narayanganj around 35 kilometers from central Dhaka. Bengal Cement factory is presently capable of producing 1.4 MT per year, which has made it one of the highest production capacity cement factories in this country. The management has planned to expand its production capacity up to 2.0 million MT per year

within two years. Bengal Cement aims to provide safe, secure and reliable products and technologies. They strive to become a company who plays an indispensable role in building a sustainable infrastructure and to be a role model of cement manufacturing company.

Bengal Cement uses the world best clinker, fly ash, slag, gypsum and limestone from Indonesia, Vietnam, Japan and India. There unique features include.

1) Grade-1 Low Alkali Clinker.
2) Green product.
3) Superior Cohesion.
4) Chemical Resistant.
5) Most Durable.
6) High Durable.
7) High Early Strength.

To establish the brand at the top of the competitive market, Bengal Cement has a widespread marketing communication policy. With a versatile distribution channel including road transport, waterway and own distribution points Bengal Cement Ltd is maintaining its commitments. Their mission is to fortify the purposes by furnishing with local communities and the nation through building. Ensuring a durable future for nation is the aspiring job for everyone. Accomplishing indestructible buildings are the main stimulation for their contenders.

Key Highlights:

Brand Name	Bengal Cement Ltd.	
Logo	BENGAL CEMENT | Strength with durability	
Narayangonj Factory	Commercial production on 16th March 2019	Annual Capacity 1.4 Million MT
Certification	ISO 9001:2015 Which is recognized as quality Management system (QMS)	

3.1 Cement Manufacturing Process of BCL

BCL operates two 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.

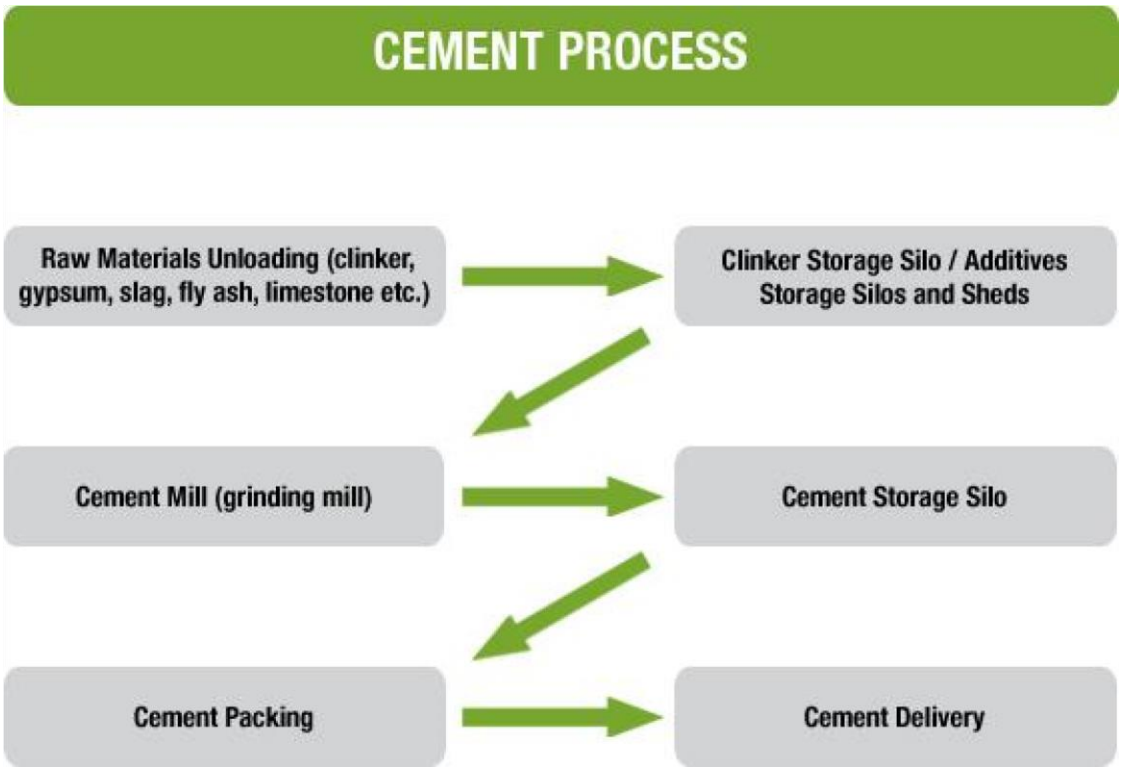


Figure 3-1: Cement End to End process

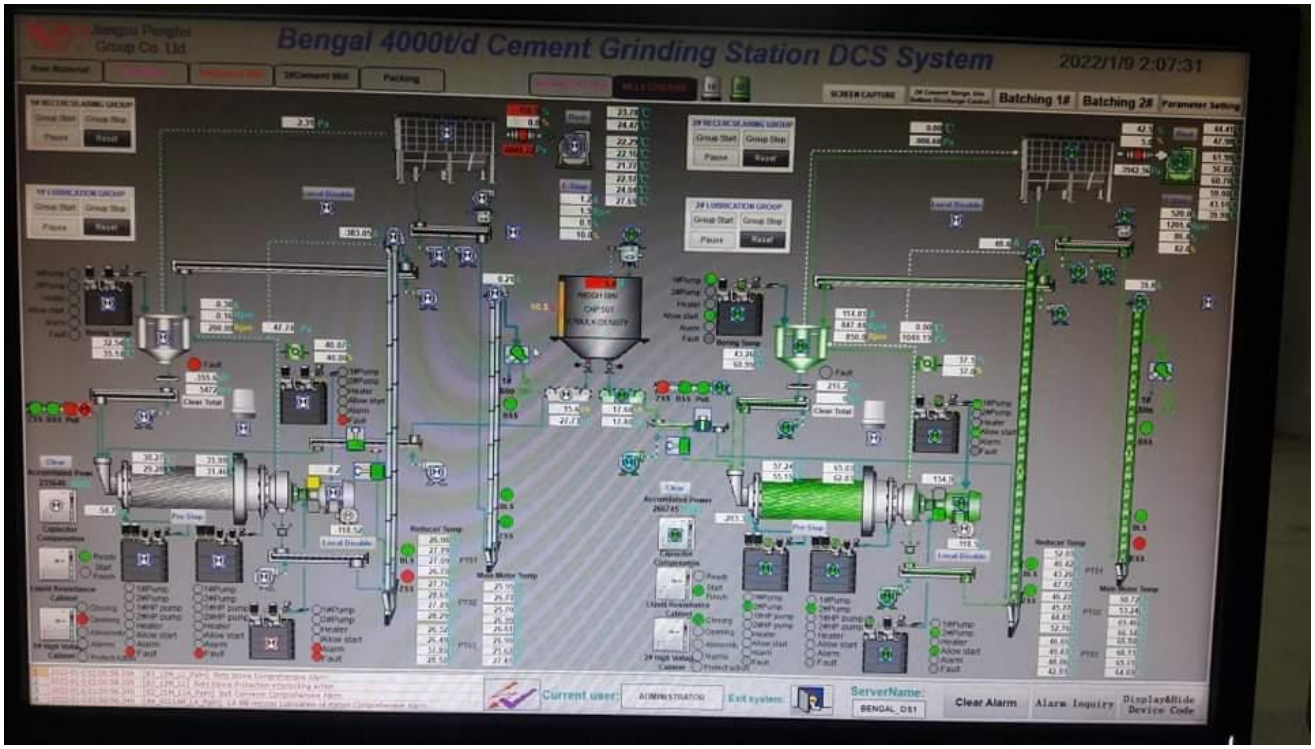


Figure 3-2: Cement Production flow chart

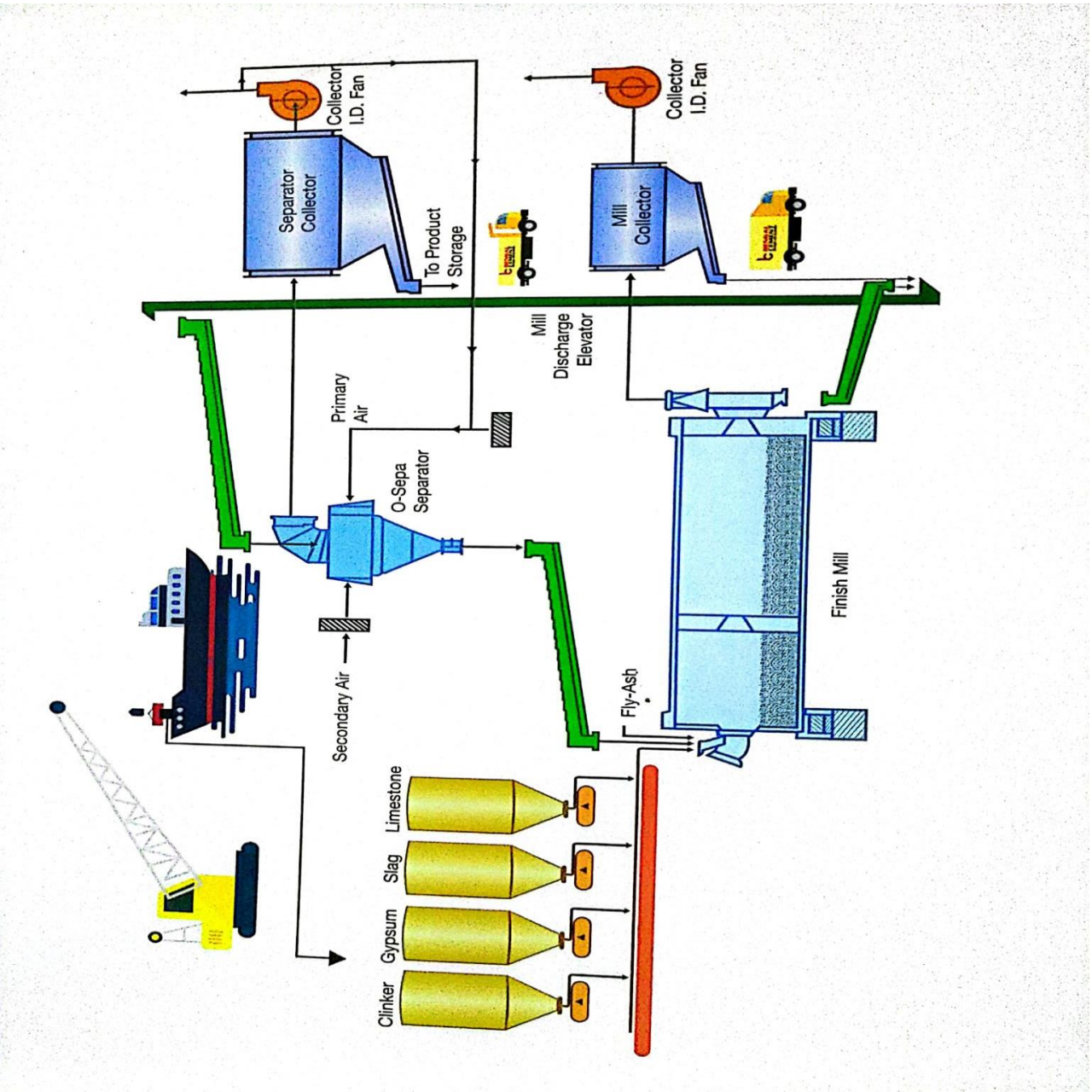
3.2 Manufacturing Facilities:

Bengal Cement Limited has its very own manufacturing facilities and has its main production point at Baradi, Sonargaon in Narayangonj. The annual capacity of the production plant is 1.4 million MT right now. The company is quickly heading towards the aim to set up its second production unit at Baradi where preliminary establishment work has already been started. The company is hopeful to start the second production unit by 2025 that will have the capacity of producing additional 1 million MT and will fulfill the demand of Bengal 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.

Figure 3-3: Cement Manufacturing Process of Bengal Cement Ltd.



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 Bengal Cement Limited has established its own manufacturing facilities.

3.4 Products

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

—Bengal Cement Prime 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.

—Bengal Cement Maxim is the brand name for the PPC they supply; and they use their 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 ASTM C-595	6 – 20%	Fly Ash
Packed in 50Kg net PP/Paper Bag	0 – 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.

—Bengal Cement Standard is the brand name for PCC product.

Specifications	Compositio	

	n	
BDS EN 197-1:2003	65 – 79%	Cement Clinker
CEM-II/B-M (S-V-L) 42.5N ASTM C-595	21 – 35%	Fly Ash, Slag, Limestone
Packed in 50Kg net PP/Paper Bag	0 – 5%	Gypsum

3.5 Infrastructure

3.5.1 Area

A total of 12,727 m^2 is taken by cement producing and storing. Mill's No 1 and 2 take up a total of 3,257 m^2. While the clinker silo, clinker shed, and 4 cement silos cover 5,690 m^2

3.5.2 Plant Information

Closed circuit fully automated production process capacity of 4000 MT per day, raw material storage capacity of 75,000 MT, pneumatic fly ash unloading system, and different cement silos for different finished products with total storage capacity of 10,500 MT.

3.5.3 Automation Highlights

PLC (Programmable Logic Controller) & SCADA (Supervisory Control and Data Acquisition): PLC for Mill no. 01 and 02: JIANGSU PENGFEI GROUP CO, LTD

PLC for Packer no 01 and 02: BEUMER GROUP.

4 Quality Control

Bengal Cement prides itself in providing quality cement, with biggest extensive laboratories and advanced testing procedures; the brand is able to maintain consistent quality and performance standards. BCL has two sections for quality control – one for chemical testing and another is for physical 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 Bengal 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 cm2) 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 Bengal Cement 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 other 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[1] 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?
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 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 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).

To deliver cement around the country, Bengal Cement Limited has highly developed distribution channel along with the earnest dealers across the country. For immediate fulfilling any kind of demand from anywhere of the country, the company maintains a robust supply-chain management towards the waterway and roadway both.

Logistics = Supply + Materials Management + Distribution.

Logistics is the process of strategically managing the acquisition, movement and storage of materials, parts and finished inventory from suppliers though 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)

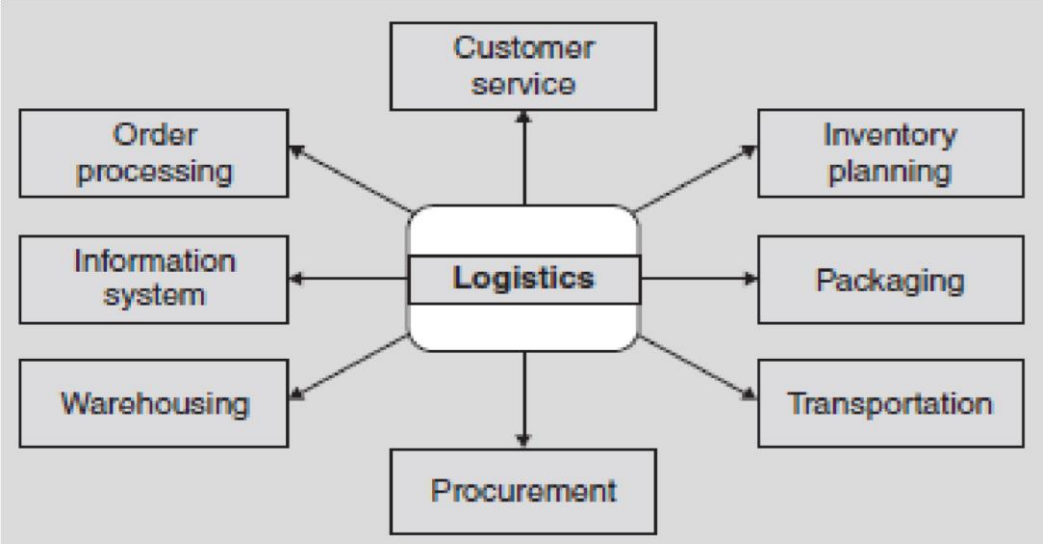


Figure 5-1: Logistic System Component

6 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. 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.

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.

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.

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.

7 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)

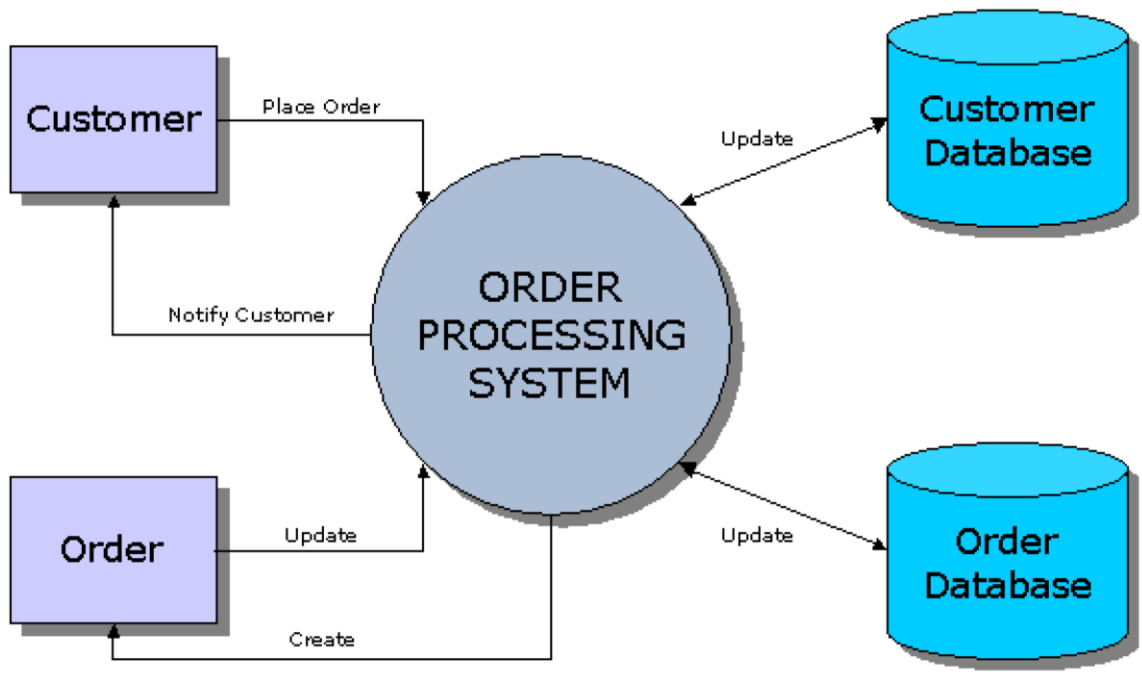


Figure 7-1: Order Processing System

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)

8 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 (Martin Murray Logistic/ Supply chain expert).

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).

8.1 Target Customers of BCL

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

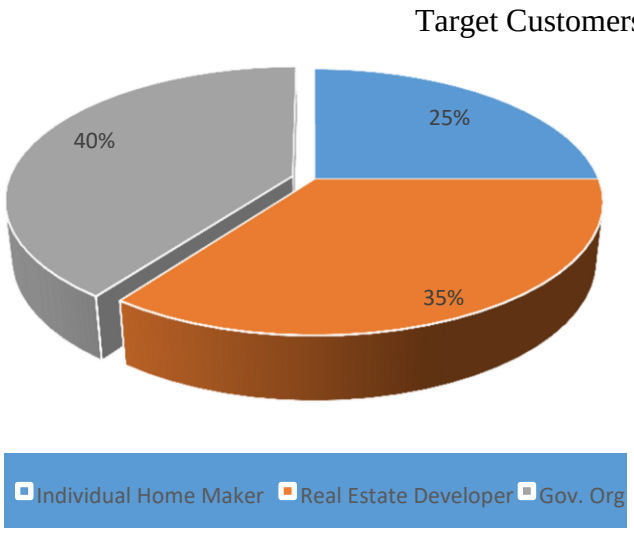


Figure 8-1: Target Customers of BCL

8.2 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.

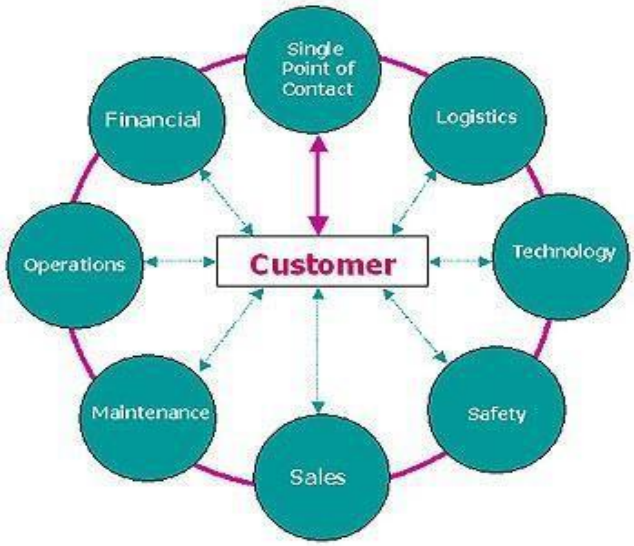


Figure 8-2: Customer Service Relationship

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.

9 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.

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.

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.

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.

9.1 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 Bengal Cement Ltd. Bangladesh has the warehouse facilities only for raw materials. The warehouse is situated just beside its factory production center. The warehouse is situated nearby the production house to minimize the cost of material movement and time saving. As Bengal Cement 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 Bengal Cement 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.



Figure 9-1: Brand wise Cement Storage

10 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)

10.1 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 handy 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.

10.2 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, distributers, agents and retailers. Each intermediary receives the item at one pricing point and movies it to the next higher pricing point until it reaches the final buyer.

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

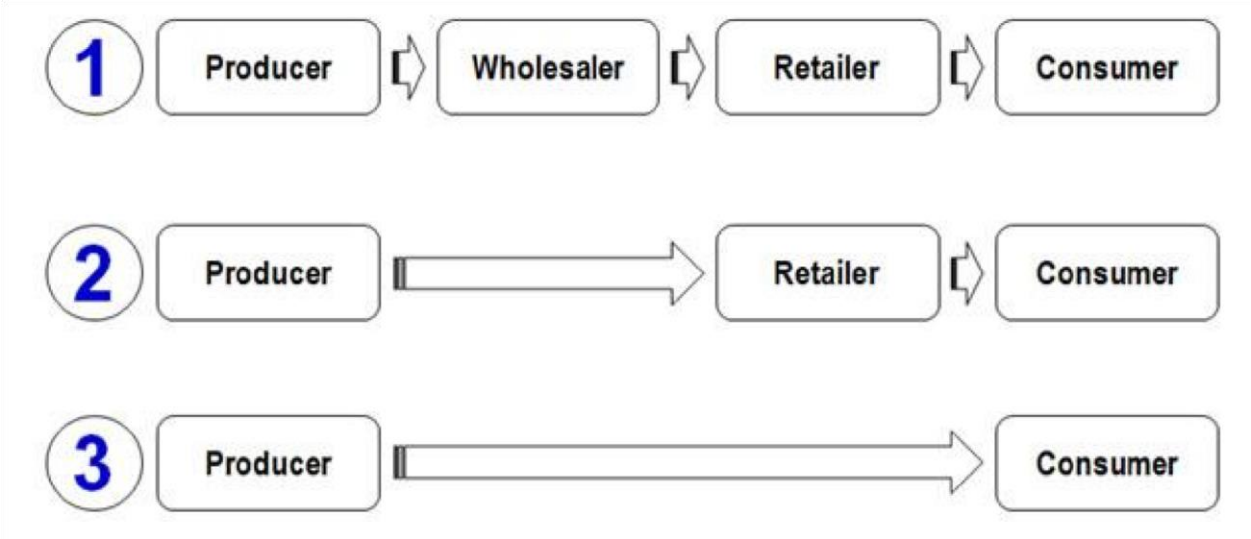


Figure 10-1: Major Channels of Distribution

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.

10.3 Distribution Channel of Bengal Cement

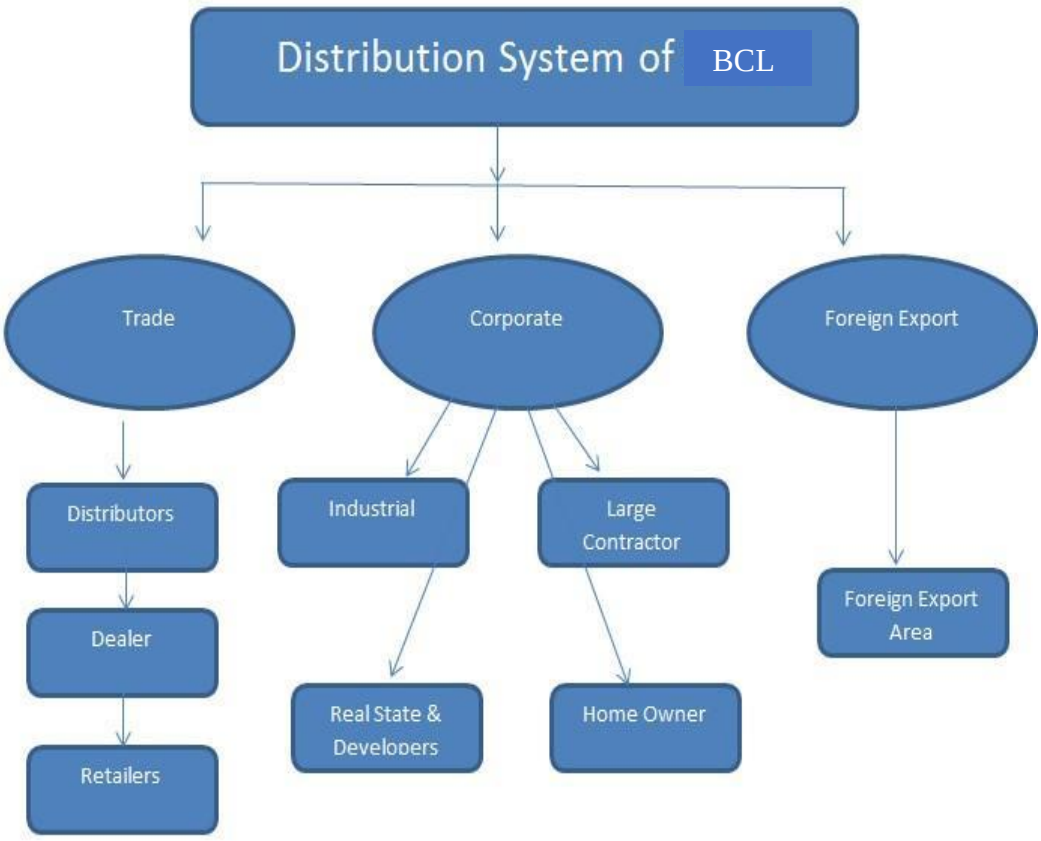
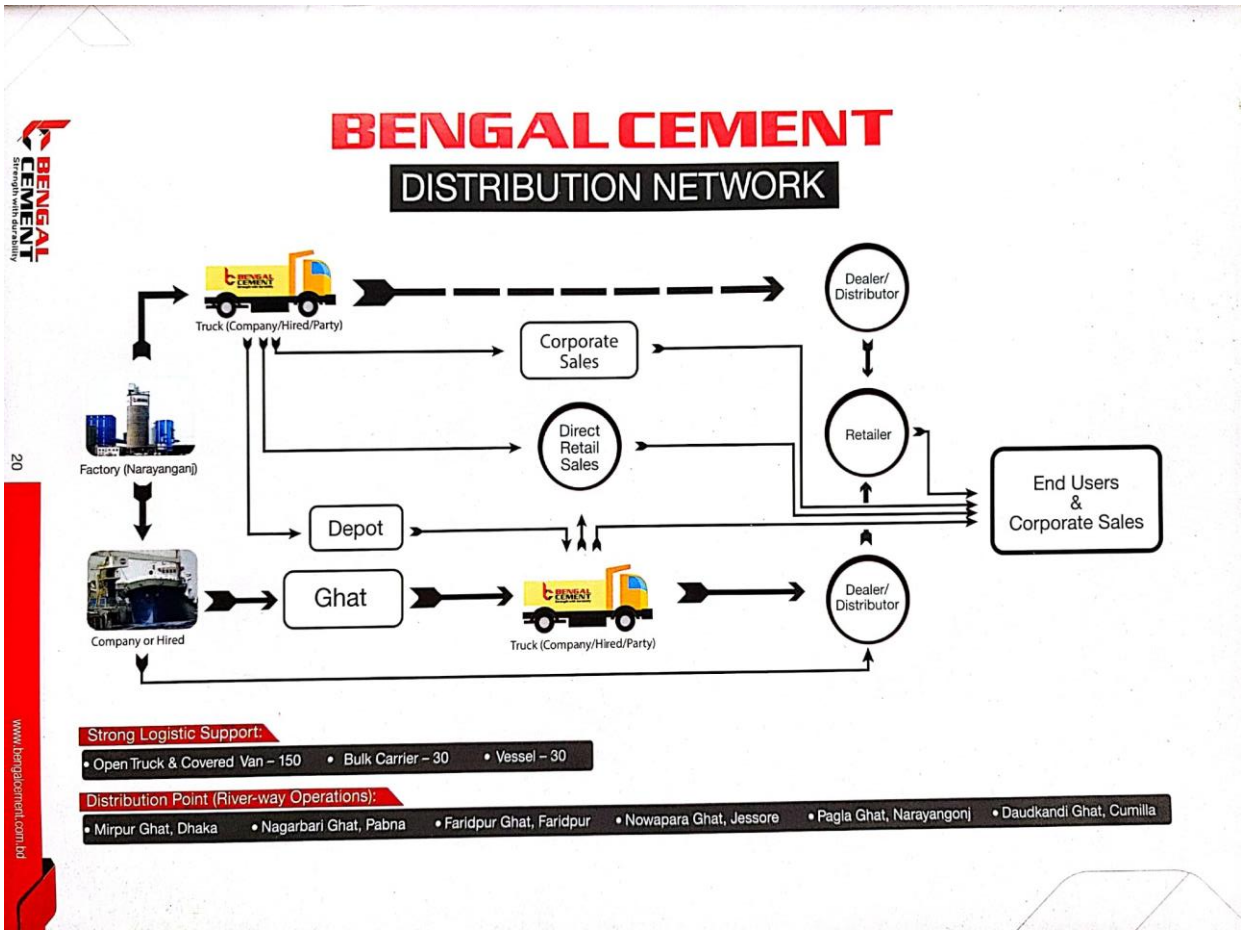


Figure 10-2: Distribution Channel of Bengal Cement

The above diagram shows the distribution system of BCL. They are mainly involved with three parties which are the Trade, corporate and foreign export. In the segment of Trade, BCL 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 BCL's distribution system refers to those countries and individuals who are involved with the export activities of BCL. Currently BCL are not exporting their products in other countries.



11 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.

11.1 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 Arrange another route in order to reduce free time of vehicle to the lowest. (Waters 2003, 325)

11.2 Transport System in Bengal Bangladesh Limited:

There are 4 types of transports in Bengal Cement 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 Bengal Cement Limited are:

- Coastal Cargo Vessel: 12 in quantity.
- Water Vessel: 30 in quantity.
- Open and Covered Vans: 150 in quantity.
- Pick-up – 02 in quantity.
- Bulk Carrier – 30 in quantity.



Figure 11-1: Different transport use by BCL



Figure 11-2: Different transport use by BCL



Figure 11-3: Different transport use by BCL

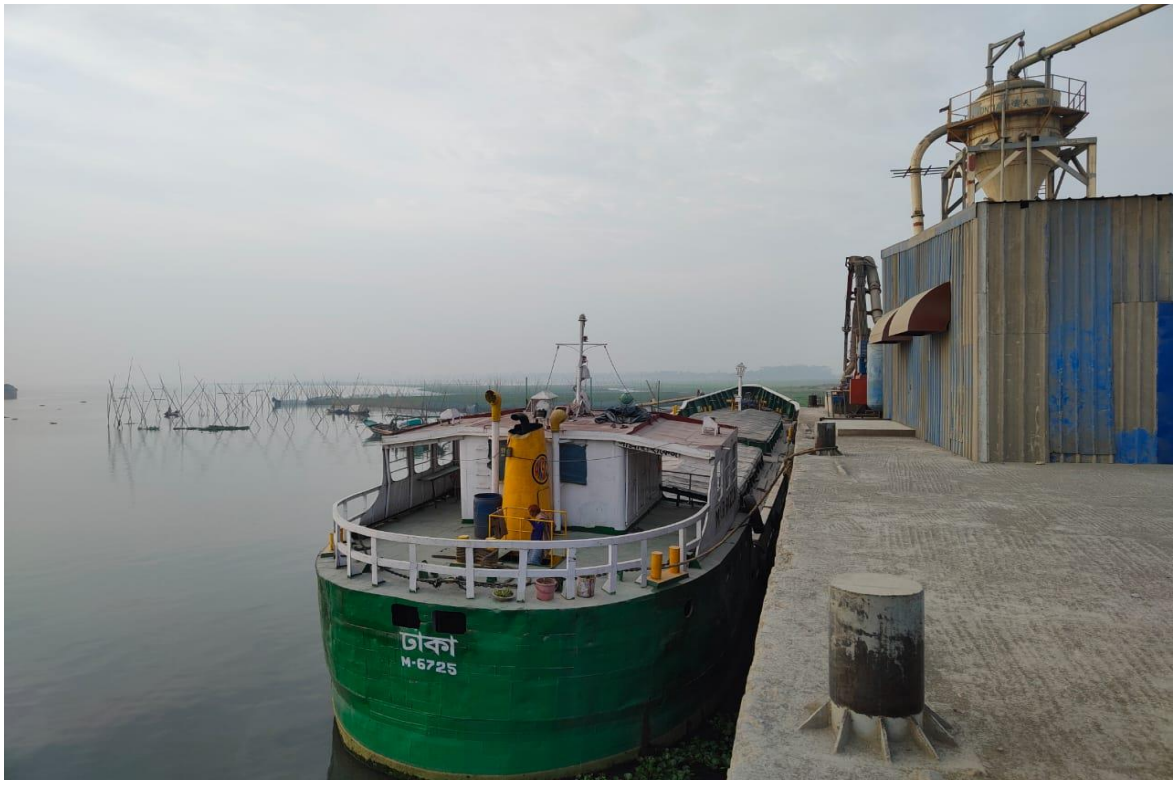


Figure 11-4: Different transport use by BCL

11.3 Action Flow of Transport/Distribution Department:

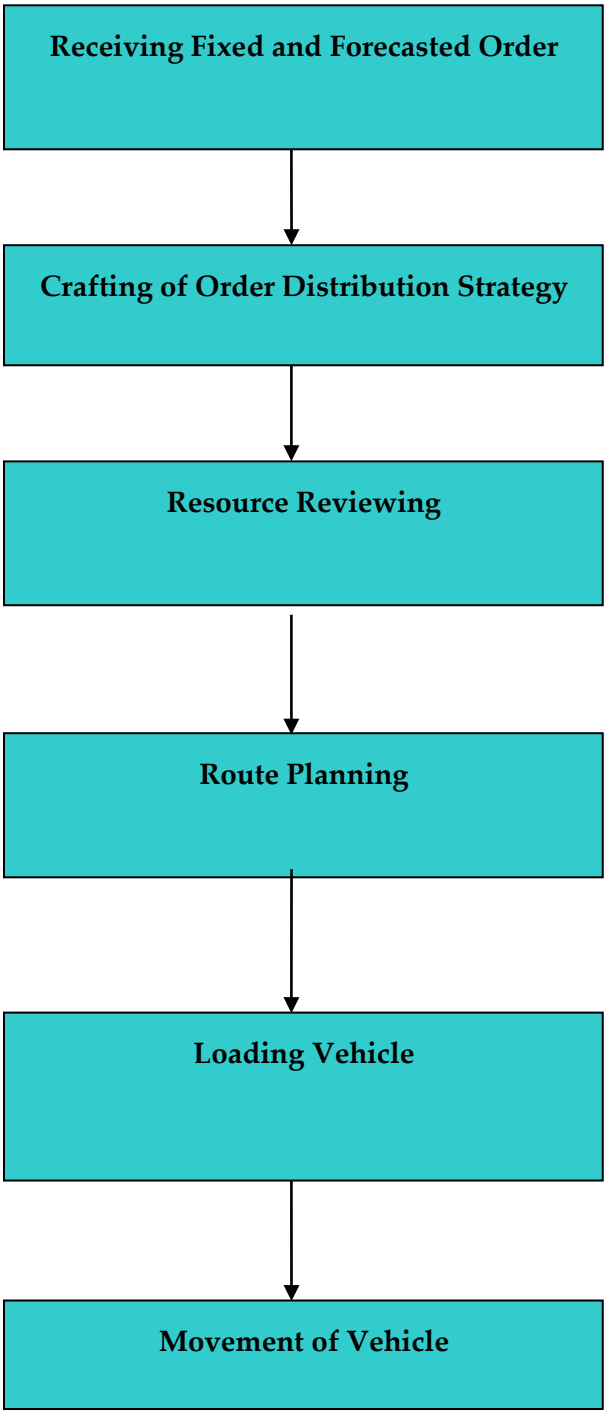


Figure 11-5: Action Flow of Transport/Distribution Department

11.4 Safety Arrangement in Warehouse and Transport:

Bengal Cement Limited has established 15 numbers of Firefighting system around the Warehouse, Store, Office building, Mill house, packing floor, CCR room, Substation, Workshop situated in Baradi, Narayangonj. Firefighting system is one of the recent ways of response against any fire related circumstances. Moreover, all the transport drivers 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-requisites to be ensured by logistics department before one transport start for its destination.





Figure 11-6: Firefighting system.



12 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 Bengal Cement 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. Rubu Abdul Munnaf, the Deputy Manager of SCM (Procurement) 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 BCL. From these research methods, the data analysis will be presented afterwards.

12.1 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. Rubu Abdul Munnaf, the Deputy Manager of SCM (Procurement) and Mr. Habibur Rahman Assistant General Manager Production and Process. The data in recent years shows the situation of the cement logistics process in BCL, including the production, transport vehicles, sales, revenue and profit tax, financial condition, income of employees etc.

12.2 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 BCL and a telephone interview on customer service. The personal depth interview was conducted with Mr. Rubu Abdul Munnaf, the Deputy Manager of SCM (Procurement) and Mr. Habibur Rahman Assistant General Manager Production and Process. 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.

12.3 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 BCL. 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 BCL.

12.4 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.

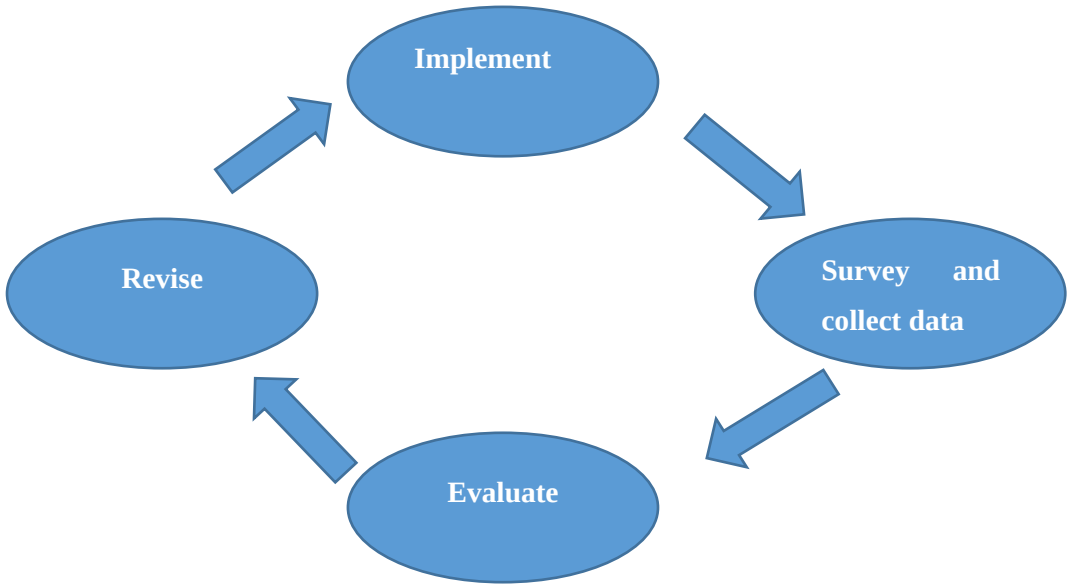


Figure 12-1: The data analysis process

Figure 12-1 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)

12.5 Analysis Of the research results

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

12.5.1 Findings from the interviews

The first face-to-face interview was with Mr. Rubu Abdul Munnaf, He is the Deputy Manager of SCM (Procurement) in BCL. The research topic is the logistic management

of BCL 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 November 2021.

The second theme interview was about customer service and made in December, 2021. There were 30 customers to be interviewed in plans but only 10 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. Rubu Abdul Munnaf, He is the Deputy Manager of SCM (Procurement) in BCL.

In this interview, first of all, Mr. Munnaf (Dy. Manager) BCL presented a brief introduction of the logistics department in BCL. The logistics department in BCL was founded 2017.

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 BCL 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.

(Dy. Manager-SCM of BCL, interview taken on 15th December 2021)

Besides, Mr. Munnaf 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 BCL 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.

BCL 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. (Dy. Manager-SCM of BCL, interview taken on 25th December 2021)

In the interview, Mr. Munnaf 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. (Dy. Manager-SCM of BCL, interview taken on 25th December 2021).

Finally, Mr. Munnaf suggested when the department evaluates the performance of the logistics process in the future, BCL 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.

(Dy. Manager-SCM of BCL, interview taken on 25th December 2021)

12.5.2 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 BCL 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 BCL.

They showed that the strengths which attracted them to make a decision to choose BCL should be good quality of cement and reasonable price standard among the cement industry. The Manufacturing plant located near the Dhaka city which covers almost both part of the country. The 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, emails, 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 and hot tea. 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.

12.5.3 Findings from the questionnaire

The questionnaire was designed for employees in logistics department of BCL 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 BCL, 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.

12.5.4 Results from the questionnaire:

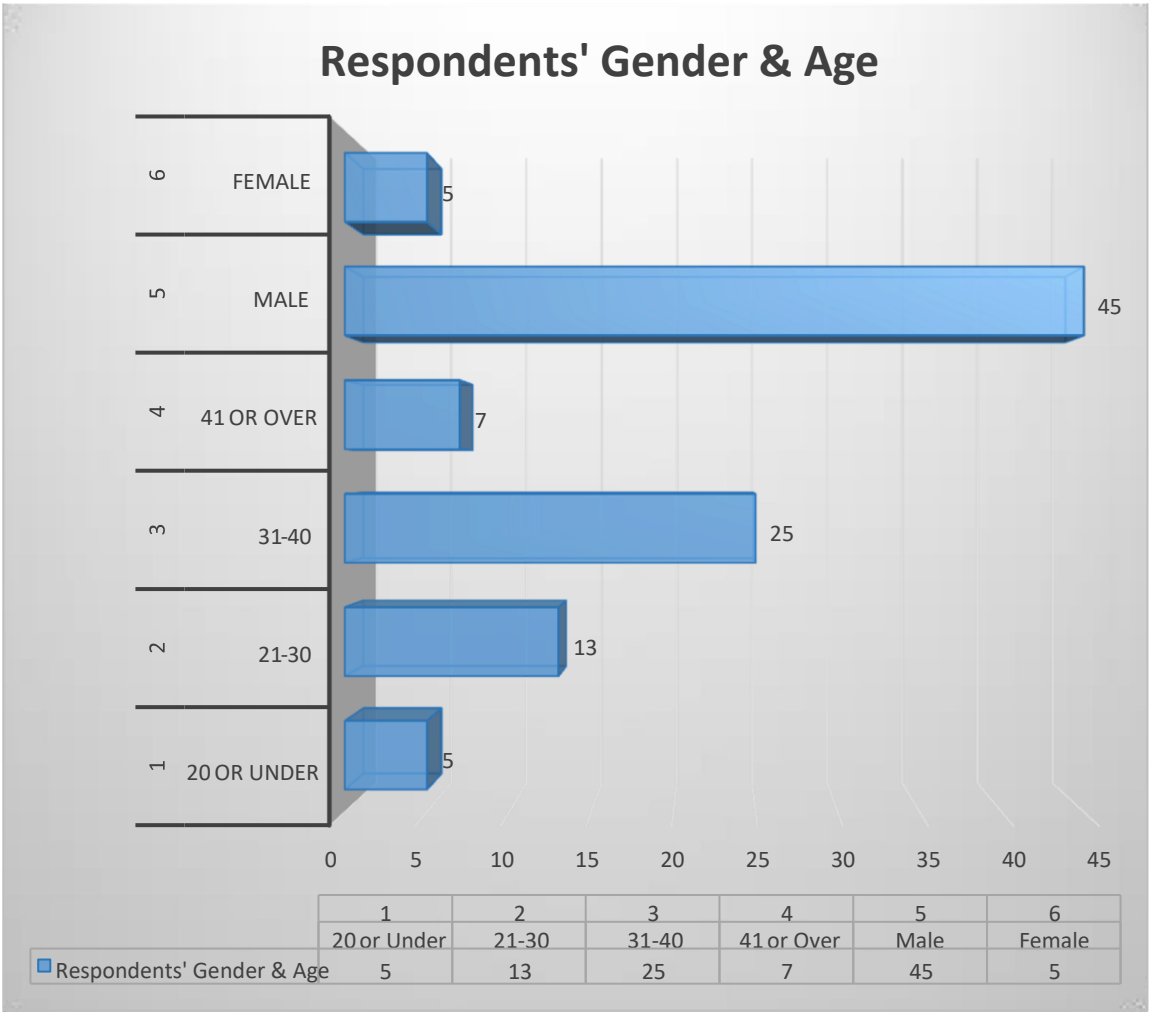


Figure 12-2: Respondents' genders and ages in SCM of BCL, n=50.

In research results, there are in total 50 respondents in the SCM of BCL 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.

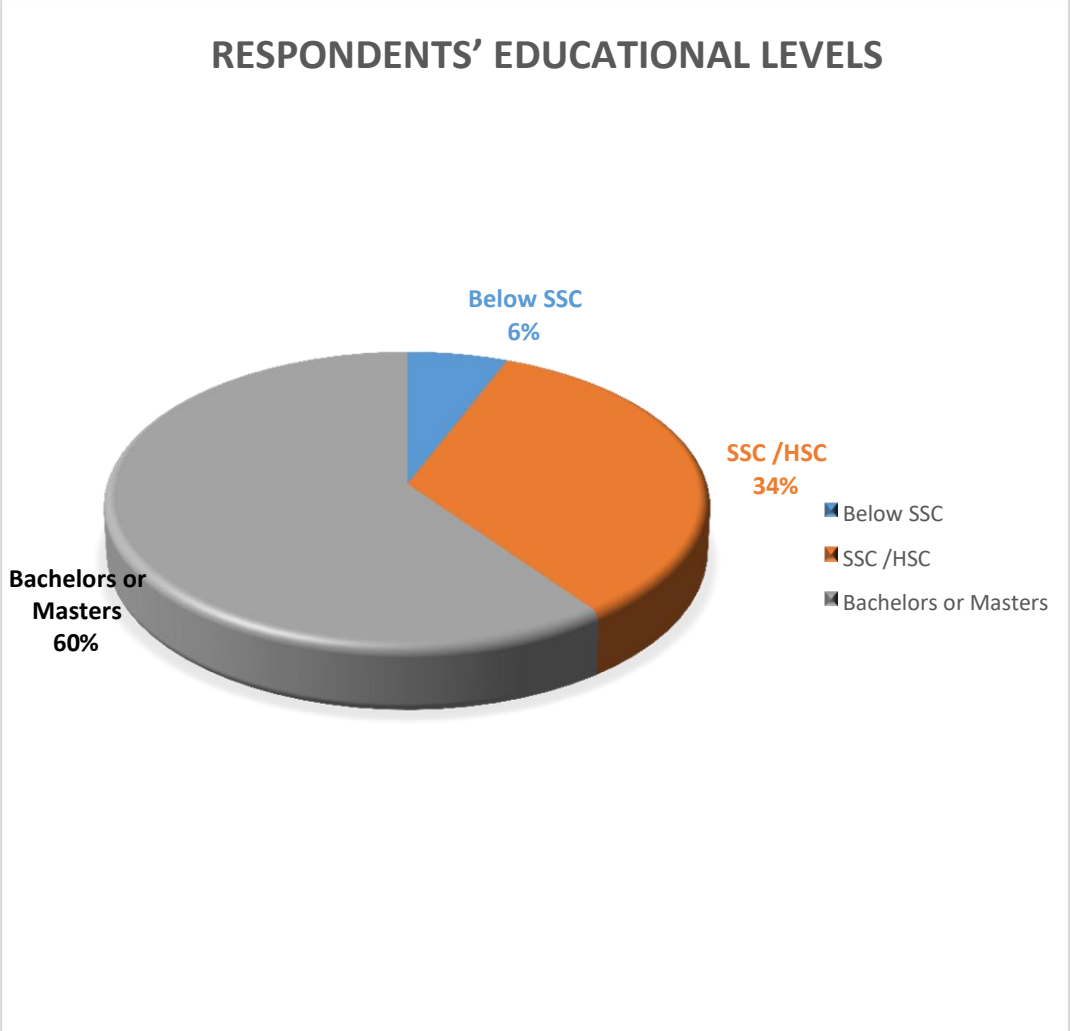


Figure 12-3: Respondents' educational levels, n=50.

From the Figure 12-3, 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.

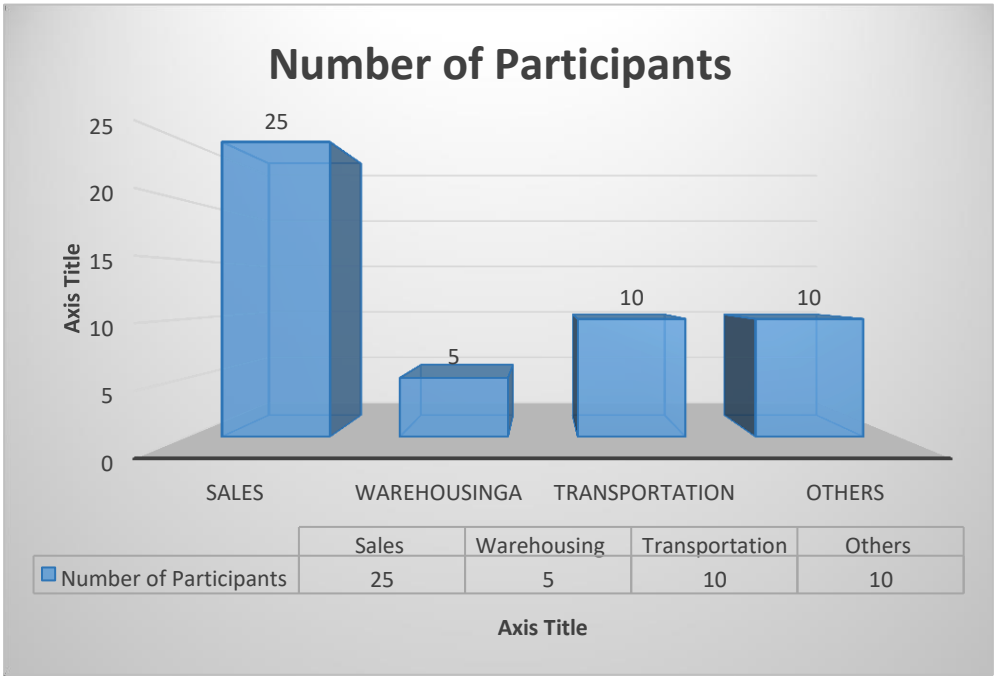
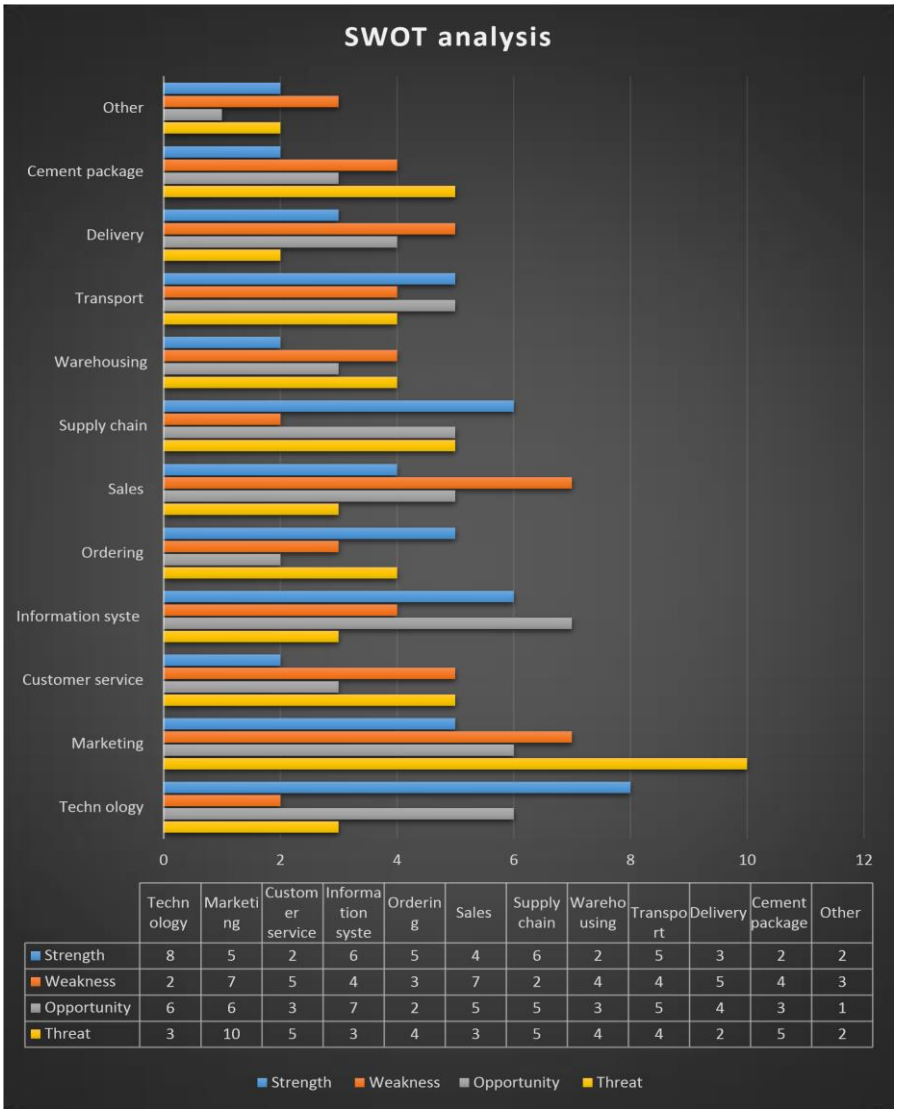


Figure 12-4: Respondents' responsibility field in BCL, n=284.

The diagram in .Figure 14-4 shows different fields during logistics process in BCL. 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 %.



	Techn ology	Marketi ng	Custom er service	Informa tion syste	Orderin g	Sales	Supply chain	Wareho using	Transpo rt	Delivery	Cement package	Other
Strength	8	5	2	6	5	4	6	2	5	3	2	2
Weakness	2	7	5	4	3	7	2	4	4	5	4	3
Opportunity	6	6	3	7	2	5	5	3	5	4	3	1
Threat	3	10	5	3	4	3	5	4	4	2	5	2

Figure 12-5: SWOT analysis in BCL 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.

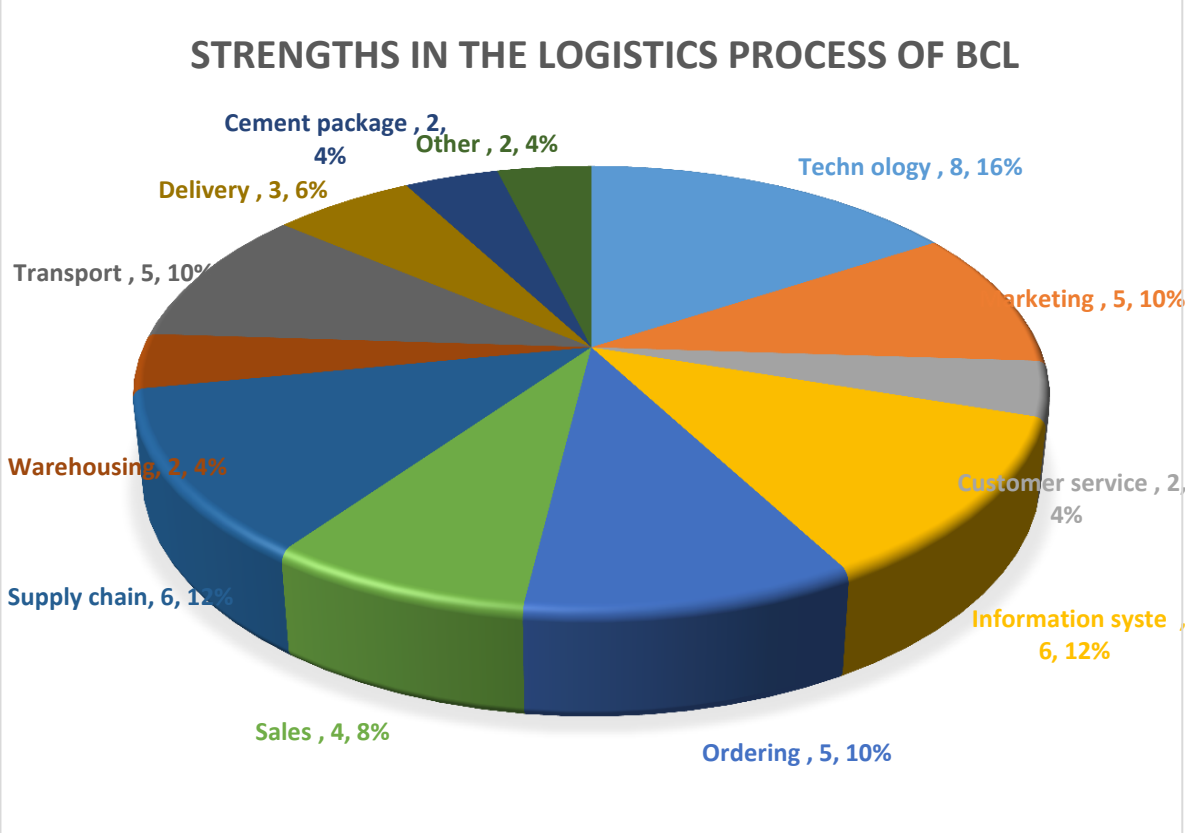


Figure 12-6: Strengths in the logistics process of BCL, n=50.

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 BCL.

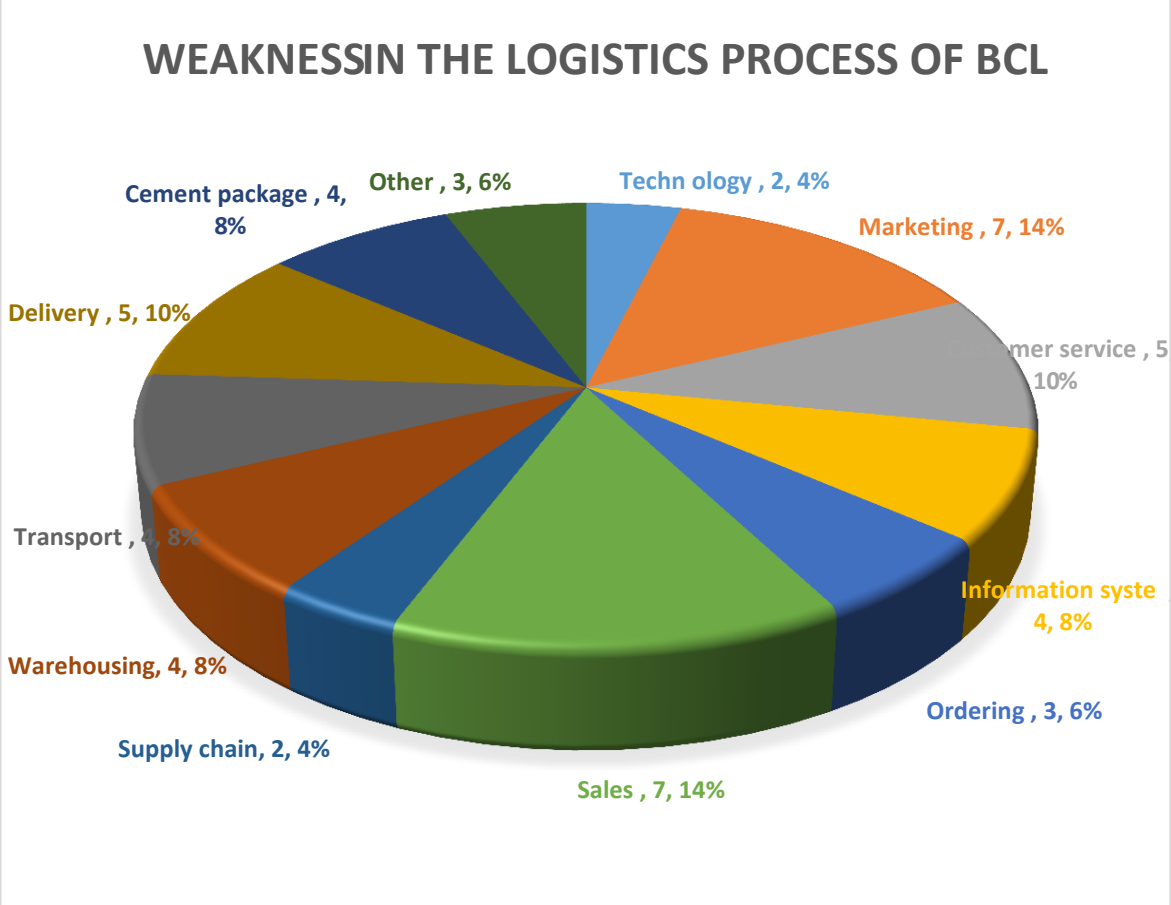


Figure 12-7: Weaknesses in the logistics process of BCL, n=50

Figure 12-7shows 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.

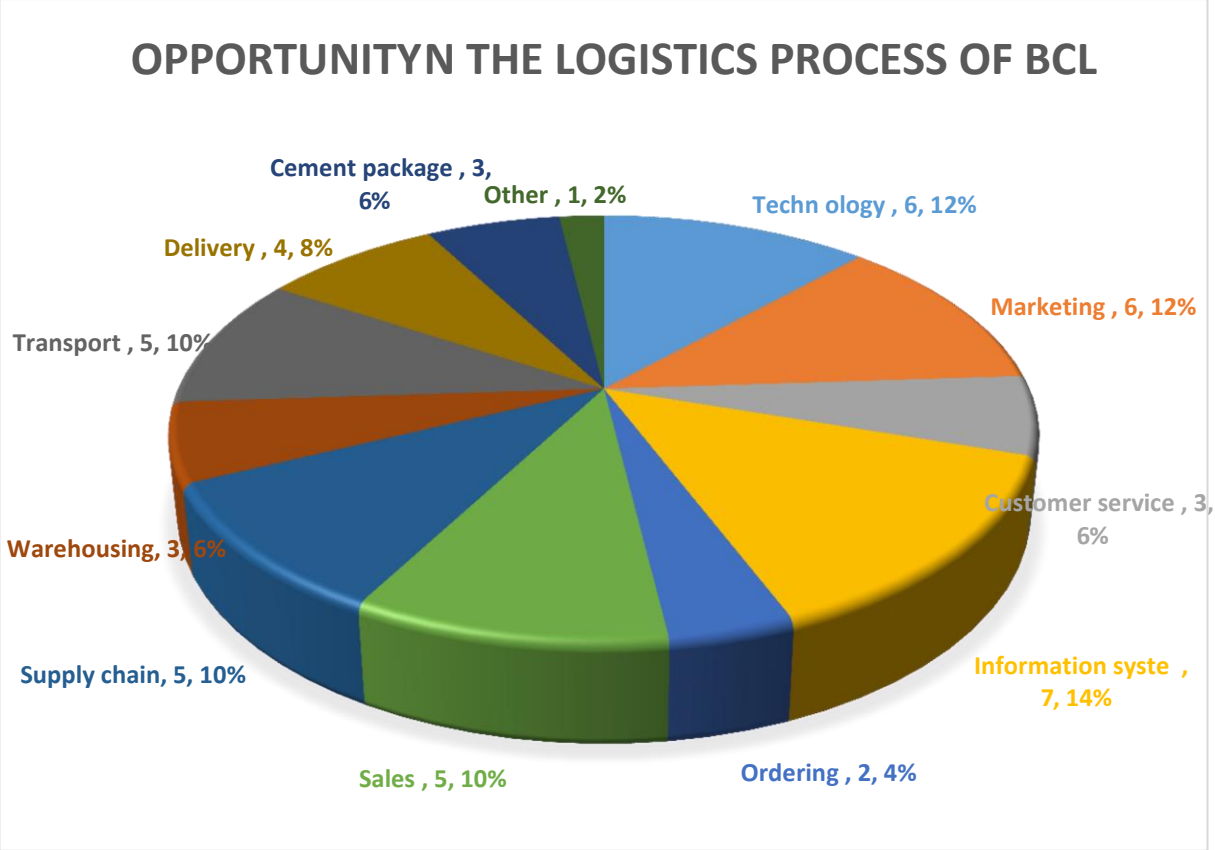


Figure 12-8: Opportunities in the logistics process of BCL, n=50.

Figure 12-8 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.

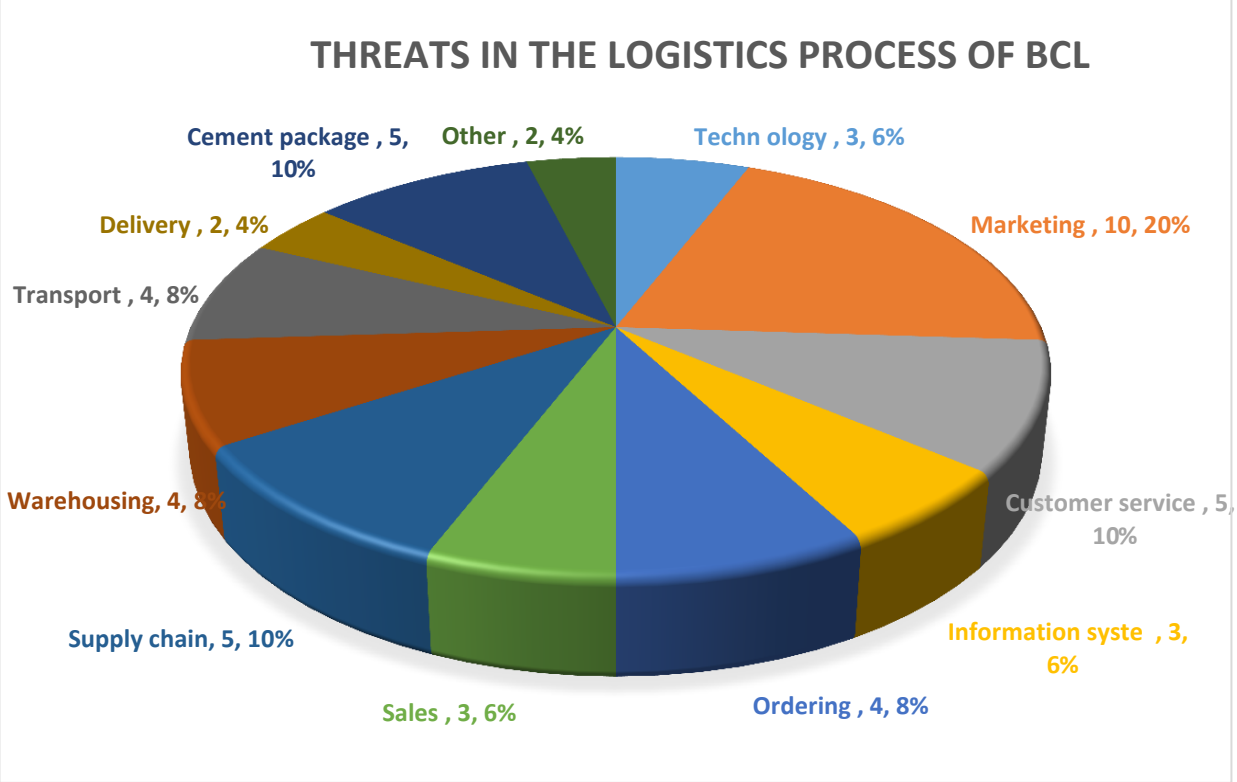


Figure 12-9: Threats in the logistics process of BCL, n=50.

In Figure 12-9, 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.

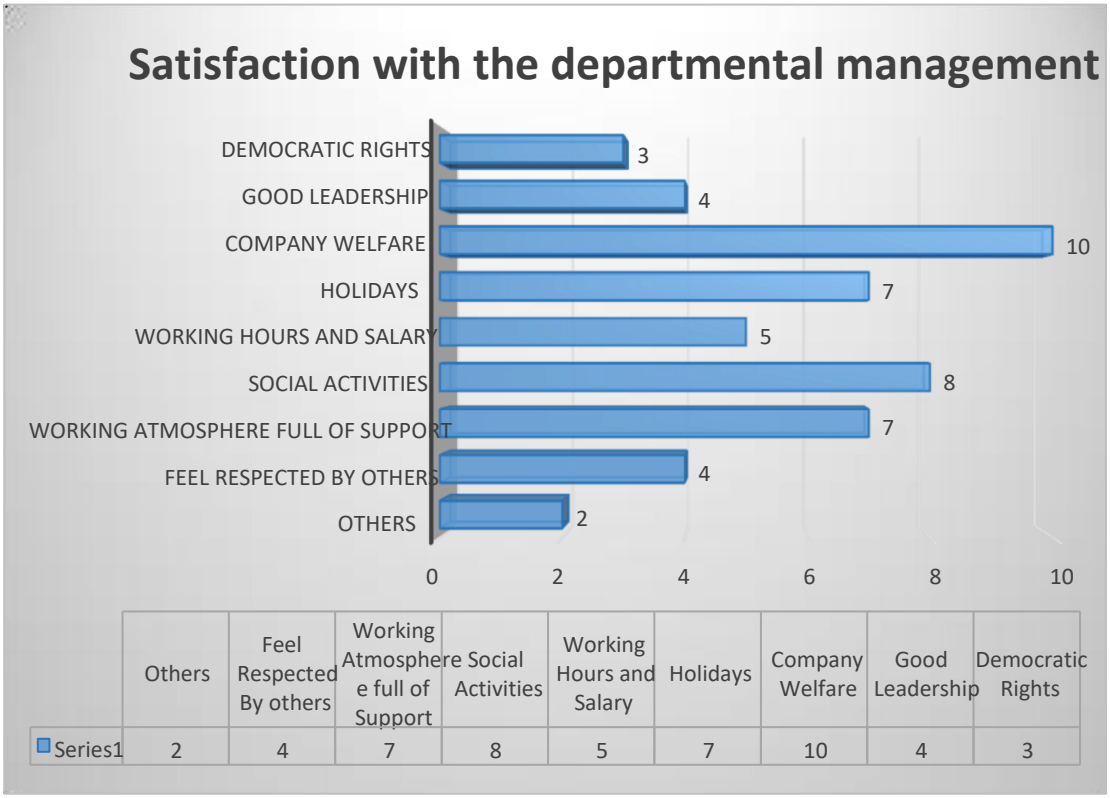


Figure 12-10: Satisfaction with the departmental management, of BCL n=50.

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 14-10shows, 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.

13 SWOT analysis of the logistics process of BCL

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 BCL.

In BCL, 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
• Market leader with countrywide presence. A high standard of cement quality, huge innovations & know-how • A suitable geography location, adjacent with river & road communication • Satisfactory customer service in BCL Being innovative and flexible in market changes Availability of skilled manpower Manufacturing capabilities with national high quality standards in construction field The company has obtained the ISO 9001- 2015 making it a reliable producer for production of quality products in the international market	• High price than national competitors • Old facilities and existing workload too great • Promotional activities are not strong in electronic media, printing media or outdoor activities • Warehouse & transportation security Low investments in supply chain Environmental problems in logistics process. Waste management
Opportunity	**Threat**
• Good chance to explore rapidly increasing cement markets. • Application of modern technology Opportunity for export in international Market	• Increase the price of raw materials & dependency on international market for raw materials. Energy cost Environmental issue

• Opportunity to spread marketing & distribution channel • Great potential for growth and profitability	• Governmental policies • Economic downturn Challenging regional market competition and price inflation stands out outside Rapid development of smaller industries.

13.1 Strengths

BCL was founded in a suitable location (Baradi, Sonargaon, Narayangonj) to develop cement production and logistics in Bangladesh. This Mills are situated besides the Meghna River & Dhaka-Chittagong 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 BCL has been designated as exempt products and has passed ISO9001: 2015 quality management system certification. The company transports cement by their own transportation logistics modes to reduce operating costs. BCL has there are one hundred fifty Trucks & thirty vessels on its own fleet. For more than 03 years, many customers are satisfied with the logistics system and customer service. Furthermore, BCL 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 BCL- 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.

13.2 Weaknesses

In spite of above strength, there are also some weaknesses in BCL. In the logistics process, cement sales, ordering and purchasing are affected a lot by the radius of transportation. It expands the market barriers for BCL. 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, BCL 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, BCL 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 BCL to handle the waste generate from the mills. In the logistics process, there are a series of environmental problems for BCL to solve and keep sustainable development.

13.3 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 BCL 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 and other softer. 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

13.4 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

14 Conclusions

The purposes of this dissertation are to research on the logistic management of Bengal Cement Ltd through the strengths, weaknesses, opportunities and threats during its logistics process. The dissertation 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 BCL 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

15 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

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Facebook and WhatsApp group

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Appendix

Appendix1. Interview Questions with Bengal Cement Ltd.:

1. Can you present a brief introduction of the working process in cement logistics?
2. How BCL select the distribution channel? Please explain.
3. How does BCL decide on the location of the dealers or wholesalers?
4. Does BCL 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 BCL?
11. How does BCL deal with supplier failure? Does the company have more than one supplier for similar kind of product?
12. What kind of WMS does BCL 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 BCL use any vehicle tracking tools? If yes, how it works?

Appendix2. Interview questions for customers of BCL

1. How did you get to know about BCL?
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 BCL and modern logistics development, what aspects do you think are their most important strengths and weaknesses?

8. According to the current situation of BCL 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 of BCL

Please explain your working process in supplying goods to BCL.

Do you use information system compatible with BCL?

How do you maintain Lead Time for supplying materials?

Is there any development program held by BCL?

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

How BCL set supplier evaluation & performance measurement?

Appendix4.Questionnaire for employees involves with logistics process of BCL

1. Your gender

□ Female □ Male

2. Your age

□ 21-30 □ 31-40 □ 41or over

3. Your educational level

□ Primary School □ Middle or High School

□ College or University

4. Your responsible field in BCL

□ 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!