Chapter 6

Case study of company A and B – Inbound and Outbound Logistics Process

6.1 Introduction

The steel manufacturer gets the raw material in time for the production of steel and ultimate delivery of finished products to meet the customers demand. Gilmore (2002) explicitly points out that there is a growing recognition of the role that transportation and logistics excellence plays in achieving a world-class logistics management and that transportation costs represent a substantial component of overall supply chain and corporate spend for many companies.

Case studies research has a number of advantages (Eisenhardt, 1989) like: it enables the researchers to develop grounded theories that are practical and relevant; it inferences on casual relationships can be made with more validity due to availability of long term observations; it provide broad holistic pattern of phenomenon in real world settings.

Keeping in view these advantages of case study approach, the case studies of two different steel plants have been presented in this chapter. The objectives of case study in this research are:

(1) To have an understanding of the cost related inbound and outbound logistics practices for the "company A" and "company B" steel manufacturing company at the current scenario.

(2) To identify the problems faced by company A and company B in terms of logistics cost value chain

(3) Suggest a suitable approach for logistics cost reduction through assessment of value chain`

(4) The case selection for "Company A" and "Company B" are considered based on their export volume for outbound logistics, since domestic are very less for both "Company A" and "Company B", hence it is ignored.

Table 6.1: presents the overall expenditure on inbound and outbound logistics for company A and company B

Table 6.1: Logistics expenditures for company A and company B

Sl. No	Logistics Spending	Company A			Company B		
		FY' 12-13	FY' 13-14	FY' 14-15	FY' 12-13	FY' 13-14	FY' 14-15
1	Inbound Logistics	976	1101	108	1092	998	1206
2	Outbound Logistics	592	676	547	641	598	652
3	Annual turnover in Crs.	11700	12401	12566	10900	10670	11311

It is clear that steel manufacturing company “A” spends a minimum of average 14.16 % on logistics (FY 2014-15) and company “B” spends a minimum of average 16.21 % on logistics which is very high as compared to international standards of 8%.Hence the rationale of this case is to understand , what are the key factors for higher logistics cost.

The case approach process adopted for this purpose is presented in Figure 6.1

A stepwise scheme for the case study is depicted in Figure 6.1.

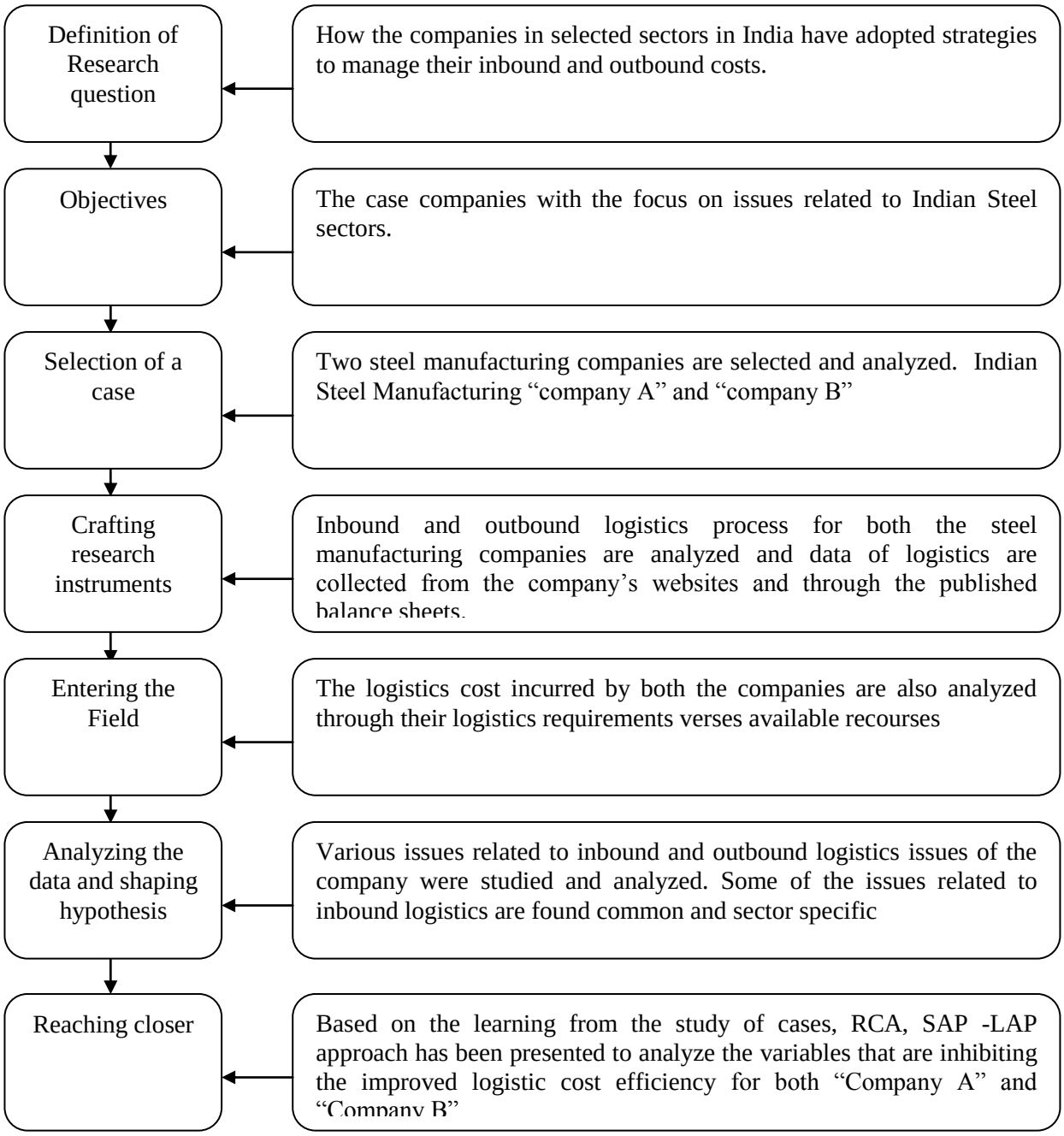


Figure 6.1: Various steps in a case study analysis adopted for present research

(Source: Modified from Eisenhardt, 1989)

6.2 Brief details of case approach

Manufacturing unit of company A is the only fully integrated stainless steel plant in the country encompassing complete integration including Ferro-alloy production, steel making, refining, hot rolling, cold rolling, annealing pickling and finishing facilities along with captive coke oven battery and power plant. In order to meet the rising demand for demand for wider products, the company has set up integrated stainless steel plant eastern part of India. This plant is capable of producing unique and wide range of products both in terms of grades and dimensions.

This case study analysis seeks to characterize how logistics activities are performed of company A and to understand the elements of cost as an industry in totality.

The transactions between chain actors (producers, processors, warehouse retailers, customers) were recorded as product gradually moves through the successive stages. Information exchange, money changes hand, and value are progressively also added (Aryman *et al*., 2007; Mangina and Vlachos, 2005). This case study analysis seeks to characterize how the steel company A and company B perform and understand to retain and shared among chain participants. Figure 6.2: presents the case approach adopted for the study of logistics cost for company A and company B.

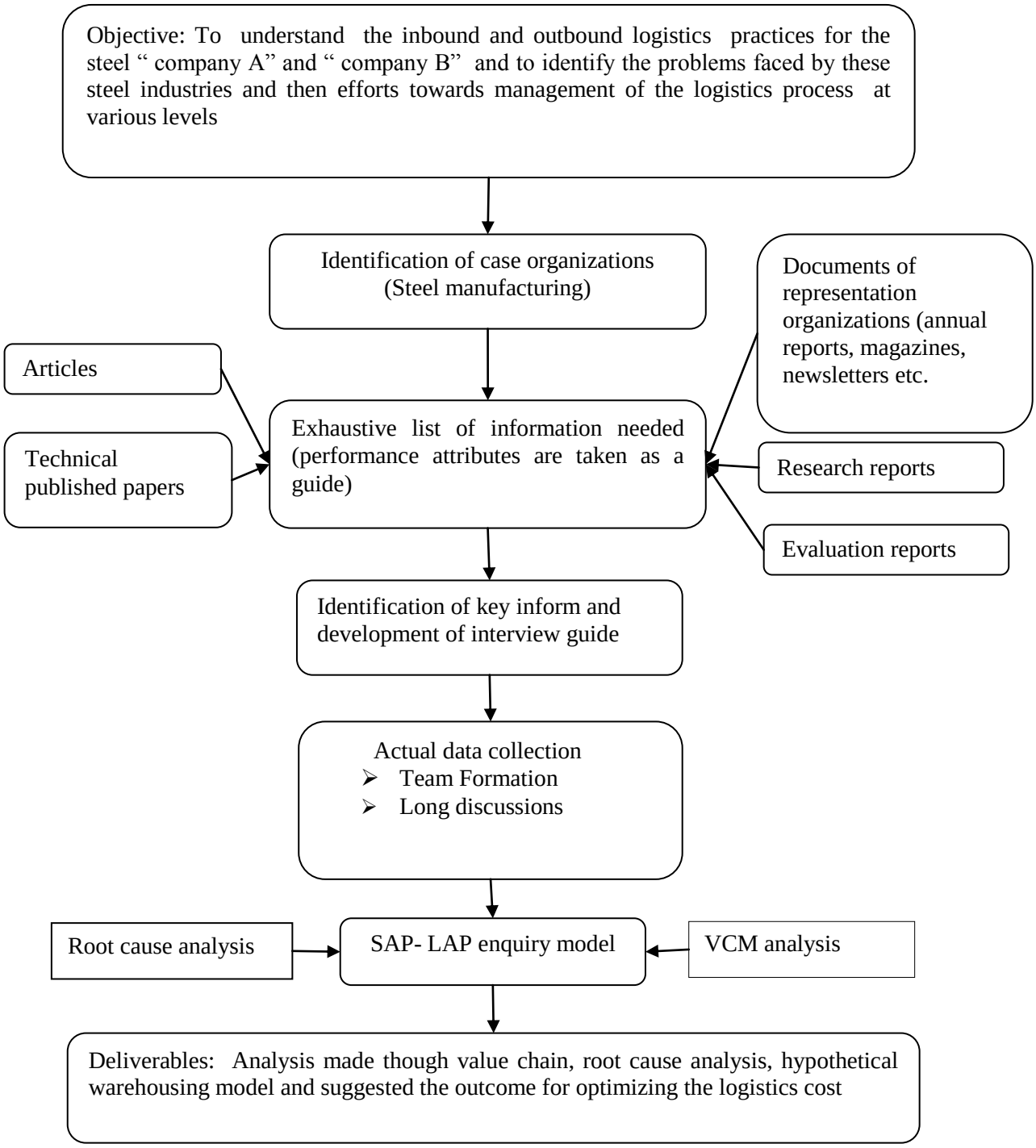


Figure 6.2: Case methodology adopted for present case

6.3 Brief profile of the "company A"

******This information is compilation of facts and figures from the "Company A" website, published papers and the balance sheet of the company. The name has been concealed owing to propriety reasons*).

Company A is one of the largest manufactures of stainless steel products like steel coils, slabs and sheets in India. The product of company A is highly acclaimed

and appreciated in the international markets. The company is engaged exporting 70% of entire productions to international markets like USA and to other developed countries. The company is also having been awarded as “Super Star Trading House” recognized by Government of India.

Manufacturing unit of company A is the fully integrated stainless steel plant in the country encompassing complete integration including Ferro-alloy production, steel making, refining, hot rolling, cold rolling, annealing pickling and finishing facilities along with captive coke oven battery and power plant.

In order to meet the rising demand for wider products, the company A has set up a fully integrated stainless steel plant eastern part of India. This plant is capable of producing unique and wide range of products in terms of both grades and dimensions.

Hot Rolled Plates and Coils of 1650 mm width and minimum thickness of 2mm in all grades of stainless steel can be produced as per the customers demand. Also, Cold Rolled Coils of minimum thickness of 0.3mm with maximum width of 1650mm can be achieved based on customers’ need. Company“ A” is one of its kinds and envisages complete integration from mining to cold rolling along with captive power plant. As a part of forward integration, production facilities for 2,50,000 tpa Ferro Alloys; 4,30,000 mtpa Coke Oven; 250MW Captive Power Plant ; 1mtpa stainless steel Melt Shop, 1.6mtpa Hot Rolling Mill and 0.95 mtpa Cold Rolling Mill have been set-up and are in operation progressively since year 2004.

The plant has the best chosen and advanced state of the art technologies from world’s reputed technology suppliers like SMS-DEMAG for Stainless Steel Melting & Casting, Siemens VAI for Hot Rolling and Andritz for Cold Rolling manufacturing facilities.

In order to meet the own power requirement the company has two captive power plants within the vicinity of steel plant for 550mega watts. All raw materials like Nickel, Ferro Nickel, Ferro Chrome, Copper and Molly are imported on container mode at Vizag Port which is 580 kms away from Plant.Coal, Coke and Manganese ore are imported on bulk mode through Paradip and Haldia Sea ports.

Inbound Logistics plays a very significant role for company “A” for the flow of goods and services and timely delivery of material at plant .Here inbound logistics involves the integration of information, Shipping cost, Port handling , customs

clearances and domestic transportation.. The primarily focus of inbound logistics for company A is to deliver the material at plant at a very minimum cost.

The company A is incurring cost at 16.78% on value of imported material. The cost includes documentation charges, Water / Air charges. Port Handling, Customs clearances and domestic's transportations. The logistics cost for steel producers is as per the CII survey 2014. It is said to be in the range of 17-18 percent of the product cost.

Similarly, for Outbound logistics the company is sending all the finished goods to port area for stuffing and further loading into vessel since the port is far away the plant location.

The sizes of steel coils are quite heavy and different in ranges like 24mt, 22mt, 20mt and 16mts. The coils shifted in open trailers to Port area with a proper planning based upon the availability of the vessel and accordingly loaded on the scheduled vessels. Table 6.2, Presents different products of Company 'A'

Table 6.2: Product mix of company A

Sl. No	***Product line***	***Maximum width (MMs)***	***Thickness(min-mm)***	***Thickness(max-mm)***
1	*Slab*	*1650*	*160*	*250*
2	*Blooms*	*200*	*260*	*200*
3	*HR Coils*	*1650*	*2.0*	*12.7*
4	*HR AP coils*	*1650*	*1.4*	*105*
5	*CR Coils*	*1600*	*0.3*	*5.05*
6	*Plates*	*1650*	*12.7*	*80.15*

6.4 Inbound and outbound process analysis of the company A

All raw materials for company A like Nickel, Ferro nickel, Ferro chrome, copper and molybdenum are imported on container mode at Vizag Port majorly which is 580 kms away from Plant. Raw materials like coal, coke and manganese ore are imported on bulk mode through Paradip and Haldia Sea ports.

Inbound and outbound Logistics plays very significant role for company A for the flow of goods and services and timely delivery of material at plant and customer end. Inbound and outbound logistics involves the integration of information, shipping

cost, port handling, customs clearances and domestic transportation. The primarily focus of inbound and outbound logistics for company A is to deliver the material at plant at a very minimum cost. The products covered for inbound logistics for company A are presented in Table 6.3

Table 6.3: Items covered for inbound logistics

Product code	Name of the items covered for inbound logistics
X	Mild Steel Scrap, Nickel cathode, Ferro Nickel
Y	Low carbon Ferro chrome, Ferro silicon, Silicon manganese, Molybdenum
Z	Dolomite lime, casting powder and chrome ore

The process flow chart of inbound logistics for the Company A is indicated at Figure 6.3:

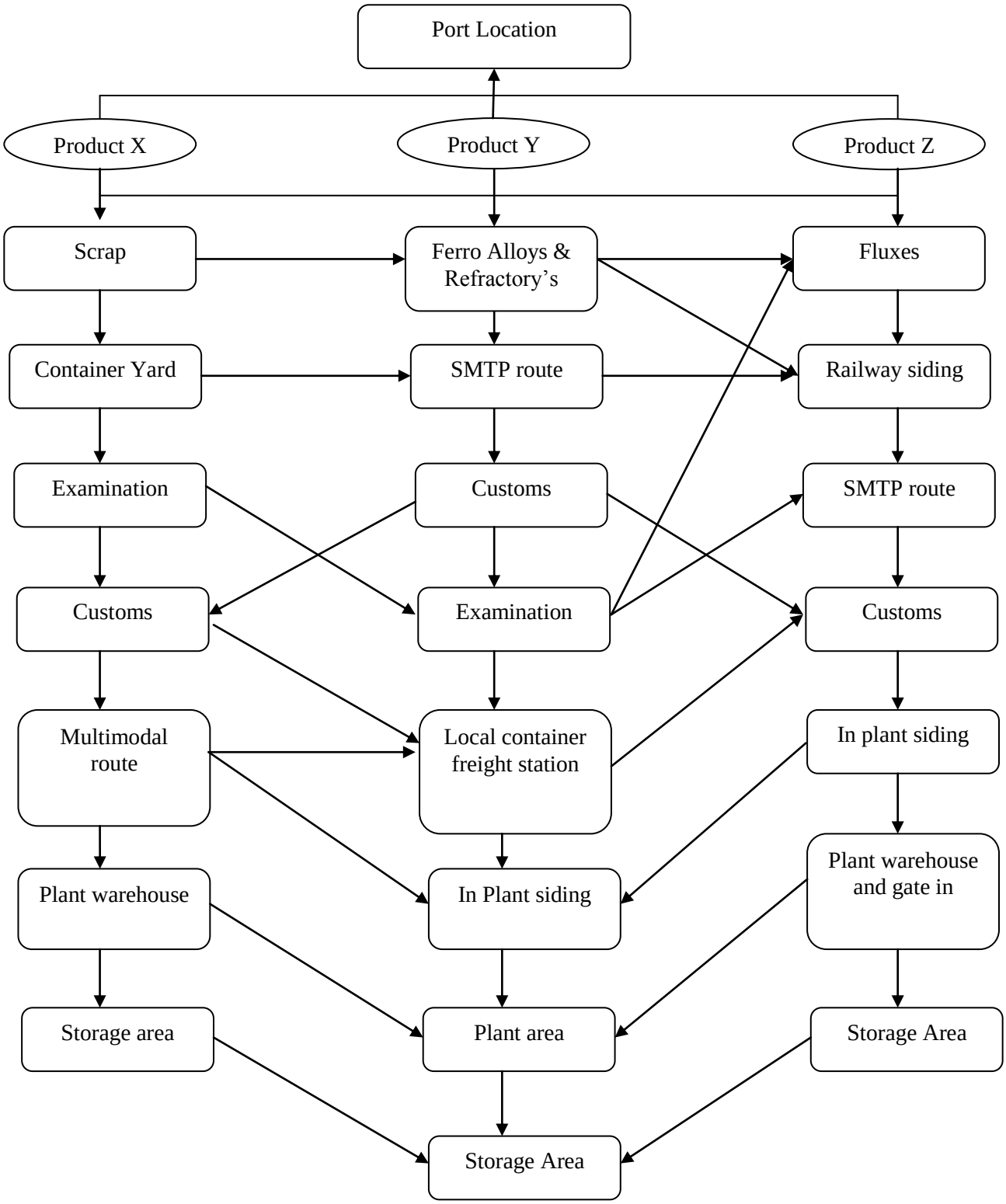


Figure 6.3: Inbound process flow chart of "Company A"

An attempt is also made to understand the outbound logistics flow for the steel "Company A" at Figure 6.4

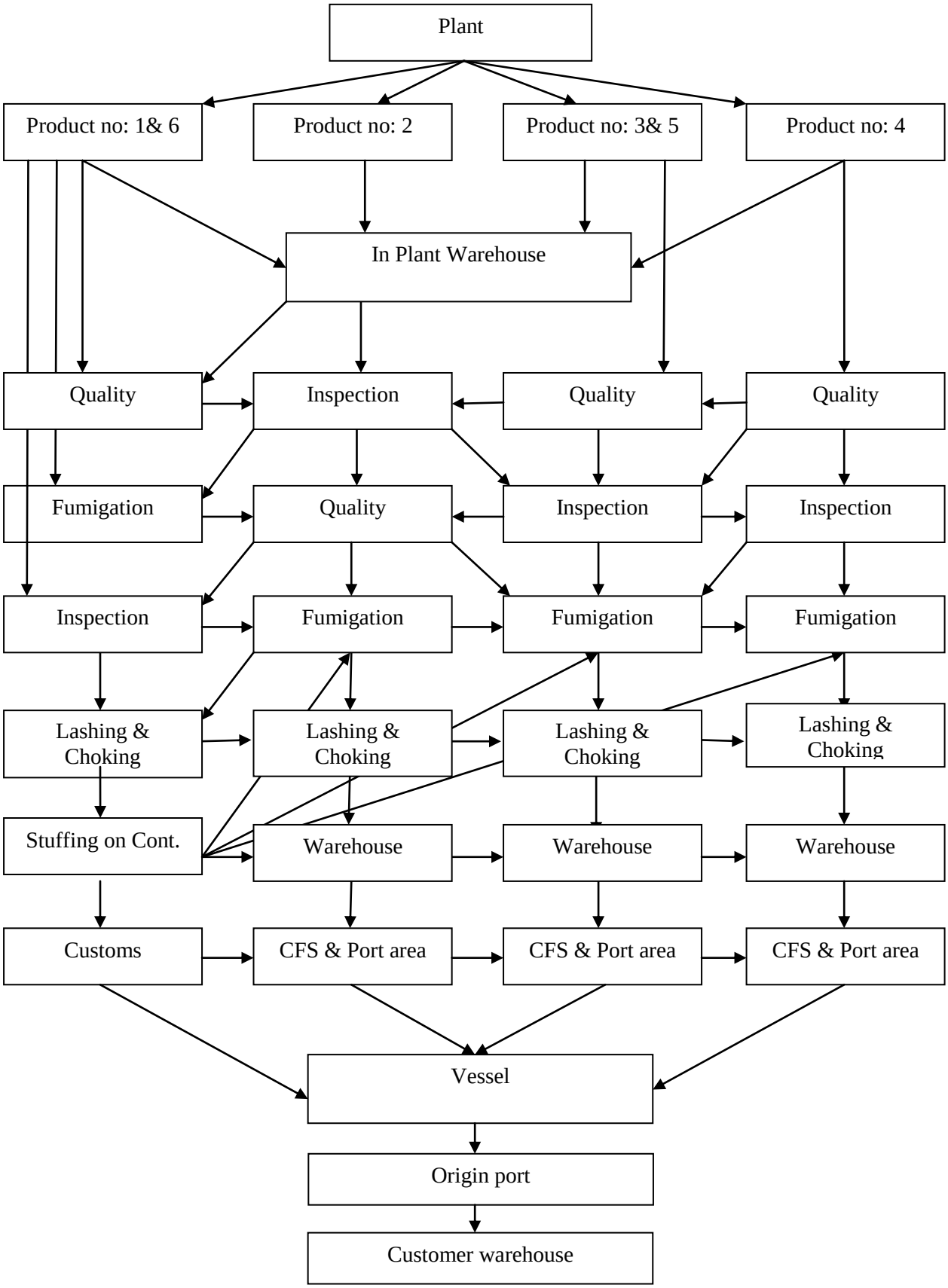


Figure 6.4: Outbound logistics flow chart for company A

Further, an attempt is made to understand the daily requirement of Trucks and Trailers for evacuation of material from Port to Plant. Inbound requirements (Table 6.4)

Table 6.4: Daily average requirement of trailers, trucks and rakes

Frequency	Trailers	Trucks	Rakes
On Daily basis	40	40	0.75
Weekly basis	280	280	2 (90 per rake)

Based upon the data collected from company A, it is observed that the inbound volume is not transported in time due to lack of availability of trucks, trailers and rakes in time. An attempt here is made to understand the arrival of raw materials in containers for the company A and its evacuation during the calendar of 2014-15 at Figure 6.5

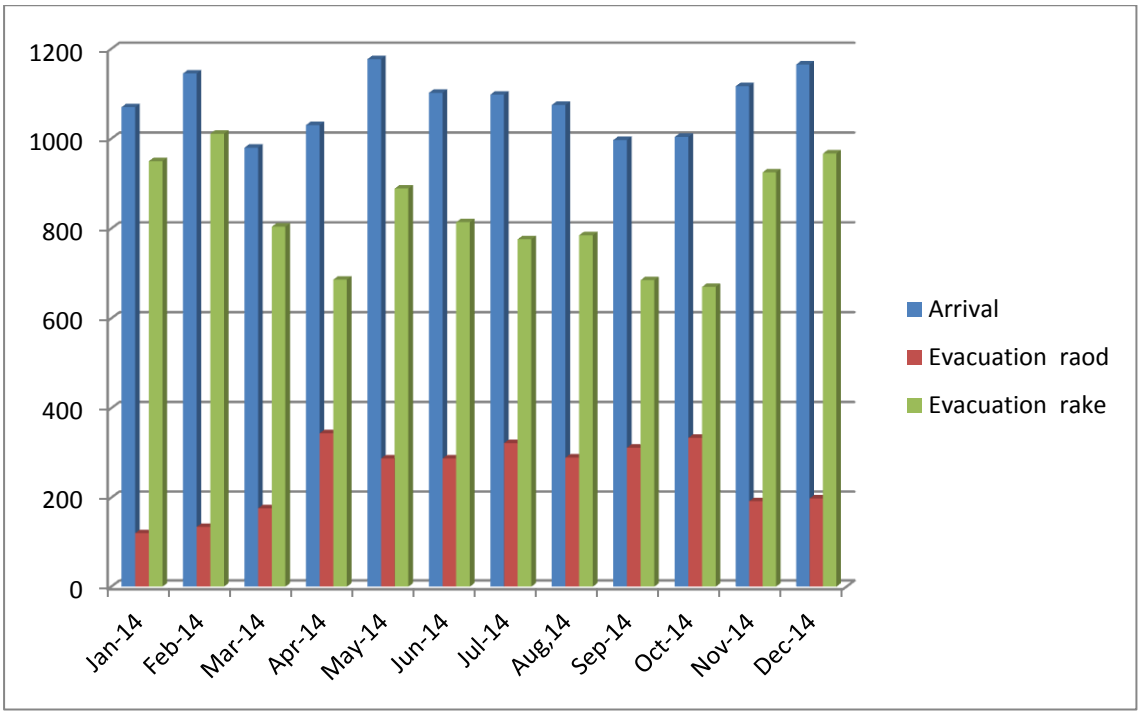


Figure 6.5: Arrival viruses' evacuation of inbound volume of company A

An attempt is further extended to understand the average requirement of trailers, trucks and rakes for the evacuation of inbound material during the calendar year 2014-15 is presented at Figure 6.6.

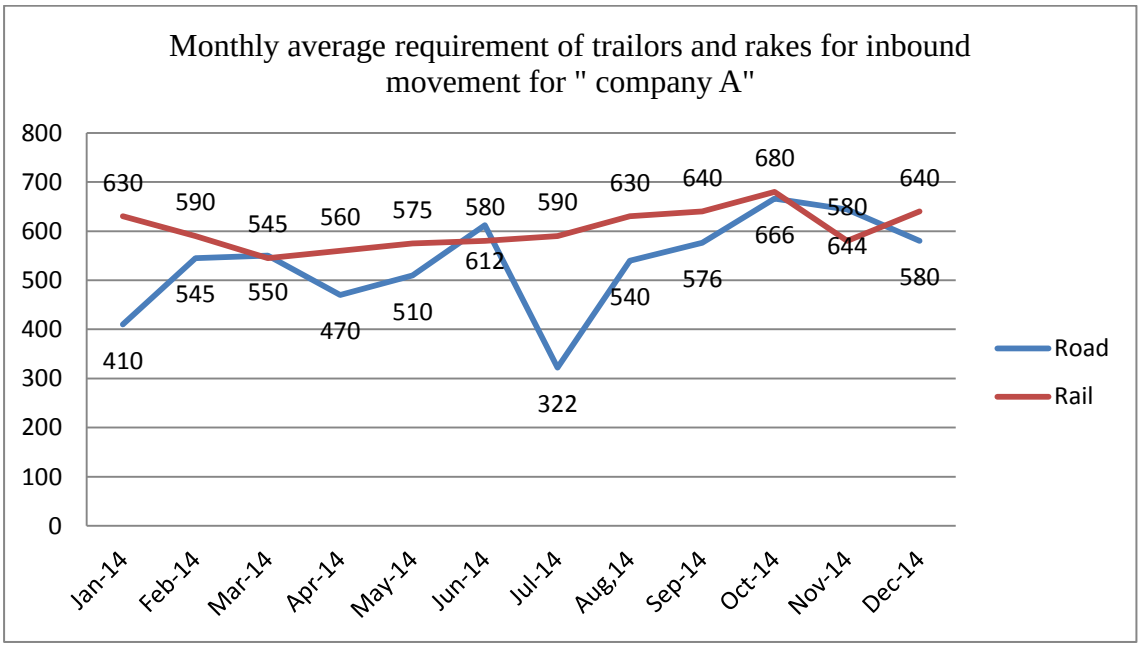


Figure 6.6: Average vehicle requirement for inbound movement

The average requirement of trailers, trucks and rakes are based upon the requirement for the "Company A" *from January 2015 to March, 2015*.

Similarly, the vehicle requirement for outbound movement is also quite huge as majority of higher grade material goes to overseas market all over the world.

Daily requirement of trucks and trailers for evacuation of material from plant to port for outbound requirements is presented at Table 6.5.

Table 6.5: Daily average requirement of trailers, trucks and rakes

Frequency	Trailers	Trucks	Rakes
On Daily basis	20	10	0.75
Weekly basis	140	70	2 (90 per rake)

Based upon the data collected from company A, it is observed that the outbound volume is not transported in time to port due to lack of availability of trucks, trailers and rakes in time. An attempt here is made to understand the dispatch of finished products for the company A verses the availability stock during the calendar of 2014-15 at Figure 6.7

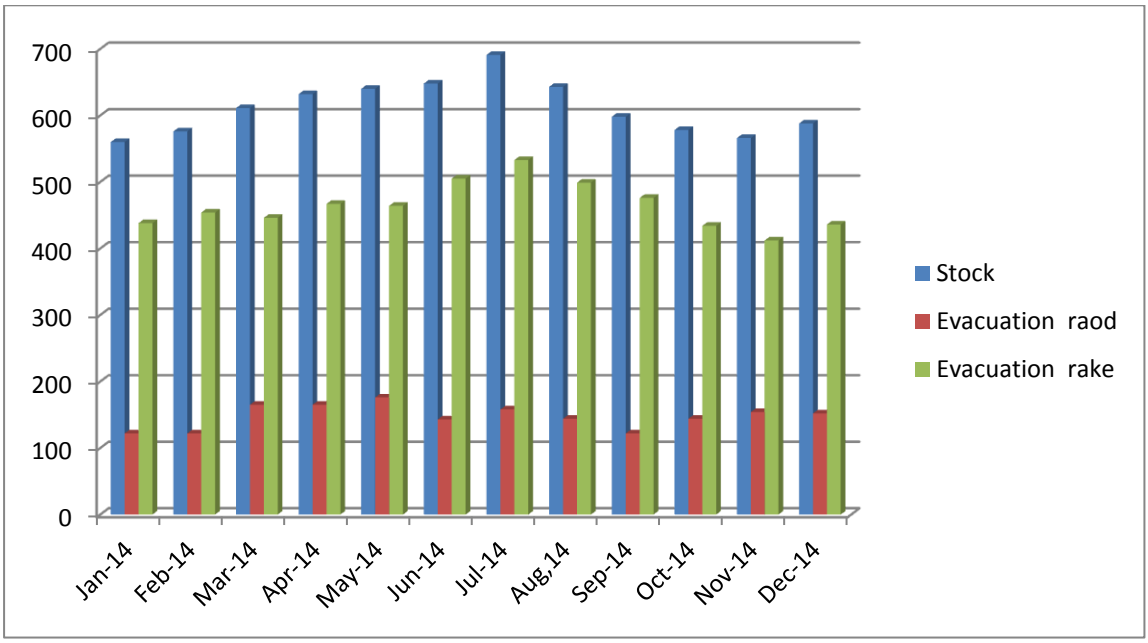


Figure 6.7: Outbound dispatches of company A

An attempt is further extended to understand the average requirement of trailers, trucks and rakes for the evacuation of outbound material during the calendar year 2014-15 for "company A" is presented at Figure 6.8

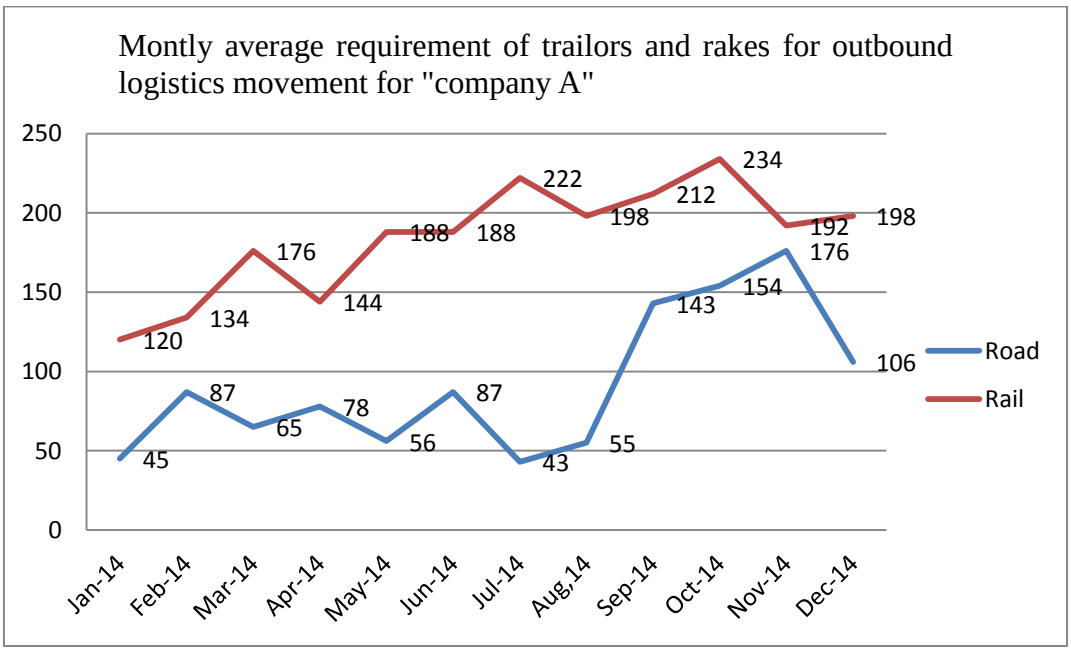


Figure 6.8: Average vehicle requirement for outbound movement

The average requirement of trailers, trucks and rakes are based upon the requirement for outbound logistics movement for "company A" for the period from "January *2015 to March, 2015".*

6.5 Brief profile of "*Company B*" *

This information is compilation of facts and figures from the "Company A" website, published papers and the balance sheet of the company. The name has been concealed owing to propriety reasons*)

Company B, is a fully integrated 3.5 Million TPA Steel Making Company having turnover of INR 11,288 Corers (USD 1,858 Million) in the financial year , 2014.The Company is certified to ISO 9001:2008 & TS-16949 Quality Standards and ISO 14001:2004 Environment Management Standards.

Company B is a leading manufacturer of flat and long products and have state-of the-art plants at Chandigarh, Derabassi, Kolkata and Orissa in India. These plants manufacture value added products covering entire steel value chain right from Coal Mining to manufacturing Pig Iron, DRI, Billets, HR Coils, CR Coils, GP/GC Sheets, Precision Tubes, Black Pipe/GI Pipe, Cable Tapes, Tor Steel, Carbon and Special Alloy Steel Wire Rods and Rounds conforming to IS and international standards.

The company have successfully commissioned a 3.5 Million TPA Greenfield Steel and Power Plant in Orissa with HR Coil making facility - First in Private Sector in the State of Orissa. For this plant, technology and equipments were sourced from leading world-renowned companies viz., Lurgi, ABB Ltd., SMS Siemag, SMS Meer Danieli, LOI Tenova, Kocks etc. BPSL has a wide marketing network in both India (comprising 35 sales offices) and abroad for selling its value added product range.

The rock-solid foundation combined with continuous up gradation and innovation has enabled the company to surpass its goals constantly. Company B's end-to-end portfolio has enabled it to offer a wide spectrum of products at superior quality consistently surpassing customers' specifications. In addition to export thrust, BPSL cater to the domestic steel requirements of fast-growing sectors like automotive, white goods, construction / infrastructure, furniture, fasteners, telecommunication, power etc.

With a view to make its presence in a big way in Special Alloy Steel Long Product business, BPSL has commissioned a most modern state of the art Wire Rod-cum-Bar Mill and is commissioning a host of downstream finishing facilities viz., Heat Treatment facilities, Bright Bar manufacture etc. The manufacturing products of company B is tabulated and presented at Table: 6.6

Table 6.6: Typical Product mix of company 'B'

Sl No	*Galvalume Corrugated Sheet (GC Sheets) :*	
1	*Thickness (mm):*	*0.18 to 0.60*
	Widths (mm):	*720, 740, 760, 780, 800, 840, 910, 1100, 1220.*
	Lengths (mm)	*1830, 2135, 2745, 3050, 3660, 4270, 4880*
2	*Galvalume Profile Sheet*	
	Thickness (mm):	*0.35 to 0.80*
	Widths (mm):	*1060,1090,1100 (Effective width -975,1015 & 1018 respectively)*
	Lengths (mm)	*500 to 12500*
3	*Deck Profile sheets (Galvanised /Galvalume):*	
	Thickness(mm) :	*0.80 to 1.2*
	Width(mm)	*810 & 914.*
	Length (mm)	*500 to 12500*
4	*Deck Profile sheets (Galvanised /Galvalume):*	
	Thickness(mm) :	*0.90 to 1.3*
	Width(mm)	*880 & 940.*
	Length (mm)	*500 to 12500*

The manufacturing products range of "Company B" is based upon the data collected from the organization B for the period "January, *2015 to March, 2015".*

The products covered for inbound logistics for company B are presented in Table 6.7

Table 6.7: Products covered for inbound logistics for company B

Product code	Name of the items covered for inbound logistics
p	Stainless Steel Scrap, Nickel Powder, Ferro Nickel briquettes
Q	High carbon Ferro chrome, Ferro silicon, Silicon manganese, Molybdenum
R	Quick lime, casting powder and Ferro manganese

The process flow chart of inbound logistics for the “Company B” is indicated as indicated in Figure 6.9

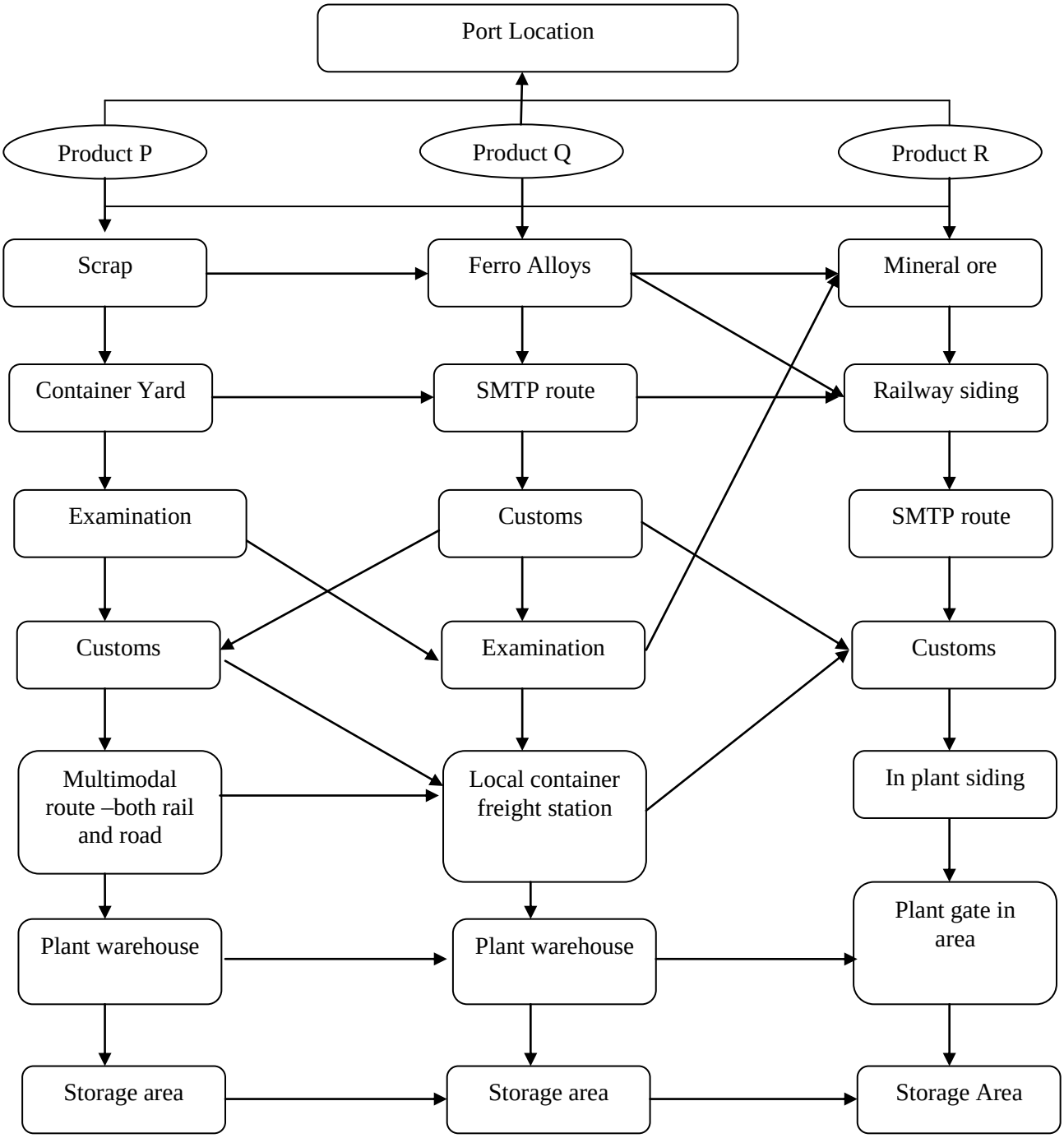


Figure 6.9: Inbound process flow chart of “Company B”

Similarly, the outbound logistics flow with material movement from plant to port is presented at Figure 6.10

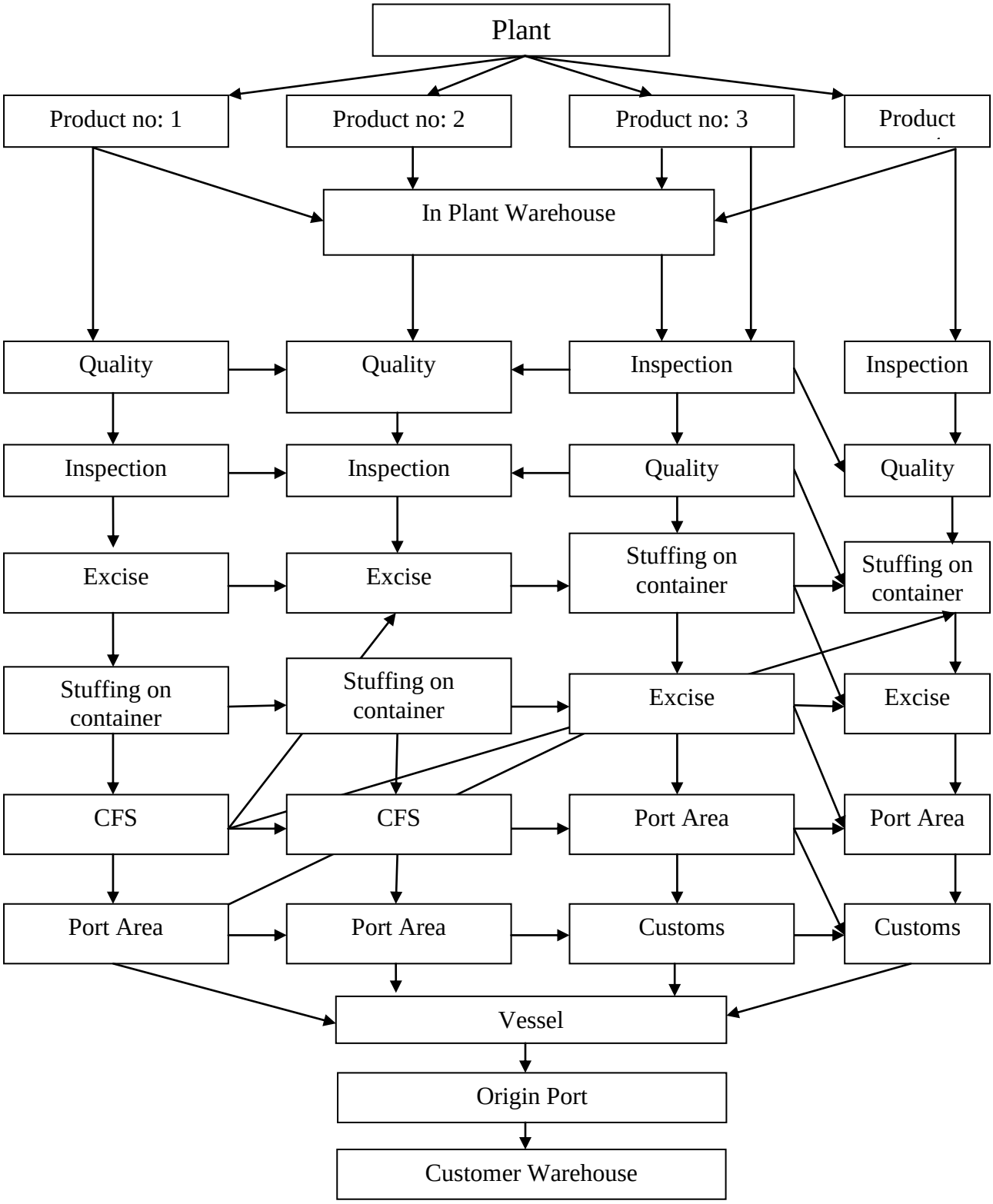


Figure 6.10: Flow chart of outbound logistics for company B.

6.6 Inbound and outbound process analysis of company B

The raw materials like coal, coke and manganese ore are imported on bulk mode through Paradip and Haldia Sea ports and then transported to the plants through different modes of transport.

Inbound and outbound Logistics plays very significant role for the company B for the flow of goods and services and timely delivery of material at plant and customer end. Here inbound and outbound logistics involves the integration of information, shipping cost, port handling, customs clearances and domestic transportation. The primarily focus of inbound and outbound logistics for the "Company B" is to deliver the material at plant at a very minimum cost. The process Flow chart (both inward and outward) along with the vehicle requirement for the company B steel company is indicated at Table 6.8.

Table 6.8: Daily average requirement of trailers, trucks and rakes

Frequency	Trailers	Trucks	Rakes
On Daily basis	45	45	0.5
Weekly basis	315	315	3 (90 per rake)

Based upon the data collected, it has observed that the inbound material movement has not completed in time because of non-availability of trucks, trailers and rakes in time as per the requirement of the company B. An attempt is here made to understand the arrival of material and its evacuation of inbound material at Figure 6.11

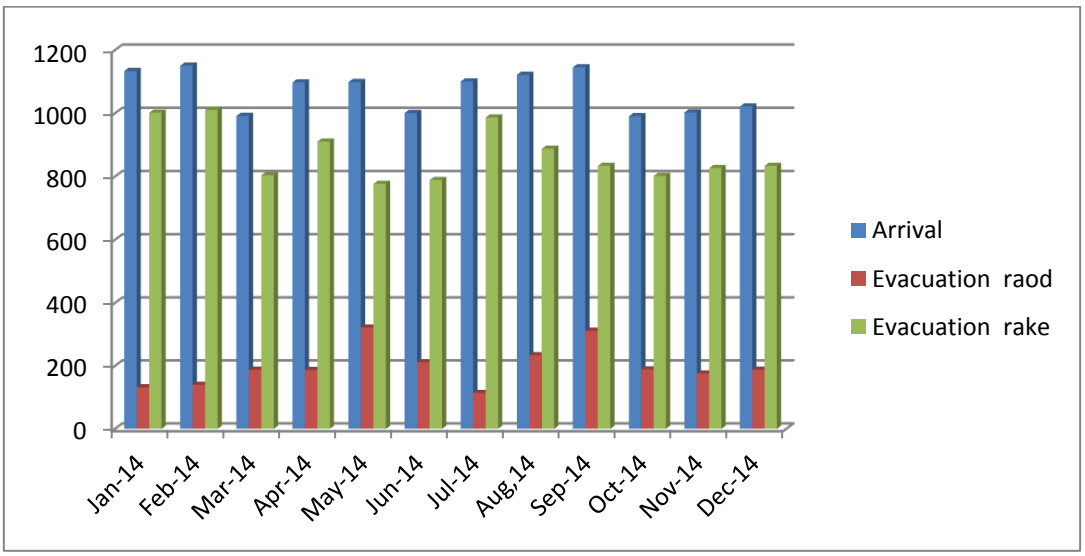


Figure 6.11: Arrival verses evacuation of inbound volume of company B

An attempt is further extended to understand the average monthly requirement of trailers, trucks and rakes for the evacuation of inbound material at Figure 6.12

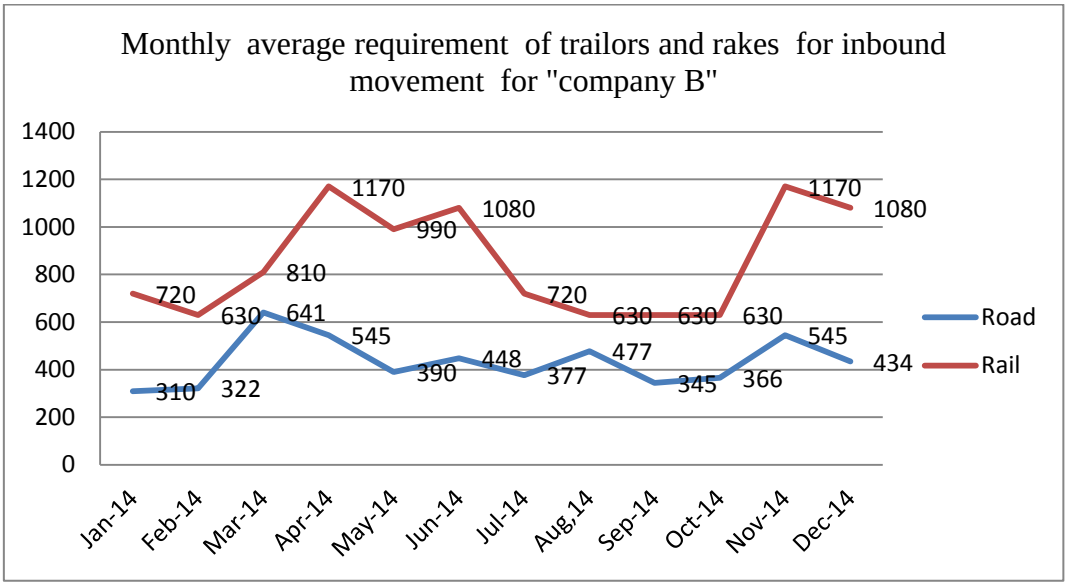


Figure 6.12: Daily average of vehicle requirement for company B

The average requirement of trailers, trucks and rakes are based upon the requirement for inbound logistics movements for the "Company B" *from January 2015 to March, 2015*.

Similarly, the vehicle requirement for outbound movement is also indicated as per details at Table 6.9: There are the minimum requirements of Trucks and Trailers for evacuation of material from Plant to Port.

Table 6.9: Daily average requirement of trailers, trucks and rakes

Frequency	**Trailers**	**Trucks**	**Rakes**
On Daily basis	25	15	0,75
Weekly basis	145	75	3 (90 per rake)

Based upon the data collected from company B, it is observed that the outbound volume is not transported in time to port due to lack of availability of trucks, trailers and rakes in time. An attempt here is made to understand the dispatch of finished products for the company A verses the availability stock during the calendar of 2014-15 at Figure 6.13

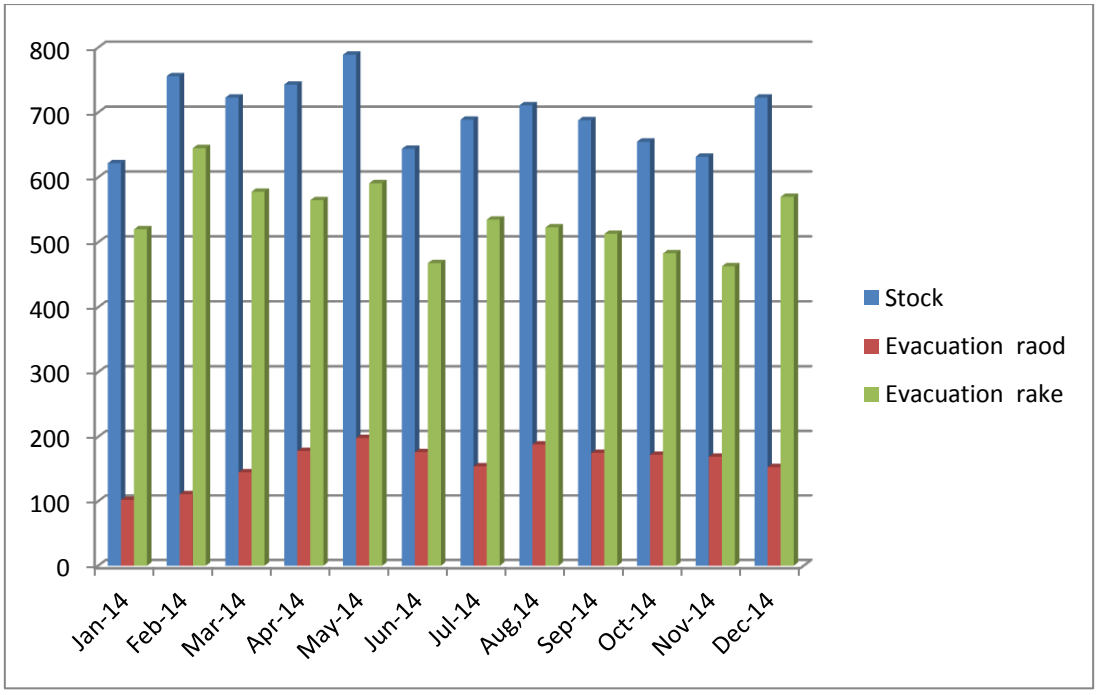


Figure 6.13: Outbound stock verses evacuation for company B

An attempt is further extended to understand the average requirement of trailers, trucks and rakes for the evacuation of outbound material during the calendar year 2014-15 for “company B” is presented at Figure 6.14

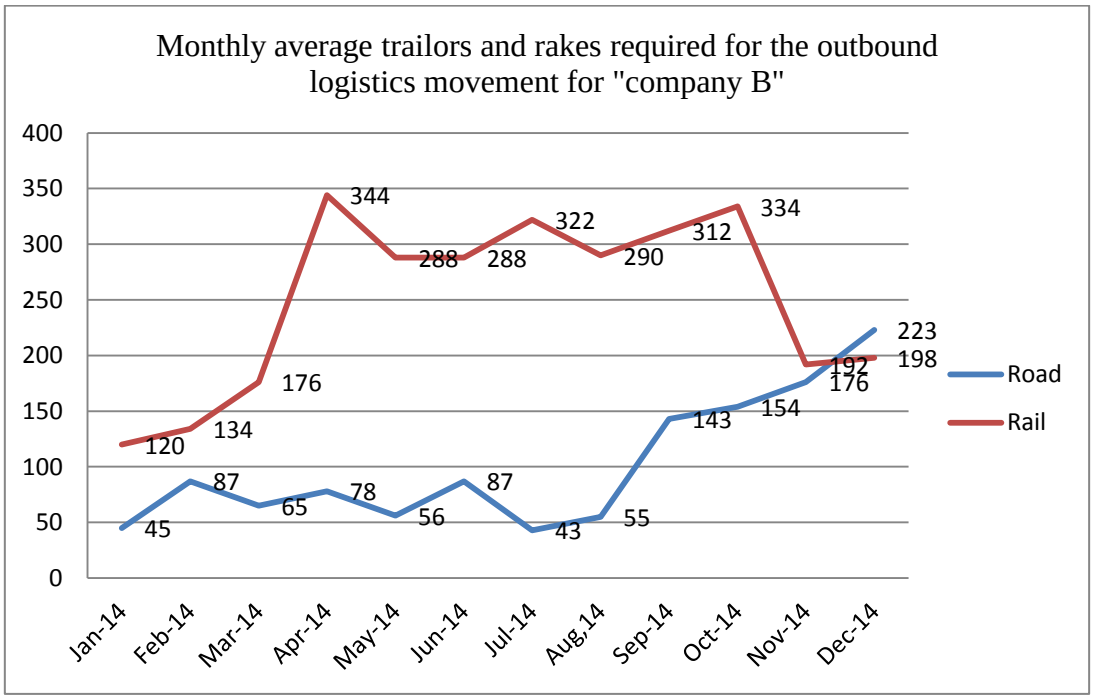


Figure 6.14: Average monthly requirement trucks, trailors and rakes for outbound logistics

The average requirement of trailers, trucks and rakes are based upon the requirement for outbound logistics movement for “company B” for the period from “January *2014 to December, 2014”*

6.7 Value chain mapping

Value chain mapping is one type of management method for analyzing the current state and designing a future state for the series of events that take a product or service from its beginning through to the customer. In the larger organization, it is also known as "material and information flow mapping”.

Based on the requirement of industry and in order to understand the critical process of inbound and outbound logistics process, efforts are extended to study the value chain of “company A ” and “company B” on various process elements along with their respective findings. The basis objective of this value chain mappings are:

a) To understand the value chain mappings for the inbound and outbound logistics process of “ company A “ and “company B”

b) Factoring elements of inbound and outbound logistics process

c) Defining the importance of logistics value chain mappings cost reduction and increasing responsiveness.

6.7.1 Value chain mapping for inbound logistics for company A

An attempt is made to understand the Inbound logistics value chain of “company A” at Figure 6.15. The value chain mapping indicates the material flow starting from shipper’s warehouse to the steel manufacturing plant in India for which the case study is conducted.

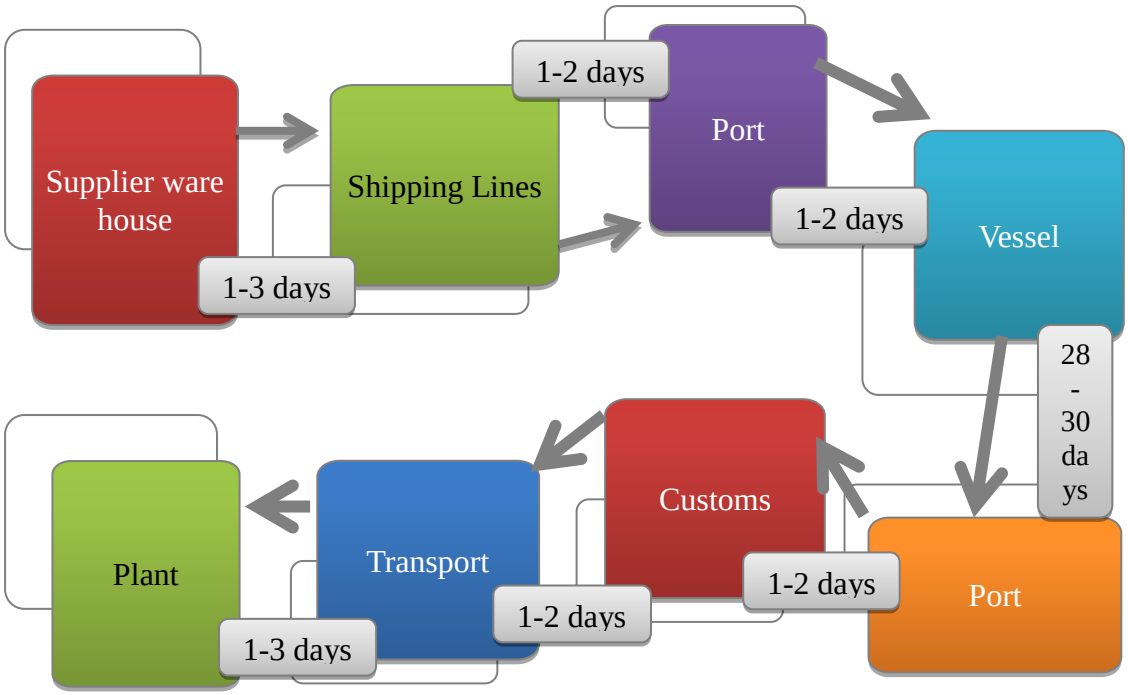


Figure 6.15: Inbound value chain of "Company A"

An attempt is extended to understand the transit time mapping for inbound logistics for company A at Table 6.10

Table 6.10: Inbound value chain mapping for "company A"

Sl. no.	Inbound Activities	Timings (No. of days)	Total Transit Time	Activities for material movements
1.	Loading at shippers warehouse (depending upon the nature of cargo)	1-3	3	Bulk material gets loaded at suppliers warehouse only
2.	Shifting the cargo from warehouse to shipping line yard and warehouse	1-2	2	Material gets shifted from suppliers warehouse and then gets inspection through third party agency
3	Loading into vessel	1-2	2	Cargo gets hand over to the carrier
4	Voyage transit time to Indian Port	28-30	30	Prior documentation for loading into vessel.
5	Documentation and customs clearances	1-2	2	Generation of documents for customs clearances
6	Transportation of material from port to plant by rail /road or through multimodal route	1-2	2	Vehicle arrangement for the material movement to inside plant warehouses/ yards.
7	Shifting of material from store are to plant for production	2-3	3	Internal shifting of material from store area to production point.

Note:

a) *Loading at shippers' warehouse varies from 1 to 3 days depending upon the nature of cargo. 1 day means it gets loaded within the few hours or within 24 hours for the light weight cargo like trimmings and turnings. Heavy density cargo takes time for loading and it varies from cargo weight and density.*

b) *Voyage transit time is considered in the range of 24 to 28 days since 80% of the incoming material for "company "A" are coming from European ports and the average voyage time is 26 days.*

c) *Documentations and customs clearances are the regulatory activities carried out for arranging the material clearances from port, customs and from the shipping agents.*

6.7.2 Value chain mapping for outbound logistics for company A

Outbound logistics of company A is very challenging since the products are in different sizes in nature and required specific packing as per the requirement of overseas customer. An attempt is here made to understand the value chain mapping for outbound logistics of company A at Figure 6.16

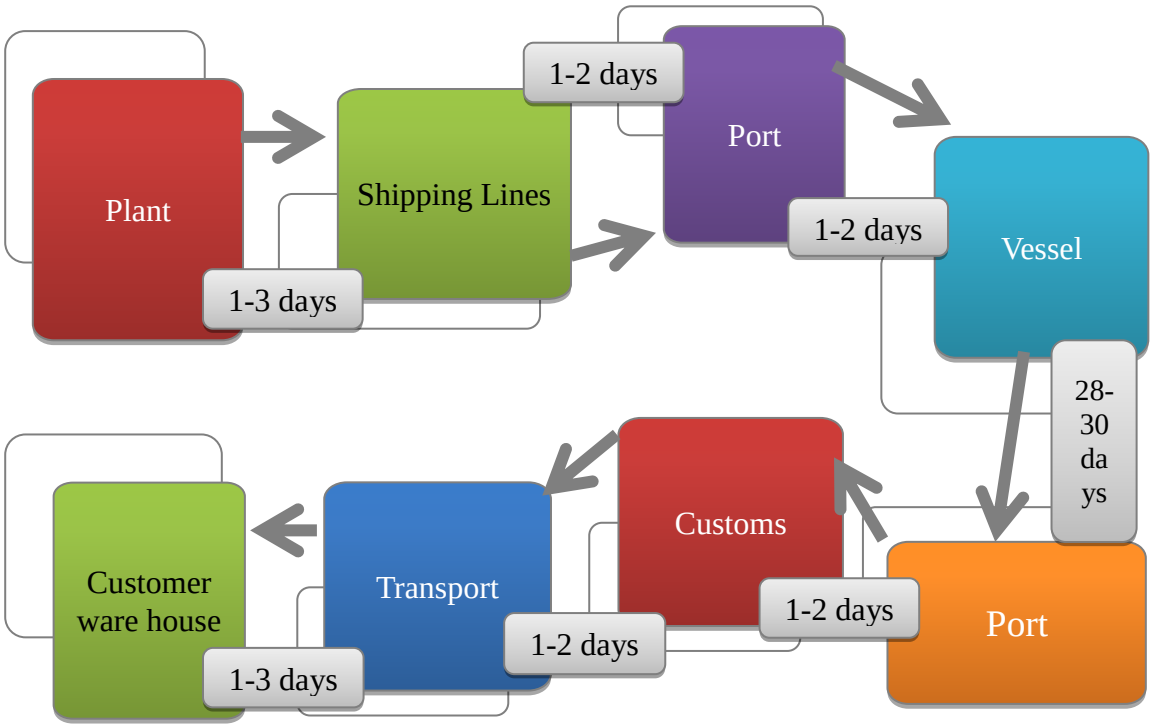


Figure 6.16: Value chain mapping of "company A" for outbound logistics

- An attempt further extended to understand the transit time analysis for the outbound logistics of "company A" at Table 6.11

Table 6.11: Outbound value chain mapping for “company A”

S. No.	Outbound Activities	Timings(No. of days)	Total Transit Time	Activities for material movements
1.	Packing and lashing at plant warehouse	1-3	3	Seaworthy packing required as per the international standard
2.	Cargo gets handed over to agent of shipping company for advance booking	1-2	2	Inspection required for export sea worthy and fitness packing inside the plant premises.
3	Loading of the cargo into vessel	1-2	2	Cargo gets loaded into vessel after documentation and custom clearances.
4	Voyage time to destination port	28-30	30	Voyage sailing time to discharge port.
5	Custom clearances and payment of taxes	1-2	2	Cargo gets customs cleared after compiling the documentation and payment of taxes
6	Transportation of cargo to warehouses	1-2	2	Cargo gets shifted from port to warehouse for storage.
7	Shippers site and warehouses	1-3	3	Material gets delivered at shipper’s warehouse as per the terms of the contract.

Note:

a) *Packing and lashing varies from product to product based upon the sizes and dimensions of product. Products without pallets can be stuffed in two days time else one more day is required for proper lashing and against stuffing the cargo on containers or loaded into vehicles.*

b) *Voyage transit time is considered in the range of 28-30 days since 90% of the finished products are meant for exports for “ company A ” to all USA, Europe and other developed countries.*

6.7.3 Value chain mapping for inbound logistics for "company B".

An attempt is made to understand the value chain mappings for B at Figure 6.17

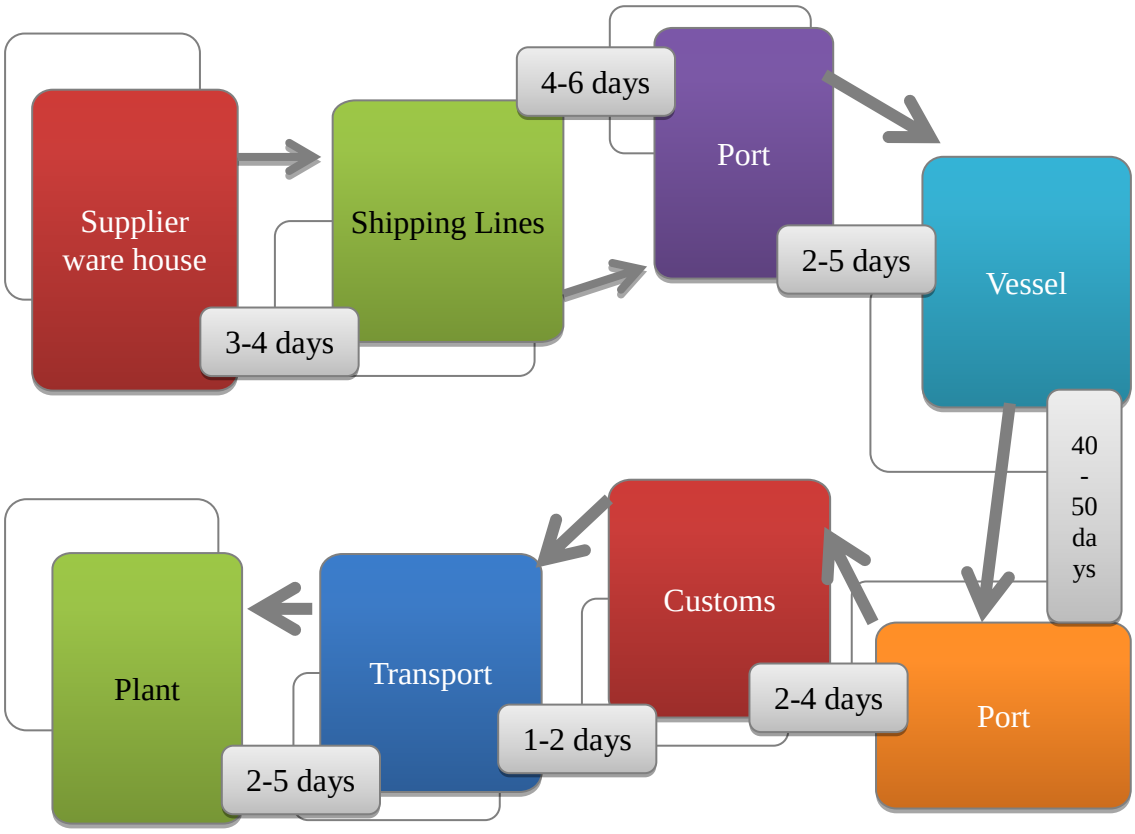


Figure 6.17: Presents the value chain mapping for inbound logistics for company B

- An attempt is further extended to understand the transit time mapping for inbound logistics for "company B" at Table 6.12

Table 6.12: Inbound value chain mapping for “company B”

S.No.	Inbound Activities	Timings (No of days)	Total Transit Time	Activities for material movements
1.	Loading at shippers warehouse (depending upon the nature of cargo)	3-4	4	Bulk material gets loaded at suppliers warehouse only
2.	Shifting the cargo from warehouse to shipping line yard and warehouse	4-6	2	Material gets shifted from suppliers warehouse and then gets inspection through third party agency
3	Loading into vessel	1-2	2	Cargo gets hand over to the carrier
4	Transit time to Indian Port	40-50	50	Prior documentation for loading into vessel.
5	Documentation and customs clearances	2-4	4	Generation of documents for customs clearances
6	Transportation of material from port to plant by rail /road or through multimodal route	1-2	2	Vehicle arrangement for the material movement to inside plant warehouses/ yards.
7	Shifting of material from store are to plant for production	2-5	5	Internal shifting of material from store area to production point.

Note:

a) *Loading at shippers’ warehouse varies from 3 to 4 days depending upon the nature of cargo. Company B is getting the entire material on container mode and the loading of heavy density cargo takes 3-4 days for loading on placement of containers and vehicles at the warehouse at plant.*

b) *Voyage transit time is considered in the range of 40 to 50 days since 80% of the incoming material for “company B” is coming from USA and other nearby countries.*

c) *Shifting of material from the warehouse to melting shop also in the range of 2-5days time as company has separate warehouse for the storage of materials at different locations outside the plant area.*

6.7.4 Value chain mapping for outbound logistics of "company B".

An attempt is made to understand the value chain mappings though the material flow of outbound logistics for company B at figure 6.18

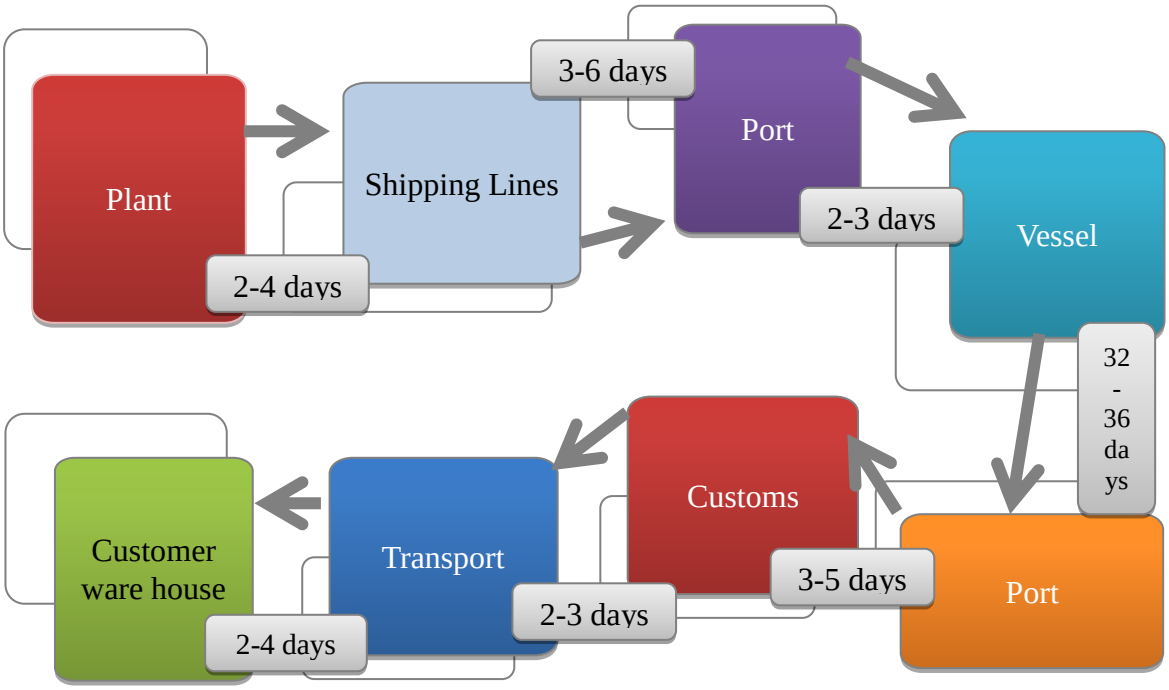


Figure 6.18: value chain mapping for outbound logistics for "company B"

An attempt further extended to understand the transit time analysis for the outbound logistics of company B at Table 6.13

Table 6.13: Outbound value chain mapping for "company B"

S. No.	Outbound Activities	Timings (No. of days)	Total Transit Time	Activities for material movements
1.	Packing and lashing at plant warehouse	2-4	4	Seaworthy packing required as per the international standard
2.	Cargo gets handed over to agent of shipping company for advance booking	3-6	6	Inspection required for export sea worthy and fitness packing inside the plant premises.
3	Loading of the cargo into vessel	2-3	3	Cargo gets loaded into vessel after documentation and custom clearances.
4	Voyage time to destination port	32-36	36	Voyage sailing time to discharge port.
5	Custom clearances and	3-5	5	Cargo gets customs cleared

S. No.	Outbound Activities	Timings (No. of days)	Total Transit Time	Activities for material movements
	payment of taxes			after compiling the documentation and payment of taxes
6	Transportation of cargo to warehouses	2-3	3	Cargo gets shifted from port to warehouse for storage.
7	Shippers site and warehouses	2-4	4	Material gets delivered at shipper's warehouse as per the terms of the contract.

Note:

a) *Packing and lashing varies from product to product based upon the sizes and dimensions of product. Products without pallets can be stuffed in three days time else one or two days additional times required for plates with proper lashing , choking and further stuffing the cargo on containers or loaded into vehicles.*

b) *Shifting cargo from plant to port is also consuming 3-5days depending upon the road traffic and availability specific required trailers.*

c) *Loading into vessel needs three to five days time as major steel products are over dimensional in nature.*

d) *Voyage transit time is considered in the range of 32-36 days since 75% of the finished products are meant for exports for" company B" to all USA, Europe and other developed countries with multiple transshipments.*

6.8 SAP- LAP Model application: Company A

In order to understand deeper, the case of a company A is further analyzed using SAP-LAP approach. SAP-LAP approach is a proven approach suggested by Sushil, 1997, for analyzing the business cases. A large number of researchers appreciated and found it useful in their contexts. Table 6.14 presents the sample template for inquiry in the present case of company A.

Table 6.14: A template for quarries about SAP for company A

SITUATION: *How this organization is different from the competitors and other players in the steel industry?* *What are the driving forces of this organization's success?* *Are the employees aware of handling the material movement in right mode?* *How many members are involved in both inbound and outbound logistics operation?* *What is the nature of material in movement for both incoming and outgoing?* *What initiatives the members adopt to detect the cost factors involved?* *What is the basis for the estimating the logistics cost on per ton basis of material produced?* *How they are different from other steel makers in India in terms of cost factorization?* *What efforts are made to reduce the logistics cost on at your organization?* *What sort of efficiency required minimizing the overall logistics cost in comparison to other steel industry in India?*
ACTOR: *How much importance is given to the inbound and outbound logistics at the top management level?* *How much members are aware about the complete logistics cost factors?* *How many outsider agency like service provides, port agency and Railway authority are aware for the factors of such cost.* *How the organizations is lacking with technical expertise and equipment for handling the inbound and outbound logistics in the organization?* *Has the company ever changed the mode of transportation to evaluate the logistics and further business modules* *What are the barriers and obstacles keeping the logistics cost unchanged in steel sectors?*
PROCESS: *Are you aware to categorize the different components of logistics cost ?* *How the problem and difficulty faced by Indian steel sector in terms of logistics operations and cost accursed there upon.* *What processing is done at all levels to understand and evaluate the logistics cost evaluations?* *Is there any use of secondary information with old data for countering the current level of logistics cost?* *How many steel industries are in India dealing with similar products?* *What are the efforts made till date to identify the logistics cost elements in last five years?* *What are the research efforts made till date to understand the logistics cost in steel sector in India?*

6.8.1 Learning

Issues related to situation and suggested situations:

- There should be well defined planning for inbound and outbound logistics operation with clear SOP (standard operating procedure) in the organization at all levels
- Handling equipment at plant and warehouses should be well equipped to handle the operational work within the stipulated time so that additional logistics cost can be avoided.
- Storage area should be paved, well concrete area for the smooth bulk cargo handlings and to avoid material handling losses.
- Railway siding to all major and minor ports should well connected for moving the material on rails and rakes at a cheaper logistics cost as railway freight is always cheaper than road freight.

6.8.2 Issues related to actor and suggestions

Points emerged out to innovate and to make understand to all senior management about the implication of logistics cost on inadequate infrastructure at all operational places. All the members of steel association, chamber of commerce and other facilitating associations should also be aware about the logistics cost factors and implication on steel industry in India

Major initiatives needs at the level of state and central government to make the infrastructure issues more convenient and economically viable for movement of goods from all sea ports to hinter hands and other interior zones. All steel makers in India and their logistics cost including both Government and semi government and private sectors should treated as per in terms port dues and other tariffs applicable for inter-transfer of goods and services.

All outsider agencies like service provides, port agency and National Highway authority are also to be treated as the service partners and freedom must be given for exploring the innovative ideas for smooth operation and effective movement of goods and services.

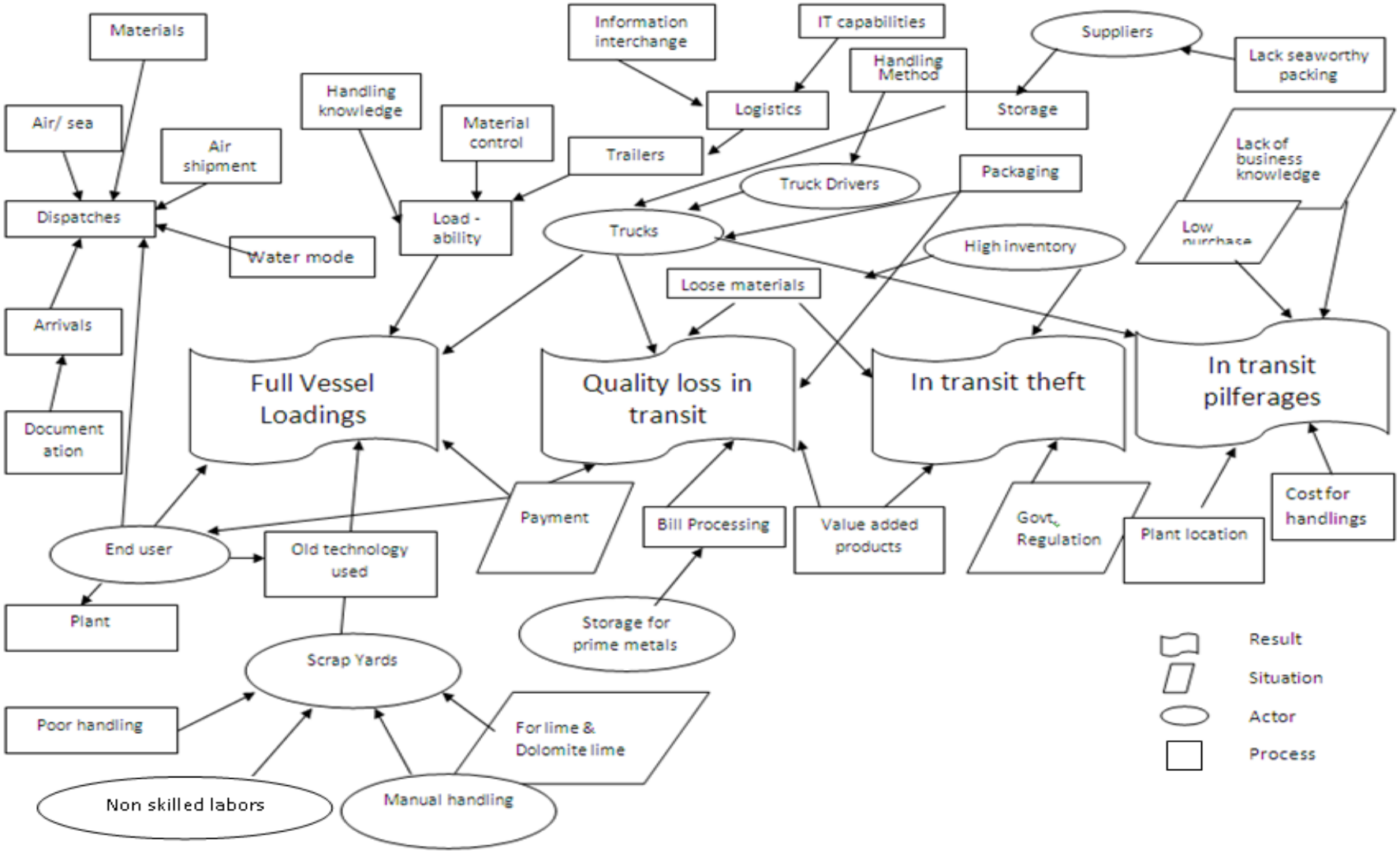
A technical and techno-commercial team also needs to understand the technical requirement of the organization so that it can meet the requirement of an industry

smoothly for handling the inbound and outbound operations in the context of steel industries in India.

All the business modules need to be reviewed on time to time basis and to explore new ideas and to implement and to understand for the further scope of improvements. All external factors like climatic condition, geographical and political factors of the particular region also to be taken into consideration.

The people associated with for the logistics functions must have good technical skills to understand the progress made by way of adopting different modes of transports. Further attempts made to understand and evaluate the barriers and obstacles keeping the logistics cost unchanged in steel sectors under the current scenario. Figure 6.19 presents the typical coverage

Figure 6.19: Typical issues of inbound and outbound logistics



6.8.3 Issues related to process and suggested improvements

The important issues are addressed and needs to understand the categorization of logistics elements and to motor the expenses minutely on time to time.

The inbound and outbound logistics process in Indian manufacturing companies needs to be shared with all the stakeholders like Port authorities, Indian customs, Indian Railways, Shipping companies and other statutory organizations associated with the operational process to make it simple and cost effective also.

While taking all the aspect into considerations the logistics cost incurring at all developed / developing counties must be kept in mind and its process along with government regulations, Port Tariffs and other economical and political factors also. The logistics process further to be examined on its product –wise like stainless steel, Carbon steel, Pig iron manufactures and other ancillary steel manufacturers separately.

The process developments made in last year, last three years, five years and in ten years are to be mapped separately and accordingly the future course of action and way forward are to be decided.

Whether the logistics process carried out by the steel industry in India are aligned with the correct methodology in the terms of statutory compliances or not? There should be a group of team member to visit the respective organization, trade association, facilitation trade committee and the research output with implementation in time also.

The inefficiency level in the logistics activities in India has been very high across all modes. With the evolving business environment, creating a strong demand pull for quality and efficient logistics services, core issues around enabling infrastructure, regulatory environment and the fragmented nature of the industry are gradually being overcome.

6.9 Summary

The focus of the chapter attempted for identification, understanding and an assessment of the logistics process for A and B steel manufacturing company in India and their logistics requirements with current practices. The study of inbound and outbound logistics for the company A and B will help researcher and practitioners to

select and improve the logistics requirements, transit time analysis and avoidance in any disruption on continuity on production, comparative industries evaluation on their status and the overall development opportunity of the organizations. Approach like RCA, SAP-LAP model and VCM are also covered in this chapter.

The next chapter presents a complete analysis of inbound and outbound logistics cost.