

# Comprehensive Analysis of Freight Forwarding Issues with the Aim of Maximising the Customer Base

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## ABSTRACT

This company is a German transportation company comprising a cargo container shipping line, which was formed before 1850. Today this company is one of the world top five container shipping companies. It provides more than 75 services as basis for our global door-to-door transport operations. The Sri Lankan agent of this shipping line is a subsidiary of one of the well reputed group of companies in Sri Lanka. Normally customers contact the company with the intention of getting transit for their cargo through the shipping line for a specific destination which they want. But all the customers who contact the organization to handover their shipments to the shipping line for the transit are not confirmed. The reason for that is, they are not satisfied with the rates and facilities, which are being given by the company. Non-confirmed bookings are 10% as a percentage of total inquiries. That means the company fulfill only 90% of the actual demand. If the company is able to fulfill the customer requirement, they are in a position to meet the actual demand. Therefore this research tries to identify the major affecting factors for not confirming inquiries and give solutions for those reasons. If the company is able to exercise that alternative they are able to increase their capacity of shipments as well as the current profit.

**KEYWORDS:** Shipping, Containers, Customer requirement, Freight rate, Vessel, Base port

## INTRODUCTION

The Shipping company deploys 142 containerships feature more than 496,000 containers in capacity across five regions worldwide (North Europe, South Europe, North America, Latin America and Asia).

The Sri Lankan agent of the above mother company has been a pioneer in developing ship agency, logistics, infrastructure, facilities, in Sri Lanka. It included freight forwarding, warehousing, container yards and transport to provide a total, seamless solution to the importer and exporter alike. The company also provides container modification and repair facilities.

This agent company has five departments. All the customers contact the organization through the marketing department and the documentation department is responsible to handle all the import and export documentation activities. When a vessel arrives Sri Lanka, the operation department does all the operation activities which are related to that specific vessel such as getting port and custom approvals, providing dentures cargo list to the defense ministry, etc... The finance department is responsible to provide the financial situation of the company to the agent company, to the group as well as to the mother company

All the container activities such as repairing, maintain the inventory of the empty containers monitoring the position of the container done by the equipment control department.

### Background of the Rationale for the Research

The marketing department people collide with the operational department people by asking some special quality containers from the equipment control department, which are not available at that time. Reason for this situation is they have not any standard method to forecast future demand. The outcome of this kind of problems is they lose their regular customers.

		Mean	Standard Deviation
None confirmed Bookings	20 Feet	4.75	0.492125
	40 Feet	15.625	1.580521
Confirmed Bookings	20 Feet	66.75	8.896541
	40 Feet	133.5	16.34587

**Table 1. Statistical Data of None confirmed Bookings and Confirmed Bookings**

The Table 1 shows the mean value and standard Deviation valve for 20 feet and 40 feet containers on both confirmed and none confirmed containers per week due to all reasons.

### Research Objectives

To reach the research objective it is essential to identify the root causes for the main issues and prioritize which affect the customer base of the company. After that, according to the results of the analysis, suggest one or more solutions and find out the

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best solution for each cause by calculating the possible profit based on that suggested solutions. Finally increase the customer base by implementing those selected solutions.

### LITERATURE REVIEW

Shipping is the transport of cargo between seaports by ships, typically large steel vessels powered by diesel engines or steam turbine plants. Many nations have built specialized naval ships to ensure the free movement of legitimate cargo; these "merchant navies" are essential to the world economy, carrying the bulk of international trade. The ships are also extremely expensive constructions themselves, being some of the largest man-made vehicles ever. The term originates with the shipping trade of wind power ships, and has come to refer to the delivery of cargo and parcels of any size above the common mail of letters and postcards. Most cargo transport is by shipping rather than by air transport because shipping is cheaper. Air transport is usually reserved for products, which must be sent within a certain time frame.

The total time that elapsed between a shipment's pickup and delivery call transit time.

The cost of transporting a goods for a specific destination call freight rate. This cost of transporting goods reflects a number of factors besides basic transport costs, such as the nature of the commodity. Non-breakable, non-perishable items, like coal, are carried most cheaply as they can be carried in bulk on open wagons. The more careful the handling required, the more expensive is the freight rate. Sophisticated manufactured goods can bear high freight rates because of their greater value. Raw materials are carried for less so that they can be moved over greater distances.

The term market is the root word for the word marketing. Market refers to the location where exchanges between buyers and sellers occur. (Answers, 2008) Marketing pertains to the interactive process that requires developing, pricing, placing, and promoting goods, ideas, or services in order to facilitate exchanges between customers and sellers to satisfy the needs and wants of consumers. Thus, at the very center of the marketing process is satisfying the needs and wants of customers. (Answers, 2008)

The concept of marketing has changed and evolved over time. Whilst in today's business world, the customer is at the forefront, not all businesses in the past followed this concept. Their thinking, orientation or ideology put other factors rather than the customer first.

Market Orientation means puts the customer at the heart of the business. The organization tries to understand the needs of the customers by using appropriate research methods, appropriate processes are developed to make sure information from customers is fed back into the heart of the organization. In essence, all activities in the organization are based

around the customer. The customer is truly king!(Managementhelp, 2009)

In today's competitive world, putting the customer at the heart of the operation is strategically important. Whilst some organizations in certain industries may follow anything other than the market orientation concept, those that follow the market orientation concepts have a greater chance of being successful. (Managementhelp, 2009)

Market Research is a systematic, objective collection and analysis of data about a particular target market, competition, and/or environment. It always incorporates some form of data collection whether it is secondary research (often referred to as desk research) or primary research, which is collected direct from a respondent. (Managementhelp, 2009)

Competition is the battle between businesses to win consumer acceptance and loyalty. The free-enterprise system ensures that businesses make decisions about what to produce, how to produce it, and what price to charge for the product or service. Competition is a basic premise of the free-enterprise system because it is believed that having more than one business competing for the same consumers will cause the products and/or services to be provided at a better quality and a lower cost than if there were no competitors. (Learnmarketing, 2008)

A competitive advantage is an advantage over competitors gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and service that justifies higher prices. (Learnmarketing, 2008)

The differentiation and cost leadership strategies seek competitive advantage in a broad range of market or industry segments. By contrast, the differentiation focus and cost focus strategies are adopted in a narrow market or industry. (Learnmarketing, 2008)

### RESEARCH METHODOLOGY

Research design can be thought of as the structure of research. It is the "glue" that holds all of the elements in a research project together. We often describe a design using a concise notation that enables us to summarize a complex design structure efficiently.

This research belongs to the descriptive research category. Two data collection strategies have been used to, collect this data for research. They are interview with the marketing manager and survey.

Normally customers contact the organisation through the marketing manager because he is the person who forwards that inquiry to the related executive officer in the marketing department. The reason is one executive officer handles all inquires related to one particular base port. But all confirmed details can be gained from the marketing manager. Therefore, the data were gathered only from the

marketing manager. Other than that an interview was conducted with the marketing manager of the company with the intention of identifying the main causes for customers not confirming the booking and depending on another shipping line for the transit of their shipment to the destination.

Based on the above interview a data collection sheet would be prepared. The marketing manager normally keeps details about confirmed bookings. Therefore, on this research a prepared data collection sheet is provided to the marketing manager after considering both the marketing manager's requirements and the data collection requirements of this research.

After collecting information on the reasons for non confirmed bookings the main cases were identified by calculating none confirmed booking value due to each cause as a percentage of total none confirmed bookings and identified the most affecting factors.

Using following formula those values can be calculated.

$$\text{Percentage relative frequency} = \frac{F \times 100}{\sum F}$$

(A percentage is a statistic, which summarizes the data by describing the proportion or part in every 100.)

Where,

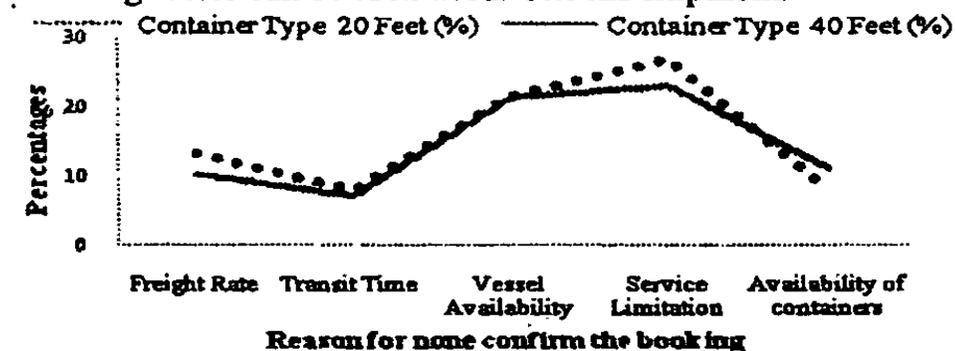
F = the frequency

∑ = the sum of

After analyzing the main factors related to the customer demand and supply, it would be easy to identify the reasons for losing their customers, which will assist to build a relationship between the total inquiries and none confirming bookings; this same reason also causes to prioritise the reasons, which are mostly affected to the booking non-confirmation, according to the frequency of occurrence.

**DATA COLLECTION & ANALYZING**

When a customer wants a transit of their cargo to another place, normally they contact the marketing department of the organization because they are the people who deal with the day-to-day customers. As well as they are the people who provide the freight rates and other information related to that particular shipment. Before getting a booking for the cargo, affecting factor can be identified. The his shipment.



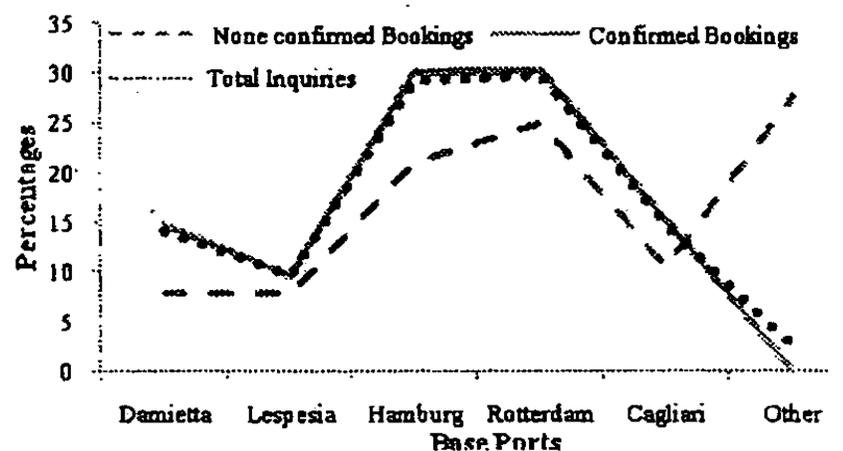
**Figure 1: None confirmed bookings percentage on both 20 feet and 40 feet with respect to reasons**

By considering the Figure 1, the most have to find out whether the company satisfies the requirements.

By considering the Figure 1 the most affecting factors were identified as service limitation and the vessel availability and the minimum affecting reason is the transit rime and the availability of containers

If the company is not in a position to satisfy their requirements that particular customer did not confirm his shipment.

But all these cases do not affect all ports in the same level. The affecting rate is different from port to port there by observing the Figure 2 which is given in bellow; the most affected port can be identified.



**Figure 2: Confirmed, none confirmed and total bookings with respect to base ports**

By observing Figure 2 a conclusion can be made as the percentage of none confirmed bookings for a particular port based on the number of total inquiries to that relevant port except other ports. The other ports mean the ports which haven't a regular service from this shipping line. Because all the inquiries which related to the other ports are definitely none confirmed.

Therefore by observing all ports both 20feet and 40 feet containers separately affecting reason for that specific port can be identified from the figure 3 and figure 4.

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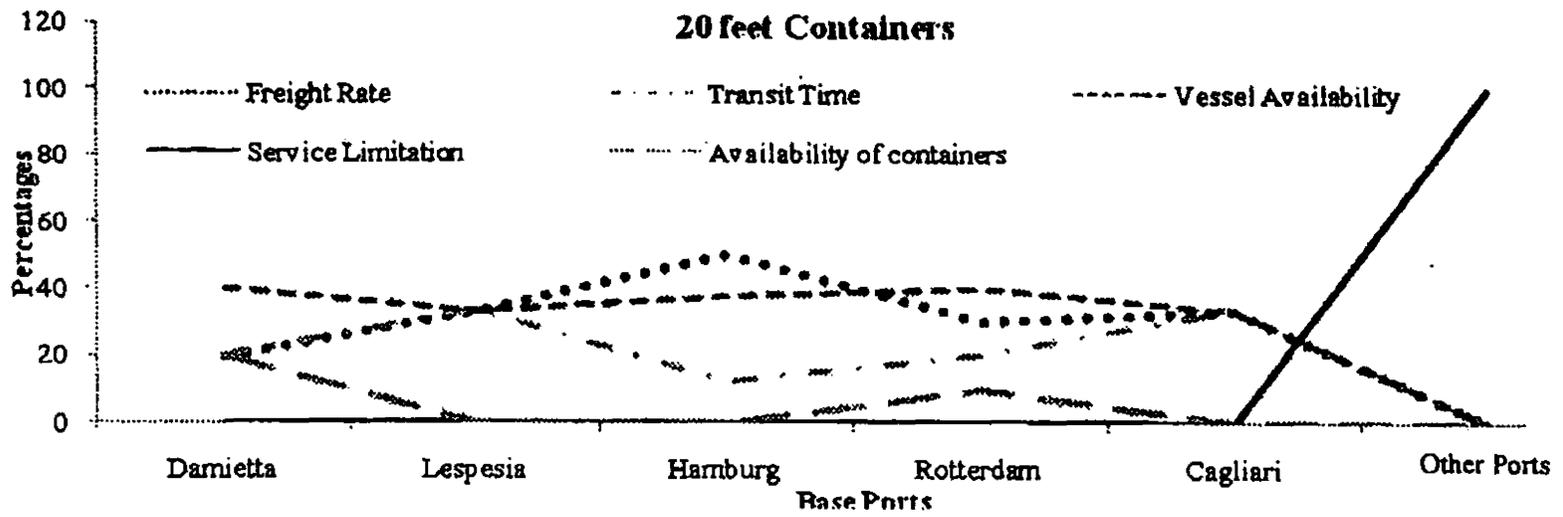


Figure 3: None Confirmed Bookings Because of a Particular Reason with Respect to Base

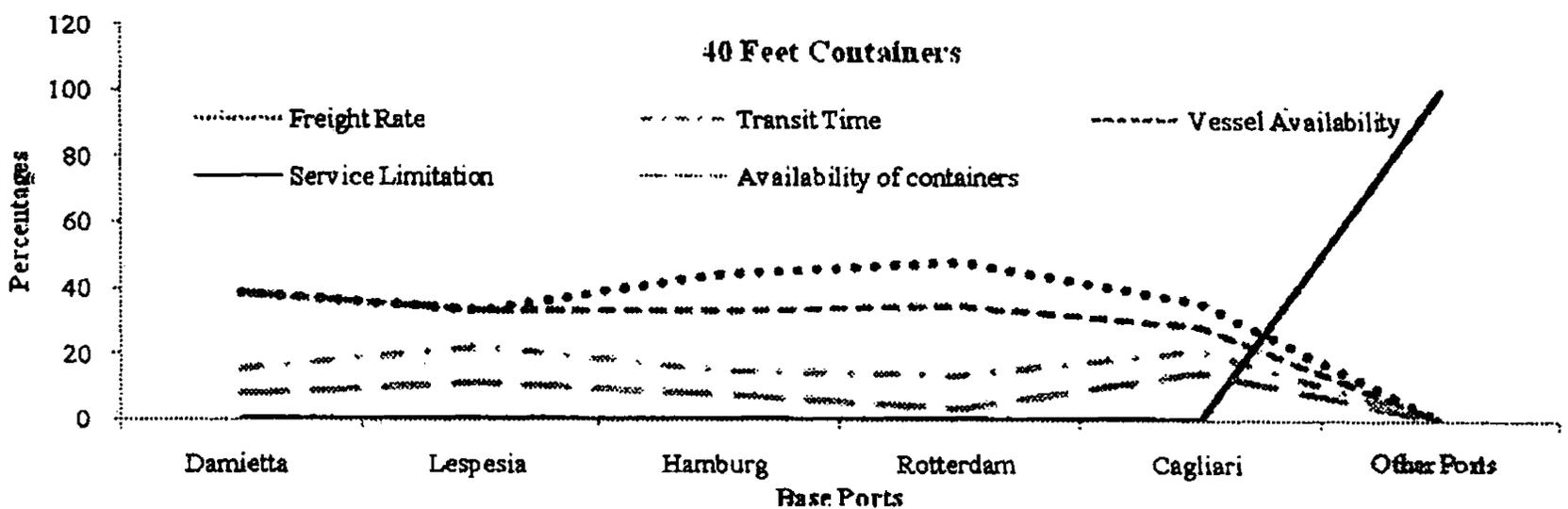


Figure 4: None Confirmed Bookings Because of a Particular Reason with Respect to Base

Considering Figure 3 and 4, on both 20 feet containers and the 40 feet containers, the root cause for increases the none confirmed booking are Freight Rate, Vessel Availability, Transit Time, and Availability of containers and Service Limitation in the order of highly affecting reason to less affecting reason on the not confirmed booking according to the percentage values.

**RESULTS AND DISCUSSION**

The reduction of the revenue in the organization could be calculated due to each factor by using the following equation

$$\text{Total loss due to particular factor} = \sum_{i=1}^5 \# \text{ 20 feet none confirmed containers} \times \text{Rate on 20 feet container} + \# \text{ 40 feet none confirmed containers} \times \text{Rate on 40 feet container}$$

(i= 1- Damietta, 2- Lespesia, 3- Hamburg, 4- Rotterdam, 5- Cagliari)

The Table 2 shows the decline of the two month revenue in dollars as well as percentage of the total revenue due to each factor.

Reasons for none confirming bookings	Revenue Decrease due to the reason (\$)	As a percentage of total revenue
Freight Rate	55730	3.132%
Transit Time	47885	2.691%
Vessel Availability	25705	1.445%
Availability of containers	11605	0.652%
Service Limitation	-	-

Table 2. decline of the revenue due to each factor with the percentage.

Following remedial measures are proposed to solve the problem of decline the revenue, which was shown in the table 2, due to none confirmed bookings based on all reasons.

**Freight Rate**

According to the Table 2 values, the highly affecting factor is freight rate therefore by strategically reducing the freight rate the company is able to increase their revenue.

**Vessel Availability**

This situation can occur because there was no vessel in the Hapag-Lloyd vessel schedule, when the customer demands. By analyzing the past data the organization can forecast the demand for the particular time period. Then using that information the company is able to adjust the vessel schedule for allocating more vessels to the relevant ports that have more demand than other ports in that particular time period.

**Transit Time**

Transit time has the next priority for affecting the revenue. To reduce the transit time, the shipping line can process direct services to particular ports which have a high demand and highly affect the transit time factor.

**Availability of containers**

To address this problem a forecasting model can be developed by considering the past data. If there is a standard forecasting method, the container stock can be maintained according to the demand within that forecasted period.

**Service Limitation**

To overcome this issue, the company can enter in to an agreement with another company or shipping line, which has a regular service to that particular port. In other word, the company can be a freight forwarder to another shipping line that has regular service to the port where this company has not. Alternatively the company form or join with a shipping consortium.

**Feasible Freight Rate Range**

To avoid the revenue decrease due to the high freight rate the company can reduce the freight rate within following range which was mentioned in the Table 3. Within that range, the company can decrease their rates without reducing their current revenue. The upper limit of that range is current freight rate of the particular port and lower limit of the feasible rate can be calculated using the following equation.

$$\begin{matrix} \text{Current} & & \text{Number of} \\ \text{Freight rate} & \times & \text{Confirmed} \\ & & \text{Booking} \\ \hline \text{To get the current} & = & \\ \text{revenue, the minimum} & & \\ \text{freight rate} & & \text{If freight rate is reduce total} \\ & & \text{number of containers} \end{matrix}$$

The Table 3 shows the feasible freight rate range for all ports on both 20 feet containers and 40feet containers.

Base ports	Feasible Freight Rate Range	
	20 Feet Container (US \$ )	40 Feet Container(US \$)
Damietta	950 - 938	1800 - 1747
Lespesia	850 - 833	1700 - 1657
Hamburg	550 - 537	1000 - 964
Rotterdam	550 - 540	1000 - 958
Cagliari	950 - 940	1800 - 1745

Table 3: Feasible freight rate range

If the company reduces the lower limit of the feasible range they can earn the current revenue but if they select freight rate within this range and up to the lower limit they can exceed the current revenue.

**Limitation of this Research**

This shipping line is a process not only in Sri Lanka, but around the world as well. But data collection of this research was done within Sri Lanka because there was not a possibility to collect data worldwide therefore from this research the only thing that can be identified is the behavior of the Sri Lankan customers.

Within the data collection duration, the economy gets an abnormal crisis. Therefore, this situation can be affected to the actual demand as well as to none confirming rate. Therefore, it may have affected to the result of this research.

To this research the gathered information is only from the marketing manager. The data within time duration when he is not in his seat is unable to collect. Therefore, this is a limitation to the data collection. Because of that, the data sample was reduced.

The main factors, which affect to confirming and none confirming the inquiries, were identified by conducting an interview with the marketing manager. In that interview, he mentioned only about the quantitative factors.

This organization is the Sri Lankan agent of the mother company in German. The agents should process according to the rules, which were providing from the parent company. Therefore exercising the above mentioned solutions is difficult to the organization. Because the mother company prices and vessel schedules were created by considering the whole world demand not only Sri Lankan demand.

**Future Research Opportunities**

This research limits to Sri Lanka but if this research can be expanded to the whole world, it would be more worth to the shipping line. Because from that research researcher is able to identify the actual demands in separate countries. According to those details which were identified from the research, the path of the specific services provide from the shipping

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line can adjust. Through this, the vessel schedules for those relevant services can be adjusted according to the demand of the particular services as well.

None confirming booking due to the availability of container can be avoided by doing a research on the customer demand for a particular container condition of all the container types. According to the demand, a trend can be analyzed for all type of containers. Then using that result a model can be developed to identify the future demand. If the researcher is able to develop a method to forecast the future demand, the company can maintain a good container inventory according to the forecasted demand.

### CONCLUSION

The Purpose of this research is increasing the customer base of the company by doing an analysis on the freight forwarding issues. Therefore first the reasons were identified to none confirmed inquiries. Then the five main factors were identified as reasons for reducing the customer base.

Based on those factors a survey was conducted to prioritize the reasons according to the frequency of the occurrence. The main affecting factors were identified as the freight rate and the vessel availability. The other three factors also affect the customer base to a certain extent.

This shipping ling process not only Sri Lanka, it is exercised in whole world. Therefore, normally the parent company decides the freight rate and the vessel schedule by considering the demand of the whole world therefore sometimes those rates were not suitable for some countries. Because of that when the freight rates and the vessel schedules are decided the parent company should concern the demand of all countries. Other than that when deciding the freight rates the mother company has to consider about the competitors. Because if the shipping line has high rates than competitors rates for a particular port the customers switch to that competitor the transit of his shipment. Therefore when the parent company decides the freight rates the agent should inform that freight rate details to the parent company by doing a small survey in that particular time period.

The final Recommendation of that research is the company will be able to avoid this situation by considering the demand of the separate ports in a particular country, when deciding the freight rates and the vessel schedules to that country.

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