

“Process of Supply Chain Management (SCM): A Case study on Pran-RFL (Rangpur Foundry Limited) Group in Bangladesh”.



**“Process of Supply chain management (SCM): A Case study on Pran-RFL
(Rangpur Foundry Limited) Group in Bangladesh”.**

**Dissertation Submitted in partial fulfillment of the requirements for the
degree of Masters in Procurement and Supply Management (MPSM)**

Prepared for

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Masters in Procurement and Supply Management (MPSM)



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Letter of Transmittal

January 2016

To
S.M. Arifuzzaman
Assistant Professor
BRAC Business School
BRAC University

Subject: Submission of Master Paper on Process of supply chain management: A Study on Pran-RFL (Rangpur Foundry Limited) group in Bangladesh.

Dear Sir,

As instructed and part of our academic program under Masters in procurement and supply management (MPSM), I do hereby submit a Master Paper on “Process of supply chain management: A Study on Pran-RFL (Rangpur Foundry Limited) group in Bangladesh” for your kind review and necessary reference. The Paper has been prepared on the basis of guidelines and instructions as given by you and the information, supporting documents as collected from different sources.

I have engaged my intense efforts to bring out this master paper with the target of achieving perfection but I am in a little doubt how far I have attained it.

I will be highly obliged if you kindly accept my master paper.

Sincerely,

Md. Ahasanul Azim
MPSM ID: 15382007
Batch: 09

Certificate

This is to certify that Ahasanul Azim, MPSM ID: 15382007, Batch: 09 completed the thesis entitled "Process of supply chain management: A Study on Pran-RFL (Rangpur Foundry Limited) group in Bangladesh" for partial fulfillment of the requirements of the Degree of Masters in procurement and supply management (MPSM) under my supervision from BRAC University.

The report has been prepared under my guideline and work carried out successfully.

S.M. Arifuzzaman
Assistant Professor
BRAC Business School
BRAC University

Acknowledgement

I would like to express my gratitude to all the people that were involved both directly and indirectly the preparation of this report. I apologize to the people whose names that I haven't mentioned, and their contribution is highly appreciated by me.

At first I would like to thanks Almighty Allah who made us able to finish this thesis at perfect time.

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Finally, my sincere gratitude goes to my family and friends for supporting me, sharing their thoughts and giving me the moral support during the preparation of this thesis.

Axle of Management:

Create standardizes management tools, reporting, and organizational structures. Working with us, companies can build an extended supply chain that is agile, adaptive, and business aligned. We can help in improving time to market for new products and in penetrating new world. By managing supply chain effectively companies reduce cost, improve efficiency, increase innovation and uncover new opportunities for tighter partner collaboration.

Executive Summary

At the end of the day, supply chain management is about relationship management. A supply chain managed, link by link, relationship by relationship, and the organizations that managed those relationships best will win. Pran-RFL SCM tools and techniques are presented in this correlation. SCM requires a good understanding of production management, planning, design, and construction, and business drivers. Like other disciplines within an organization, such as structural, or process engineering, accounting, and materials management, SCM have a champion that can drive the ideas across disciplines within the organization as well as across organizational boundaries. In spite of supply chain management today more complexity is a cancer that you have to fight, and process management is the weapon. We developed a robust model of supply chain management processes and properly define them so that they can be managed whole process of Pran-RFL group. It has enabled our organization to understand that supply chain management is too important to be just a function. It is everybody's job. The chain of command have dynamic, detailed, and results-centric team leader with demonstrated record of maximizing productivity while minimizing expenses in both domestic and global supply chain operations. Pran-RFL Supply chain manager are innovative, analytical, and big-picture thinker, reputable for designing and implementing strategies and blueprints of the business line that drive process efficiency improvements.

As third parts of logistics management of supply chain mechanism to effort by delivery one place to another. Especially supply chain management is most using this logistics of Pran-RFL when import or export the materials or finish goods at the destination point. But three ways are available for bringing or sending, such as-air, sea and road. After making plan which way better for bringing, firstly think the goods need how urgent or emergence, or at a lead time then decided the best way. Here, air freight is quicker but very expensive; sea freight is lowest cost but need a lead time for destination point, Road freight is another way for communicated with neighbor country. SCM made a yearly or half yearly planning for materials or others and then taken decision very easily which way lowest cost and will reach at right lead time. After overall description we find out that's supply chain manager make a planning that sea freight is best way for bringing the goods in any country at lowest cost and proper method for achieved company ultimate goal.

Reduce cost for earning more profit is not Pran-RFL company target. Our company target reduce cost that's we provide final product to our ultimate customer at lowest price. Not only reduce logistics cost but also taken every operational step to decrease the cost. As a result, we can success to achieve ultimate target.

Table of Contents

Chapter	Topics	Page No.
	Executive Summary	VI
Chapter-1	Introduction	1
	1.1 Introduction to SCM	1
	1.2 Importance of the study	2
	1.3 Objectives of the study	3
	1.4 Sources of the Information	3
	1.5 Scope of the study	4
	1.6 Limitation	4
	1.7 Methodology	4-6
Chapter-2	Process of supply chain management at Pran-RFL	7
	2.1 Process of Supply Chain Management	7
	2.2 Sourcing or Market Survey (Local/foreign)	7-9
	2.3 Company Internal Procedure of Purchase (Local)	9-13
	2.4 Process of Purchase (Import):	13-15
	2.5 Distribution of LCAF Original	15-17
Chapter-3	Literature Review	18-21
Chapter-4	Research Framework	22
	4.1 Logistics management process	22
	4.2 Company internal logistics System	23
	4.3 Import Logistics follow of goods System	23
	4.4 Statistical view of logistics rate	24-30
Chapter-5	Finding of the study	31
	5.1 Finding	31-32
Chapter-6	Recommendation and Conclusion	33
	6.1 Recommendation	33
	6.2 Conclusion	34
	Reference	35-36
	Appendix	37-38

List of Charts

Name	Page No.
Figure 1.1: Structure of Supply Chain Management.	2
Figure-2.1 : SCM Communication Process	7
Figure-2.2: Local materials Purchase Process	10
Figure-2.3: Purchase Requisition	11
Figure-4.1: Company Logistics Process	22
Figure-4.2: Import logistics process follow-up.	23
Figure-4.3: Cost and Profit percentage on above information air	25
Figure-4.4: Cost and Profit percentage on above information sea	28
Figure-4.5: Cost and Profit percentage on above information road	30

List of Tables

Name	Page No.
Table-1.1: Price Comparison	6
Table-2.1: Local Market survey	8
Table-2.2: International Market survey	9
Table-4.1: Air freight cost Comparison	24
Table-4.2: Process of final goods cost and profit on above information by air	25
Table-4.3: Sea freight cost Comparison	26
Table-4.4: Process of final goods cost and profit on above information by sea	27
Table-4.5: Road freight cost Comparison	29
Table-4.6: Process of final goods cost and profit on above information by road	26

1.1 Introduction to SCM:

A supply chain is a dynamic management system where involves the constant flow of information, products and funds between different stages. In this stages not only included the manufacturer and suppliers, but also included transporters, warehouses and retailers who are directly or indirectly related in fulfilling the customer requirement. The objective of every supply chain is to maximize the overall value of all stages. Basically supply chain performance is evaluated on the basis of qualitative measure (such as customer satisfaction and product quality) and quantitative measures (such as order-to-delivery lead time, supply chain response time, flexibility, resource utilization, delivery performance etc.).The quantitative performance is directly related with supply chain network. Effective supply chain network is viewed as the driver of reductions in lead times and costs, and improvements in product quality and responsiveness. Despite its benefits structuring supply chain network is a complex decision-making process. The typical inputs to such a process consists of a set of customer zones to serve, products to be manufactured and distributed, demand projections for the different customer zones, information about future. Supply chain management is a network of mechanism at organizations that are involved, through upstream and downstream linkages in the different working processes and activities that process value in the form of products and services in the hand of the ultimate consumer. Actually maintain a chain of command to be a successful supply chains can significantly benefit the competitiveness of the firms. Thus, the supply chain management (SCM) is a crucial problem in the process industry. This thesis aims to identify some major key problems in the processing industry SCM by developing optimization-based models, approaches and solution procedures using analytical or mathematical programming techniques for better future of SCM at any organization handle easily and earn expected gain in the company.

Supply chain management may contain all activities that transform raw materials to final products and deliver them to the customers. A number of stages are involved in a supply chain,

typically including suppliers, manufacturers, warehouses, distribution centers, retailers, and customers.

Information flow

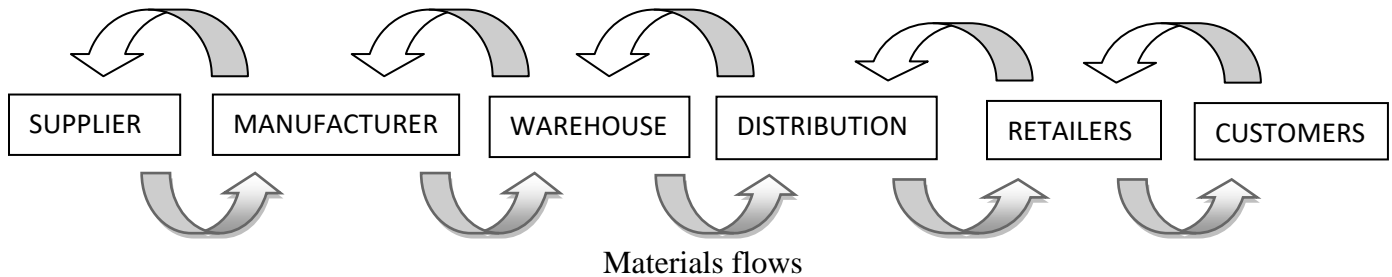


Figure 1.1: Structure of Supply Chain Management.

1.2 Importance of the study:

Supply Chain Management is consists of all parties (Including Manufacturer, Marketer, Suppliers, transporters, Warehouses, Retailers and even customers) directly or indirectly involved for produced and distributed. For that-

- In the right quantities
- To the right locations
- At the right time

The main objectives of Supply chain management are to improve the overall organization performance and customer satisfaction by improving product or service delivery to consumer. In order to-

- Greater efficiency by lower costs
- Must have enhance flexibility and agility
- Optimize the value chain
- Face global competition
- Improve customer service standardization

1.3 Objectives of the study:

Broad Objective

- Process at supply chain management of Pran-RFL (Rangpur Foundry Limited) group in Bangladesh.

Specific Objective

- Logistics, Purchase process, supply chain, distribution, marketing and contingency theory apply in supply chain management (SCM).
- Basic operation process and performance for treatment and perceive information disclosure as a loss of power.
- Companies is not seek to achieve cost reductions or profit improvement at the expense of their supply chain partners.
- Chain level-supplier's supplier, customer's customer.
- Effective supply chain integration requires effective implementation.
- Time and space variables making complexity of SCM.
- If willingness collaborate each other instead of isn't possible good chain.

1.4 Sources of Information:

Primary information: Primary information is directly collect from senior manager (Mr. Shiplu) of SCM, Chief Operating officer (Mr. Kamrul) of Tel department, Assistant manager (Abdus Samad) of Operation department, Assistant manager (Mr. Abu Huraira) of Recycle purchase department, Assistant production manager (Mr. Mokarram), Assistant manager (Mr, Bayazid) of Account Department, company training, directly supplier visiting information and my cooperative colleague of supply chain department.

Secondary information: Secondary data are collected from website of Pran-RFL, catalogs provided by Pran-RFL, different reports on Pran-RFL, and others internet, newspaper, magazine etc.

1.5 Scope of the study:

The study is concerned with the description of supply chain management as a responsible strategic for industrial company. Each industrial company must have supply chain manager for operates overall that at its headquarters. Specifically the researcher will collect data to establish why supply chain manager is a key for industrial company, how supply chain manager handle the all activities of their company, the challenges faced a supply chain manager as well as the others department concern manager. The data sources mainly primary from questionnaires and secondary from company annual reports and internet. The researcher may face problem from the respondents who may not be willing to reveal information may be due to lack of trust and assumed lack of confidentiality. The respondents may feel they are going against the organizations rules and ethics. But they will be reassured that the information is needed for research purpose only. The researcher may experience constraints of time to carry out the research.

1.6 Limitation:

Time constraints of the semester require making a research but less time, than may be ideal for an ethnographic study. Data collected from different sorts of sources. So there may be some type of errors.

1.7 Methodology

Research Framework: The research was described logistics process on the based on direct market survey and review more related article at research purpose. The sources of these primary data were my practically work in the company and directly market or internet based market survey. Though the logistics was most work the done by known, the study is both comparable and quantitative supported by survey reports & quantitative data necessary. The methodology of this report is totally different from conventional reports. Therefore, I was emphasized on mostly practical working and direct market survey and depth discussion with the senior.

Sources of Data

1. Primary Data:

- Now Practical working.
- Direct market base survey.
- Directly discuss with concern senior person about the issue.

2. Secondary Data:

- Visited internet based market survey at logistics related
- Read various company articles at related issue.
- Read book, Writers dialogue, newspaper, magazine, training etc.

Target logistics Express: DHLx, DPEx, ABEx, PRG and B-krocks, Euroasia, Zhanjing H/K cargo, KE-11, ARAMEX express etc.

Sample Size: Sample size is randomly selected form 10 logistics express including local and international. Those were some of known and some of internet inquiry connection. The survey papers have been distributed on 10 logistics to give their email response. Email was taken from express my company forwarder needed to carry the goods from all over the world.

Sample Measures: This sample measured by statistical comparison of various logistics.

Used of Instrument: For this analysis I utilized environment, country wise lead time, email, logistics express, data table etc.

Comparison Rate Technique: I utilized the email to know the freight rate from various country logistics rate to carry the goods. Used below table for comparison technique:

Price Comparison table					
Serial	Country	Gross weight	Rate	Transit mode	Transit time
1	USA/Africa	1MT	41%	Air/ Sea	2-5/50-60
2	China/India	1MT	21%	Air/ Sea	2-4/22-25
3	Vietnam/Saudi	1MT	33%	Air/ Sea	3-5/32-35
4	Korea/Italy	1MT	36%	Air/ Sea	3-6/35-40
5	Singapore	1MT	25%	Air/ Sea	2-4/18-21

Primary sources 2015-11-27, Forwarder vol-04

Table-1.1: Price Comparison

Data Analysis Technique: Excel price comparison is measured to analyze the collected data. Show overall cost and profit in final goods from collected data by excel chart. At last show Pie chart, column chart and chaked cylinder was created to shown that how to effect freight rate at company profit. Data used to analyze the logistic rate of Pran-RFL various business unit.

Process of Supply chain management at Pran-RFL

Project profile of supply chain management at Pran-RFL:

Co-ordination relationship between buildups to more people connected for doing the work surely and accurately in any industry. The system one kind of service oriented work in various department to done each work smoothly and planning way for gain the mission. Sourcing, procurement, information analysis, decision and finally goes to the production of goods. A chain of command is a good mechanism for supply chain management. To linkage up to lower level or lower to up level for any information or decision or setup goal for better industry.

2.1 Process of Supply Chain Management:

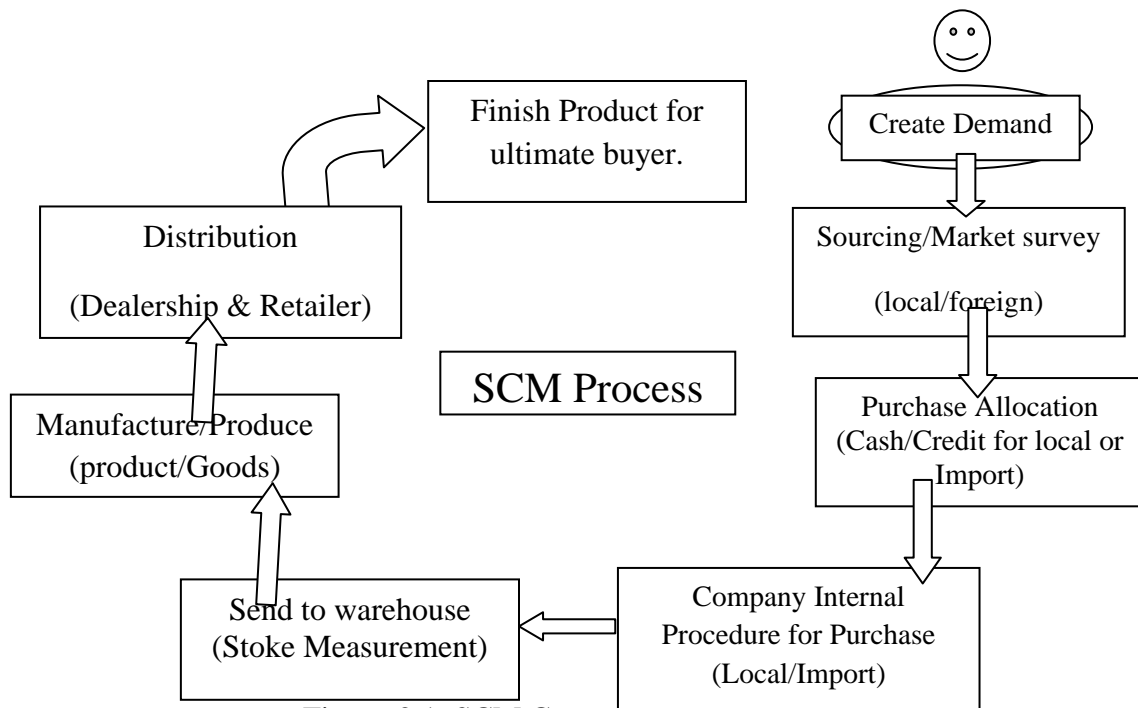


Figure-2.1: SCM Communication Process

2.2 Sourcing or Market Survey (Local/foreign)

(A) **Sourcing or Market Survey (Local):** When create or generate demand then need to source or Survey the market for fulfill the demand. Visiting suppliers whose supply the materials or

machine for buying and fulfillment the demand. If found locally then go to QC or Engineer test that it's ok or not for use the production. If it's ok then purchase from local market on raw material or machine. Pran-RFL verify more supplier for quality, Price negotiation etc. must be making a visiting report after visiting supplier demand which will be better for our company at a minimum price.

Market Survey (local)					
Date: 19/11/2015					
Item: MRP Sticker					
Supplier	Mareen Printer		Mollah Traders		Suvroto Printers
Phone no	+8801833-435411		+8801646-894356		+8801947-786543
Quantity	50,000		50,000		50,000
Price (tk)	0.15		0.17		0.21
Prepared by	SM-SCM-TEL		COO-TEL		

Sources: local survey-2015-11-07-req (store-02)

Table-2.1: Local Market survey

(B) Sourcing or Market Survey (Foreign): When local market are not found the materials then goes to foreign market for sourcing raw material or machine by ultimate supplier who are ready to supply the product. We cannot easily handle foreign market which is very challenging for buying the material or others. Foreign market focus on well communication, trust, price quotation and negotiation, good feedback everything is a sooth way for buying the goods. Meanwhile Pran-RFL focuses: China, Japan, Korea, Taiwan, Thailand, India, Singapore and USA market for purchase the materials or Machine. We collect from foreign supplier material sample, quotation and machine video trial and quotation for compare each supplier.

Market Survey (Foreign)

Item: LDPE 51MFI

Date: 12/11/2015

Price Comparison

Supplier	RELIENCE		SABIC		BOROGUS
Email ID	gautam02@reliance.net		maruf@sbaic.com		sium.rah@borogus.com
Phone no	+90016238679		+4901289878920		+604567891309
Country	India		Saudia Arabia		Malaysia
Quantity	100MT		100MT		100MT
Price (USD)	2300/MT		1300/MT		1800/MT
Prepared by	SM-SCM-TEL		AGM-IMPORT		COO-TEL

Sources: Import permission-2015-12-03-vol (19-7) Table-2.2: International market survey

2.3 Company Internal Procedure of Purchase (Local/Import):

(A) Company Internal Procedure of Purchase (Local): Each and Every company has an internal format before purchase the materials or machine from supplier. Such as Pran-RPL maintains their internal rules and regulation when purchase the supplier. When production and operation generate demand for production on material or machine then locally follow below system:

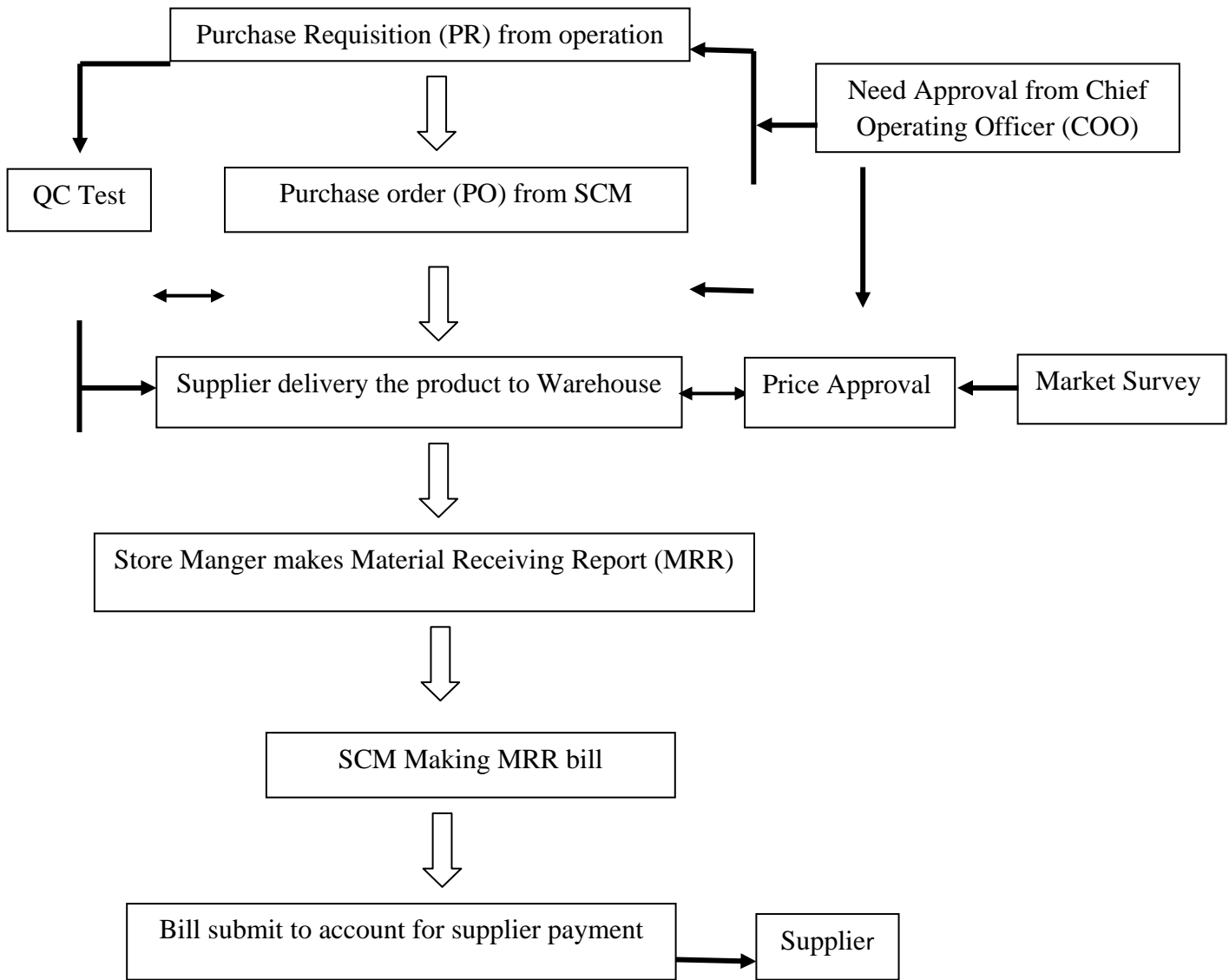
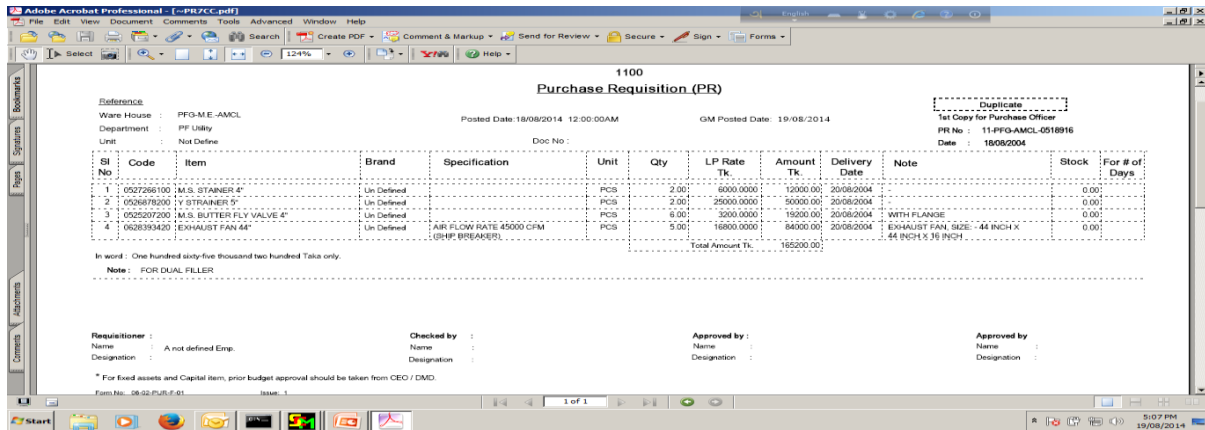


Figure-2.2: Local materials Purchase Process

i. Purchase Requisition (PR) from operation:

Operation manager create demand for production then rise to purchase requisition (PR) of the demanded materials then send to COO Sir for permission to purchase by supply chain manager in the local market. After the permission operation department send PR to supply chain manager for collect and send to warehouse for producing the product. Pran-RFL always follows the

production process that can't stop in any moment for any purpose. Those material shortage or machine damage we create KAIJAN for quickly solution and run the production.



Sources: SCM software-2015-12-03- on PR No-341

Figure-2.3: Purchase Requisition (PR)

ii. Purchase order (PO) from SCM:

After the permission of requisition form chief operating officer then supply chain manager making purchase order (PO) form SCM software and visiting local market. To visit at least THREE suppliers for good quality and reasonable price offer to purchase from supplier. Searching the better supplier then making PO forwarding local supplier for supply the materials into the warehouse. During purchase we follow the following techniques to negotiate price and to ensure timely supply the goods in good condition:

➤ Selection of vendors:

- I. First Choice – Manufacturer
- II. Second Choice – Direct importer
- III. Third Choice – Trader

- We keep good relation with the vendors
- We want to do business with the suppliers keeping long term vision in mind.
- We treat them as partner of Pran-RFL.

iii. Supplier delivery the product to Warehouse:

Supplier getting PO then arranges the material or product delivery at a specific time. At a time supply chain manager and supplier both are always connecting each other for arrange and delivery purpose, if supplier face any problem then inform to the supply chain manager. Then supply chain manager discuss about the problematic issue about the operation manager for discover a solution. Hopefully suppliers will success to deliver the product or materials into the warehouse. Supply chain arranges transport to carry goods from suppliers ware house to factory:

- By arranging truck/ pickup through our company transport.
- By the suppliers negotiating price as including carrying.
- SCM himself arrange truck by taking consent from company transport.
- Small quantity items which are purchased in a day are stored there for sending to factory ware houses.
- 2(Two) store assistants are engaged to deliver goods to the factory. They do shifting duty.
- This arrangement has been done to supply small quantity of purchased goods at the earliest possible time to factory.

iv. Store Manger makes Material Receiving Report (MRR):

After finishing arrangement the material or product supplier send to the company warehouse for producing the product. Company Store manager receiving the material to make a material receiving report (MRR). That each purchase requisition material appropriately supply or not, if found any missing or incorrect material. Store manager must inform supply chain manager that your supplier missing the supply on the material, so inform you supplier why missing? That's why MRR is must for each product when receive.

v. SCM Making MRR bill:

Supply chain manager when making supplier bill that time must follow store manager MRR. How much bill? Depend on MRR, without MRR don't make any bill because when making MRR that time Store manager follow supplier challan quantity amount of goods. Local supplier are very small so quickly done payment by the supplier for making good relation in future better

service. That's supply chain manager and supplier buildup trusty relationship. Without trust impossible to do any business.

vi. Bill submit to account for supplier payment:

It's major term in any business to right time payment for according to the pay terms. Our local supplier supply more products at each week if the supply amount aren't more than their cash in hand for business is not more for long time underpayment. When supply chain manager finishing the local bill works for pay supplier that time account department must pay at 3 or 4 days for payment.

N: B:

Market survey: Market survey must for every local supplier, a supply chain manager major work it is, before order the product supply. We must have a supplier for quality product but reasonable price. Without market survey or sourcing impossible to create a good market in any supplier for supply the product.

Price Approval: When survey many supplier everyone given a price offer for buying the goods from her. Our chief operating officer verifies the price and does the approval one from many prices. Without price approval supply chain manager can't buy any material form supplier

2.4 Process of Purchase (Import):

Supply chain management performance is desired to fulfill the import procedure criteria by foreign companies. Each and every process by importing Machinery or Raw materials through letter of credit (L/C) way when we purchase from outside the country such as RMG follow this way. An importer to supplier chain of connection depends on how or which way understanding each other at their communication process.

Import Process: Before import must follow government import Registration process:

- I. Trade license
- II. Member form chamber of commerce or any other trade Association.
- III. Tax identification number

- IV. Vat registration number
- V. Partnership deed

On being satisfied, the CCI & E issue IRC obtaining original copy of treasury challan for payment of registration fee.

Step for opening L/C:

1. **Applicant to be bank's A/C holder:** Bank will open the L/C on behalf of a person who has an account with the bank.
2. **Permissible item:** The item to be imported must be permissible and not banned item. If the item is from conditional list, the condition must be fulfilled to import the same.
3. **Sufficient Security or margin:** Price of some items fluctuates frequently. In case of those items Bank will be more careful to take sufficient cash margin or other security. Bank will also follow Bangladesh Bank's Instructions from time to time.
4. **Business Establishment:** Bank should not open an L/C on behalf of a floating business man. The importer must have business establishment, particularly he must have business net work for marketing the item to be imported.
5. **Restricted Country:** Goods not to be imported from Israel.
6. **Credit report of the beneficiary:** If the amount of L/C in one item exceeds Tk. 5.00 lac against pro-forma invoice and Tk. 10.00. lac against indent, supplier's credit report (is mandatory. The report will remain valid for one year.
7. **Application of the client to open the L/C:** The client will approach to open the L/C in Bank's prescribed form, duly stamped & signed, along with the following papers & documents:
 - I. Indent/proforma invoice
 - II. Insurance cover note with money receipt
 - III. LCAF duly filled in & signed.
 - IV. Membership certificate from chamber of commerce/Trade Association
 - V. Tax payment certificate/declaration.
 - VI. IMP & TM form signed by the importer
 - VII. Charge documents.

VIII. IRC, Pass book, Trade license, Membership certificate & VAT registration certificate in case of new client

IX. Export L/C in case of Back to Back L/C.

8. **Permission from Ministry of Commerce:** If the goods to then permission from ministry of commerce to be obtained

9. **Creditability of the Client:** In consideration of all the above points, if Bank becomes satisfied regarding the client then L/C may be opened on behalf of the client. Before opening the L/C Bank will issue & authenticate a set of LCAF in the name of the importer.

10. **Authentication/Registration of LCA form:** When the importer submits LCAF (letter of credit Authorization form) with other paper to the Bank and approach to open an L/C, Bank will authenticate the LCAF. Confirming the following:

1. IRC renewal fees paid by the importer
2. Item to be imported is eligible as per import policy/pass book of the importer
3. LCAF is duly filled in and Signed by the importer.

2.5 Distribution of LCAF Original: This is Exchange monitoring copy to be sent to Bangladesh Bank, while reporting payment of the import or to be preserved at the branch for Bangladesh Bank auditing. Duplicate: This is the custom purpose copy, to be used for clearance of the consignment. The Ads should take care on the following points:

1. L/C Number: Ads will put a number for each L/C, which is the serial number of the L/C for a particular year. The number to be of 12 Digits. 1st 4 Digits for AD's Code, 2nd 2 Digits for the respective year, 3rd 2 Digits for Nature of the LC and last 4 Digits for Serial Number of the L/C. First Foreign Cash L/C of Islami Bank Bangladesh Ltd., Paltan Branch, in 2008 may be numbered like "0885 08 01 0001.

2. Place & Date of Issue: L/C must indicate the place and date of issue.

3. Date & Place of Expiry: L/C must have an expiry date. This is the last date of presentation of document under the L/C. Place of presentation is the place of Bank with which the credit is available in addition to the place of issuing Bank

4. Shipment date: There should be a last shipment date after which shipment is not allowed. Bank may also fix-up a first shipment date before which shipment will not be allowed.

5. Presentation period: Issuing Bank will allow a period within which exporter must present the export documents to the negotiating Bank or to any other nominated Bank. Presentation must not be made later than 21 days from the date of Shipment and not later than the expiry date.
6. Applicant: Name of the applicant with business address to be put in the L/C.
7. Beneficiary: Name of the beneficiary with address also to be indicated in the L/C.
8. Advising Bank: Name of the advising Bank with address to be mentioned in the L/C.
9. Amount: Every L/C must show the amount of the L/C. The word “About” may be used with amount, which means 10% more or less of the said amount.
10. Part-shipment & Transshipment: Issuing Bank also clearly indicate in the L/C, whether part-shipment & Transshipment is allowed or not.
11. Availability: L/C must indicate whether the credit is available by sight payment, deferred payment, acceptance or negotiation.
12. Port of shipment & port of destination: L/C will also indicate from where shipment to be made & where goods to be delivered.
13. Tenure of the Draft: Whether the draft to drawn at sight or usance, also to be cleared in the L/C.
14. Documents required: Bank will give the list of required documents & data content there in. Each & every term must be supported by documents. Because any term without asking document is valueless
15. Payment: When & where, by whom payment to be made, also to be indicated in the L/C.
16. UCP: Bank will incorporate the reference of UCP 600 in the L/C, for its application in all the operation of the L/C.

17. Bill of lading: B/L must be issued or endorsed to the order of the Issuing Bank. It should be 'clean' and "freight prepaid" if L/C is on CFR basis. Short form & charter party B/L to be avoided. All these terms to be incorporated in the B/L clause of the L/C.

18. Bill of exchange: bill of exchange to be drawn on the issuing Bank.

Issuance/ Transmission of L/C:

Authorized dealer will scrutinize the LC application with all related papers. If it becomes satisfied, it will put a number for the L/C and will entry the L/C in the L/C opening register with particulars of the L/C. Non AD branch will forward and open the L/C through an AD branch.

Chapter-3

Literature Review

The configuration of the supply chain network has a strong influence on the overall performance of the supply chain. A well planning supply chain logistics provides a proper way for efficient and effective supply chain management. The supply chain network should be designed in the way that could meet the logistics needs with an efficient cost and within the lead time. This paper studies the multi-stage supply chain logistics design (SCLD) model in which all freight demand is satisfied within the lead time as well as responsive supply chain is followed. Mixed Integer freight Programming (MIFP) approach is applied to this logistics to realize the cost effectively. In this study new facilitates is to be selected at a proper logistics and correspondingly of its mode of transportation based on logistics cost for maximizing the profit. We show the problem formulation, solution statistics and discuss computational results.

Supply Chain management (SCM) is the chain of command of a mechanism from supplier to manufacturer to wholesaler to retailer to consumer. Within the organization, the supply chain refers to a wide range of functional areas. These include Supply Chain Management related activities such as inbound and outbound transportation, warehousing, and inventory control. Sourcing, procurement, and supply management fall under the supply chain umbrella, too. Forecasting, production planning and scheduling, order processing, and customer service all are part of the process as well. Importantly, it also embodies the information systems so necessary to monitor all of these activities. Robert Handfield, Ph.D., Professor of SCM, Bank of America University, (Published: Jan, 11, 2011). ‘A firm’s SCM efforts start whole mechanism and execution of a long-term supply chain strategy. This strategy should’:

- Identify what supply chains manager task and responsibility area of the firm.
- Help reporting boss understand how the firm will provide value to the supply chain.
- Chain of command at supply chain partners, including suppliers, subcontractors, transportation & logistics providers, and distributors and ultimate customer.

As firms struggle to higher development by supply chains they compete in, it is valuable to practical and physical flows other than virtual supply chains. Firms can begin to understand how

they add value, and what information is needed to make the supply chain work in the most effective and efficient way possible.

‘(Christopher, 1992; Hines, 1994 ;) Supply chain management and other similar terms, such as network sourcing, supply pipeline management, value chain management, and value stream management have become subjects of increasing interest in recent years, to academics, consultants and business management’. (Macbeth & Ferguson, 1994; Cox, 1997) “It is recognized in some parts of the literature that the supply chain should be seen as the central unit of competitive analysis. Companies will not seek to achieve cost reductions or profit improvement at the expense of their supply chain partners, but rather seek to make the supply chain as a whole more competitive”. In short, ‘the contention in that it is supply chains, and not single firms, that compete is a central tenet in the field of supply chain management. (Christopher, 1992; Macbeth & Ferguson, 1994)’. Supply chain management has received attention since the early 1980s, yet conceptually the management of supply chains is not particularly well-understood, and many authors have highlighted the necessity of clear definitional constructs and conceptual frameworks on supply chain management (Saunders, 1998; Cooper, Lambert & Pagh, 1997 ;)

Dr Abhijeet Ghadge, Director of the Chartered Institute of Logistics & Transport (UK) (CILT) et al (2007) ‘Logistics is the term widely used in business for the range of activities associated with the movement, storage and handling of materials. The management of logistics has been revolutionized over the past years and has come to be regarded as a key determinant of business competitiveness. Companies have substantially improved their performance not only by overhauling their internal logistics, but also by managing more effectively their external links with suppliers. This has become known as supply chain management. These developments have created a healthy demand for well-qualified logistics and supply chain managers in most sectors of the economy (Grooge Alex-2011).’

Our company view logistics support is bottoming point for import section each and every aspect. Especially when the materials or machine purchase form the Europe, America, Africa, Asia or others. Mr. Karmul AGM of import department suggests that supply chain management must evolve all time when the ship are carry any forwarder for perfectly done the work at lead

time. Leading company increasingly view sources of cost reduction but appropriate logistics that are lowest the rate of transit the goods at proper time. But both air and sea freight is not good for same time, both are depending on the crisis of goods or how emergence the goods and when the goods need. Must be compare cost, shipping time, etc. Sea freight always lowest cost but lead time too more to reach the port of destination. Otherwise the air freight always high the cost but lead time very short to reach the air of destination. Lummus, Krumwiede and Vokurka et al (2001) made a clear distinction “The logistics involves planning, implementing and controlling efficient, effective flow and storage of goods and services from the beginning point of external origin to the company and from the company to the point of consumption for the purpose of conforming to customer requirements. Logistics is generally viewed as within one company, although it manages flow between company and its suppliers and customers.”

Every mother company in the world is following their forwarder policy for lowest cost and lead time to reach the goods at the proper destination. Pran-RFL no forwarder, they use three way logistics forwarder by supplier providing shipping the port (CFR means clearing & forwarding report) of Chittagong port, airway logistics forwarder by Dhaka, and Benapole road freight at Jessore. Sea and road are measurable cost of fare and lead time but the air way is very high cost and each and every month Pran-RFL Company give demurrage for their inability to release the goods for clearing and forwarding (C&F) form Dhaka air customs. Here we tell insufficient planning of materials. Freight Inbound Freight Logistics Supply Chain // Adam Robinson // August 7, 2013 //“The bottom line is that when a supplier fails to adhere to the shipping request freight expenses, as well as the costs resulting from delays in receiving purchased items, supply chain disruptions, and a lack of visibility into the shipment. Costs that usually cannot be tracked back to the product level for accurate Cost of Goods (COGS) calculations”. (Technological Inelegancy-Ti, p-314) ‘Transportation management systems (TMS) are best known for their routing, scheduling, routing, carrier selection, load tendering, and shipment consolidation capabilities. And while these solutions have been around for a while, a recent survey of Logistics Management readers shows that just 35 percent of shippers are using these systems as part of their overall supply chain management strategies. On other hand, same survey also found that 39 percent of companies planned to either purchase or upgrade their TMS during the coming year a signal that could result in higher adoption rates in the future. Chris Cunnane & Dox (1993), senior analyst with ARC Advisory Group in Boston, says “that his

findings point to TMS adoption rates heading up to above 50 percent over the coming years, although there are still a large number of businesses that are not reaping the benefits of TMS”.

‘Logistics management is a flow-oriented concept with the objective of integrating resources across a pipeline which extends from suppliers to final customers, it is desirable to have a means whereby costs and performance of that pipeline flow can be assessed. Logistics and distribution management has proved for difficult for many companies are the lack of appropriate cost information. Without an adequate logistic oriented cost accounting system it is extremely difficult to identify the extent to which a particular trade of is cost beneficial’ LSCH_C03.QXD 12/11/04 Page 95 & 96. Alan Kelsky, Friday, August 22, 2014 recently, “the most attention that the supply chain got was for product management centered on the new introduction of products or on the outbound shipping part, where volume shipping is part of the product life cycle. But, according to Supply Chain Quarterly, around 20 percent of everything sold in the United States finds its way back to the company that manufactured the goods for return or recycling. The cost to industry is more expensive than most people know costing companies about \$100 billion per year”. Expenses associated with returned goods are in the neighborhood of 9 to 15 percent of a company’s top line. Actually, for some the cost of processing the returned item often is two or three times that of the cost of shipping the product outbound.

Supply chain management has come to the forefront of every company’s business agenda. Responding to the demands of today’s highly competitive global environment, traditional linear supply chains with their sequential processes are evolving into complex, global ecosystems that are highly responsive to customer needs. Today company aggressively look to expand their ability to reach their customer profitability and efficiently beyond their existing ecosystem. Better utilizing raw materials and parts as well as finish goods must move from point to point with a supply chain logistics services provides and business partners.

Chapter-4
Research Framework

4.1 Logistics management process of Pran-RFL:

Whenever supply chain manager makes a purchase from all over the world and choose overnight shipping on a group of related or unrelated items, I marvel at the logistics involved in getting my items gathered form a warehouse at several time. Network of all participants in a supply chain engaged in the receiving, handling, storage, transportation and communication. But the processing of logistic mechanism is very difficult to measurement the condition because the communication gap to crate this difficulty.

Pran-RFL company logistics management:

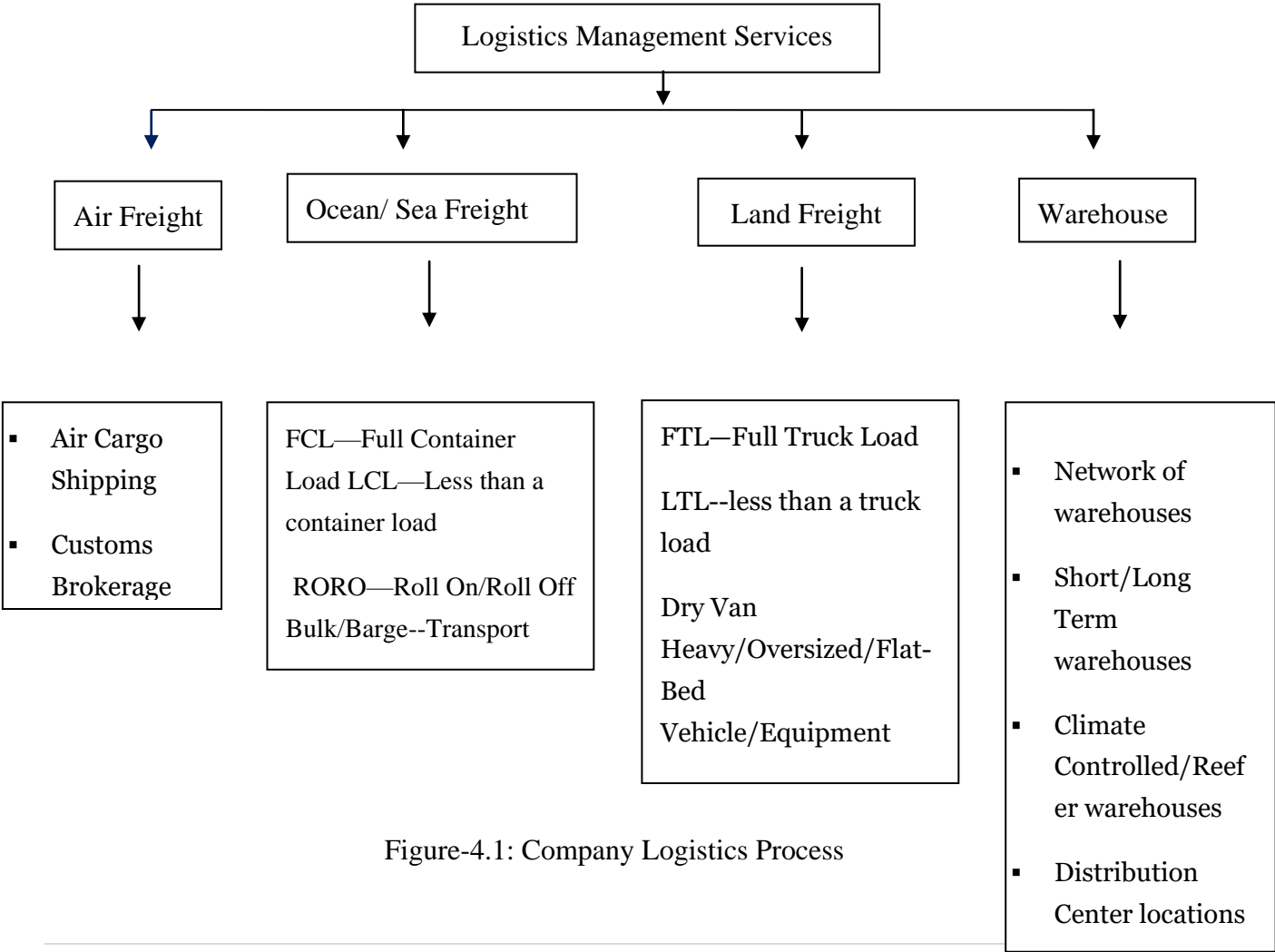


Figure-4.1: Company Logistics Process

4.2 Company internal logistics System: A chain of line maintains internal logistics system at Pran-RFL group from any internal port to warehouse. Mainly use official truck, pickup van, lorry but others huge or big machine then carry third party logistics for bringing to warehouse. Our warehouse producing final goods then delivery the local market by distribution channel and use various types of vehicles. Such as: Pickup, lorry, truck, delivery van, huge, tally, dye van, heavy felt etc.

4.3 Import Logistics follow of goods System: Import logistics is a major term for a good business operation. This way included more internal-external path for bringing the goods, material or machine. Here maintain the below way goods follow:

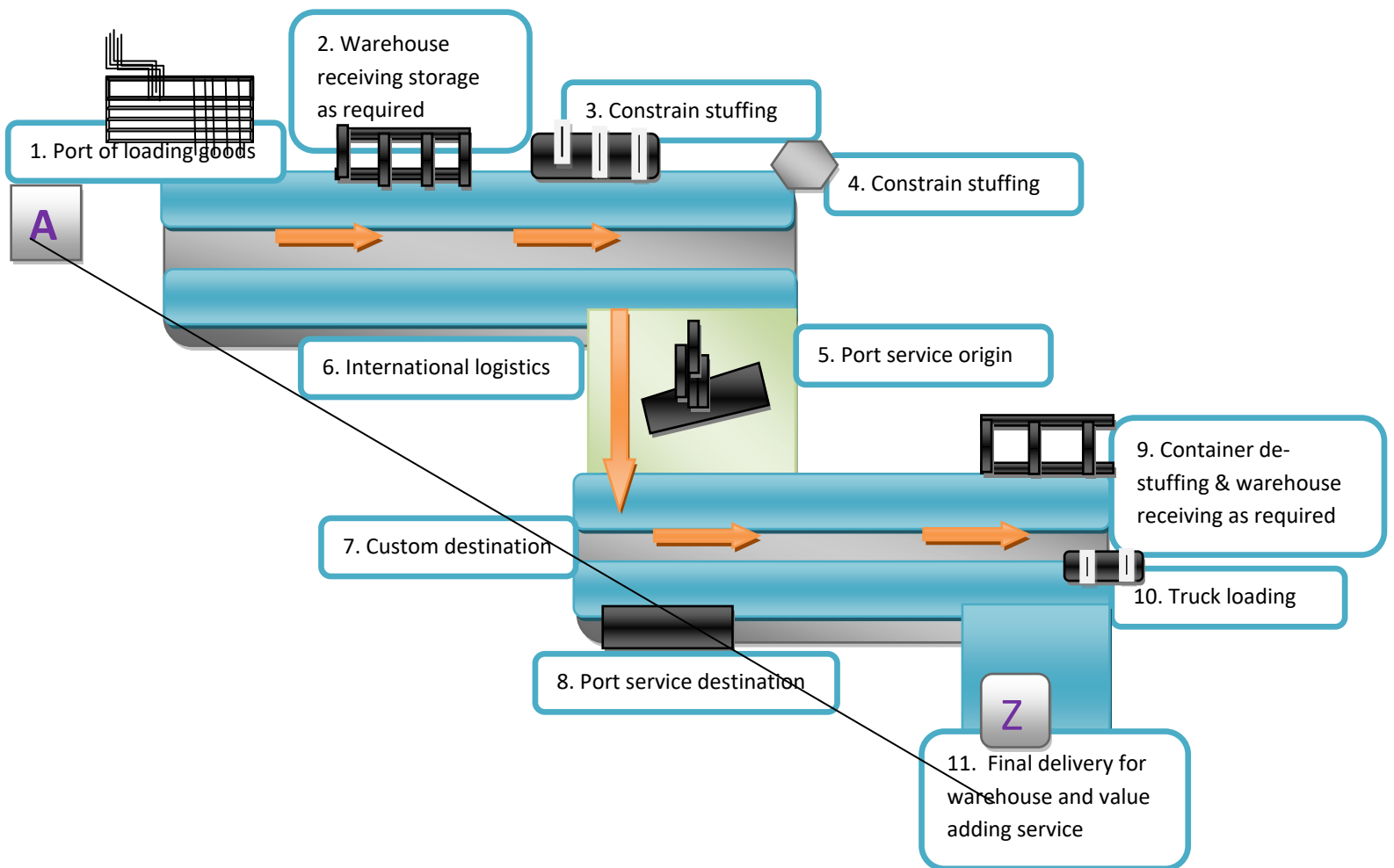


Figure-4.2: Import logistics process follow-up.

4.4 Statistical view of logistics rate at Pran-RFL:

Air freight logistics rate: There is one thing we can all agree on, it's that air cargo should only be used for the right reasons. Often, there is no better option. When the materials end that time we need argent basis then we your air way. But in many cases, the options just are not easily comparable or actionable. Because, as the manager of the world's most extensive supply chains, air way shipment is very highly cost. If the product is very emergency or liquid for safely carry then use airway otherwise not.

Price Comparison form different country

Item: Raw Material (Net Weight: 100kg)

Serial	Country	Gross weight	shipment mode	Logistics					Transit time
				DPEX	ABPX	DHL	PRG	BTROCKS	
1	Singapore	120kg	Air	\$4.9/kg	\$5.7/kg	\$5.95/kg	\$7.01/kg	\$5.32/kg	3-5 days
2	China	120kg	Air	\$3.05/kg	\$6.90/kg	\$3.18/kg	\$6.98/kg	\$2.7/kg	4-6 days
3	India	120kg	Air	\$3.18/kg	\$3.03/kg	\$4.7/kg	\$6.90/kg	\$6.98/kg	3-7 days
4	Vietnam	120kg	Air	\$4.7/kg	\$6.98/kg	\$2.8/kg	\$2.03/kg	\$6.03/kg	5-6 days
5	Korea	120kg	Air	\$2.95/kg	\$7.01/kg	\$2.5/kg	\$5.65/kg	\$8.1/kg	4-5 days

Sources: 2015-12-03 for silicon material forwarder vol-342A

Table 4.1: Air freight cost comparison

How to affect air freight logistics cost on Company Profit?

Every mother company mainly target to reduce the cost but not for more profit earning. It's target how to supply the final goods at a customer measurable price. If we import raw materials at air way then pay more logistics fare that's why logistics cost affect on final goods price. Now show cost and profit percentage table:

Item	Description	Total USD	Percentage
Total earn from final goods		\$1,440	100%
Deduct:			
Material cost (120kg*\$6)	\$720		50.00%
Shipping cost (120kg*\$4.9)	\$588		41.30%
Process cost	\$12		0.83%
total cost		\$1,320	
Profit		\$120	8.33%

Table-4.2: Process of final goods cost and profit on above information by air

Now show at Column chart that how to affect on logistic cost on profit?

Every sector has cost but a measurable cost is good making final product to catch the present competitive market at lowest price. A column chart is shown here to see the clearly the air cost affect on profit at Pran-RFL

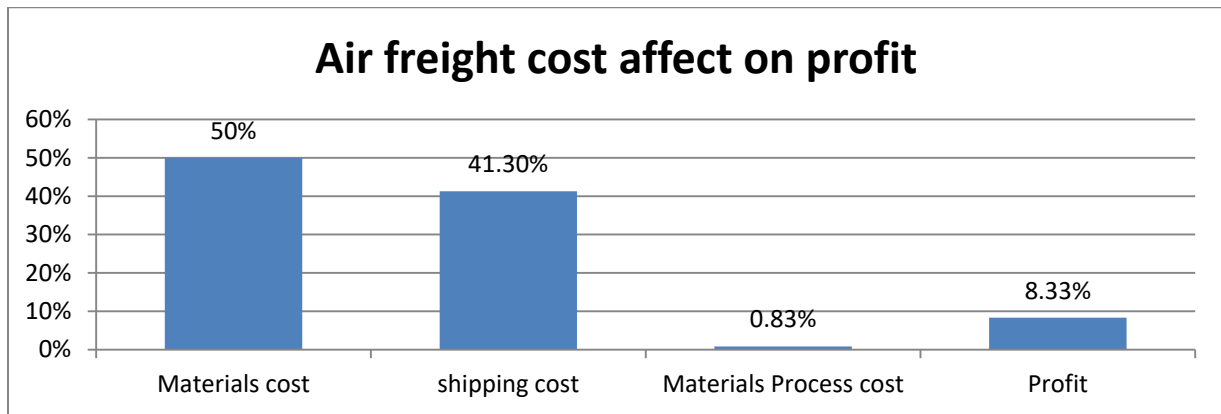


Figure-4.3: Cost and Profit percentage on above information by air

Here, we show that 50% materials cost, 41.3% shipping cost, 0.83% process cost and 8.33% profit cost. That means here we cost more for shipping purpose.

Ocean / sea freight logistics rate: Freight rates are simply the price at which a certain cargo is delivered from one point to another. Traditionally that’s where the simplicity ends, as the calculations involved in producing these prices can depend on the mode of transport. The nature and form of the cargo (Loose cargo, containerized cargo etc) the weight or volume of the cargo, and the distance to the delivery destination.

Price Comparison of different country

Item: Capital Machine (Spare parts of Injection molding machine)

Net weight: 29.5MT

Serial	Country	Gross weight	shipment mode	Logistics					
				Euroasia	Transit time	YANO	Transit time	NYK line	Transit time
1	Singapore	30MT	Sea	\$150/MT	55-60 days	\$163/MT	57-61 days	\$172/MT	57-61 days
2	China	30MT	Sea	\$135/MT	21-25 days	\$129/MT	22-25 days	\$140/MT	22-25 days
3	India	30MT	Sea	\$126/MT	25-29 days	\$130/MT	24-29 days	\$134/MT	24-29 days
4	Vietnam	30MT	Sea	\$142/MT	28-30 days	\$146/MT	25-30 days	\$139/MT	25-30 days
5	Korea	30MT	Sea	\$230/MT	35-40 days	\$226/MT	37-40 days	\$221/MT	37-40 days

Sources: 2015-12-07, Spare parts forwarder, vol-346

Table-4.3: Sea freight cost Comparison

How to affect Sea freight logistics cost on Company Profit?

The demand and the supply of vessel transport services interact with each other to determine freight rates. While there are countless factors affecting supply and demand, the exposure of freights rates to market forces is inevitable. Cargo volumes and demand for vessel transport services are usually the first to be hit by political, environmental and economic turmoil. Factors such as a slowdown in international trade, sanctions, natural disasters and weather events, regulatory measures and changes in fuel prices have an impact on the world economy and global demand for sea transport. These changes may occur quickly and have an immediate impact on demand for vessel transport services. Now show a table of percentage of whole system with profit:

Item	Description	Total USD	Percentage
Total earn from final goods		\$45,490	100%
Deduct:			
Material cost (30MT*\$1200)	\$36,000		79.13%
shipping cost (30MT*\$150)	\$4,500		9.89%
Process cost	\$900		1.97%
total cost		\$41,400	
Profit		\$4,090	9.01%

Table-4.4: Process of final goods cost and profit on above information by sea

Now show at pie chart how to affect on logistic cost on profit?

On the above information we show a pie chart for clearly show that’s how to % sea cost affect on our final product making and company how much suffer for this cost. If the shipping cost here lowest but the materials cost so high if the materials are so main materials to produce the final product. Now show figure at pie chat at below:

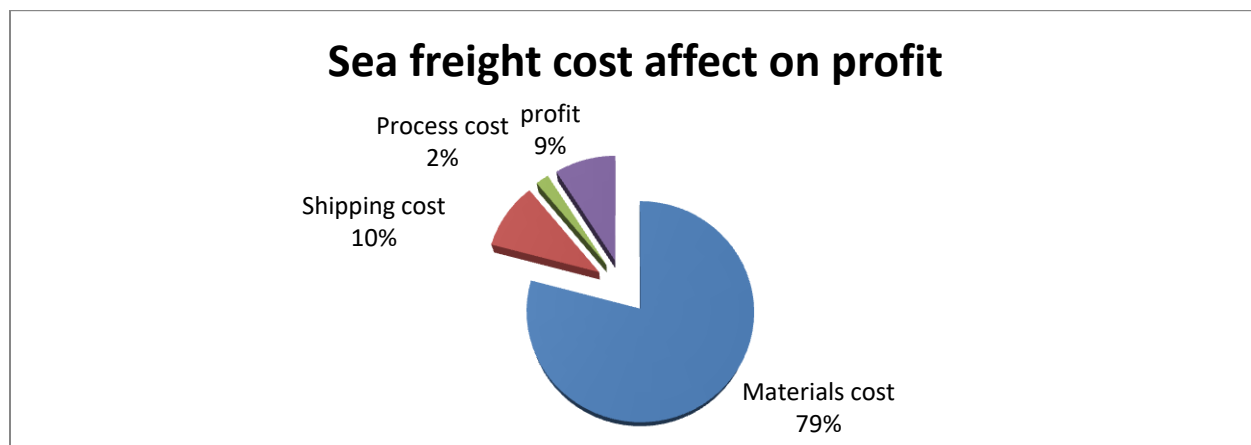


Figure-4.4: Cost and Profit percentage on above information for sea

Land/road freight logistics rate: One-thirds of the freight tonnage came in the neighbor country by road. Our economy and social well-being are critically dependent on the road haulage system. Most of the cost of this system is borne by lorry operators and passed on to customers. Some of the wider environmental and congestion costs, however, are imposed on the community at large. If the polluter pays principle were applied, all these external costs would be completely internalized by taxation. Environmental groups have argued for many years that Lorries should be taxed at a level that achieves full internalization. This report assesses the degree to which the external costs on road freight.

Price Comparison of different country

Item: Raw Materials (New weight: 19.5MT)

				Logistics					
Serial	Country	Gross weight	shipment mode	M/S Truck	Transit time	Vinda service	Transit time	R.K lot	Transit time
1	India	20MT	Road	\$155/MT	2-5 days	\$163/MT	3-5 days	\$172/MT	3-4 days

2	Nepal	20MT	Road	\$170/MT	3-6 days	\$168/MT	2-5 days	\$165/MT	2-5 days
3	Myanmar	20MT	Road	\$185/MT	4-6 days	\$175/MT	4-5 days	\$189/MT	3-5 days

Sources: 2015-12-07, bucket mold purchase from India, vol-356

Table-4.5: Road freight cost comparison

How to affect Sea freight logistics cost on Company Profit?

A conjunction of factors and economic developments lies behind rising transportation costs. At the center of today's transport challenges are oil prices. Freight movement in most modes remains largely dependent on ever more expensive and finite fossil fuels, primarily diesel fuel. According to the world fuel organization, the price of crude oil is the dominant factor influencing changes in diesel prices. International trade growth places pressure not just gateway ports but also on inland transportation systems and service availability. Simply put, more goods entering through the ports means more domestic moves to deliver these goods to their destinations. Now show a table of percentage of whole system with profit:

Item	Description	Total USD	Percentage
Total earn from final goods		\$24,435	100%
Deduct:			
Materials cost (20MT*\$700)	\$14,000		57.29%
Shipping cost (20MT*\$155)	\$3,100		12.68%
Process cost	\$950		3.89%
Total cost		\$18,050	
Profit		\$6,385	26.14%

Table-4.6: Process of final goods cost and profit on above information by road.

Now show at stacked cylinder chart how to affect on logistic cost on profit?

Every sector we analyze that cost are major factor to final for ultimate customer. That's why here we draw a stacked cylinder chart to see overall cost and profit factor at below chart:

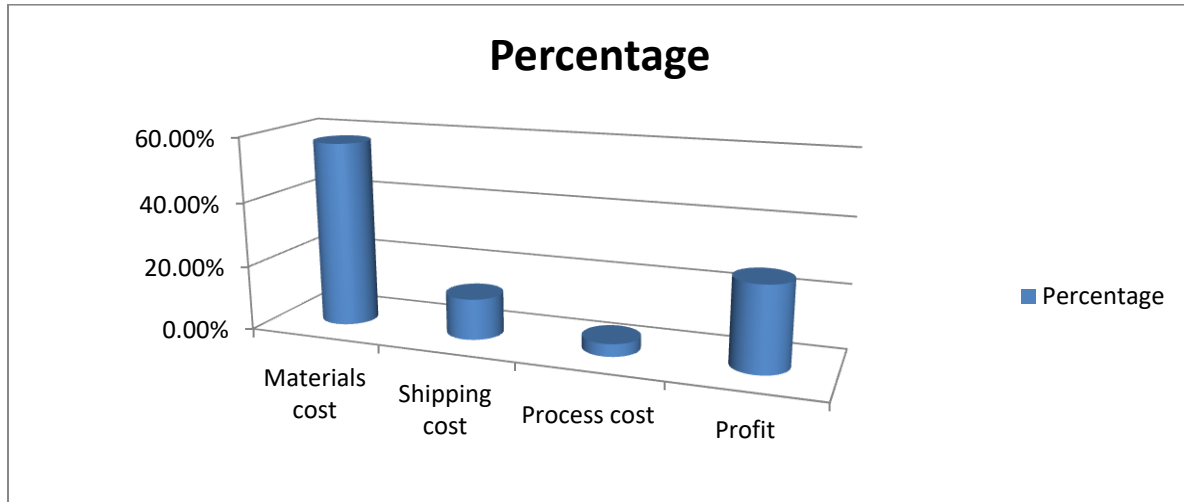


Figure-4.5: Cost and Profit percentage on above information by road

Above figure show more materials cost, small amount of ship & process cost and profit expected from the chart. Here the transportation cost perfect for shipping from neighbor country. As the above percentages are collect directly from Pran-RFL of import section at TEL unit.

5.1 Finding

- **Communication with supplier:** A bottom point of Supply chain management is smooth communication with supplier at always time.
- **Network channel:** A goods channel with supplier make benefit in the future others product into the market.
- **Supply chain network at Pran-RFL:** At the beginning to finish product how to supply of manufacturer to ultimate customer at below point:
 - ❖ Supplier: A person who responsible to supply the raw materials, machinery or others.
 - ❖ Manufacturer: Getting materials then starting to make the final product.
 - ❖ Warehouse: A stock house of the factory that's to measurement of the present stock at materials or final goods.
 - ❖ Distribution: Circle of channel to distribution all things at ultimate purpose.
 - ❖ Retailer: A nominee person who sell the final product to consumer for making profit.
 - ❖ Customer: Ultimate customer who buy our company product for consume.
- **Cost measurement:** If we make a final product, then include all cost such as materials, Shipping, Process etc.
- **Affect of logistics cost on profit at Pran-RFL:** Every cost is affect on profit some are lowest, some are more. Here logistics is a turning factors of cost at below:
 - ❖ Air freight cost: An emergency or smooth of liquid materials then use airway otherwise its high costing affect to making final product.
 - ❖ Sea freight cost: As import section supply chain management must decided to ship at sea freight in any country because sea are always a measurable lowest cost for carried.
 - ❖ Road/Land freight cost: when we import any materials at neighbor country then we try to shipment by road because it's given lowest cost.

- **Import follow up system:** A supply chain manager must follow up when materials or machine are shipment if delay to release the goods then given the demurrage to customs.
- **Sourcing new supplier at Pran-RFL:** Supply chain manager must source new supplier local or international for reduce the materials purchase cost
- **Delivery chain network:** A chain of network to deliver the product at manufacturer to customer.
- **Price negotiation:** when we purchase materials or machine from supplier then must smoothly negotiate for price reduction.

6.1 Recommendation

SCM training for internal personnel: Training is a way to expert a supply chain manager for smoothly working with supplier and internal purpose of the company, each employee before joining must need training and after joining need monthly training. An expert SCM always working quickly and going right decision. So I think training to be mandatory for all SCM.

Build a proactive plan and roadmap: Without a proper plan and appropriate roadmap impossible to handling all work for supply chain manager, starting work before need to make a plan for working, how and which way do the work with supplier, manufacturer, operation manager and how to reach ultimate target.

Materials Planning: An operation manager must making a perfect materials planning for a period of time to time. Supply chain manager follow the materials planning and doing the next step. When need the materials and which way cost effect for shipment. As a result we reduce the cost for logistics and supply the materials at right time.

Cost planning and Justification Math: To make a cost planning with account department for justify the effective cost for us. Compare the previous price and present price for making new cost of the materials. After making the cost to decide which is perfect or not?

Integrate logistical processes with suppliers: No matter the size of a business, it remains important to integrate logistical processes with the suppliers for that organization. This is totally dependent on software systems, certain enterprise resources planning application. If a supplier is able to access the rate at which a business runs through its inventory, they are better able to meet any changes in demand, improving operation efficiency for both organizations.

Logistics mechanizm comparison: Before shipping one must compare both shipment which is better for us or not. Without comparison can't expect perfect shipping way. The logistics system such as air, sea, road etc each important but depend on kinds of materials or agency for production of goods. So if the company earn minimum profit must need comparison each.

Conclusion

Supply chain management is an exciting and important area of study. Specialist companies like Excel are able to save the world's leading businesses large amounts of money, time and effort by creating an effective supply chain. Just-in-time methods and premium supply chain management. Supply chain management division has a good contribution for overall chain management of Pran-RFL. Pran-RFL as a private sector of plastic industries, which has started its manufacturing plastic goods activities in 2003 is trying to serve the various valued customers through different types of plastic goods and products. It is now holding the position of leader. In addition to this, supply chain manager given a great support to this position, where whole mechanism is connected by the systematical way. To build up communicate with various person for better chain management. Despite the supply chain's role as a significant contributor to attaining strategic business goals, the logistics industry is experiencing a shortage of capable and well rounded supply chain managers prepared to step into key management positions. This can be overcome by developing programs for talent management the vigorous, systematic process of connecting a clear, well defined business strategy to the recruitment, retention and development of talent. Many shippers are troubled by the current state of talent management within their organizations, with promotion and rotation practices and identifying and developing leaders the top concerns.

As supply chains grow more complex and intrinsic to a company's ability to attain its business goals, they require leaders who are more diverse and multi faceted. A significant number of shippers feel their current leaders don't have what it takes to address future business challenges. Here logistics support more important for challenging global market competition where both type of shipping vary the making final product for ultimate customer at a measurable price.

Reference

1. Arshinder K, Kanda A, Deshmukh SG (2008) Supply chain coordination: perspectives, empirical studies and research directions. *Int J Prod Econ* 115(2):316–335.
2. Anderson, MG., Katz PB. 1998. Strategic sourcing. *International Journal of Logistics Management* 9(1) pp 1-14.
3. *World Journal of Social Sciences* (Vol. 5. No.3. September 2015 Issue. Pp. 197 – 210).
4. Logistics & Supply Chain Industry Agenda Council Members 2010-2011 World Economic Forum, 91-93 route de la Capite, CH-1223 Cologny/Geneva, Switzerland.
5. Andersson, D., Wasner, R., 1998. A conceptual outsourcing model: using transaction cost analysis for analyzing rapidly growing "rms. Seventh International IPSERA Conference, London, pp. 534-544.
6. *IOSR Journal of Business and Management (IOSR-JBM)* e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 15, Issue 6 (Jan. 2014), PP 60-66
7. Bradley, J. and Arntzen, B. (1999), "The simultaneous planning of production, capacity, and inventory in seasonal demand environments", *Operations Research*, Vol. 47 No. 6, pp. 795-806.
8. Aviv Y (2001) The effect of collaborative forecasting on supply chain performance. *Manage Sci* 47(10):1326–1343
9. Bahinipati BK, Kanda A, Deshmukh SG (2009) Horizontal collaboration in semiconductor manufacturing industry supply chain: an evaluation of collaboration intensity index. *Comput Ind Eng* 57(3):880–895
10. Hill, C.A. (2000), "Information technology and supply chain management: a study of the food industry", *Hospital and Material Management Quarterly*, Vol. 22 No. 1, pp. 53-8.
11. Huang, G.Q. and Mak, K.L. (2000), "WeBid: a web-based framework to support early supplier involvement in new product development", *Robotics & Computer-Integrated Manufacturing*, Vol. 16 Nos 2/3, pp. 169-79.
12. Lambert, D. M. (2008). *Supply Chain Management: Processes, Partnerships, Performance*, 3rd edition. McGraw Hill Press.
13. Lawrence P. R., and Lorsch J. W. (2000). *Organization and Environment*. *Journal of Managing Differentiation Review*, pp. 30—36. Pitman Publishing.

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APPENDIX

SCM: Supply chain management

MRR: Material Receiving Report

PR: Purchase Requisition

PO: Purchase Order

COO: Chief Operating officer

SCLD: Supply chain logistics design

MILP: Mixed Integer logistics Programming

DHLx: Dalsey, Hillblom and Lynn Express

DPEX: Distributed Processing Executive Program worldwide

ABEx: Air Based Expressed

PRGs: Pearl River Glass Studio

MT: Metric Ton

COGS: Cost of Goods

TMS: Time Management system

L/C: Letter of credit

PI & CI: Proforma invoice & Commercial invoice

BL: Bill of lading

CR: Certificate of Origin

C & F: Clearing and Forwarding

Logistics: DHL, DPEX, ABPX, PRG, Bkrocks, Euroasia, Zhanjing cargo, KE-11, ARAMEX

Sipping way: Air, Sea, Road

Logistic price comparison: Excel sheet, pie chart, column etc.