Report On

Supply Chain Management of LafargeHolcim Bangladesh Ltd.

By

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Student ID: 18282015

An internship report submitted to the BIGD, BRAC University in partial fulfillment of the requirements for the degree of
Masters in Procurement & Supply Management

BRAC Institute of Governance and Development (BIGD)
BRAC University
January 2021

Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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Letter of Transmittal

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Subject: **Submission of Report on "Supply Chain Management" of "LafargeHolcim** Bangladesh Ltd

Dear Sir / Madam,

With great pleasure, I want to inform you that I have completed Report on "**LafargeHolcim Bangladesh Ltd**" which is required for my Post graduation certificate. Based on my approximately 10 Years' experience I have written a report on "Supply Chain Management" of LHBL. This report focuses on Logistics activities of LHBL through which goods are delivered to its customers on time in full with highest quality standard.

While writing this report I have followed your guideline and tried to relate theory to practice along with my responsibilities in LHBL.

I hope you find this report satisfactory as per the requirements stipulated by Brac University.

I will be very glad to you if I can complete this thesis course with a good grade.

Thank you for your consistent support.

Sincerely yours, _____

Mohammad Gulam Kibriea

Masters in Procurement and Supply Management

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BRAC Institute of Governance and Development (BIGD), BRAC University

Date: 25.01.2021

Non-Disclosure Agreement

This agreement is made and entered into by and between LafargeHolcim Bangladesh Ltd and the undersigned student at Brac University Mohammad Gulam Kibriea.

Acknowledgement

Without the support of some legends our life can't be so tranquil and our achievements will get slower. For accomplishing the internship of **LafargeHolcim Bangladesh Ltd;** I have got support from many respectful people.

At the beginning, I want express my gratitude to Mr. Deabasish Paul, Head of Logistics, who became my report supervisor. From the beginning of my report Mr. Deabasish Paul guided me many times to write this report with best quality. He has shown me the way to learn theoretical aspects of Supply Chain Management and its practical implications. After completing the report; he has given his valuable time to check the draft of my report and provided me effective feedback.

In the head office of LafargeHolcim Bangladesh Ltd some people continuously assisted to learn numerous aspects of Supply Chain. Among those people, I want to thank Mazharul Huda Lizan, Manager Procurement; for his valuable time &suggestion. During the work span he taught me every logistics & procurement work to the point and assigned me in different activities.

In addition to that, I am glad to Abdullahel Kafi Mondol & Md. Atikul Islam; who enlightened me with diverse theories of Supply Chain and shared information of how LafargeHolcim implemented these theories.

I should always remember Ms. Tanzina of BIGD for their sincere cooperation and assistance in many ways on many occasions. I shall remain grateful to all other officers and staff of BIGD for their cooperation.

Finally, I have received many help from many kind soul but couldn't name them all in acknowledgement only due to lack of space. My sincere apology and gratefulness to all of them.

Yours Sincerely,

Mohammad Gulam Kibriea

ID: 18282015

Executive Summary

Various components of supply chain of **LafargeHolcim Bangladesh Ltd.** like Transportation Management, Distribution Management, Inventory Management, Cost Management, Payment Management, Supplier Management and Customer Service Management haven reviewed and discussed

Along with the theoretical aspects of these functions, this report also provides an outline how "**LafargeHolcim Bangladesh Ltd"** operates its Supply Chain of Cement. This organization has the only fully integrated dry process cement plant in Chhattak, Sunamgomj, Sylhet. whereas its head office situated in Dhaka. LHBL has two Grinding Plant in Meghna Ghat, Sonargaon,Narayangonj (Holcim Plant) and Mongla & Ten depots/Ghat in different places of Bangladesh which support its distribution network.

In this report, the responsibilities of mine in various areas of LHBL such as Plant, Depot &head office are described here. I have worked in Plant, Terminal & most of the Depots during my approximately 10 years' service tenure in LafargeHolcim Logistics department.

Finally, from my experience of about Ten Years Services I have observed some lacking of LHBL. I tried to provide probable recommendations for the improvement of **LafargeHolcim Bangladesh Ltd supply chain management**.

Table of Contents

List of Figures

List of Acronyms

LHBL- LafargeHolcim Bangladesh Ltd.

LUMPL- Lafarge Umium Mining Pvt. Ltd.

SAP- Systems Applications and Products in Data Processing

SCM- Supply Chain management

SCD- Supply chain Director

TFM- Transportation and Freight management

TMS- Transportation and Management System

TM- Transport Module

EDI- Electronic Data Interchange

KPI- Key Performance Indicator

KT-1000 tons

BIWTA- Bangladesh Inland Water Transport Authority

DN- Delivery Note

DOA- Diligence of Authority

GRN- Goods Received Note

1. Chapter : Introduction

1.1 Introduction:

In history that cement is first produced in Mesopotamia, 1/3 millennium B.C and later in Egypt. After its miles a bulk product which may be hydraulic or non-hydraulic. Basic uncooked substances of Cement are lime (Calcium Hydroxide), Silicate, Belite, Alite, Celite, Brownmillerite. Hydraulic cement is likewise called Portland cement, that's used worldwide. There are many different styles of Cement as well. Prime characteristic of Cement is, it's miles a binder, and it may bind substances together. In cutting-edge world, Cement could be very essential product / material for creation works. Cement industry is a one in every of the largest industries in Bangladesh and quiet big evaluate to the world

1.2 Objective of the report:

As a scholar of BRAC Institute of Governance and Development (BIGD*)*, I should need to attend the path PSM -665; Report and I need topmost a file on my activity responsibilities. I actually have begun out my Report in LafargeHolcim Bangladesh Ltd from second March 2020on the branch of Supply Chain. The center targets of this file are:

- Apply theoretical procedures of enterprise with the realistic scenarios. In this report, I actually have aligned specific Supply Chain theories with LHBL strategies.
- Another goal of this record is to benefit extensive know-how approximately Supply Chain Management.

1.3 Methodology:

I have gathered data for this report from three sources:

Primary Source:

For scripting this record I even have taken interview over virtual call of a few humans in LafargeHolcim Bangladesh Ltd. They are Mahadi Masud; DGM Logistics, Md. Mazharul Huda Lizan; Manager procurement, Abdullah al Kafi Mondol; Deputy Manager - Barge Operations and Md. Atikul Islam; Sr. Executive-Freight Master & Transport Performance. I even have amassed statistics approximately how LafargeHolcim Bangladesh Ltd runs its enterprise in Bangladesh. Besides that I even have taken précis of the files on which I labored on like SOP, Payment Record, Cost evaluation etc.

Secondary Source:

To write the theories of Supply Chain I even have study special magazine and amassed information. I even have supplied references wherein required. In addition with that I even have study many files of LHBL wherein the guidelines and approaches are written. These files helped me plenty for penning this report.

Personal Experience:

I actually have labored in LafargeHolcim Bangladesh Ltd approximately 10 yr. During this era I labored in lots of regions of Logistics and Supply Chain. I actually have found out varied factor of commercial enterprise global in this10 yr. The revel in of this10 yr is the center supply of this report.

1.4 Limitations:

During writing this report I ought to face a few limitations. Those are enlisted here:

My working vicinity become LHBL Dipnagar Depot Office in Dhaka, however the foremost logistics works occur in plant and in distinct depots. From Dipnagar Depot the works are simplest monitored Depot sports. I were given the possibility to go to the plant nine yr ago , however it become now no longer viable to study intensive deliver chain modern sports of LHBL.

As I became an Intern, the control didn't percentage complicated commercial enterprise techniques with me. I may want topmost effective realize the general manner and theoretical aspects.

LHBL has strict policies on its software program and inner documents, in which I didn't get admission analyze more. In accordance with that sharing facts outdoor of the enterprise is prohibited, so I couldn't write a few inner issues.

Chapter 2. Organization:

LafargeHolcim Bangladesh Ltd. (LHBL) is a main part cement manufacturer in Bangladesh. Operating for extra than a 14Year, it has made approximately US$ 500 million funding in constructing one completely dry procedure incorporated cement plant and 3 grinding plants- the most important overseas direct funding within side the sector. It is largest multinational joint assignment of LafargeHolcim and Cementos Molins. Lafarge and Holcim are opponents global merged collectively in 2016 to shape LafargeHolcim all around the international. With state-of-the art work era and nicely groomed staff, the organization produces international elegance cement to fulfill the developing call for generated via way of means of huge infrastructure improvement projects and advanced socio financial conditions.

Main row cloth of sourcing limestone from its very own quarry in Meghalaya in India, the plant at Chhatak near Sylhet in north east Bangladesh is a completely unique cross-border operation. Row limestone is added in through a 17 kilometer overland lengthy belt conveyer ensuring uninterrupted deliver of the uncooked materials. This plant generating clinker permits the U. S. Shop round US$ forty five million yearly in overseas exchange. Besides the corporation has supplied direct and oblique employment possibilities for over 4500 people.

Producing worldwide requirements and energy in innovations, LafargeHolcim Bangladesh Limited is likewise seemed as a dependable answer company in production materials. It is generating and supplying custom designed cement for excessive profile tasks within side the us.

As a company responsibility, LafargeHolcim Bangladesh is engaged in CSR activities which might be supporting the society in chhatak place in addition to the environment. Using tailor-made processes, its Geocycle application is changing commercial waste into a supply of warmth for running the cement kilns. Besides, as a part of its Corporate Social Responsibility, the business enterprise has an in depth welfare applications for the local people round its flora in Bangladesh consisting of make bridge in chhatak place related village. These applications were benefitting lots of human beings to

eject out from the cycle of poverty and run first rate lives with possibilities for education, empowerment and health-care.

2.1 History of Lafarge :

In 1833, Joseph-Auguste Pavin de Lafarge based the corporation Lafarge within side the town of Le Teil in France with the manufactured from limestone. Gradually the corporation accelerated and bought its first cement plant in 1987. Now it's far working its commercial enterprise in sixty two international locations alongside Bangladesh. Cement, production aggregates, asphalt and urban are principal merchandise of Lafarge. Country sensible those merchandise vary. *"Anticipate wishes to pressure advances in production methods"* is the assignment of Lafarge Group. *"Respect, Care and Rigor*" are the stable values of Lafarge. The personnel of Lafarge at some stage in the sector additionally accept as true with in integrity, ethics, courage, empathy, openness, commitment, performance, cost creation, and appreciate for personnel and nearby cultures, environmental protection, conservation of herbal sources and energy. The Group portfolio of corporations is as follows:

Cement: 63.5%

- Aggregates and concrete: 35.9%
- Other: 0.6%.

in 2013, its income have been 15.2 billion Euros. It has 1636 manufacturing webweb sites in unique countries. Lafarge head workplace is now in Paris, France. Lafarge constructed the primary studies middle for constructing substances in which the personnel are seeking to broaden their merchandise without hampering the environment.

History of Holcim:

Holcim is a Swiss-primarily based totally international constructing substances and aggregates enterprise. Founded in 1912, the enterprise multiplied into France after which at some point of Europe and Middle East at some stage in the 1920s. They multiplied within side the Americas at some stage in the Nineteen Fifties and went public in 1958

Merge of LafargeHolcim

LafargeHolcim Ltd is a Swiss multinational company that manufactures constructing materials. It has a presence in round 70 countries, and employs round 72,000 employees. LafargeHolcim operates 4 businesses segments: Cement, Aggregates and Ready-Mix Concrete in addition to Solutions & Products, which includes precast concrete, asphalt, mortar and constructing solutions.

LafargeHolcim was shaped through the merger on 10 July 2015, of cement companies Lafarge and Holcim, which had mixed income of CHF 26.7 billion in 2019. At gift Mr. JanJenisch, is the Principal Executive Officer of LafargeHolcim group.

Lafarge, Holcim merged Bangladesh operations:

Lafarge Surma Cement Limited, a indexed employer at Dhaka Stock Exchange, and Holcim Cement (Bangladesh) Limited have eventually finished their union in Bangladesh as all of their quested techniques and filings had been finished. The operations of the entities, however, will continue to be distinct as Holcim Cement (Bangladesh) has turn out to be a subsidiary of LafargeHolcim Bangladesh Limited, the modified call for Lafarge Surma Cement, because of acquisition of the complete Holcim stocks via way of means of Lafarge. According to a DSE net post, Lafarge acknowledged that Holcim Cement (Bangladesh) has turn out to be an entirely owned subsidiary of LafargeHolcim Bangladesh after finishing vital filings and formalities. The employer in addition knowledgeable that the remittance of

Tk 504.seventy eight crore as authorized via way of means of Bangladesh Bank for the switch of one hundred consistent with stocks (88,243 stocks) of HBL have been finished, it said. The vital fillings earlier than the monitoring government which include Registrar of Joint Stock Companies and Firms have additionally been finished, it said. Later the employer knowledgeable the DSE that that they'd achieved vital documents, which include proportions witch gadgets for switch of 88,243 stocks of HBL to LafargeHolcim for the sale and buy of the HBL stocks. In December 2016, Lafarge Surma signed an settlement with Amsterdam-primarily based totally Holder fin to buy its holdings in Holcim Bangladesh for Tk 936 crore valuing every proportion of Holcim at Tk 1.06 lakh and sought permission from the BB to remit Tk 936 crore. On September 17 ultimate year, the BB rejected the valuation announcing that the deal hyped up Holcim stocks. The important financial institution later set the purchase price at Tk 504.seventy eight crore and it requested the employer to remit the fund. On December 24, 2017, Lafarge Surma knowledgeable the DSE that each businesses had authorized the purchase of one hundred consistent with stocks of Holcim Cement (Bangladesh) Ltd on their area of Tk 504.seventy eight crore set via way of means of Bangladesh Bank after making amendments to their preceding proportion buy-sale settlement. In 2015, Lafarge and Holcim formally were given merged in approximately each U. S. in which they've operations, aside from a few nations which include Bangladesh.

Source: Newage Business. Published: 00:20, Jan 11, 2018

AMALGAMATION WITH HOLCIM CEMENT (BANGLADESH) LIMITED:

The amalgamation of the Company and Holcim Cement (Bangladesh) Limited (“HBL”) has been correctly finished on November 26, 2019 with the benefits of the favorable Order exceeded through the Hon’ble High Court Division of the Supreme Court of Bangladesh. The lengthy adventure concerned shareholder approvals, regulatory approvals and prison

processes. In each step, the Company obtained unequivocal assist of the Shareholders, and it is thru this assist that the Company became stimulated to conquer the demanding situations alongside the way. From a strategic factor of view, the amalgamation is an ideal enterprise synergy for the Company. It has made the Company more potent and greater green having pan Bangladesh presence with cement & clinker manufacturing centers at strategic places within side the country.

Source: annual report 2019

2.2 Background of LafargeHolcim Bangladesh Ltd.(Formal Lafarge Surma Cement Limited):

Surma plant in chhatak sunamgonj, began out its operation in eleventh November 1997 as a personal confined enterprise in step with Company Act 1994. Later on, it went to public on twentieth November 2003. It is the joint challenge of Lafarge and Cementos Molins, Spanish enterprise with sturdy international presence in constructing materials. LHBL has greater than 24000 shareholders and indexed in Dhaka and Chattogram Stock Exchange.

2.2.1Mission,Vision & Commitment of LHBL:

LHBL Mission &Vision:

To be the undisputed chief in constructing substances in Bangladesh through

High-satisfactory product in all regions of actions with global magnificence standards

Our strengths because the best cement & Aggregates and urban manufacturer in Bangladesh and Sustainable boom with the respects the surroundings and the municipal

LHBL Commitments:

- Produce maximum first-rate of product and offerings that surpass our clients expectation
- Provide our humans an allowing surroundings that nurtures their competencies and possibility to offer the first-class for the institute
- Contribute to constructing a higher surrounding pleasant world for our societies
- Delivering the price advent that our shareholders expect & stakeholder

2.2.2 **LHBL *Products :***

SUPERCRETE

Supercrete cement is a great cement logo made for multi-cause applications, specifically - foundation, beam, column, slab masonry, plastering works, etc. This cement is only limestone based, freed from fly ash or slag, not like different cements with inside the country.

The simplest Portland Limestone Cement (PLC) logo in Bangladesh, complies with BDS EN 197-1: 2003, CEM II/ B-L, 42.5N standard. Own clinker manufacturing facility and utilization ensure the constant high-satisfactory of Supercrete Cement. It is an effective product for flexible concrete answers with a good sized gain for production price savings. It additionally has a cultured demand (Fair Face Surface) and a concern advocated product with the aid of using production professionals (Architect & Engineers).

Uniqueness of Supercrete Cement:

Consistent Quality - Own clinker production facility and current using high quality machine ensures steady quality of cement.

Superior Bonding Strength- Limestone usage presents a uniform particle length distribution (UPSD) ensuing splendid bonding strength.

Durable Concrete - Improved fineness (Blain) of cement will increase density of concrete that guarantees durability.

Holcim Strong Structure:

Holcim (Strong Structure): A Portland Composite Cement (PCC) complies with BDS EN 197-1:2003, CEM II/B-M (S-V-L), 42.5N standard. The utilization of this sort of cement began out from closing few many years in Bangladesh. Holcim (Strong Structure) is appropriate for every kind of production works as uncooked cloth of concrete and mortar. Being PCC types cement containing PFA & slag, Holcim (Strong Structure) offers lengthy term energy improvement gain in concrete.

Benefits:

Long Term Strength: The Pozzolanic traits and Latent Hydraulic response initiated with the aid of using Holcim (Strong Structure) allows to gain energy past 28 Days.

Improved Work ability; The debris of PFA and slag presence in Holcim (Strong Structure) offer a ball bearing mechanism to concrete aggregates. This will increase the workability of the concrete and eases placing.

Chemical Resistance: Usage of Holcim (Strong Structure) produces much less permeable and denser concrete which limitation the penetration of moisture and air inner completed concrete. Thus reinforcements utilized in RCC are secure from corrosion effect.

Holcim Red Cement Brand:

It is an Ordinary Portland Cement (OPC) complies with BDS EN 197-1:2003, CEM I, 52.5N standard. The clinker, the important thing nice thing of Holcim Red, especially comes from dependable and actual reasserts of Vietnam and Thailand. The uniqueness of Holcim Red is that it profit select reciting side very brief time which provides gain for concrete in addition to the entire project

Holcim Grey Cement Brand:

It is an modern answer for Soil stabilization Segment beneath neath the cement class BDS EN 197-1:2003, CEMIIIA 32.5N.

This is a price optimized answers with right workability in line with soil kind as in line with the task requires. The less difficult soil blending with premiere cement answer will result in quicker deep soil blending procedure lowering danger for customers concerning the capacity greater days for execution.

POWERCRETE_Cement_Brand

Ascend result of an in -intensity know-how of the capabilities of plastering and different masonry works. Our worldwide understanding permits us to cater to customers' desires

regarding the demanding situations of plastering, incorporating an Innovative Proprietary Ingredient (IPI) to supply an international magnificence product.

Production capacity of Plant & Performance of LHBL:

Innovative formula from Lafarge Cement's unmatched technical assets has produced cement this is the powerful strategy to the productiveness needs of big production projects. Unique debris length and additional health reduces voids in concrete which protects the concrete from water contact. Powercrete is to be had in bulk amount for massive production projects.

Production capacity of Plant & Performance of LHBL:

Company has 4.2 million lots cement manufacturing potential consistent with annum, with completely included cement and clinker plant in Chhatak, and three (3) grinding vegetation close to Dhaka and Khulna. The limestone quarry in Meghalaya, India has a manufacturing potential of five million lots consistent with annum. In 2019 Company produced 2292 kt(kt-one thousand Tons) of limestone, 1,268 kt of clinker and 2,703 of kt cement. Surma Plant Clinker Production 1278 (kt) (2019) Surma Plant Cement Production 1223 (kt) (2019) Among 128 cement vegetation of LafargeHolcim Group, Surma Plant at Chhatak, Sunamganj, proudly secured the pinnacle function in phrases of business overall performance benchmark in performance and costs. Furthermore, for the fourth yr in a row, Surma Plant carried out 100% lab accuracy index (LAI), rating1/3function globally and primary function in Asia, within side the Round Robin Test. This take a look at changed into carried out in over 156 laboratories in LafargeHolcim Group all around the globe. These tremendous achievements were made feasible with the aid of using the dedication, notion and tough paintings of Team Surma Meghnaghat Plants Cement Production -1276 (kt) (2019) Meghnaght Plants are positioned in Sonargaon,Narayanganj During the yr, a 500 tones multipurpose silo changed into inaugurated at the Meghnahgat Plant. In 2019, those

vegetation recorded maximum manufacturing due to the fact that established. Mongla Plant positioned in southeastern a part of the use of a has operated at complete potential and has carried out document breaking overall performance in 2019. Mongla Plant Cement Production - 205(kt) (2019) Source of annual document 2019. In 2019, the limestone Quarry in Meghalaya, India, exported 4.83% better amount limestone in comparison to preceding. The Quarry crew verified an exemplarily overall performance in optimization of mining & crushing costs, thereby making sure are diction in operational costs. The Quarry has been presented with the ‘’Guru Dronacharya’’ award for the 5th consecutive wraith the aid of using the Directorate General of Mines Safety of the Government of India for endured pristine overall performance in Safety. The Quarry additionally obtained the “Outstanding Performance Award” with the aid of using the Indian Bureau of Mines of the Government of India for the 1/3 consecutive yr as popularity of its endured overall performance in safety of the environment.

2.3 Head office management team:

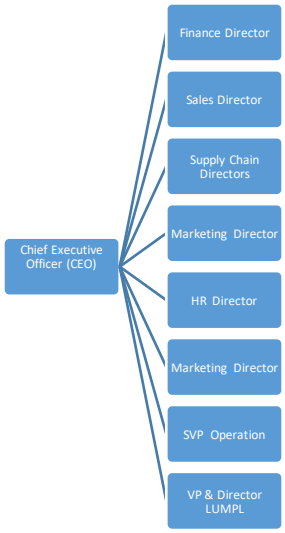

Figure 1: Management Team

2.3.1Logistics Management team:

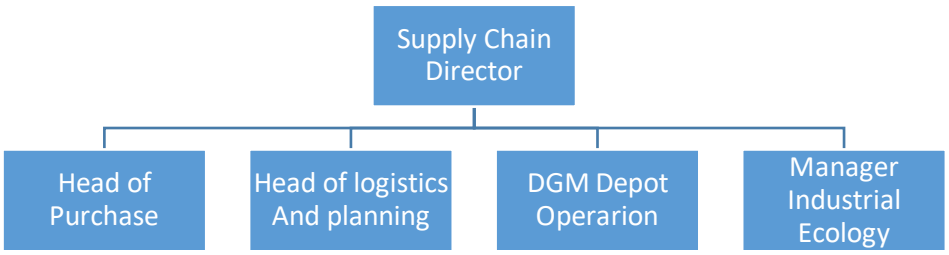

Figure 2: Logistics Team

2.4. Cement Production process:

The distinction stage of cement manufacturing is defined here

Core raw Materials: Limestone, clay, iron & sand.

- Limestone is crashed in the LUMPL quarry into three tiers and dispatched to Bangladesh plant via the conveyer belt. Clay Iron and ship are accumulated domestically from special places in Bangladesh.
- This thoroughly limestone is blended with processed clay and sand, iron, after which heated into kiln via way of means of 1400 to 1600 diploma centigrade temperature. At this excessive temperature, silica, alumina, calcium carbonate, and iron or chemically reacted and bring clinker which includes hydraulic calcium silicates, is the fundamental element of cement.
- at first clinker states in semi quality particle sand then they may repositioned within side the cooled in which those emerge ashore difficult and fashioned a larger shape. Then those are fashioned close to similarly in every other machine.

- In the kiln the clinker is referred to as and saved for generating cement, whilst necessary, those are dispatched to cement silo for very last production. LHBL promote clinker directly as well.
- Main additives of producing SPERCRETE. 65-79% Clinker, 21-35% Limestone and 0-5% Gypsum are blended and grinded together
- Only SUPERCRETE is produced in chetak plant, Holcim (Strong Structure), Holcim (Red) and Holcim Grey produced through Holcim Plant, POWECRETE is produced in other cement factory's setup in which control run through LafargeHolcim.

2.4.1 Cement Packaging:

The packaging method of LHBL is likewise completed in an automatic Way. LHBL has agreement with 0.33events who produce cement baggage in keeping with requirements. Each baggage weights 50 kg and cement is crammed routinely greater than 50 kg, so that once leakage the amount does now no longer educe much less than 50 kg. After packaged and sealed cement baggage are despatched via conveyer belt to the barge and truck loader. Each plant has both barge loaders & truck loaders.

2.4.2 LHBL Logistics and Supply Chain:

Efficient logistics group guarantees on-time shipping and distribution anywhere in Bangladesh. Plant logistics group maintains coordination with Packing, manufacturing and Head workplace fleet group.

- Sales group whilst order located in Head office, assisting group manages barges, truck and transports and ship information of delivery to the plant logistics group thru SAP system.
- After reached automobile within side the plant and is given a card in which all of its information (ID, transporter, destination, freight price etc.) are inserted.

- At first empty trucks weighted after which cement luggage are loaded with the assist of computerized loader.
- Two or four labors stack the ones baggage in the truck and do a manually counting for pass check.
- All Barges also are loaded in an automated manner for cement, clinker & aggregate.

Chapter 3.LHBL Supply Chain & Theory to Practice

3.1 Supply Chain Management:

Supply chain management defines the flow of goods, movement and storage of raw materials, placing finished goods, working progress form production place to customers through interconnected and interlinked networks of channels and businesses. "Keith Oliver"a consultant at Booz Allen Hamilton (Booz and company) brought the word " supply chain Management" in business world through his interview for financial Time in 1982. Gradually, the word spreads to different organizations and became popular in mid 1990s. Major areas of SCM are operation management, logistics, procurement, information technologies, product development, sourcing and production. According to Robert Handfield Ph.D (2011), “supply chain activities cover everything from product development, sourcing production, logistics as well as the information systems needed to coordinate these activities.

The general process of supply chain management follows design planning, execution, control and monitoring to maximize customer value and achieve a sustainable competitive advantage. Through SCM organizations gain various objectives, like creating net value, building a competitive infrastructure, leveraging worldwide logistics synchronizing supply with demand, measuring performance globally, calculating supply chain transactions , managing supplier relationships, and controlling associated business processes.

A definition is given by Hines (2004:p76) “supply chain strategies require a total systems view of the links in the chain that work together efficiently to create customer satisfaction at the chain by driving out unnecessary expenses, movements, and handling. The main focus is turned to efficiency and added value, or the end-user's perception of value.

Efficiency must be increased, and bottlenecks removed. The measurement of performance focuses on total system efficiency and the equitable monetary reward distribution to those within the supply chain. The supply chain system must be responsive to customer requirements"

Council of supply chain Management Professionals (former Council of Logistics Management) defines " Supply Chain Management is the systemic coordination of the traditional business functions and the tactics across business functions within a particular company and across business within the supply chain for the purposes of improving the long-term performance of the individual companies and a supply chain as a whole" (CSCMP2005).

Organization can make available a commitment to its customers through SCM to coordinate order generation, order taking and order fulfillment with appropriate quality and quantity at a right time.

3.1.1 LHBL supply Chain and Logistics:

Establishing the customer value creation and sustainable competitive advantage are major active management process in supply chain management. The supply chain management is representing an effort which is conscious and flexible and this effort is uninterrupted developing and running supply china in business efficiently and efficiently. And, supply chain management is a process where need to meet some requirements like materials movement, flow of information, capital, procedure , planning strategic sourcing, systematic production, inventory management and logistics. Supply chain management smoothly works when it has strong business strategy, data driven specialized software and collaboration at work. To integrate the strategic sourcing, product development, systematic production &

transportation planning activities need to flow of information in business, then it fulfill supply chain activities. Robert Handfield Ph.D (2011).

Followed by the process of SCM to designing, executing, controlling & monitoring, & sustainable competitive advantage. Though, there are some key objectives of supply chain management, but some objectives are significant for overall business like customer satisfaction, reducing the cost and improving and developing the organization performance. And these objectives are applicable for international supply chain management and international logistics.

To be a good supply chain strategies, need to maintain a systematic way in a chain to link one to another work where involve creating customer satisfaction, movements, handling and cut out unnecessary expenses. Work efficiency, value adding or end-users perception value is the main focus point. In this chain bottlenecks need to be removed and need to be increased efficiency. And this chain of supply should be responsiveness which meet customer requirement. Hines (2004:p76).

Another thing is logistics which has significant contribution in supply chain and the logistic works for customer order fulfillment. So it is a strategic process to manage the procurement, materials handlings & movement, storing the materials and finished products and works as coordinator to move resource one to another as part of the supply chain.

Regarding supply chain and logistics respectively three divisions and two subdivisions in LafargeHolcim

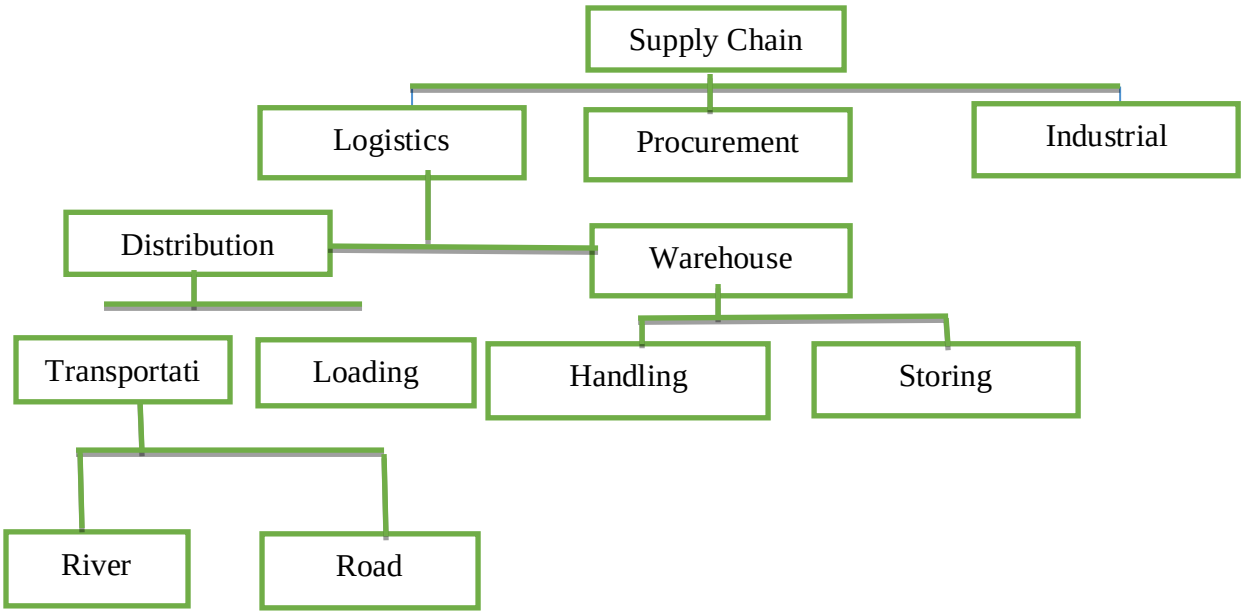

Figure – 3: Supply chain hierarchy of LHBL

The below is given the main principal functions in SCM of LHBL:

- Transportation: road and freight: river, management
- Distribution management in whole country
- Internal and external warehouse management with inventory controlling
- Transaction management
- Materials management
- Responsive customer service management

3.2 Transportation and Freight Management of LHBL:

One of the core segments of supply chain department in LHBL is on time product delivery. To maintain and meet this KPI, LHBL works with inbound and outbound freight

management, analyzing shipments mood like vehicle or ships etc. In the other hand, they analyze shipment frequency, products weight, route etc.

TFM staff in LHBL analyze cost effective transportation with maintaining quality products where route and mode will be easy for transportation. To maintain the system of quality transportation, LHBL follow four key process which is given the below.

1. Planning and decision making: Based on user strategy, TFM staff find out schemes for transportation where the priority & urgency will be measured. Besides, for fixing the transportation, they consider quality transportation, risk and hazards, costing, shorter lead time, and fewer stoppage.

2. Transportation carrying out- Logistics staff design transportation management system and TMS permit and accept to execute this plan with in some activities like rate acceptance for carrier and carrier dispatching EDI etc.

3. Follow-up inbound and outbound transportation: After starting the transportation, TMS trace physical and administrative operation issues and location tracking like arrival time, documents, customs clearance, invoice checking, send the transportation alert to destination in accordance with any delay, accidents, robbery, and non-forecast issues.

4. Performance measurement: TMS is decorated by some Key performance indicator where TMS give points after completing any logistics operation.

Effective logistics management in firms ensure economic improvement and financial profitability which influence to quality of daily life, social interaction and physical environment. This logistics management meet demand and supply by satisfying the people. Even where no local supplies are available, there is only way to reach supplies which is logistics management. (Coyle, 2011)

Perfect TFM service requirement:

- Fixing the ocean or river route are cost effective in terms of transportation for long distances. This organizations fix their transport mode based on distance and cost analyze. To compete in the business many organization pursue the government to improve the infrastructure and services of rail, marine and road modes.
- Typical schedule should maintain for availability of vehicles and manpower to transfer goods. It can be done efficiently through increase computerization and coordination among distributors. For easy transportation regional delivery system should be followed. During distributing goods in urban areas human powered transport should be used.
- Transport freight can be reduced by reducing volume and unnecessary packaging.
- Apply the fleet management instead of road transportation management by which reduce the distance, ensure quick delivery and cut off extra cost.
- For reducing congestion, systematically modify freight delivery times.
- Increase to follow the cluster common destination system by which reduce the frequent transportation to deliver goods
- Need to use cost efficient vehicle which means lower fuel consumption vehicle which helps to reduce emissions and cost savings in accordance of lower fuel consumption.
- Arrange effective training by which driver will be more efficient and reduce accident. (Goldman and Murray 2011)

To maintain the electronic data and system LHBL are using Enterprise Resource Planning software which is established on SAP platform. And there is a perfect integration between ERP and TFM by which TFM can deliver smooth operation. Internal ad devs team maintain ERP with collaboratively external consultancy.

3.2.1 Freight Management and transportation:

Followed by two transportation mode, LHBL operate their operation smoothly. One is Barge and another is Truck. Both are established and structured transportation system in LHBL. For plant to destination they use barge/ bulkhead and for depot they use trucks. Also, LHBL has some agreements with local transportation dealer by whom LHBL deliver their logistics to desired destination. In this way there are some freights are using to transport products. These freight charge per bag in perspective of cement and clinker. Also clinker is measured by weight.

Transportation mode or types:

From plant to depots, transfer stocks:

One terms name is transfer/stocks transfer (ST) regarding this term of business model, LHBL transfer logistics from plant to depots and terminals and also is called as internal transfer. By this type of terms or shipments, LHBL operates their logistics operation one to another by river and road. And this logistics support also is provided by the enlisted suppliers of LHBL. And included regarding this type of shipment, all of charges like freight cost, materials handling cost, BIWTA charges etc. Also, another term is ITC which terms used for consumption of empty bags, demerge etc. and this is called Internal Transfer Cost.

Based on delivery cement sales:

A logistics staff is responsible for delivery stock. A logistics staff arrange transportation schedule to deliver the customer and based on request from sales team and availability of "SO" in system. This is called "delivered basis" sales/shipment by which LHBL is full responsible for this process. And, the term Freight to customer (FTC) regarding this shipment incurred all of cost like materials handling, freight, consumption of empty bags, demerge etc.

Pick-up cement carrying of Customer:

Regarding this term of "customer Pick-up carrying", one customer is own responsible for this transportation. In this terms, the customer arrange transportation and the customers fix transportation mode. And, maintain some documents like delivery note, authorization paper etc. And this operation follow a queue systems to trace the loading location.

Shortfall/ Damage Cement:

During delivery and transportation, sometimes the customers face bag shortage or damage cement. Then customer inform near the sales team. After that, HO Logistic team is informed by sales team then customer care deport in-charge arrange a tripe to visit the customer site and take an action to investigate then they are to solve this problem as early as possible.

3.3 LHBL's Distribution Process:

Distribution network of LHBL is large segment in department of SCM which is integrated management system for the customer and this is full storage facility and transportation through which goods and services are transferred from manufacturer to consumers. It is one of the key drivers of profitability and achieved organization target.

By the structured and systematic network distribution can bring profit for business and it can be lower cost and high responsiveness. The networks distribution works for the customers. Whenever the customer wants to product then network distribution ensure products for customer. In recent world, the giant organization follows network distribution system based on their customers' requirements. For example, Wal-Mart follow this system.

Based on manufacturing company, three types of distribution are appeared. Below the details is given:

A. Primary Distribution: From plants to depots or warehouse, distributed by the logistics team of LHBL then it is primary distribution.

B. Secondary Distribution: From deport or warehouse to end consumers, distributed by the logistics team of LHBL, then it is secondary distribution.

C. Tertiary Distribution: From warehouse to retailers, distributed by the logistics team of LHBL, then it is tertiary distribution.

3.3.1 Distribution networks:

LHBL has fixed 10 depot for its smooth distribution. Those are – Kutubpur, Daudkandi, Sylhet, Rajnagar, .Nowapara, Dipnagar, Kapasia, Chittagong, Nagarbari & Hazigonj.

Logistics staff transfer cement to these location or depots as stock as early as possible after receiving the order. All of issue like handling, LHBL monitor and control by fixing the third party except Ghat are which is handled by third party contactor. They fixed an agent or contractor to load or unload cement quickly.

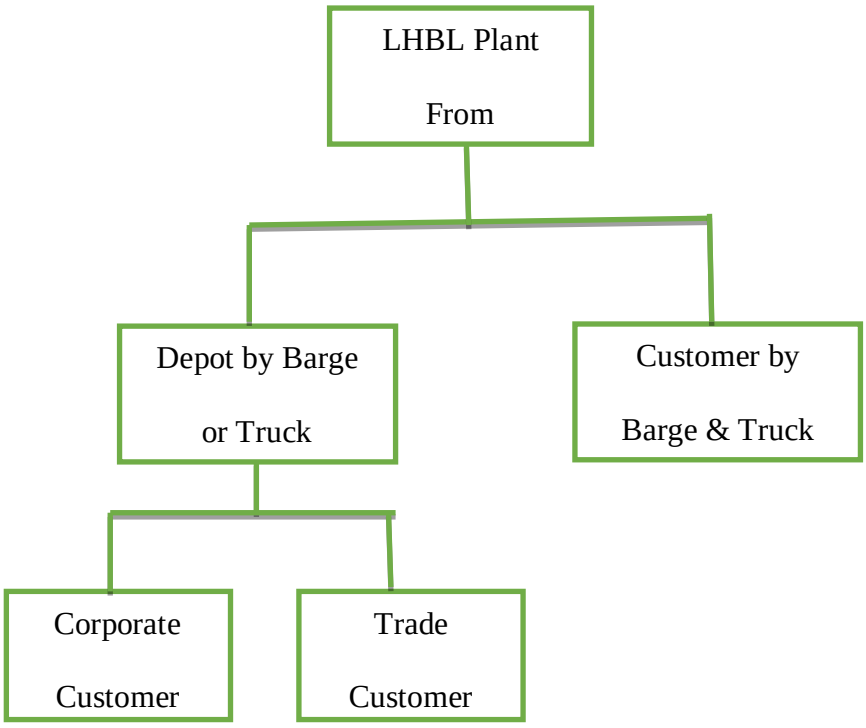

Figure -4 :Distribution network

3.4 Inventory and Warehouse Management Process:

Determined by decisions according to inventory, warehouse, freight or transportation, facilities is the key performance of supply chain. Maintaining cost effective inventory is key factor for the firms where demand and supply is the major factor. Supply chain network process design and modeling is complex system and inventory make it more complex but it also provides profitability to the company. Proper inventory management is very significant cost driver.

A grocery store or supper market shop need to follow patterns of historical demand for items which is seasonal based and this items have been stored when starting the season.

3.4.1 LHBL inventory Facility:

For customer satisfaction, safety and smooth transportation, LHBL keep inventory in its 10(Ten) Depots/Ghats and plant. They keep the inventory in such a way so that easy transfer is possible. Right after the production the goods are sent to depots according to free space in each depot. Depots/Ghat size and location were established based on the demand of customer and easy transfer facility of that area. Sudden if there is an emergency issues then cement will be stored in the warehouse of plant. And the warehouse of LHBL, follow the FIFO method to dispatch the stocks.

Shorter stocks or Damage:

When warehouse stock shortage or damage may take place during operations at those storage places or dump. When stock shortage or damage is identified in 3rd party deports (warehouse/dump) during reconciliation. The authority of Depot in-charge prepare an official letter to warehouse authority to receiving. After reconciliation, the Depot in-charge will take the issues with warehouse contractor on the basis of service agreement and stocks value will be deducted from contractor's bill. IF LHBL is responsible for stocks or damage then stocks adjustment will take place as per of the company. A contract will be held for insurance by the LHBL and transporter contractor.

3.5 Logistics cost management and optimization:

Logistics cost management optimization is strategy by which firms can be able to cut cost for their operation. To sustain a business need to cut cost because it ensures profitability. And to gain development of logistics cost management then need to fix a strong strategy by which cost will be controlled after the logistics planning.

3.5.1 LHBL Cost Management and Optimization:

LCA is followed by LHBL by which analyze previous record, evaluation, damage record and maintain other procedure. LHBL maintain a lifecycle which increase some environmental performance. Those are under the below-

- Reducing the production cost
- Resource savings and time saving for work
- For the building and construction design and plan which have an economic impact
- Functioning the task for flexible and durable

3.6 Relationship management with Suppliers:

Supplier relationship management is the key function of business by which both parties will generate the profit for the organization. To maintain the supplier relations need to segments the suppliers and then need to fix the strategy. It is to say that there are lots of strategy which can be applied for the suppliers. in this case suppliers are first tier inputter whom start business wheel in an organization by delivering supplies or raw materials.

3.7. LHBL Logistics SRM practice:

In LHBL suppliers can be Transporters, Handling contractors, and Depot Contractors. LHBL communicates with them for all logistics operation. And LHBL maintain category for these suppliers. Also they segment them to understand their capability to deliver output to their business. Besides, LHBL arrange some trainings for the suppliers by which suppliers are able to fix LHBL's business requirements. In this way LHBL logistics practice SRM.

3.8 Employee and Organization of supply chain and Logistics

Managing the employees and their hierarchy is also vital factor of management of supply chain, through many companies frequently ignore the issue of award with value to human

resource. In an organization the employee who are working for supply chain and logistics, they should be highly trained, they should have loyalty and devotion for the company, and they should have motivation and inspiration to do better for the organization. All these issues should be ensured by the company productivity. In collaboration with this, while hiring employee, organization should concern on, whether they are interested and involved on the work they will do, whether they have efficiency and pertinent skills. For different layer of logistics employee should have different level of education. Based on research, it shown that successful management of human resource will assist successful supply chain and improved the organization.

3.9 Customer Management service

Customer feedback has significant impact on business because it can diagnosis real problem on business. Based on problem Slovene record, it can be converted into KPI. There are three stages by which it can be identified. A. Strategic – it works strategically to create value and compete with the competitors. B. Operational- it aligns sales and marketing and ensure the services. C. Analytical- it analyze customer data and predict future condition.

3.9.1 LHBL Customer Management system:

In an efficient way, LafargeHolcim deal with customer. Two types of customers are appeared with LafargeHolcim one is retailers and another is customers. Outmost sales are done the retailers. The retailers are given facilities based on their performance. Logistics department is service department. So it is department does not directly handle the customers but any complain arise from end users about logistics then it must be handled by logistic team.

Return Goods and Customer complaint Management

Customer complains when there is any complaint arise regarding product quality, then customer informs the sales team. Sales team officially sends mail to customer care team

(customer care manager) for investigation. After investigation, customer care mange/executive informs logistics team for replacement of goods after approval from concerned authority.

Retuned goods: when any complaint arising from the customers is justified and approved by authority and validated by concerned team (customer care department) then necessary action is taken by respective logistics team for returned goods from customer site upon approval laid down in customer complaints handling policy.

Returned goods adjustment: After solution of customer complaints and physical initiative taking to return of goods from customer, site depot in-charge/terminal manager communicate with HO sales admin team for adjustment in system and creation of new "SO". After availability of "SO" in system, Depot/Terminal Logistics team arrange replacement of goods.

Chapter 4. Observation & Recommendation

4.1 Observation:

I have been working experience since 10 years in LafargeHolcim and I have observed some issues. The following issues need to be noted here.

1. During the bad weather the loading and unloading task is pending. As a result, delay delivery is happening.

2. LafargeHolcim keep bulk quantity stock in all Depot/Ghat, which is stack up working capital increase the working capital cost and increase actual delivery cost.

3. Using the manual loading and unloading operation in Depot/Ghat.

4. During the bad traffic condition, the goods may be waste or demerge. It diverts the losses for the organization.

5. If any order receive at the End of the day from the customers then it is not possible to prepare for delivery.

6. Warehouse system is manual, not real time for which there is no enough data to operate warehouse effectively.

7. Suppliers evaluation is based on service not data based. As a result, supplier evaluation is not smarter justification.

8. Not maintaining service level agreement with customers.

4.2 Recommendation:

1. LafargeHolcim set up a temporary or permanent shed of all plant and Depot/Ghat loading point area. Organization can load and unload barge and truck during the bad weather and drizzling. My personal experience the time of rainy season average six hours loading and unloading operation happen stop by rain and bad weather.

2. LafargeHolcim need to increase the direct delivery from barge which save the unloading cost, when unloading cement in depot additional pay 5 taka per bags (long distance charge) and load the cement on truck paid additional 2 taka per bags. If the direct delivery confirm then it is able to save 7 tk per bags except warehouse rent.

3. Implementation of mechanical belt process unloading and loading system increase the efficiency of loading and unloading system happen only day time labor are not interested word in night time. Mechanical system operation can perform all day and night time.

4. GPS system implementation in LafargeHolcim can be recommended by which it can be traced and monitored from head office.

5. Queue management system need to convert automation.

6. Warehouse need to do automation where data will be stored automatic. And future these data will be analyzed for decision making.

7. Need to implement service level agreement with customers.

8. It is recommended to focus the “Green supply chain” strategy because it can reduce fuel consumption.

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Note: The style of quotations, footnotes, and bibliographic references may be prescribed by your department. If your department does not prescribe a style or specify a style manual, choose one and be consistent. Further information is available on the web site of theAyesha Abed Library (http://library.bracu.ac.bd/style-guides-and-resources).

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