

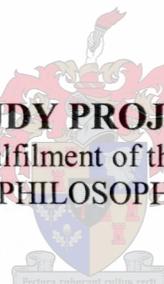
**ANALYSIS OF THE EFFICIENCY OF THE TRANSPORT LOGISTICS
SUPPLY CHAIN WITH SPECIFIC REFERENCE TO LINER SHIPPING
IN SOUTH AFRICA**

BY

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STUDY PROJECT

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SUMMARY

Linear shipping supplies a freight solution that is used in most the needs of importers and exporters. Shipping is a result of increasing economic activity and as a result importers and exporters are

DECLARATION

The elements of services which the costs they must bear for the delivery. In order to meet the requirements

I, the undersigned, hereby declare that the work contained in this study is my own original work and has not previously in its entirety or in part been submitted at any University for a degree.

T. Qukula

Date

SUMMARY

Liner shipping supplies a frequent scheduled transport service between designated ports to meet the needs of importers and exporters. Those needs are becoming more specific as a result of increasing competition attributable to globalisation of trade while importers and exporters are requiring more exacting services from the liner operators. The elements of service which most concern the importers and exporters are obviously the costs they must bear for the conveyance of the cargo and the time taken for its delivery. In order to meet the requirements of importers and exporters and at the same time enable the operators of the services to remain in business in the face of increasing competition within the industry, liner shipping worldwide is undergoing major changes. These changes are intended to increase the economies of scale and to extend control of the liner operators over the landside transport services. A discussion on liner shipping and current developments is contained in Chapter 3.

Liner shipping plays an indispensable role in the economy of South Africa because almost 50% by value of South African imports are containerised. That equates to 8% of South African imports by volume (*Moving South Africa: 1998*), although it must be borne in mind that some of the cargo moving through South African ports is ultimately destined for countries in SADC (Southern African Development Community). According to Drewry Shipping Consultants, containerised cargo worldwide has been growing at the rate of about 8% per annum since 1980 and the South African trade has experienced a similarly high growth.

The actual transport of containers, by sea is only one of the elements in the transport logistics supply chain (*TLSC*) between exporters in one country and importers in another with which liner operators must concern themselves. A conceptual background explaining the entire *TLSC* is provided in Chapter 2. In that chapter, the *TLSC* is defined and two models are used to identify key elements of the *TLSC* as well as interaction between them.

Inefficiencies existing in individual elements of the *TLSC* as well as suggested solutions to the underlying problems are discussed in Chapter 4. Emphasis is placed on the need to use information technology as a vehicle to integrate the individual elements of the *TLSC* and as a means of saving costs and time. A discussion of the economic benefits of an efficient *TLSC* is contained in Chapter 5, while Chapter 6 includes a discussion on local and regional developments that have a bearing on the efficiency of the *TLSC*. The conclusions of the study together with recommended action are contained in Chapter 7.

OPSOMMING

Lynvaart bied 'n gereeld geskeduleerde vervoerdiens tussen bepaalde hawens om in die behoeftes van in- en uitvoerders te voorsien. Weens toenemende mededinging voortspruitend uit die globalisering van handel, raak hierdie behoeftes egter al hoe veeleisender, terwyl in- en uitvoerders ook al hoe meer eise begin stel aan die gehalte van die diens wat deur lynvaartoperateurs gelewer word. Die elemente van hierdie diens waarby in- en uitvoerders die grootste belang het, is uiteraard die koste en die tyd verbonde aan vragverskeping. Om aan die vereistes van in- en uitvoerders te voldoen en dit terselfdertyd vir operateurs moontlik te maak om hul besighede te midde van toenemende mededinging in die industrie te bly bedryf, is die lynvaartbedryf wêreldwyd besig om groot veranderinge te ondergaan. Hierdie veranderinge is bedoel om skaalvoordele te verbeter en lynvaartoperateurs se beheer oor vervoerdienste aan land uit te brei. Lynvaart en huidige ontwikkelinge in die bedryf word in Hoofstuk 3 bespreek.

Lynvaart speel 'n onontbeerlike rol in Suid-Afrika se ekonomie omdat ongeveer 50% van die waarde van Suid-Afrika se invoere in houeers vervoer word. Dit is gelyk aan 8% van Suid-Afrika se invoere per volume (*Moving South Africa: 1998*), alhoewel daar ook in gedagte gehou moet word dat 'n gedeelte van die vrag wat deur Suid-Afrikaanse hawens beweeg, uiteindelik bestem is vir lande in die SAOG (Suider-Afrikaanse Onwikkelingsgemeenskap). Volgens Drewry Skeepskonsultante, groei die vervoer van houerverskeping sedert 1980 teen 'n tempo van ongeveer 8% per jaar, en het die Suid-Afrikaanse handel 'n soortgelyke hoë groeikoers ondervind.

Die werklike verskeping van houeers is net een van die elemente in die vervoerlogistiek-voorsieningsketting (VLVK) tussen uitvoerders in een land en invoerders in 'n ander land waarmee lynvaartoperateurs rekening moet hou. 'n Konseptuele raamwerk wat die VLVK in die geheel verduidelik, verskyn in Hoofstuk 2. Die VLVK word ook in hierdie hoofstuk gedefinieer en twee modelle word gebruik om elemente daarvan asook die interaksie tussen daardie elemente te identifiseer.

Die ontoereikendheid van individuele elemente van die VLVK asook moontlike oplossings vir die onderliggende probleme word in Hoofstuk 4 bespreek. Klem word geplaas op die noodsaaklikheid om informasietegnologie te gebruik om die individuele elemente van die VLVK te integreer ten einde tyd en koste te bespaar. Die ekonomiese voordele van 'n doeltreffende VLVK word in Hoofstuk 5 bespreek, terwyl Hoofstuk 6 handel oor plaaslike en streeksonwikkelinge wat die VLVK se doeltreffendheid beïnvloed. Die gevolgtrekkings van die studie en aanbevole verdere stappe word in Hoofstuk 7 bespreek.

GLOSSARY OF TERMS

TRA

SAC

ACKNOWLEDGEMENTS

I would like to thank my family for their patience and moral support during my studies. I would also like to express my sincere thanks and appreciation to my leader, Dr Henriëtte van Niekerk for encouraging me to undertake the studies and for her invaluable counsel, guidance and assistance in completing this assignment and to Chrisna Visser for her assistance with typing and checking of the document. Then to my colleagues at work, friends in the South African maritime industry and overseas based institutions, thank you for giving me the information used in this thesis.

SEA

SAPTU

BM

Thames

Porter

Spears

no witness shortage

TRU

order book

GLOSSARY OF TERMS

<i>TLSC</i>	Transport logistics supply chain
SADC	Southern African Development Community. These are Southern African countries engaged in socio-economic development strategies for Southern Africa.
liner shipping	Services for the transport of containerised cargo by ships based on published schedules
maritime industry	Collective term used for all businesses whose income is derived directly or indirectly from the sea.
GNP (Gross National Product)	Total monetary value of goods and services produced by a nation.
RSA	Republic of South Africa
SAFTO	South African Foreign Trade Organisation
BMI	Business Market Intellegance
Transnet	A Government-owned South African transport company whose divisions include ports, airports, railways, road transport services and pipelines.
Portnet	A division of Transnet responsible for managing ports.
Spoornet	A division of Transnet responsible for managing railways.
ad valorem wharfage	Tax levied by Portnet on the value of imports and exports.
TEU	Twenty foot equivalent unit. This is a common unit for measuring containers used in liner shipping.
order book	Number of new ships ordered from shipbuilding yards.

IMF	International Monetary Fund, which is a world body engaged in providing financial assistance to needy countries.
UNCTAD	United Nations Conference on Trade and Development.
panamax vessels	Vessels whose beam and width allow them to pass through the Panama Canal.
post panamax vessels	Vessels whose beam and width precludes them from passing through the Panama Canal.
Bill of Lading	Legal document containing terms and conditions for the carriage of cargo by shipping lines on behalf of shippers.
freight	Charge levied by shipping lines to shippers for carrying a unit of cargo
FOB	Free on Board (which guarantees payment for the sea transportation of cargo at the cargo destination)
CIF	Cost Insurance and Freight (which requires that all transport costs including insurance and freight are payable in the country of origin of cargo)
demurrage	Charge levied by shipping lines on shippers for storing a container for longer than arranged.
CTO	Container Terminal Order. Instruction given by the shipping lines to the road haul section of Portnet to deliver containers.
WTO	World Trade Organisation. World body responsible for negotiating trade arrangements between nations.
EU	European Union. Economic and financial bloc of developed countries in Europe
Inter-ministerial committee	Committee formed by South African Ministers
JIT	Just-In-Time. Practice used by manufacturers and wholesalers for ordering supplies according to demand in order to minimise inventory costs.

EDI

Electronic Data Interchange. Exchange of business information by computer to another computer either within a business organisation or between business organisations. (Certain information exchanged by organisations involved in liner shipping must be in a format that meets the EDIFACT standards set by UNCTAD)

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amounts to 8% of South Africa’s exports by volume (Dreyer, 2000). A significant quantity of cargo that passes through South African ports to other Southern African countries, such as Botswana, Lesotho and Swaziland, also passes through other ports. Some of the Southern African countries, like Botswana, Swaziland and Lesotho, depend on South Africa for their inter shipping needs.

The governments of the countries in Southern Africa, under the auspices of the Southern African Development Community (SADC), are engaged in various activities to improve the economy of the region. Some of these activities include the development of transport infrastructure and trade policy reform. In addition, the SADC member states are working to improve the efficiency of the regional transport infrastructure. Such development of the regional transport infrastructure will facilitate the transport of imports and exports through South African ports to other SADC countries. This will stimulate development and economic growth in the region and also raise demand for South African liner shipping.

1.2 IMPORTANCE OF THE SUPPLY CHAIN

The supply chain requires a host of logistical activities which collectively result in the movement of cargo from exporters to importers. Most of the cargo consists of manufactured goods and even some semi-processed commodities and raw materials. These are packed in containers which are carried by liner ships between ports.

Ships earn profits from the transport they provide and only incur costs when they are being loaded or unloaded in ports. The time taken to receive and load cargo and the time taken to discharge cargo is thus important to the shipowner because of its influence on costs and profit. The various events and activities that lead to cargo being received and loaded on a ship are also fundamental to the efficient operation of a

1. INTRODUCTION

1.1 THE IMPORTANCE OF LINER SHIPPING FOR SOUTHERN AFRICA

Almost 50% by value of goods imported to South Africa is containerised. This equates to 8% of South Africa's imports by volume (*Moving South Africa, 1998*). A significant quantity of cargo also moves through South African ports to destinations in other Southern African countries, most of which are land-locked or poorly-served by other ports. Some of the Southern African countries therefore depend on South Africa for their liner shipping needs.

The governments of the countries in Southern Africa under the auspices of the Southern African Development Community (SADC) are engaged in collaborative initiatives to improve the economy of the region. Some of these initiatives are focused on transport infrastructure and trade policy reforms intended to improve the movement of freight. Such development of the regional transport networks will facilitate the transport of imports and exports through South African ports to and from other SADC countries. This will stimulate development and economic growth within the region and also raise demand for South African liner shipping.

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liner ship because its profitable utilisation depends upon the tight scheduling of voyages. Furthermore, the quick transit of cargo from the port of discharge to its inland destination is an essential feature of the integrated service offered by liner shipping and also has an effect on ships' schedules.

Today most manufacturers use Just-In-Time (JIT) production schedules to reduce inventory costs. The timing of the reception of the materials required is critical to the achievement of the planned output. Delays in the delivery of materials to manufacturers not only directly raise production costs but result in delays to the onward movement of whatever is produced, with cost-raising consequences which may be experienced in different parts of the world. Such delays can oblige importers to change their sources of supply to the detriment of the economies of the original countries of supply.

The competitiveness of South African goods in world markets thus depends largely on the efficiency of its supply chains and in particular on that of liner shipping to ensure prompt delivery both of imports, which provide input materials, and of exports to overseas buyers of South African goods. Up-to-date technology in transport, communications and information exchange is essential to ensure such efficiency. (A discussion of how liner shipping operates and the factors which influence its efficiency is contained in Chapter 3, while the economic benefits of such efficiency are described in Chapter 5).

1.3 EVALUATION OF THE EFFICIENCY OF THE SUPPLY CHAIN

All the elements of the supply chain interact to meet the needs of the importers and exporters. These elements are interdependent and have a cause-and-effect relationship to one another. Thus for each element to achieve its maximum value and at the same contribute to the optimisation of the value of co-elements in the supply chain, there must be a high degree of integration between the elements. A weak link has a negative effect on the performance not only of all the elements, but also of exporters and

importers. The efficiency of each individual element must therefore be evaluated in order to assess the efficiency of the entire supply chain.

The evaluation process in this study concerns the performance of each element in terms of the value it can create for itself and its co-elements. Furthermore, the performance of some of the elements is bench-marked against the performance of elements elsewhere in the world for comparative purposes.

It needs, however, to be stated that comparisons are used merely to highlight performance standards that could be achieved if all the underlying factors were the same, e.g. labour, capital and the regulatory environment. The degree of integration between the elements is necessarily analysed as it influences the performance of the whole supply chain, but that degree is, of course, determined by the level of co-operation between the elements. Co-operation can occur automatically based on the interdependence of the elements, or it may need coercion, e.g. through regulation or advocacy by lobbying groups.

Control of the elements in the supply chain in South Africa rests with both the public and the private sectors. In a free market economy, the involvement of the private sector is driven by profit motives whilst that of the public sector may be driven by social and economic considerations. However, there is no evidence to suggest a correlation between the efficiency of the supply chain and its profitability or contribution to the socio-economy of South Africa, because of the monopoly exercised by several of the elements. Nevertheless, the evaluation in this study is undertaken within a free market economic framework which ostensibly promotes competition in commercial activities.

1.4 STATEMENT OF PROBLEM

The efficiency of the supply chain involving liner shipping depends on the collective efficiencies of the individual elements and the degree to which they are integrated. The evaluation process therefore entails the assessment of the efficiency of each

individual element and the level of integration it achieves with other elements. Inefficiencies are identified and assessed in terms of the value forfeited by the economies in both South and Southern Africa, since many Southern African countries depend on South Africa for their liner shipping requirements.

The evaluation deals with the following questions:

- a) Who are the main role-players/elements in the supply chain?
- b) Are there any inefficiencies associated with each role-player/element?
- c) Are elements of the supply chain integrated? If not, to what degree must integration be improved?
- d) Can the supply chain perform efficiently if there is a weak link, i.e. if the performance of one of the elements is poor?
- e) What are the suggested solutions to improve the efficiency of the chain and what is the potential value that stands to be gained?
- f) What are the economic benefits of an efficient supply chain for South Africa and the SADC? Also, what are the implications of an efficient supply chain in the context of the African Renaissance vision as advocated by the South African President with support from other African countries?
- g) Are there any plans and developments underway in South Africa and elsewhere in the SADC that can better harness the efficiency of the supply chain?

1.5 STUDY METHODOLOGY

The evaluation is based on the use of two models of the supply chain. Based on one of the models, major elements are identified and their performances analysed in terms of the value added as well as their degree of integration with other elements. Where inefficiencies are identified, solutions to improve efficiency are proposed with assessment of the potential value that stands to be gained.

The analysis is based primarily on import and export business processes associated with liner shipping. Extensive use is made of literature on liner shipping, logistics

management, port economics, transport economics, government policies, as well as information extracted from magazines, periodicals, brochures and conference papers.

1.6 STUDY CONTENTS

In order to give context to the study, Chapter 3 contains a description of how liner shipping works and the forces that influence it. Chapter 3 also contains a description of the supply chain, its major elements, its major role-players and their importance. An analysis of the efficiency of the elements of the supply chain, identification of gaps in the efficiency, solutions and potential value to be added are discussed in Chapter 4. A discussion on economic benefits that can be achieved by improving the efficiency of the supply chain is contained in Chapter 5. Chapter 6 provides insights on the latest events and developments that may have a bearing on the efficiency of the supply chain. Chapter 7 contains the conclusion to the study and recommendations.

2. THE TRANSPORT LOGISTICS SUPPLY CHAIN (*TLSC*)

2.1 WHAT IS A *TLSC* AND WHAT DOES IT COMPRISE?

The Council of Logistics Management defines the *TLSC* as the process of planning, implementing and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods and related information from point-of-origin to point-of-consumption for the purpose of conforming to customer requirements (Lambert and Stock, 1993).

It is pertinent to note that the *TLSC* is known by different names, among which are *supply chain*, *quick response system* and *physical distribution systems*. For the purposes of this study, the definition can be amended by defining the *TLSC* as the process of planning, implementing and controlling the efficient, cost-effective flow of goods and related information from one point to another point in order to meet customer requirements.

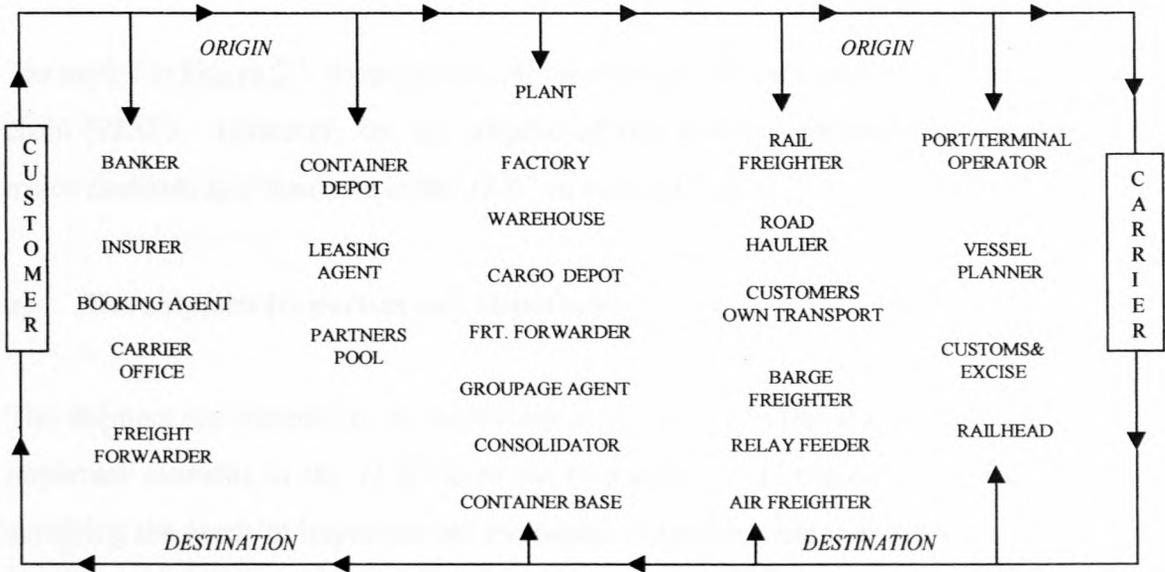
A quick analysis shows that:

- a) the *TLSC* is about meeting the needs of customers. In liner shipping the customers are importers and exporters.
- b) the *TLSC* is a process of managing the flow of goods and related information. In liner shipping the *TLSC* is the process of managing the movement of containerised cargo and related information.
- c) the *TLSC* must be efficient and cost-effective in order to meet customer requirements. In liner shipping importers and exporters require an efficient and cost-effective service. (Liner shipping and the governing economic factors are discussed in Chapter 3).

The foregoing descriptions emphasise that efficiency and cost-effectiveness are key characteristics of a *TLSC*. The evaluation of its efficiency is thus relevant to any analysis of a *TLSC*.

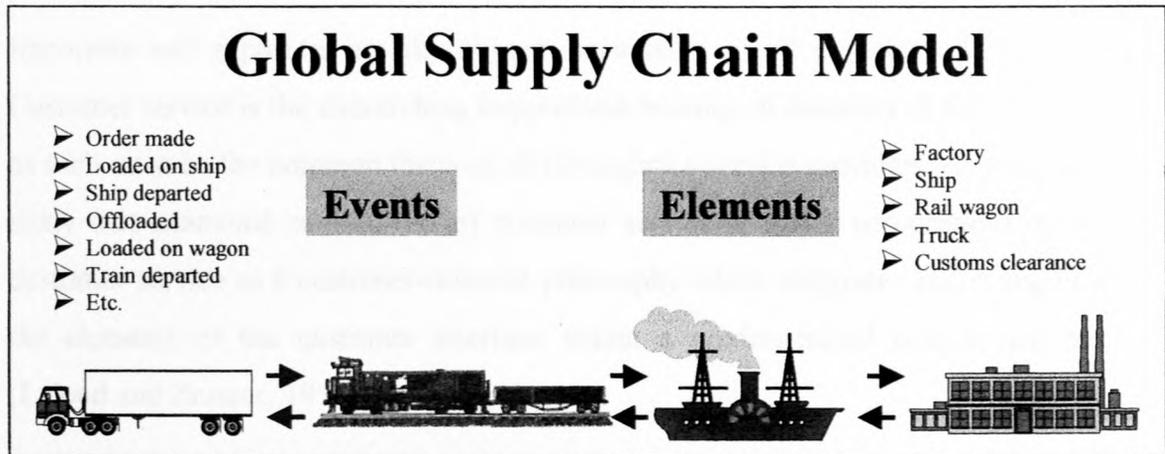
The *TLSC* is commonly described by making use of models to show how the process works and there are as many models as there are definitions. The intrinsic characteristics of a *TLSC* model depend on the perspective from which it is drawn. However, the overall process is the same. Examples of models of the *TLSC* developed by two different organisations are shown in Figures 2.1 and 2.2.

FIGURE 2.1. A *TLSC* MODEL FROM A LINER OPERATOR'S POINT OF VIEW



Source: P&O Containers 1994

FIGURE 2.2: A *TLSC* MODEL FROM A RAIL OPERATOR'S POINT OF VIEW



Source: Spoornet 1998

Essentially, the models are the same although they appear different. The model in [Figure 2.1](#) is of particular interest for the purpose of the study, since it clearly illustrates the interaction between the carriers and the shippers (customers) as well as the elements of the *TLSC*. [Figure 2.2](#) provides a pictorial dimension of the common transport elements associated with the *TLSC*.

2.2 MAJOR ELEMENTS IN THE *TLSC* AND THEIR ROLE

The model in [Figure 2.1](#) shows almost all the elements of the transport logistics supply chain (*TLSC*). However, for the purpose of this study, emphasis is placed on the major elements and their role in the *TLSC* as outlined below.

a) The shippers (exporters and importers)

The shippers are referred to as customers in [Figure 2.1](#). The shippers are the most important elements in the *TLSC* since the interaction of all the elements is aimed at satisfying the needs of importers and exporters. Exporters and importers are the main reason for the existence of the rest of the elements of the *TLSC*. The transportation of raw materials, in-process inventories and finished goods from an exporter located in one part of the world to an importer located in another part of the world has given rise to the existence of the other elements of the *TLSC*.

Importers and exporters are the ultimate customers of all elements of the *TLSC*. Customer service is the overarching requirement binding all elements of the *TLSC* and as such must be the common focus of all the logistics service providers. A pioneering study that examined state-of-the-art customer service in major corporations defined customer service as a customer-oriented philosophy which integrates and manages all the elements of the customer interface within a predetermined cost-service mix. (Lalond and Ziuszer, 1976).

For the purpose of this study, the efficiency of the *TLSC* is being evaluated in terms of the extent that it meets the cost-service mix of importers and exporters.

b) The shipping lines or liner operators

The shipping lines are referred to as carriers in [Figure 2.1](#). These carriers or liner operators provide space on their ships for the transportation of containerised cargo from exporters to importers for which they charge what is commonly known as freight.

The importance of liner shipping to the *TLSC* becomes more significant in the cost and service mix requirements of shippers if liner shipping is defined as the offering of frequent, scheduled services to and from specified ports (Doviak, 1996).

As mentioned in [Chapter 1](#), ships earn income when carrying cargo, but only incur costs when in ports. The speed with which ships load and discharge cargo in ports is important in meeting the cost-service mix of shippers as well as in the cost of operating ships. This fact reinforces the need for an integrated approach to the management of the *TLSC*.

Shipping, and by implication liner shipping, is a complex industry and the conditions which govern its operation in one sector do not necessarily apply in another. Indeed it may for the purposes of this study be regarded as a group of related industries. Its main assets, the ships themselves, vary widely in size and type as they provide a whole range of services which are needed to transport a great variety of goods over longer or shorter distances. Although it is feasible for analytical purposes to isolate sectors of the industry providing particular types of service, there is usually some interchange at the margin which cannot be ignored. (UK Parliament, Rochdale Report, 1967) (Doviak, 1996).

Thus liner shipping is a complex business involving many industries. The performance of liner shipping both for its own purposes and for meeting the cost-service mix of

shippers is inextricably linked to the performance of the associated industries. Some of these industries can be identified from [Figure 2.1](#).

c) **The intermediaries**

These include a myriad of businesses providing supporting services to liner shipping. Banks, insurance companies, booking agents, pool partners, factories, warehouses, cargo depots, groupage agents, consolidators, rail carriers, road hauliers, port/terminal operators, vessel utilisation planners and customs and excise departments are some of the intermediaries indicated in [Figure 2.1](#). Among the intermediaries, agents deserve special mention because their role in the *TLSC* is changing as shippers exert more exacting demands for service on shipping lines. Shipping lines are appointing various types of agents to perform various functions to meet their needs. Some examples of agents are:

i) *Owners' representatives*

Owner's representatives normally perform marketing and logistics functions on behalf of the liner shipping company in various parts of the world as an extension of that company's service. For example, Aseco is an agent for Safmarine Container Lines¹ covering most of the continent of Europe, Gulf and the Atlantic in North America, while Saflink performs a similar function in Southern Africa. Ellerman and Bucknell are agents for many large shipping companies such as P&O Nedlloyd, operating in Southern Africa and elsewhere in the world.

The owner's representatives make contact with shippers and manage their logistics service requirements on behalf of liner shipping companies. The agents charge liner shipping companies agency a fee for their services and play a crucial role in the *TLSC* since they interface directly with the shippers.

¹ Safmarine Container Lines is a South African liner shipping company with an international agency network in most parts of the world.

ii) *Ships' or port agents*

These agents are appointed by shipping lines to manage the needs of the vessels when they call at various ports.

Their functions include cash disbursements for vessel masters, co-ordinating vessel supplies (bunkers, spares, victuals), arranging dry-dock facilities, co-ordinating crew requirements (medication, travel, accommodation) and co-ordinating vessels' times of arrival and departure in ports. Examples of such ships' agents in South Africa are Rennies Ships' Agents, Safmarine Ship Agencies and P&O Ports.

iii) *Stevedores*

Another type of agency peculiar to the South African shipping scene is a stevedoring company which is appointed by shipping lines to perform and supervise the loading of cargo on and off vessels. Examples of stevedoring companies in South Africa are South African Stevedores, P&O Ports and Greystones. The fact that stevedoring is the responsibility of a terminal operator in other parts of the world makes it an interesting aspect in the evaluation of the efficiency of the *TLSC* in South Africa.

Stevedores charge shipping lines a rate per container moved. This is normally specified in a contract that is negotiated annually.

d) The suppliers of landside transport

Suppliers of land transport provide transportation services for cargo to and from vessels in ports either at the cargo's origin or its destination. The ownership of these elements differs from country to country. In South Africa, the rail service supplier, Spoornet, is a division of Transnet Ltd, which is a government-owned company. Spoornet also owns a road cartage service which in conjunction with the rail services offers an inland container service known as CX. Portnet, also a division of Transnet Ltd, is responsible for the administration and operation of South Africa's seven

commercial ports including container terminals. Portnet operates a road cartage business for cargo to and from the ports in competition with private hauliers.

Many of the road haulage services for containers in South Africa are owned by the private sector. This includes those owned by shipping lines, e.g. Roadwing, which is owned by Safmarine and is a subsidiary of Safmarine Agencies. Cross Country and IDC are other independent suppliers of road haulage services for containerised imports and exports.

e) Ports

In most maritime countries container terminals are operated by private enterprise in contrast to the arrangement in South Africa where the ports, including the container terminals, are owned and operated by a State enterprise comprising a transport conglomerate.

South Africa has three major and two minor ports serving liner ships. Durban on the eastern seaboard is the premier container port in South Africa. Cape Town on the western seaboard handles a substantial quantity of fruit exports, some of which are containerised. Port Elizabeth, situated between Durban and Cape Town, handles motor car parts and wool, most of which are containerised. East London is a small port located not far from Port Elizabeth and handles containerised motor car components in addition to other cargo, including grain in bulk loaded from silos. Richards Bay, situated on the eastern seaboard, handles small volumes of containerised cargo, but is essentially a port for bulk cargo, including massive quantities of coal.

f) Container depots

Container depots which consolidate and distribute less than container loads are also contracted to store full and empty containers on behalf of shipping lines. Importers may arrange with shipping lines for containers to be transported and stored at container depots until the cargo is required. Shipping lines store empty containers in

container depots for use by exporters as required. Container depots also clean and repair containers and charge shipping lines a fee for this service.

The ownership of container depots varies. Some shipping companies own and operate their own container depots whilst others appoint independently-owned depots to provide the service. Examples of container depot operators in South Africa are South African Container Depots (SACD) and United Container Depots. MSC, one of the major shipping lines operating in South African waters, owns and operates its own container depots.

2.3.2.3. Container depots

It is important to note for the purpose of this study that containers are expensive assets owned or leased by shipping lines for cargo transportation. The lines receive payment for the movement of containers, but incur costs when containers are stationary. These may be direct costs, as container depots charge shipping lines rental for the storage of containers. The quick turnaround of containers is thus essential if the services offered by shipping lines are to be profitable.

2.3.2.4. Customs

g) Customs

2.3.2.4.1. Customs and Excise in the TLSC

The role of the Department of Customs and Excise in the *TLSC* is to levy duty on cargo in accordance with the official tariffs and to prevent contraband. That entails a huge administrative exercise at terminals to check cargo loaded and discharged from ships. All cargo flowing in and out of ports must be cleared by customs. How the customs function is managed and integrated into the *TLSC* is pertinent to this study.

2.3.2.4.2. Customs and Excise in the TLSC: The Department of Customs and Excise

2.3.2.4.3. Customs and Excise in the TLSC

2.3.2.4.4. Customs and Excise in the TLSC

2.3.2.4.5. Customs and Excise in the TLSC: The Department of Customs and Excise

2.3.2.4.6. Customs and Excise in the TLSC: The Department of Customs and Excise

2.3 MAJOR ROLE-PLAYERS IN THE *TLSC*

The major role-players in the *TLSC* are organisations and individuals whose influence has a direct or an indirect effect on its functions. These include both international and national role-players.

2.3.1 International conventions and role-players

a) International conventions

International shipping is a business governed by a host of international maritime conventions which regulate or influence various aspects of the *TLSC*, for example the Unctad 40:40:20 liner code prescribes the quantities of cargo which ought to be carried by the shipping lines of the trading countries; the International Convention on Tonnage Measurements of Ships, 1969, defines the measurements of the size of ships; the International Convention for the Prevention of Pollution from Ships, 1973, defines pollution by ships and prescribes the penalties; and the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) regulates the qualifications of crew on ships.

b) Foreign shipowners

Some of the foreign liner shipping companies that trade in South African waters are MSC, Cosco, MISC, MOL, P&O Nedlloyd, Maersk, Evergreen and MACS.

2.3.2 National role players

a) Government departments

Government departments, notably the Departments of Finance, Transport, Trade and Industry, and Public Enterprises, have an indirect influence on the *TLSC* in South

Africa. The Department of Finance through the South African Revenue Services collects customs duty on imports and exports. It also collects taxes from businesses associated with shipping. The Department of Transport is responsible for shipping policy and accession to international conventions, while the Department of Trade and Industry facilitates trade between South Africa and the international community through trade agreements. The Department of Public Enterprises is responsible for government policy towards the ownership of ports and railways through Transnet Ltd.

b) Local agencies

In South Africa, the South African Maritime Safety Authority is a government agency whose role is to enforce international maritime conventions as well as domestic legislation on the safety of shipping.

c) Shipping lines

Domestic shipowners are represented by the South African Shipowners' Association, whose objective is to promote the interests of shipowning in South Africa. The Association of Shipping Lines (ASL) in which both domestic and foreign shipping are represented is concerned with the day-to-day problems facing shipping lines in South Africa. The ASL focuses much of its attention on the performance of elements within the *TLSC*.

The Liner Operators' Forum, which is closely linked to ASL, is another group focused on the performance of elements in the *TLSC*. The South African Chamber of Business (SACOB) sometimes also gets involved in shipping matters.

d) Importers and exporters (shippers)

Some of the importers and exporters are represented by the South African Shippers' Council, membership of which includes both bulk and containerised cargo shippers.

e) **Labour**

The trade unions which are concerned with employment by Transnet Ltd also influence the *TLSC*, as do the unions to which the shippers' employees belong, e.g. motorcar and other manufacturers, importers of merchandise and exporters of agricultural produce.

2.4 RECENT CHANGES IN THE *TLSC*

Various changes which have a direct as well as an indirect effect on the *TLSC* in South Africa have recently taken place in the liner shipping industry. These changes are discussed below.

2.4.1 Liner shipping

- a) The re-acceptance of South Africa into the international business community following the attainment of a new democratic dispensation in 1994 has resulted in more foreign liner shipping companies calling at South African ports to compete for a market share in the local liner shipping business.
- b) The worldwide decline in liner shipping freight rates in recent years has also caused the foreign tonnage transporters, to seek new markets in South Africa.
- c) Because of the increased competition, some foreign liner shipping companies which started services to South Africa have since ceased their operations.
- d) New international giants such as Maersk have established their presence firmly in the South African trade despite severe competition.

- P&O Lines which in 1996 merged with Nedlloyd Lines to form P&O Nedlloyd
- Safmarine acquired a controlling share in the Belgian Liner Shipping Company CMBT and formed SCL in 1997
- Maersk Lines bought Safmarine's liner shipping interests in June 1999
- Evergreen acquired Lloyd Trestino, an Italian operator, in 1998. Lloyd Trestino was previously a member of the SAECS² conference.

P&O Nedlloyd Lines and Safmarine have for years been members of the two main consortium arrangements SAECS and SAFARI. (SAECS is a consortium serving the trade between Europe and Southern Africa and SAFARI is a consortium serving the trade between the Far East and Southern Africa).

The formation of P&O Nedlloyd in 1996 and the participation by Maersk in SAECS and SAFARI in 1999 following Maersk's purchase of Safmarine has changed the balance of power in the pooling arrangements of these consortia and has increased the severity of competition because of greater economies of scale within the consortia.

- f) Depressed freight rates have caused liner operators to introduce various surcharges to recover direct costs, for example the bunker surcharges in response to increased fuel costs. That has provoked concern among the customers of liner services and led to consideration of the provisions of the Competitions Act in so far as it governs pricing by liner operators, in particular those involved in consortia or conference arrangements. The outcome of the current investigations in that matter is relevant in this study. This is discussed in Chapter 4.

² SAECS is Southern African Europe Container Services. It is a liner shipping conference whose members include Safmarine, P&O Nedlloyd and Deutsche Afrika Linien.

2.4.2 Agents

The unbundling in 1998 of Safren, the holding company for Safmarine and Rennies has resulted in changes and new developments in the previous principal/agency relationships. Saftainer, previously a Rennies-owned logistics services agent, for example, stopped providing logistics services for Safmarine and Safmarine started to manage these services by employing some of the staff previously employed by Saftainer. Safmarine also bought Roadwing, a road-haul company owned by Rennies. In October 1999 Safmarine assumed full responsibility for the ships' husbandry function which was previously performed by Rennies Ships' Agency on behalf of Safmarine.

In 1998 P&O Nedlloyd formed a ships' agency company called P&O Ports with a capacity to provide stevedoring services and, in 1999, it secured the contract to provide stevedoring services for SAECS, previously serviced by South African Stevedores.

2.4.3 Ports

In April 1999, the gates of the Durban container terminal were opened to private hauliers to compete with RTS, the Portnet-owned road haul business. This was followed by the opening of the gates in Cape Town and subsequently in Port Elizabeth.

In June 1999 an international terminal planning and operating computer system called Cosmos was implemented in the Port of Durban. This was followed by its introduction in Port Elizabeth in July and in the Port of Cape Town in August of that year. Cosmos replaced the old IBM computer system, which was believed not to be Y2K compliant. More modules of the Cosmos system were implemented early in the near future and are expected to result in improved productivity.

In the meantime, Portnet is undergoing administrative changes and the separation of the container division from the port authority division has been announced. This will be implemented during 2000.

Portnet has formed joint project groups with the South African liner operators to investigate and make recommendations on port tariffs and to formulate and recommend acceptable rules and guidelines for the introduction of service-level contracts between Portnet and the shipping lines. The joint project team on service-level contracts had been given a mandate to use a few shipping line to pilot the introduction of service-level contracts early in the near future.

2.4.4 New role players

The container Liner Operators' Forum was formed in 1997 following a prolonged strike in South African ports. This is a grouping of Chief Executives or other representatives from most liner shipping companies in South Africa. The objective of the forum is to hold regular dialogue and engage Portnet officials in talks on port productivity and improvement strategies. This grouping is more influential than the Association of Shipping Lines, which is a member of the same organisations, but has representation at junior management level and focuses on day-to-day operational issues.

2.4.5 New technology

Use of the Internet in South African business is gaining popularity. Some shipping companies advertise their sailing schedules and services on the Internet. However, at present very few shipping lines use EDI (Electronic Data Interchange) to exchange information with ports, agents and other shipping lines. Once the Cosmos EDI module (Signal) has been implemented, the shipping lines will however be obliged to use EDI to exchange information with Portnet.

Road hauliers are increasingly making use of EDI tracking to monitor the movement of trucks that carry containers. This has resulted in a significant improvement in customer service and the security of cargo. Information exchange between shipping lines/agents and shippers is still done manually but the South African shipping community still has quite a way to go regarding the use of new technology.

2.4.6 SADC and the African Renaissance

In September 1999 the South African Government announced plans to ratify with its SADC counterparts legislation concerning the formation of a free trade bloc. That move together with the widely publicised African Renaissance³ philosophy is an important foundation for improving the performance of liner shipping in Southern Africa.

2.4.7 Ministry of Transport

In 1998 the Department of Transport launched the *Moving South Africa* report which contains recommendations based on an investigation into a transport strategy for Southern Africa for the next twenty years. These recommendations emphasised the importance of efficiency in freight transport in Southern Africa.

2.4.8 Ministry of Public Enterprises

The cabinet reshuffle following the second democratic elections in South Africa in June 1999 resulted in the appointment of a new minister responsible for Public Enterprises. The significance of this change is that it may have an effect in the process and timing of the privatisation of state assets, of which ports are among the most important. Obviously the privatisation of ports is an issue to be considered in the evaluation of the efficiency of the *TLSC*.

³ The African Renaissance is an ideal conceptualised by the South African President as the return of Africa to political, social and economic stability. The vision has been embraced by many African countries and it is being driven by a formal structure.

3. LINER SHIPPING FROM A GLOBAL PERSPECTIVE

3.1 BACKGROUND

Shipping is a service industry responding to the sea transportation needs of the world's markets for goods and commodities. Since the end of the Second World War, South Africa's GNP increased steadily, apart from two minor setbacks in 1974-75 and 1981-82. The globalisation of world trade has required local products to compete on a worldwide basis where the supplier needs to keep or gain a competitive edge.

In 1996 world seaborne trade was estimated at 4,7 billion tonnes of which 386 million tonnes constituted containerised cargo. That represents 8,2% of cargo by weight and 59,6% of cargo by value. Since 1980 containerised cargo has been growing at an annual rate of 8,2%. (Drewry Shipping Consultants, 1996).

It is estimated that 95% of South Africa's foreign physical trade is carried by ships, with imports by liner shipping comprising chemicals, electronic goods and other high-value goods, motorcar components and project cargo, while exports include motorcars, agricultural products and manufactured goods.

3.2 CHARACTERISTICS OF LINER SHIPPING

3.2.1 What is liner shipping?

Liner shipping is a frequently-scheduled service by ship to and from specified ports. Today liner shipping services are often extended beyond the ports to include the land-bridge between the ports and the shippers. When the shipping line is responsible for managing this land bridge, the service is called a carrier haul service. This is often referred to as a *door-to-door service* or a *floor-to-floor service* or a *through Bill of Lading service*.

When the shipping line is responsible only for managing the service between ports, i.e. when it is not responsible for the land bridge between the ports and the shippers, the service is called a merchant haul service.

A carrier haul service facilitates the integration of landside transport with the sea leg. It also affords the shipping line control over the elements of the *TLSC*. Whilst shipping lines prefer carrier haul services to merchant haul services, the ultimate decision on the type of service a shipping line offers rests with the shippers. This makes the service offered by shipping lines flexible, i.e. it affords a choice between a carrier haul and a merchant haul service. In addition to the flexibility of the service, the most important value-adding aspect of the service provided by shipping lines to shippers is service reliability. The more control shipping lines have over the elements of the *TLSC*, the easier it is for shipping lines to provide a more reliable service. Integration of land transport services with the sea leg of shipping is therefore a key strategic consideration for service differentiation and competitive advantage in liner shipping.

3.2.2 Demand and supply for liner shipping

a) Demand for liner shipping

Seaborne trade creates a demand for shipping services and the longer the distance over which commodities must move, the greater the demand for ships in that trade. Thus it is the pattern of world trade that is the most important factor in determining the need for shipping.

Some 95% of South Africa's physical trade moves by sea. Over the past two years the demand for liner ships to serve South Africa and other major trading routes of the world has been low, which has resulted in declining freight rates and low profit margins. Another major factor characterising the demand for shipping space in recent years has been the imbalance between inbound and outbound container traffic

associated with certain trades. The Far East trade is an example where outbound vessels have usually been full and inbound vessels empty.

Over the last quarter of 1999 South African exports have become stronger than imports, especially in the South Africa-USA and the South Africa-Europe trades. In contrast, the South Africa-Far East trade is still dominated by imports. The weakness of the Asian currencies against the US dollar is one of the main reasons for this imbalance.

b) Factors influencing demand for liner shipping

i) World economy

The higher the world economic output, the greater the demand for liner shipping. The globalisation of world trade as stimulated by removal of trade barriers also raises the demand for liner shipping.

ii) Seaborne commodity trades

The more commodities traded over long sea hauls, the higher the demand for liner shipping. The conversion of bulk cargo into containerised cargo also stimulates the demand for liner shipping.

iii) Average voyage distance

The longer the distance over which cargo must be carried by sea on average, the greater the demand for liner shipping.

iv) Transport costs

The high cost of air transport and the scheduling of liner shipping reduce the comparative advantage of air transport attributable to rapid transit, because timeous delivery by sea at less cost can be ensured.

v) Political events

A stable political environment together with sound economic and trade policies creates an environment conducive to an increase in the demand for liner shipping services. Business confidence, fiscal policies, breakthroughs in technology and efficient monetary policy are important economic factors that contribute to political stability.

All the factors mentioned influence the levels of consumption, investment and inventories which determine demand for liner shipping.

c) Supply of liner shipping

On the supply side, vessels can be owned or chartered, depending on the strategy of the shipping line, which may also invest in containers which can be owned or hired.

Over the past two years the supply of shipping space has exceeded the demand on routes to South Africa and in all major world trades. This has resulted in low freight rates and declining profitability for shipping lines.

On routes to South Africa, the supply of ships is characterised by the pooling of the capacity of the various conferences in the major trades. In the Southern Africa Europe Container Service (SAECS) conference, which serves the trade between Southern Africa and Europe, middle-sized ships of about 2 500 TEU's are pooled by the members of the conference, namely Safmarine, P&O Nedlloyd and Deutsche Afrika Linien (DAL). Seven ships offering a weekly name-day service are deployed by the

conference in this trade. Similarly members of SAFARI (the conference for services between South Africa and the Far East), namely Safmarine, P&O Nedlloyd and MOL, have pooled tonnage to service that trade. Safmarine owns some of the tonnage deployed in the trades, e.g. the big whites S.A. Helderberg and S.A. Vaal are used in SAECS and SAFARI trades respectively. However, Safmarine also uses chartered tonnage in the trades, e.g. the vessel Mbashe used in Safbank, the South Africa-USA trade, is a chartered vessel. Safmarine and MSC also have a slot-sharing arrangement in the Safbank trade.

Independent lines (i.e. non-conference shipping) MSC, MISC, Cosco, Polaris and Evergreen have also contributed significantly to the supply of tonnage to and from South Africa, in particular after 1994 when South Africa was readmitted to the international business community.

Another strategy used in the supply of ships is the formation of global alliances. These involve the supply of tonnage by one alliance partner in one trade with the offer to partners of slots, depending on demand. This interchange of tonnage and slots between the alliance's partners is replicated in all major world trades where the alliance partners supply services. An example of a global alliance strategy is the vessel-sharing arrangement between Maersk Lines and Safmarine that was implemented following the purchase of Safmarine by AP Moller of Denmark in June 1999.

Maersk Lines has since withdrawn its tonnage used in all major trades between South Africa and the rest of the world. Instead, Maersk uses space on Safmarine vessels to carry cargo between South Africa and elsewhere. Safmarine has also started services on a slot-charter basis in other parts of the world where Maersk Lines deploys tonnage, e.g. the recently established weekly service between the Northwest Continent and Sweden.

In addition to the supply of deep sea tonnage, Unicorn Lines provides a regular feeder service for containers along the Southern African coast.

d) Factors influencing the supply of liner shipping

i) Ship-building output and order book

Technological advancement, stable and skilled labour, cheap raw material and the ready availability of capital influence ship-building output, which in turn influences the prices of new buildings, fleet ages, scrapping policies and competition. Shipyards endeavour to maintain the size of their order books through price adjustments according to market circumstances, while shipowners endeavour to order when prices are low, subject to their market perceptions. That results in ship-building cycles and often in overtonnaging.

ii) Scrapping and losses

Scrapping of tonnage is a consequence of age profiles. Old tonnage is often uneconomic to operate because of high operating costs, while safety requirements preclude shipowners and operators from using unseaworthy vessels, at least in theory. Financial losses incurred by ship operators often result in many ships being scrapped. This is a familiar phenomenon when freight rates are low over a prolonged period.

iii) Fleet performance and operating environment

Poor fleet performance, for example low average speeds and high fuel consumption, often lead to replacements in a fleet. Also the operating environment, e.g. intense competition and low freight rates, results in owners and operators ordering faster and bigger ships to improve services and raise their economies of scale.

3.3 CURRENT SITUATION

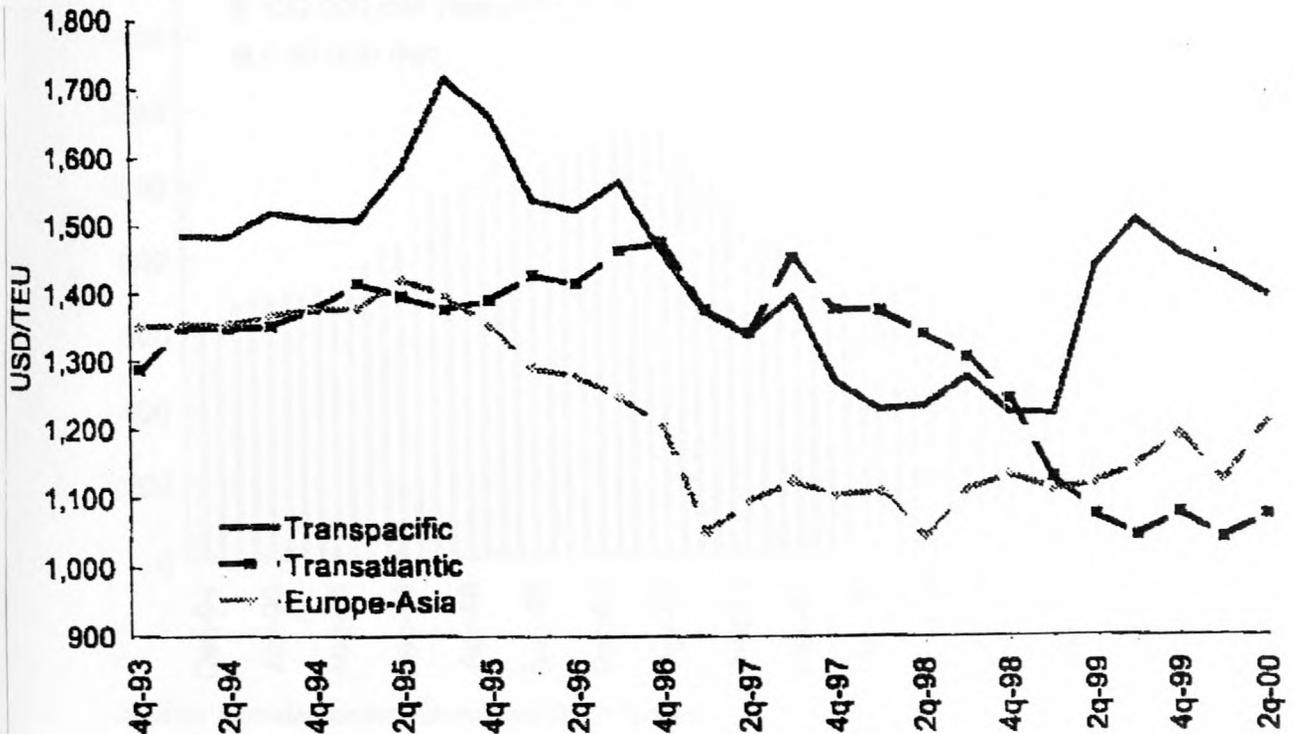
3.3.1 Freight rates

There was a 5 % improvement on average freight rates for all trades during the second quarter of 1999. For the first time since the first quarter of 1996, freight rates are not declining on a year-on-year basis. The strongest improvement is in the Asia-US trade where freight rates on the eastbound traffic are up 38% on the second quarter of 1998 and 25% on the first quarter of 1999. On the westbound leg from the USA to Asia, the rate pressure is easing and a 5% increase was recorded during the first quarter of 1999. Westbound rates from Asia to Europe were unchanged during the first quarter of 1999. However, rates from Europe to Asia have stabilised and this indicates an improvement in trade balance. Generally the Europe-Asia rates showed a 7% improvement over the first quarter of 1998. On the other hand the Transatlantic rates are down 20% on the first quarter of 1998 and 5% on the first quarter of 1999 (Containerisation International/ArosMaizels).

3.3.2 Order book

Intense competition is likely to delay the improvement of freight rates over the short term. However, it seems that freight rates are on a rebound.

Figure 3.1 illustrates freight rate fluctuations for the Transpacific, Transatlantic and Europe-Asia trades for the period commencing during the last quarter of 1993 to the second quarter of 1999.

FIGURE 3.1: FREIGHT RATE MOVEMENTS

Source: Containerisation International/ArosMaizels

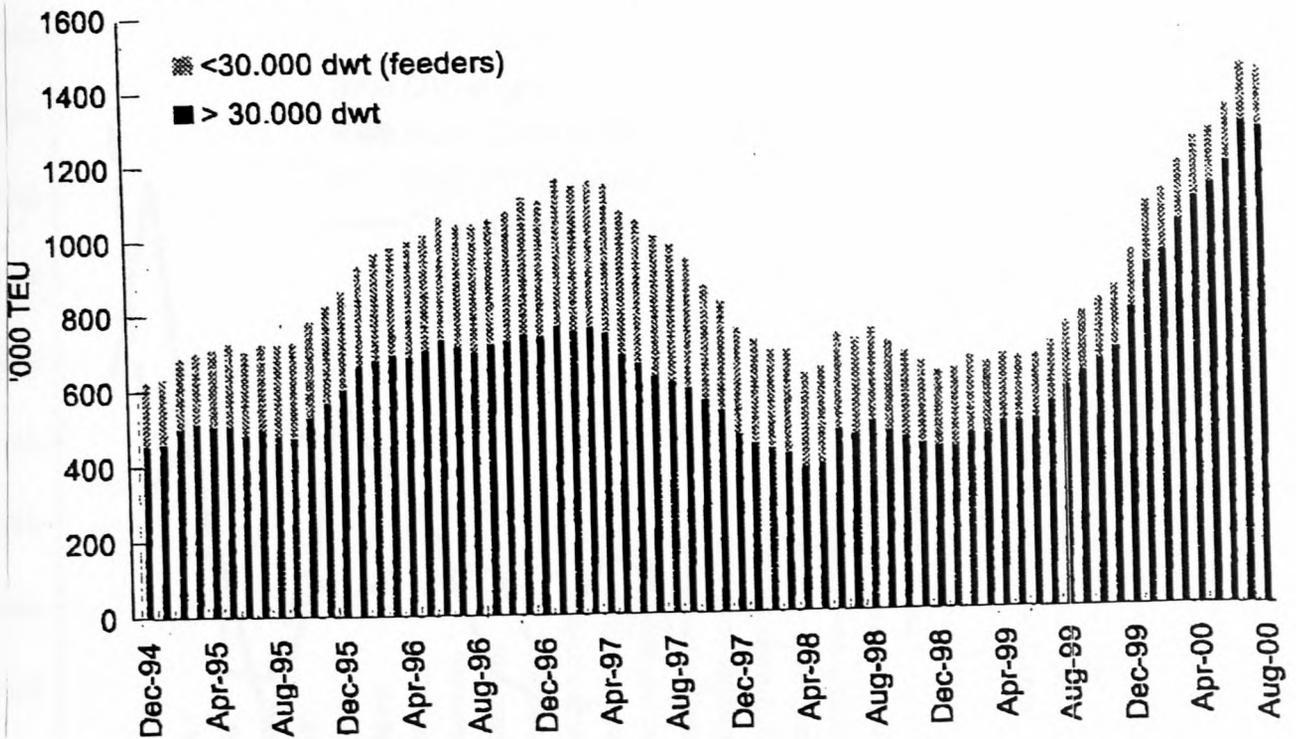
3.3.2 Order book

A total of 367 container vessels were ordered during the first seven months of 1999, showing a 20% decrease in the order book. Orders for feeder vessels have decreased by 36% and are still falling. However, the order book for main haul vessels is up by 11% and is still increasing. This indicates that the trend toward the use of larger ships is continuing to grow.

The order book for fully cellular container ships stood at 702 000 TEU at the end of July 1999, indicating a decrease of 2%. Orders for other ships with container-carrying capacity stood at 186 000 TEU or 10% of the fleet. Overall the order book stands at 14% of the total container-carrying capacity, which is less than two years of demand growth if 1-2% annual scrapping is taken into consideration (Containerisation International/ISL/Clarkson).

Figure 3.2 below illustrates increased demand for main haul vessels and a decreasing demand for feeder vessels.

FIGURE 3.2: ORDER BOOK, 1999



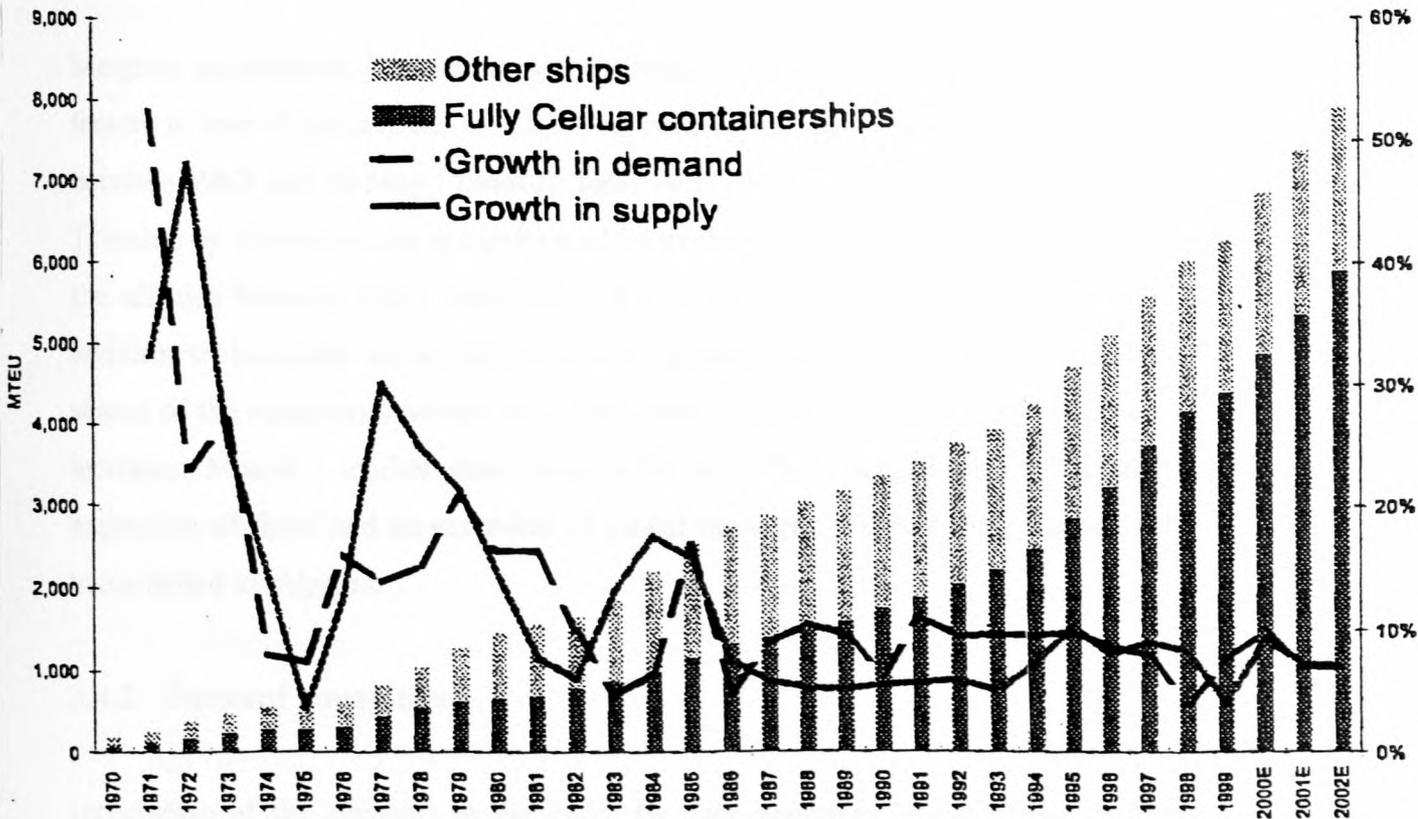
Source: Containerisation International/ISL/Clarkson

3.3.3 Supply versus demand

Container vessel supply has outpaced demand for some years and that, coupled with the Asian financial crisis, has had a devastating effect on earnings. There are signs that the situation may be reversed over the coming years when the demand for container ships is forecast to exceed supply. In 1999 deliveries will account for less than 6% of the total fleet, which is below the long-term trend of the demand. During 2000 about 8% of the existing total fleet is scheduled for delivery. Although deliveries forecast for 2000 are substantial, an increasing demand for large vessels will lead to smaller units and combination carriers being scrapped, thereby reducing fleet growth to below the demand increase.

Figure 3.3 illustrates that demand for container vessels will exceed the supply from 2000 onwards.

FIGURE 3.3: FLEET VERSUS NET DELIVERIES



Source: Containerisation International/ISL/Clarkson/ArosMaizels

3.4 CHANGES IN LINER SHIPPING AND THEIR EFFECTS ON THE TLSC

Over the past few years liner shipping has been experiencing depressed freight rates. This has severely affected the earnings of many shipping companies. Together with increased competition, it has forced liner operators to look for other sources of revenue in order to stay in business. A source which has been researched for profitability is what the shipping lines call the “value chain”. This is essentially the TLSC. Some of these possible changes in the chain and their effect on the TLSC are briefly discussed below.

3.4.1 Increased economies of scale

Mergers, acquisitions, joint ventures and alliances over the past year have been a key feature in liner shipping in the search for economies of scale. Examples are the merger between P&O and Nedlloyd Lines to form P&O Nedlloyd, the acquisition of Lloyd Triestino by Evergreen, the acquisition of Safmarine and Sealand by Maersk Lines and the alliance between P&O Nedlloyd, NYK, OOCL, MISC and Hapag-Lloyd. In addition to increased economies of scale, mergers result in changes in the market shares of the operators involved, e.g. the Maersk, Safmarine and Sealand merger has increased Maersk's market share from 6,3% to 10%. Mergers also result in the expansion of fleets and an extension of global networks. This in turn increases the value added to shippers.

3.4.2 Forward integration

Integration of the elements in the *TLSC* by liner operators is one of the evolving strategies used to improve services and reduce costs in the highly competitive liner shipping environment. As an example, Maersk Lines is the third largest container terminal operator in the world with a 6,5% market share, while the Port of Singapore Authority holds a market share of 9%. The container terminal market totalled 173 million TEU lifts in 1998 after a 9% annual rise during the 1990s. Container terminal market growth has exceeded that of container transportation by 7 to 8% because of the increasing use of hubs, resulting in more cargo being reloaded. As opposed to the container market, the terminals market has enjoyed stable prices for many years with even the Asian crisis having no effect. Prices in the range of \$300 to \$400 per lift are paid in larger terminals such as Rotterdam and Singapore although major shipping companies are granted discounts on volumes handled (Aros Securities Research, Sector report, September 1999). Lifting charges are sometimes as little as \$50-60 in smaller ports.

Shipping lines are also increasing their control on other elements of the *TLSC*, e.g. road and railway hauling, ship agency and the operation of container depots, in order to add more value to their services.

3.4.3 Increasing use of information technology

Shipping lines are making increasing use of information technology and thereby influencing other elements of the *TLSC* to follow suit. Some shipping lines invest in global logistics computer systems capable of:

- a) Online tracking of containers in remote areas
- b) Transmitting booking and documentation information between remote centres
- c) Creating electronic vessel stowage plans by port, and facilitating capacity management and safe vessel stowage
- d) Remote electronic monitoring of load/discharge operations. (This facilitates quick response by shipping lines when there are problems with, for example, short shipments, transhipments and changes in the destination of containers)
- e) Linking container terminals, customs offices, agents and shipping lines using EDI for quick information exchange in what is often referred to as community systems
- f) Use of satellite EDI to track containers on trucks and trains for security reasons, and to monitor consignment arrival times.

Other developments include the increasing use of the Internet by shipping lines and other elements in the *TLSC*. An example is advertising of vessel schedules and sailing dates.

3.5 FUTURE OUTLOOK

3.5.1 Stabilisation of freight rates

The tide has turned towards a much more prosperous outlook for liner shipping in the years ahead. Improved demand growth is influenced by stronger economic growth in Asia. The wave of large orders for ships is slowing and the tonnage balance in the market should be much improved over the coming years. Freight rates have started to pick up and higher rate increases are expected during the course of 2000. China expects its container traffic to rise to over 16 million TEU which is 22% up on the previous year according to its Department of Water Transport.

3.5.2 Mergers, acquisitions, joint ventures, alliances and consolidation

Maersk-Sealand has become the world's largest liner shipping company and the world's third largest operator of container terminals. Maersk Lines' share of total capacity is 10% compared to Evergreen's 5,4% for and P&O Nedlloyd's 4,3%. Maersk Lines is expected to continue expanding by extending its fleet to maintain its 10% market share.

Maersk Lines' acquisition of Safmarine and Sealand are putting pressure on competitors to speed up consolidation. The consolidation process has still significant ground to cover since capacity is divided 50/50 between 20 and 100 shipping lines respectively.

New mergers may disturb the existing alliances, e.g. a merger of P&O Nedlloyd and APL may result in the New World Alliance being reduced from three to two members. Global Alliance in which P&O Nedlloyd participates would be strengthened. Global Alliance, whose members are P&O Nedlloyd, OOCL, Hapag-Lloyd, NYK and MISC, enjoys a 10% market share.

Furthermore, the deregulation of the Japanese market may lead to a consolidation of the Japanese operators NYK, Mitsui OSK and K-Line, resulting in a 6% overall share of the market. Evergreen, which ranks second in the world in shipping line size, has a 5,4% share of the market. So far it has made only one acquisition namely the small Italian operator Lloyd Triestino. Any new initiatives by Evergreen will give impetus to the consolidation process. Canadian Pacific (CP Ship) is expected to continue its acquisition of small operators. The company's strategy is that acquired businesses must carry on individually, which will limit the effects of consolidation.

3.5.3 Forward integration

The integration of major elements in the *TLSC*, e.g. ports, agents and road hauliers, is likely to increase as the consolidation of liner shipping progresses. The reasons for a projected increase in forward integration are:

- a) Liner operators will be under pressure to improve their service because of increasing competition. Control of the elements in the *TLSC* will enable liner operators to improve service delivery.
- b) Some of the liner operators involved in mergers, acquisitions, joint ventures and alliances already have elements in the *TLSC* integrated into their structures. As an example, Maersk Lines acquired Sealand, which has been operating container terminals in North America.
- c) Until freight rates have fully recovered, shipping lines will continue to look for revenue-creation opportunities beyond the sea leg of the *TLSC*. This will promote the integration of the elements in the *TLSC*.
- d) Ocean freight rates are subject to fluctuations because of an imbalance between supply and demand for tonnage. Prices of other elements in the *TLSC*, e.g. container terminals, are stable and are not subject to fluctuations.
- e) Shipping lines need to increase their capacity and global networks in order to be competitive. Global networks can only be increased by integrating elements in the *TLSC* world-wide in order to achieve a global reach.

3.5.4 Use of information technology

Information technology will become one of the strategies used by shipping lines to gain competitive advantage. Global systems connecting remote areas of the world and spanning service networks of liner operators will be developed as consolidation and integration gain more impetus. EDI, the Internet and Intranets will be standard means of information exchange and dissemination. Consolidation and integration will help fast-track developing countries like South Africa to use first world IT systems in liner shipping.

4. INEFFICIENCIES IN SOUTH AFRICAN TLSC AND PROPOSED IMPROVEMENTS

4.1 SHIPPERS (IMPORTERS AND EXPORTERS)

The priorities of shippers can be gleaned from a poll conducted by Containerisation International in June 1999. A total of 1 000 shippers around the world were sent a questionnaire comprising twelve questions on future strategies in buying capacity from freight operators. Responses were received from shippers in numerous countries in Europe, North America, Southern Africa and Asia. Below is a summary of the results of the poll.

- a) Sixty seven per cent of shippers are involved in both export and import, 11% in import only and about 22% in export only.
- b) Thirteen per cent of the shippers ship on FOB terms only. Consequently they do not control the choice of carriers.
- c) When the percentage of shippers shipping only on CIF, door-to-door, door-to-port or port-to-door terms are combined, 50% ship on terms which allow them the choice of carrier. Thirty seven per cent ship on a combination of two or more of the alternative terms. Thus the overall proportion of shippers fully or partly controlling the choice of carriers is much greater than 50%.
- d) Forty per cent of shippers use more than one method of inland haulage, 30% of shippers favour ocean carriers and 19% use freight forwarders.
- e) On the provision of total supply chain logistics services to shippers, ocean carriers scored 23%, freight forwarders 12% and specialist logistics service providers 13%.
- f) Eighty-eight per cent of shippers stated that they are in favour of negotiating global freight contracts.
- g) On carrier relationships, 82% of shippers stated that they were taking steps to reduce the number of ocean carriers used, while 94% of respondents stated that there will always be a place for niche market specialists in liner shipping.

- h) Schedule reliability came out as the top priority for shippers when classifying carrier services, while 12% of shippers emphasised transit times as their top priority, thereby demonstrating that the reliability of advertised sailing and arrival dates is more important than whether a carrier's port to port transit times are a day or two faster or slower than those of its competitors.
- i) Thirty eight per cent of shippers designated freight rates as their most important consideration. Other services such as cargo tracking and tracing, e-commerce documentation facilities, and the reliability of booking and documentation system were either disregarded completely or accorded very low priorities.
- j) Sixty per cent of shippers stated that the port of shipment is important even when using a door-to-door system.

Against this background of shippers' preferences, below is a discussion of inefficiencies affecting South African shippers as well as suggested solutions.

4.1.1 Inefficiencies among South African shippers and proposed solutions

a) Abdication of responsibilities to service providers

When ports are congested the shipping lines, through the Association of Shipping Lines (ASL), the Association of Ships' Agents and Brokers of South Africa (ASABOSA) and the Liner Operators' Forum, hold meetings with Portnet and Transnet to resolve the problems causing congestion. The shipping lines also take a leading role in negotiating port, rail and road tariffs with minimal or no involvement by shippers. Delays of cargo in ports because of congestion lead to stock-outs and have negative financial consequences for the shipper. Also, uncompetitive landside tariffs have a negative effect on the price competitiveness of the shippers' traded goods.

In order for the shippers to realise the value lost through their abdication of responsibilities to service providers, the proposals outlined below should be considered.

- i) Whenever vessel delays occur in ports, shippers should become directly involved in discussions with Portnet and Transnet to address the causes of the delays. That will put more pressure on Portnet and Transnet to ensure that vessels are

not delayed in ports and will serve to educate Portnet employees that their ultimate customers are the shippers, not the shipping lines.

- ii) Shippers should also be involved directly in tariff negotiations since they pay for terminal handling charges, rail and road transport costs. A direct involvement by shippers in landside tariff negotiations will also highlight to the service providers that it is the shippers who pay for their services.

Since freight rates are the shippers' most important consideration according to the survey mentioned above, one would expect shippers to be more actively involved in all freight rate negotiations.

Direct involvement by shippers in tariff negotiations for rail and road services will provide them with an opportunity to benefit from volume-related discounts which are presently negotiated by the shipping lines.

b) No consultation about surcharges

Shipping lines impose surcharges on shippers without consultation. Examples of such surcharges are:

- A bunker surcharge of 5,8% because of escalating bunker costs.
- A surcharge of \$200 per 20-ft and \$400 per 40-ft container because of space constraints on westbound vessels, introduced by the SAFARI⁴ Conference member lines between 1 September 1999 and 1 November 1999.
- A container imbalance surcharge of \$150 per 20-ft and \$225 per 40-ft was imposed by the US/Southern Africa Conference from 1 October 1999.
- The shipping lines threatened to introduce a port congestion surcharge of \$10 per TEU in July 1999. That was an attempt by the shipping lines to recover their direct costs resulting from delays experienced in South African ports when the new Cosmos computer system was implemented (Freight and Trading Weekly, September 1999).

⁴ SAFARI is the conference that trades between South African and the Far East. The conference members are Safmarine, P&O Nedlloyd, Maersk Lines and MOL.

It can be argued that the surcharges mentioned were justifiable on the part of the shipping lines since they assisted the shipping lines to recover costs. However, an increase in freight rates does not help the cause of the shippers. A proposed solution to overcome the lack of consultation and dialogue on surcharges between the shipping lines and the shippers is for the shipping lines to consult shippers about the motivation for the surcharges, the amount of the surcharges levied and the duration of the levied surcharge.

The lack of consultation has resulted in the South African Shippers' Council approaching the South African shipping lines to provide justification for the imposition of the surcharges. That could have been avoided had there been open and transparent consultation between the shipping lines and the shippers.

The fact that the shipping lines which have imposed the surcharges are members of consortia, has resulted in a review of the pricing policies of shipping lines in South Africa under the provisions of Competition Act. The review is still in progress.

There are encouraging signs on the international front that shippers want to influence the price they pay for freight transport. National governments and international bodies such as the WTO (World Trade Organisation) have been issued by shippers with a list of sunset provisions for consideration following conclusions adopted in one of their meetings. (Containerisation International: "Shippers push for further deregulation", November 1999, page 21). These provisions include:

- Freight rates should be set through the free market economy and anti-competitive practices by cartels are not favoured.
- Shippers should be able to enter into confidential price and service agreements without the interference through so-called voluntary guidelines observed and practised by cartels.
- Price-fixing by freight conferences should not be sanctioned.

- Where shippers and carriers agree to terminal handling charges, they should not exceed the actual costs incurred and should not be used as arbitrary assessments against shippers.

Originally established in 1994 by the ESC (European Shippers' Council), JSC (Japan Shippers' Council) and NITL (National Industrial Transportation League), the latest meeting also included representatives of the Canadian Shippers' Council, Hong Kong Shippers' Council, Korean Shippers' Council, Singapore National Shippers' Council, Thai Shippers' Council and the Federation of ASEAN Shippers' Council. Thus there is a closing of ranks by shippers from various countries against freight rate increases by carriers in the form of surcharges. Shippers are saying "Enough is enough" (Containerisation International, November 1999, page 67). According to this article, high profile shipper bodies in Europe, Hong Kong, Japan and Australia are being joined by others in South Africa, Taiwan and India. The article states that in some instances governments are also becoming more involved.

c) Delays in collecting imports

Shippers are always provided with details of vessel schedules and their ETA's (Estimated Time of Arrival) so that they can make arrangements for delivery of their imported cargo. However, shippers often leave their imports in the terminals for more than the permissible period of three days, beyond which terminals charge storage costs. Sometimes shippers instruct carriers or agents to deliver their imported cargo to container depots.

The costs of storing imported cargo increases the price of imports. Uncollected imports can also contribute to the congestion of container terminals.

As a solution to this problem, shippers should use inventory planning systems to avoid unnecessary storage costs and also free container terminals from storing uncollected imports. There are many software programs that can be used to implement computer-based inventory planning systems. Liner shipping is a scheduled transport service and

that facilitates proper planning of inventories. A counter-argument to this proposal can be that vessels experience frequent delays in South African ports. Even so, buffer stocks can be provided to cater for the delays in ports.

d) Payment of various penalties

Shippers pay various penalties levied against them by shipping lines. These penalties which can be avoided, increase the charge for transporting cargo. Examples of penalties are the Export Bill of Lading amendment fee of about ZAR 200, demurrage, cost of futile delivery trips, costs associated with customs-stopped containers, and misdeclaration of weight, booking cancellation fee, cash collection fee, CTO (Container Terminal Order) amendment fee and Re-issue of Bills Lading fee. Discipline, proper planning and adherence to rules and procedures are some of the solutions shippers can implement to save the additional cargo costs incurred by way of penalties.

e) Late delivery of export containers to terminals

Despite receiving advance information about vessel schedules, sailing dates and times, and stack opening and closing dates and times, most shippers always deliver export containers long after stack closing dates and times to the container terminals, without forewarning either the shipping lines or the management of container terminals. Space allocation and storage of late export containers cause unnecessary delays to vessels.

This is ironic, since shippers rate vessel schedule integrity as one of their priorities. Two solutions can be used to resolve this problem. The first solution entails leaving late export containers behind, i.e. short-shipping late containers. This solution works in other parts of the world. However, in South Africa this solution does not work since the shippers simply switch to other carriers if their exports are short-shipped as a result of being delivered late to the container terminals. This solution is not practical in a highly competitive environment.

The second solution involves the imposition of a late export delivery penalty by the container terminal. That penalty is in the Portnet tariff book but has not been implemented because the shipping lines cannot agree on this issue. Until there is consensus between the shippers, carriers and the container terminals that a forceful measure is necessary to get co-operation from shippers in delivering their exports to the container terminal timeously, late export containers will continue to delay vessels.

f) Integration with the *TLSC* and use of information technology

Undoubtedly much progress remains to be made by the community of shippers to become fully integrated with the transport logistic supply chain (*TLSC*) in terms of the alignment of processes and procedures. Furthermore, many processes and procedures used in interactions between shippers and other elements of the *TLSC* are executed manually, e.g. bookings, vessel arrival notifications and invoicing. Automation and integration of the systems used by shippers with those of other elements of the *TLSC* can bring down costs and save time. The integration and use of information technology as it affects all elements of the *TLSC* is discussed in detail in paragraph 4.7.

4.2 SHIPPING LINES

The overarching priority of the shipping lines in the *TLSC* is to meet and satisfy the needs of shippers by providing flexible value-added services. The priorities of shippers according to the survey conducted by Containerisation International are summarised in paragraph 4.1.

The value chain for liner shipping is affected by:

- a) Its ability to meet the increasing demands from shippers
- b) Intense competition between the shipping lines on a worldwide basis
- c) The balance between supply and demand for tonnage and its effect on the level of freight rates
- d) Technological developments in shipping

- e) The globalisation of world trade.

Given the effect of the interplay between these factors on the liner shipping value chain, shipping lines must operate efficiently to maintain their market shares and to generate more revenue. The inefficiencies existing among the shipping lines and suggested solutions are discussed in the following section.

4.2.1 Inefficiencies in liner shipping and suggested solutions

a) Duplication of support functions

The shipping lines belonging to the various consortia which provide liner services to and from South Africa have their individual support services. To illustrate this point: Safmarine and P&O Nedlloyd which are members of the SAECs consortium have separate finance and logistics functions, separate terminal operations, separate booking and documentation arrangements, and separate information systems in spite of the fact that they share space on the same ships. Failure to integrate their support functions and pool resources results in a duplication of effort, non-alignment of processes and procedures, poor responsiveness to customer needs, an inability to make quick decisions and high overhead costs in comparison with the improvement that integration would bring.

Duplication of functions can also take place within individual shipping companies. As an example, within Safmarine each trade has its own finance, logistics, marketing, and booking and documentation functions. The inefficiencies associated with the multiple layers of functions and duplication could be overcome by restructuring and forming one support function that services the entire trade of the consortium, e.g. a finance function that serves the European trade, the Far East trade and the American trade.

b) Multiple port calls

Gauteng Province, South Africa's major industrial area, has well-developed road and rail connections with the coastal ports. Durban, South Africa's premier container terminal, handles more container traffic than the other South African ports because of its proximity to Gauteng.

The rail rate between Durban and Gauteng was equalised with the rail rate between Port Elizabeth and Gauteng in 1997 in order to alleviate prolonged congestion in the Port of Durban. Also, a regular port-to-port feeder service is provided by Unicorn.

In spite of this, the shipping lines continue to call at the three major ports, namely Durban, Port Elizabeth and Cape Town. Durban very often experiences congestion whilst Port Elizabeth and Cape Town have spare capacity.

The rail rate between Cape Town and Gauteng is often equalised with the rail rate between Durban and Gauteng on a temporary basis whenever Durban experiences protracted congestion. The effect of this arrangement is to alleviate pressure on the Port of Durban. Also, continued use of Durban for Gauteng imports and exports increases the transit times for cargo movement between South Africa and America and Europe.

To overcome this problem, shipping lines and shippers could adopt the following port rotation strategy on the South African coast.

i) South Africa/Europe and South Africa/America trades

- Call at Port Elizabeth first and then at Cape Town
- Rail Gauteng cargo (imports and exports) to and from these ports
- Use the Unicorn coastal feeder for Durban cargo or rail Durban cargo since Spoornet trains have the capacity to transport reefer cargo.

ii) *South Africa/Far East trades*

- Call at Durban only
- Use rail or road services for Gauteng cargo between South Africa and the Far East as is presently the case
- Use the Unicorn coastal feeder for Port Elizabeth and Cape Town cargo to and from the Far East or use rail since Spoornet trains have the capacity to handle reefer cargo.

iii) *Smaller trades*

The port call strategy suggested will allow direct port calls in smaller trades with the Indian Ocean Islands, South America, West and East Africa. For the strategy to work, shippers using a door-to-door service must not dictate the port of shipment, as indicated in the Containerisation International survey results. That will enable shipping lines to meet the shippers' service expectations with respect to transit times and schedule reliability.

c) Service charges

Shipping lines offering a door-to-door service do not levy certain charges which are being levied by freight forwarders for such services. Examples of these charges are a transport brokerage fee, import release fee, container preparation fee and telex release fees. To correct this situation, shipping lines should bill shippers with all the charges that are levied by freight forwarders. However, the shippers must be informed of the amounts and the justification for introducing the service fee before it is implemented.

d) Integration with the TLSC and use of information technology

The shipping lines in South Africa tend to dominate the distribution of sea cargo in containers although their efforts to achieve integrated processes and procedures are not always evident. This leads to a situation where the shipping lines continually complain about the symptoms of a lack of co-ordination without identifying the root

causes, e.g. vessel delays are sometimes caused by shippers although the shipping lines allow the delivery of cargo for export to be delayed for fear of losing customers to competition. Other causes of delays are the poor co-ordination of information, procedures and processes between the shipping lines and the ports. In both circumstances the shipping lines have the means to avoid the delays about which they complain.

The electronic information exchange currently in use among shipping lines in South Africa is focused only on specific processes within companies and within the Southern African region. It has not yet been developed to facilitate freight movement between shippers and the ships on a global basis. For that reason most communication between the shipping lines and shippers in South African still relies on telexes, telephones and visits by representatives. Often overbookings, short-shipments and missing containers are a result. Port congestion resulting from delays caused by the manual processing of cargo information and lack of common procedures also ensues.

To overcome such inefficiencies, shipping lines should take the lead in defining and integrating all processes and procedures adopted by the various elements in the *TLSC*. The shipping lines should invest in information technology including interfaces with other elements in the *TLSC* in order to achieve a seamless, integrated supply chain. The information systems used by the shipping lines should be linked to global networks in order to provide global logistics services. The integration and use of information as it affects all elements of the *TLSC* is discussed in more detail in paragraph 4.7.

4.3 INTERMEDIARIES (AGENTS, FORWARDERS, STEVEDORES, DEPOTS AND ROAD HAULIERS)

No consensus has been reached on the optimal strategy whereby carriers can achieve the maximum sales practicable in any one liner trade while affording acceptable levels of service to shippers, combined with maximum levels of control but minimised costs

(Containerisation International: Carrier-Agent relationships dissected", 19 June 1999, page 61)

The issue is whether carriers should independently attempt to integrate the activities of intermediaries into the main thrust of their operations, or should own and thereby directly control intermediaries.

4.3.1 Inefficiencies of agents and suggested solutions

In spite of many carriers dispensing with their agents, liner shipping analysts predict that agents will continue to play a critical role in liner shipping and account for almost half the volume of cargo moved by the shipping lines in the short to intermediate term. Three possible scenarios are said to exist in carrier-agent relationships, namely:

a) The traditional agents

This type of agent sells on behalf of the carrier, provides customer service as well as husbanding and manages the local activities with no carrier branding. Remuneration is by commission.

b) Carrier-agent partnership

In this arrangement sales and customer services are handled directly by the carrier; there is carrier branding and local activities are handled through mixed carrier/agent management. There are monthly or annual volume fees.

c) Integrated agency activities

In this organisation the carrier absorbs all functions, which are branded, carries its own costs and maintains full management.

Previously the ships' husbandry service was provided by Rennie's Ships' Agency at a cost of ZAR 2 million per annum. Transport broking, i.e. co-ordination of road and rail delivery services, was provided by Saftainer at a cost of ZAR 50 per TEU. This further illustrates that an integrated agency structure can give a carrier better control of the value chain as well as increased economies of scale.

iii) Lack of an integrated global agency network

Carrier agents in Southern Africa are not fully integrated with agents of the same carriers elsewhere in the world. This is because carriers appoint different agents in different regions as a consequence of the lack of presence of the same agency in all regions of the world. It can also be argued that large and reputable international agents are not represented in Southern Africa because of the small volumes of liner trade generated in the region compared with the bigger trading regions of the world. Consequently, liner agents in Southern Africa lack the global reach that can be facilitated by an integrated global agency network. This is exacerbated by the fact that South African carriers do not use global information technology. One outcome is the lack of information about cargo transit status outside Southern Africa which obviously affects customer service.

As a solution to this shortcoming carriers should invest in information technology to link international agencies with agencies in Southern Africa. Safmarine is also an example of a carrier with an integrated global agency network. Safmarine has bought Aseco, an international liner agency with a global network of services in major regions of the world. All Aseco offices are in the process of being integrated with Safmarine Agencies (Pty) Ltd in order to provide a global agency service to the shippers in Southern Africa. This will enable Safmarine to provide a local service with a global reach.

iv) Lack of integration and use of information technology

The need to integrate agency structures with carriers has been emphasised. The lack of the use of the information technology needed to save time and costs by agents is one of the inefficiencies associated with agency structures in Southern Africa. This issue is discussed in paragraph 4.7.

4.3.2 Inefficiencies regarding forwarders and suggested solutions

An increasing number of shippers are booking cargo directly with ocean carriers, thereby creating competition for freight forwarders. Nevertheless, freight forwarders still control a significant quantity of traffic, e.g. 40% in Rotterdam and 75% in Antwerp (Containerisation International: "Two-way Stretch", August 1999, page 55). Notwithstanding this control of traffic by freight forwarders, the continuing changes and competition in liner shipping pose a threat to their existence as ocean carriers continue to implement their service strategies to control the *TLSC*.

a) Concentration of forwarders in Durban and lack of the use of information technology

Most of the freight forwarders in South Africa are physically located in Durban, the premier port of Southern Africa. Durban is the closest port to the Gauteng industrial area. Also, most container traffic that passes through the port of Durban is controlled by merchants and not by carriers.

As mentioned earlier, the Port of Durban is frequently congested for various reasons. To alleviate pressure in Durban, Portnet has equalised the rail rate between Durban and Gauteng with the rail rate between Port Elizabeth and Gauteng. This concession enables shipping lines to call at Port Elizabeth instead of Durban when the port of Durban is congested.

The South African Association of Freight Forwarders has objected to this concession as it would enable shipping lines to take business away from them. Such an objection is not tenable as delays arising from congestion in the Port of Durban are detrimental to shippers. In order for freight forwarders to ensure that they do not lose control of container traffic diverted to other ports they should make use of information technology in order to overcome their locational drawback. However, heavy lift traffic cannot be diverted.

b) Lack of initiative to carve a niche in the supply chain

Freight forwarders in South Africa need to make efforts to carve themselves a substantial niche in the *TLSC*, otherwise the changes currently sweeping liner shipping may force them out of business. Forwarders currently face direct competition from carriers and the latter's agents in their efforts to provide shippers with a door-to-door service.

The solution to enable freight forwarders to stay in business is that they should:

- i) Not merely offer transport from point A to point B, but endeavour to add value to the container transport chain
- ii) Adopt the latest transforwarding strategy of moving into the logistics market based on partnership arrangements with third-party logistics service providers around the world
- iii) Include additional services which carriers do not always offer as well as a face-to-face level of personal service which carriers cannot match
- iv) Offer specialised services which carriers cannot provide, e.g. in respect of heavy lift and out-of-gauge cargoes.

c) Lack of use of information technology and integration with other elements in the *TLSC*

Failure by forwarders to make use of information technology has been discussed in (a) above. This shortcoming is discussed in more detail in paragraph 4.7 below. It should

be added that use of information technology can also serve to integrate various elements in the *TLSC* by way of interfaces.

As far as the integration with other elements in the *TLSC* is concerned there is a deficiency in the arrangement for the speedy clearance of merchant-haul imports from South African ports, since the ports currently communicate only with the carrier that discharges the cargo. This often leads to overstays of imports which utilise much needed container stacking space until the forwarder has cleared the goods.

To resolve this problem, forwarders should link their booking systems with the carriers' booking systems and clearly identify merchant-controlled cargo from the electronic load list of the vessel's last port of call. This will facilitate communication by ports to the forwarders for quick clearance and delivery of merchant-controlled cargoes.

4.3.3 Inefficiencies of stevedores

Stevedores perform a cargo care function in terms of tallying, lashing, storage and packing and are highly specialised in handling both containerised and uncontainerised cargo on board vessels.

The value they aim to add stems from specialised cargo care with minimal damage, no delays to vessels and less costs to be borne by the cargo owner. Stevedores interface with ship masters or managers, ship operators or their agents and terminal operators. They are normally contracted by the vessel operators in South Africa. Elsewhere in the world the stevedoring function is the responsibility of the terminal operator.

In order to benefit the cargo owner by saving costs, ship owners or operators in South Africa should delegate the full function of cargo care to either the stevedoring companies or the terminal operator, i.e. Portnet. In that way they will save the duplication of expense by Portnet and the stevedoring companies. Maersk Lines, for

example, employs the stevedoring company Greystones to undertake the cargo care function with minimal supervision by Maersk employees involved in the same activity.

Greystones also performs the function of reefer cargo temperature monitoring and other gate-keeping activities for which other companies employ staff. In this instance, the stevedoring function is fully integrated into Maersk's value chain and affords an example that can be followed by other companies.

4.3.4 Inefficiencies of container depots

Container depots provide a storage role of cargo before it is loaded on vessels or after being discharged from vessels. They are contracted by either the cargo owner or their agents, or the vessel operators. Depots also provide an additional function by maintaining and repairing containers for vessel operators and provide a critical link in the tracking function of a shipping line. The cost of storing, repairing and maintaining containers at a container depot is becoming high at a time when vessel operators are endeavouring to keep costs to a minimum. As depots profit by holding containers in storage while shipping lines maximise their income by keeping containers moving, their business tactics obviously conflict.

In order to meet the requirements of the shipping lines, container depot operators must increasingly invest in mobile container repairing and maintenance equipment in order to attend to containers on the premises of shippers or on truck trailers. Failure by depot operators to do that will result in loss of income, as shipping lines will contract specialised mobile container repair and maintenance contractors whose existence stems from the triangulation⁵ strategy being adopted by major shipping lines.

Unless container depot operators fully integrate their business strategies with the business strategies of carriers, they will lose business to these new niche operators, e.g. the providers of mobile container repair and maintenance facilities.

⁵ Triangulation is the practice adopted by shipping lines of avoiding storing containers at container depots to save costs.

4.3.5 Inefficiencies of road hauliers

In South Africa private hauliers were given full access to container terminals in 1999 provided they could meet certain criteria. Prior to this only Portnet's own haulier and appointed hauliers could have access to container terminals. Consequently many small haulier undertakings were started in the hope of benefiting from the so-called open gate policy.

However, the small hauliers often do not have the capacity to move large numbers of containers to and from terminals and are not able to raise the capital to acquire modern container delivery equipment, e.g. superlinks which can carry three containers. The shipping lines have been forced to continue using Portnet-owned hauliers for most of their deliveries.

In order to compete with the Portnet-owned hauliers, the small hauliers should combine their assets to form substantially bigger undertakings with the capacity to deliver large numbers of containers and charge competitive prices. Such undertakings could offer the flexibility of delivery services over 24 hours on seven days a week, which Portnet is not able to provide. Use of that added flexibility would necessarily require the co-operation of the shippers.

A haulier service that is geared to meet the requirements of the shipping lines is in any event needed in the South African liner shipping environment.

4.4 INEFFICIENCIES OF RAILWAYS

Spoornet recorded substantial losses during 1999. Some of the reasons for the losses can be attributed to a decline in container volumes carried in recent years. Apart from the supply of container transport, Spoornet operates a container terminal and depot at City Deep in Gauteng mainly for storing containers carried between Gauteng and the ports. One of the reasons for Spoornet's loss of container volumes has been the

congestion at City Deep since 1994 and its inability to expedite the release of imported containers to cargo owners.

To avoid the delays at City Deep, carriers, cargo owners and agents have over the years contracted road hauliers to transport imports from depots adjacent to the ports directly to the shipper's premises. The added benefit provided by road hauliers is that the unit cost per container is cheaper than when using Spoornet's services. Speed and the price of delivery have thus favoured road transport above rail transport.

Delays in getting export containers to the port in time to meet ship schedules have also contributed to the decline in the use of rail for exports. Rail is often regarded as unreliable and not cost-competitive by stakeholders in the *TLSC*. To overcome this problem, Spoornet could consider some of the proposals outlined below.

a) Integrate ports and the train service management

That will enable Spoornet to co-ordinate the operation of trains with shipping schedules. Currently Spoornet and Portnet have separate planning systems.

b) Introduce faster trains

Faster trains will expedite the delivery of containers between City Deep and the coast and minimise delays and short shipments.

c) Introduce new procedures to expedite release of cargo at City Deep

Cargo release can be planned whilst the trains are still running, as occurs in shipping. Road vehicles ready to deliver imports can be lined along the railhead to enable containers to be transferred directly from rail to road. That will save two lifts as well as reduce congestion in City Deep.

d) Levy a charge for containers not collected after 24 hours

To ensure that City Deep is not used as a storage facility by shippers and to alleviate congestion, Spoornet should levy a charge for all containers not collected after 24 hours.

e) Separate the management of CX

CX is the road-haul division of Spoornet's container services and is managed jointly with City Deep. Separating the management of CX will give focus to both CX and City Deep and improve the competitiveness of CX in the container delivery business.

f) Review rail tariffs

Ensure that rail charges are competitive, but are supported by good service.

g) Listen to what the clients need

Spoornet has the capacity to invest in the facilities which specifically meet the needs of its clients to enhance its customer service ahead of its competition, e.g. the provision of a rail satellite tracking facility to monitor cargo transit and plan delivery to customers.

h) Make Spoornet a member of the port community system

This involves use of information technology with the sharing of a common database on containers by the key elements in the *TLSC*. This aspect is discussed in paragraph 4.7.

4.5 INEFFICIENCIES OF CUSTOMS

Customs efficiency and the elimination of tariff barriers play a crucial role in facilitating the movement of traded goods between countries. For example, the

formation of a free trade bloc between members of the European Union eliminates much of the effect of customs in the movement of cargo between the countries involved. On the other hand adherence by customs to lengthy and complex bureaucratic procedures can affect the movement of goods between countries. In Southern Africa, the effect of customs undoubtedly hampers the movement of cargo. Intentions have been expressed by the governments of the SADC to establish a free trade regime in order to stimulate regional economic growth. Against this background, the inefficiencies that exist within customs in South Africa are discussed and solutions suggested.

a) Inflexibility to clear cargo irrespective of location

Customs in South Africa are not prepared to clear cargo at any port along the coast except the port specified in the manifest. This causes delays to urgently needed cargo when there is congestion in the specified port. Shipping lines and shippers naturally wish to have the flexibility to clear cargo in any port along the South African coast irrespective of the port specified in the manifest.

The solution to overcome the problem is for customs to be able to clear cargo at any of their offices along the coast if supporting documentation is provided by both the shipping lines and the agents.

b) Membership of a proposed port community system

In 1997 Portnet, Spoornet and the shipping lines initiated discussions to establish a port community system and concluded that such a move would be beneficial to the members. It was also agreed that customs should be persuaded to join the port community system because of the important role it fulfils in the movement of cargo. Unfortunately customs declined to be part of the port community system.

Whilst the port community system is still at an early planning stage, customs participation in the initiative is crucial in order to streamline procedures and save time and costs. Further efforts to induce customs to participate are thus essential.

c) Change of focus

In addition to the inefficiencies described, customs ought to change its focus from an enforcer of rules to a facilitator of the unhindered movement of cargo. In this context customs ought to change its policy and adopt an approach which will ensure that the customs function is fully integrated in the *TLSC*.

4.6 INEFFICIENCIES OF PORTS

The role played by ports in liner shipping is changing fast, with ports increasingly becoming logistics centres that are fully integrated in the *TLSC*, as opposed to being mere transfer nodes. Quick vessel turnaround and quick evacuation of containers from terminals are increasingly becoming the key performance indicators of terminals in order to enable vessels to meet feeder and hubbing arrangements. To facilitate these developments, container terminals are increasingly being commercialised and privatised. Under private management container terminals seem to attract more cargo volumes in contrast to those operated by governments and municipalities in developed countries. The reason is undoubtedly their greater efficiency. Below is a brief discussion of inefficiencies in South African ports, and suggested solutions.

a) Privatisation of container terminals

Discussions about the privatisation of South African ports have been ongoing for many years and it is believed that these plans may yet come to fruition. It is widely believed that privatisation will result in an improvement in efficiency although the experience in the United Kingdom with port privatisation has been cost savings only through reductions in personnel. Furthermore it seems so far that the competitiveness of the privatised ports has suffered as a result of under-capitalisation. The process of

privatisation is by no means simple. There are many models of commercialised ports, although only the ports in the United Kingdom and a few others have actually been privatised. There are, however, many examples of terminals operated for private interest. With the programme for the privatisation of state assets promised by the government, port privatisation may be included and the shipping lines may continue to lobby to that end. It should be added that many port users are apprehensive about entrusting their interests to private port interests and that the guarantees they are likely to seek could well hold up the process. In the meantime there are inefficiencies in the operation of South African ports which need to be overcome irrespective of whether privatisation proceeds or not. Some of these problems are discussed below.

b) Definition of the role of each port

The major ports providing services to liner shipping have many functions which can blur the focus of the port. To resolve this dilemma South African port authorities and operators should address the following issues:

- i) What is the ports' core business? Is it to handle bulk cargo, containers or transshipment, or a combination of these tasks?
- ii) What are the responsibilities of the port in the provision of common-user facilities?
- iii) What are the rules for a common-user port to compete with other common-user ports for cargo in the global supply chain?
- iv) What is the policy concerning the ports complementing one another and what are the guidelines governing competition between complementary ports?

c) Client focus

Given the multi-user status of ports in South Africa and the fact that government-owned institutions by their very nature do not have a client focus, South African ports are often said not to have a good client focus. It is well-known that Portnet officials regard the shipping lines and some shippers as their clients. To overcome such

confusion, Portnet should educate staff to understand that importers and exporters are Portnet's ultimate clients and that the shipping lines are only their immediate clients. Once this has been achieved, Portnet personnel will understand the implications of poor service.

d) Measurement of performance standards

Clarity on performance standards is expected by clients. Portnet often asks shipping lines to define their expectations of service performance. This could be indicative of a lack of clarity on the part of Portnet as to what their immediate clients require. Also, Portnet needs to understand the performance expectations of its ultimate clients, i.e. the shippers who often put pressure on shipping lines to complain to Portnet whenever South African ports are congested. Dialogue with both the immediate and the ultimate clients will help clarify performance expectations.

e) Critical operational issues

There is a cause-and-effect relationship between the operational elements of a port. As an example, a port may have high productivity in terms of the number of TEUs transferred per ship working hour, and according to that statistic it may be claimed that the port is efficient. Consideration of other port services such as the availability of marine services could necessitate a different view. An example is provided in Port Elizabeth which has a comparatively high productivity rate in terms of the number of TEUs per ship working hour while the port service has been hampered over a long period by non-availability of marine services at night. That has caused unnecessary ship delays.

To overcome this, Portnet should identify all critical operational issues and their cause-and-effect relationships, plan the improvement of the efficiency of each operational element and the collective performance of all operational elements. Portnet should set performance standards for marine services, shipworking productivity, facility layout,

container handling facilities, equipment maintenance, berthing windows, seamless shift changes and interfaces with landside activities.

f) Systems and procedures

Until recently Portnet has been using an out-of-date computer system that was installed with the advent of containerisation. Also, because of the many changes characterising liner shipping, there has been a lack of coherent procedures on the part of Portnet. However, in 1999 Portnet installed a new computerised operational system known as Cosmos and the first module for ship planning has been implemented.

The balance of Cosmos modules on billing, service level contracts and EDI are due for implementation soon. As far as procedures are concerned, Portnet plans to have constructive dialogue with all stakeholders with a view to agreeing procedures that will be run on the Cosmos system. Portnet has also started a programme of Cosmos training for key terminal operational staff.

g) Human resources and industrial relations

Fears about transformation in particular as it pertains to government departments and parastatals has resulted in low staff morale among the experienced Portnet staff. A significant level of polarisation among the Portnet unions has also resulted in poor industrial relations in recent years. That has resulted in a decline in port productivity. A very generous sick leave benefit of 150 days in three years has also resulted in a high level of absenteeism. To resolve this problem Portnet has started regular dialogue with all the unions to improve industrial relations and to implement productivity-linked incentive benefits. Portnet has also embarked on an organisational development programme to motivate managers and ensure they focus on key organisational imperatives. The generous sick leave perk is being reviewed.

h) Pro-active capacity planning

The frequent congestion experienced at South African ports from 1994 can partly be explained by a lack of pro-active capacity planning. To resolve this problem Portnet needs to:

- i) optimise the use of existing resources, e.g. improve crane productivity to the same levels as those found in developed countries
- ii) plan capacity and implement capacity expansion ahead of demand
- iii) ensure adequate availability of financial resources to effect capacity expansion.

i) Dialogue with port users

Until recently Portnet has not had beneficial mutual interactions with port users with the purpose of jointly mapping out strategic issues facing the industry, e.g. the development of regional Spatial Development Initiatives. This has detrimentally affected the integration of the ports with other elements in the *TLSC*.

This situation has however been reversed through efforts made by Portnet to involve all key stakeholders in port planning through industry bodies such as ASL/ASABOSA, the regional port liaison committees, SAAF (South African Association of Freight Forwarders) and the Liner Operators' Forum.

j) Pricing of port services

The shipping industry in South Africa has over the years voiced unhappiness about the ad valorem wharfage levied by Portnet on imports and exports. Dissent over this tax has been exacerbated by the use of the revenue collected to subsidise other divisions of Transnet instead of investing it in improving port productivity. In addition, Portnet tariffs have been increased yearly by levels higher than the inflation rate in spite of evidence of decline in productivity in recent years. In an attempt to reach an acceptable port pricing regime Portnet has started a process of obtaining input from

port users on restructuring port pricing. It is hoped that an acceptable and efficient port pricing arrangement will be in place in the not too distant future.

4.7 USE OF INFORMATION TECHNOLOGY AND INTEGRATION

The South African liner shipping industry has a long way to go in order to catch up with developed countries in the use of information technology. This is demonstrated by the manual systems and procedures used to process liner shipping transactions, which result in high costs and delays in transporting cargo. Examples of manual systems include:

- a) Lack of the use of computer technology by shipping lines to control bookings for exports accurately. This often results in overbookings and short-shipments of cargo.
- b) Lack of the use of computer technology by consortium members to exchange booking information for exports. Continued use of manual procedures to exchange booking information often results in capturing errors, incorrect bayplan information, delays in producing storage plans, incorrect cargo measurements and vessel stability problems.
- c) Lack of an electronic interface between the ports and the shipping lines to exchange booking information.
- d) Lack of an electronic interface between the shipping lines and shippers to exchange booking information.
- e) Lack of an electronic interface between the ports and Spoornet to exchange information on vessel schedules and discharge lists for import containers.
- f) Lack of an electronic interface between the ports, the shipping lines and customs about discharge and load lists.
- g) Delays in billing shipping lines for terminal handling charges because of the continued use of manual systems. This often results in disputes about invoices for terminal handling charges as well as cartage costs.

- h) Computer systems that are not linked to offshore operations. This causes delays in communicating critical booking information to overseas ports, agents and receivers.
- i) No electronic link between shipping lines, the ports and landside transport operators (rail and road). This complicates the tracking of container transit and arrival time management of the consignments.
- j) Lack of the use of the latest computer technology on the part of importers to plan orders and ensure adequate inventory levels. This results in stock-outs.

To overcome these problems, the major elements in the *TLSC* should:

- i) Invest in the latest computer technology to exchange booking information and expedite billing and processing of financial transactions related to cargo bookings, cargo handling, cargo movement and monitoring, and cargo clearing.
- ii) The ports, the shipping lines, railways and customs should implement the proposed port community system and make use of EDI to share booking information and vessel schedules.
- iii) All the elements in the *TLSC* should make use of the Internet and Intranets to share information speedily and cost-effectively.
- iv) Carriers and agents should invest in global logistics computer systems to monitor and control the movement of cargo between South Africa and the rest of the world.
- v) Land transport providers (road and rail) must invest in satellite tracking systems for cargo tracking and transit time monitoring.
- vi) All elements of the *TLSC* should be integrated in order to reap the full benefits from the use of information technology.

4.8 GOVERNMENT DEPARTMENTS

Major elements in the *TLSC* are under the influence of different government departments in South Africa. This causes problems in the development of the *TLSC* when the departments involved do not share the same views on liner shipping. The

problem is exacerbated by changes in government ministers after elections, or cabinet reshuffles. To illustrate this point: ownership of ports in South Africa is the responsibility of the Department of Public Enterprises; port policy is the responsibility of the Department of Transport; while railway ownership is the responsibility of the Department of Public Enterprises; road and rail transport policy is the responsibility of the Department of Transport, and customs is the responsibility of the Department of Finance. In addition, the Department of Trade and Industry plays a crucial role in matters related to liner shipping. In an ideal world the number of government departments involved would be reduced and the responsibility for policy towards liner shipping and related activities would be delegated to one government department.

The negative effect of many government departments responsible for key elements of the *TLSC* can also be overcome through increased co-operation between the departments and ministers involved, as well as a co-ordinated national freight transport plan, preferably driven from the President's office. That would facilitate co-operation between South Africa and other nations on maritime industry in general and liner shipping issues in particular.

4.9 REGIONAL CONSIDERATIONS

Using the inefficiencies identified within the South African liner industry as a point of departure, and given the comparatively well-developed transport infrastructure in South Africa, it can be assumed with a degree of confidence that the efficiency of the *TLSC* for individual SADC countries also requires a significant improvement. It was stated in [Chapter 1](#) that SADC countries rely heavily on South Africa for their liner shipping requirements.

To ensure parity in the development of regional transport infrastructure and to improve the efficiency of the *TLSC* in the region, the following actions should be considered by the governments of the SADC countries:

- a) Harmonisation of road transport policies, customs procedures and rail systems to facilitate the quick movement of freight.
- b) Co-operation in the development and investment in port infrastructure in order to have a regional plan on container terminals, transshipment hubs and feeder ports. This will eliminate duplication of resources and save regional governments much-needed capital resources.
- c) Co-operation on privatisation and commercialisation of key elements in the *TLSC*, e.g. ports and railways.
- d) Establishment of a regional liner shipping forum to co-ordinate development and co-operation.
- e) Co-operation in training and development on regional maritime issues.
- f) Co-operation on the management of the security of freight moving within the region.
- g) Advocating peace and stability in countries ravaged by conflict and war.

5. ECONOMIC BENEFITS OF AN EFFICIENT *TLSC*

5.1 INCREASED GLOBAL COMPETITIVENESS OF SOUTH AFRICAN EXPORTS

An efficient transport logistics supply chain (*TLSC*) would result in lower transport costs for South African exports as well as the ability of South African exporters to make their products available to receivers in global markets at the right price and at the right time.

An improvement in the efficiency of the *TLSC* would:

- a) increase the competitiveness of South African exports in global markets.
- b) increase the profitability of elements in the *TLSC*.
- c) increase competition in the provision of transport services and provide shippers with flexibility and service reliability.
- d) change the current negative image associated with South Africa's liner shipping services.

The following are some of the indirect benefits associated with an efficient *TLSC*:

- a) the demand for South African products is likely to increase, resulting in growth in manufacturing.
- b) a reliable supply of imported goods will enable inventories and prices to be reduced.

In general, the increased competitiveness of South African exports will contribute to the growth of the South African economy and support the Government's macro economic strategy of Growth, Employment and Redistribution (Gear).

5.2 INCREASED DEMAND FOR TRANSPORT SERVICES

An increase in the global demand for South African goods would increase the demand for liner shipping services and result in higher freight income for shipping companies. This would be welcomed by the lines given the current low levels of freight rates and declining profitability.

Some of the benefits associated with an increased demand for transport services are:

- a) South Africa will have more ship calls to transport South African exports which will bring an expansion of economic activities associated with liner shipping, e.g. port services, railways, ship agencies, banking, legal services, dry-dock services, fuel services, road hauling, warehousing and storage.
- b) The development of the South African port infrastructure will be promoted, resulting in a corresponding improvement in port productivity.
- c) Road and rail infrastructure will continue to be developed and modernised to meet the demands of global competition.
- d) A greater demand for liner shipping services and supporting transport industries will stimulate more competition in liner shipping. This will assist in maintaining high levels of efficiency in the *TLSC*.

5.3 ESTABLISHMENT OF GLOBAL MANUFACTURING AND DISTRIBUTION CONCERNS

An efficient *TLSC* in South Africa could attract more global manufacturing concerns to South Africa. An example of such a global manufacturing firm is Daimler-Chrysler which is expanding its plant at East London to produce vehicles for export to world

markets. This has caused Portnet to invest in a modern car terminal in the Port of East London.

5.4 CONTRIBUTION TO THE DEVELOPMENT OF THE MARITIME INDUSTRY

An increase in demand for liner shipping resulting from an increase in exports as a consequence of an efficient *TLSC* can contribute to the development of the South African maritime industry in the following ways:

- a) Demand for special skills will result in a higher demand for training in transport skills.
- b) The deployment of additional tonnage in the South African market could induce the government to focus more attention on the maritime industry.
- c) Competition from global liner operators for a slice of the liner shipping business in the South African market will enhance the skills of local liner operators and their employees.

5.5 REGIONAL BENEFITS

Most exports from SADC countries pass through South African ports and as such make use of the South African infrastructure. An efficient *TLSC* in South Africa will improve the global competitiveness of the exports from SADC countries.

Increased exports from the region could result in more direct investment in transport and telecommunications infrastructure by individual countries in the region.

Global manufacturing and distribution companies will be attracted to countries in the region, e.g. Hyundai and Volvo have recently established assembly plants and distribution facilities in Botswana.

6. RECENT PLANS AND DEVELOPMENTS

Recent national and regional developments and announcements could have an effect on the efficiency of the transport logistics supply chain (*TLSC*).

6.1 NATIONAL DEVELOPMENTS

a) Shippers (importers and exporters) and shipping lines

- i) In response to the announcement by the shipping lines to impose a range of surcharges on shippers, the South African Shippers' Council has approached the shipping lines via the Association of Shipping Lines (ASL) and Ship Brokers of South Africa (ASABOSA) to provide a full justification for the imposition of the surcharges.

Whilst most of the surcharges have already been introduced, it is interesting to note that the South African Shippers' Council is taking a stand to challenge the imposition of surcharges by the shipping lines. Whatever the outcome of this challenge, a healthy situation is developing whereby:

- unity and action by the shippers has been fostered.
- dialogue between important elements of the *TLSC*, namely the shippers and the shipping lines, has started. Hopefully this will develop into regular consultation and co-operation that will benefit these two elements of the *TLSC*.

- ii) Following a recent press article questioning the pricing policies of some of the shipping lines belonging to conferences, the lines have commissioned professional services through the auspices of ASL/ASABOSA to investigate any breach of the provisions of the Competition Act. It is hoped that a full report on the investigation will be made available to the South African shipping community. The outcome of this investigation will clear the long-standing

perception of monopoly pricing by conferences and may have significant effects on the cost of transported cargo.

- iii) Low freight rates and declining profitability have resulted in rationalisation by some of the South African shipping companies in order to reduce costs and increase revenue and economies of scale. Shipping companies are now performing functions that were previously performed by agents. In pursuit of increasing economies of scale and efficiency, and following the acquisition of Safmarine by AP Moller in June 1999, Maersk Lines withdrawn its fleet and started slot-chartering in Safmarine-operated vessels.

Furthermore, Safmarine will be using the Maersk Lines' global computer systems by December 2000. Before this date, Safmarine and Maersk Lines' backroom or supporting functions will be fully integrated under single offices geographically. These functions include global logistics, finance, human resource management, booking and documentation, terminal operations and the conclusion of legal contracts and agreements. The only functions that will remain separate are sales and marketing. Revenue-generating strategies include levying charges for a variety of services provided by shipping lines to the shippers for which the shipping lines did not previously levy charges. Examples are booking cancellation fees, telex release fees, late payment penalties and late documentation fees. An innovative idea has been implemented by Safmarine, Durban and the Road Transport Services (RTS) of the port of Durban. This entails providing Safmarine with a dedicated and branded delivery service for all Safmarine's customers while RTS retains the control of trucks, trailers and drivers. This partnership has resulted in better planning of shipped deliveries (imports and exports) by Safmarine and has saved RTS significant capacity in trucks, trailers and drivers.

Safmarine has increased its use of RTS, which has resulted in the negotiation of a favourable RTS tariff. It has also facilitated implementation of triangulation through the staging of containers in RTS and CX facilities in the port for

delivery planning, cleaning and maintenance. Triangulation has brought significant savings in depot container storage costs. Replication of this development in the ports of Cape Town and Durban will drastically affect the business of container depots. Indeed, the flexibility introduced by the use of mobile container cleaning machines and maintenance facilities means that containers can be maintained at the premises of shippers and in staging facilities within the precincts of the port. This poses a threat to some of the business of container depots.

- iv) Following the *gate opening* by Portnet to give private hauliers access to container terminals, South African shipping lines are in discussions with customs to enable private hauliers to move overstay uncleared containers to container depots. This service is presently provided by RTS. Safmarine can save in excess of R1 million per annum by making use of private hauliers.

b) South African ports

- i) A joint forum comprising top managers representing both Portnet and the shipping lines was established in 1998 to limit the effects of the long and sustained port congestion arising from labour pay disputes.

After the congestion had ceased, representatives of the forum decided to continue meeting on a regular basis to share ideas on port developments and port productivity related issues. The forum was then formalised with the support of ASL/ASABOSA and named the Container Liner Operators' Forum (CLOF).

Some of the positive joint initiatives achieved so far by Portnet and CLOF include:

- A joint work group with representatives from both Portnet and the shipping lines was established in September 1999 to investigate port tariffs and report back to Portnet.
 - Another joint work group has been formed to co-ordinate the implementation of a pilot project on service-level contracts from November 1999 between Portnet and a few shipping lines.
 - Portnet has formally accepted a formula proposed by shipping lines to claim direct costs arising from port congestion. The formula requires Portnet to reimburse shipping lines for vessel daily charter costs as well as demurrage on containers. A joint work group was established before the end of October 1999 to agree on guidelines and rules regarding the application of the proposed port congestion formula.
 - The shipping lines have endorsed the recommendations by the Port of Liverpool consultants to delay any expansion of the Durban port in the short to medium term since significant additional capacity can be released by working efficiently using the existing facilities. This will save Portnet millions of rands, which could have been invested unnecessarily in capital-intensive expansion projects. The resources saved can be used to improve efficiency and productivity.
- ii) During 1999, Portnet introduced a new computer system to co-ordinate terminal operations. This system, called Cosmos is used in many terminals in the world, e.g. Antwerp and Las Palmas. Among the benefits to be realised through use of Cosmos is EDI to exchange booking information between Portnet and the shipping lines. Cosmos also has a module for co-ordinating service-level contracts between Portnet and the shipping lines once these have been implemented.

- iii) A group of Portnet staff was sent to the Netherlands in September 1999 for intensive theoretical and practical training in marine services.
- iv) Portnet has publicly announced the intention to divide Portnet into two distinct business operations, namely a port authority function and an operations function early in 2000. It is hoped that this will create a favourable environment for the commercialisation of South African ports.

c) Moving South Africa

The Department of Transport commissioned a study for a twenty-year freight transport strategy for South Africa called *Moving South Africa*. The results of this study, which covers aspects of regional freight transport, were presented to stakeholders and the public in 1998. Although some of the recommendations are not favoured by certain elements in the *TLSC*, the initiative has succeeded in focusing the minds of those involved in freight transport on the need to improve the efficiency of their services. It must therefore be hailed as a right step in the right direction to improve of the efficiency of the *TLSC*, and needs to be supported.

d) Spatial Development Initiatives (SDIs)

The SDIs are essentially regional and provincial transport corridors that were initiated by government in 1997 to stimulate economic development along transport routes. Examples are the Wild Coast SDI in the Eastern Cape, the Fish River SDI also in the Eastern Cape and the Vanguard-Phillipi SDI in the Western Cape. The relevance of the SDIs is the development of transport networks and infrastructure to facilitate the smooth flow of cargo and passengers.

6.2 REGIONAL DEVELOPMENTS

The following regional developments are relevant to the improvement of the efficiency of the *TLSC*.

- a) On 18 and 19 October 1999 the fourth ministerial meeting of the Cross Border Initiative with representatives from 14 countries, the International Monetary Fund and the African Development Bank was held in Mauritius. The initiative aims to foster the economic integration of Eastern and Southern Africa and the Indian Ocean Region (Sunday Times, 17 October 1999).
- b) The implementation of a customs-free zone for the SADC countries is expected to be achieved within the foreseeable future. This initiative will remove customs-related delays affecting transported goods within SADC countries.
- c) The joint establishment of regional transport corridors by the governments of SADC countries, e.g. the Maputo Corridor linking Mozambique and South Africa and the Trans Kalahari Corridor linking Namibia, Botswana and South Africa will facilitate the quick transportation of cargo between these countries in the SADC.
- d) A regional secretariat of the South African Association of Freight Forwarders (SAAF) and the Road Freight Association (RFA) and its counterparts in SADC countries is in the process of being formed. The aim of the secretariat is to harmonise road transport and customs legislation in SADC countries.
- e) A Commonwealth Business Forum was held in Johannesburg from 9 to 11 November 1999. The theme of the Forum was "Making Globalisation Work: Economic Advance with Social Development". The Commonwealth is composed of 54 countries, has 1,7 billion people, 17 000 listed companies and trade amounting to \$1,8 trillion. The purpose of this forum was to provide material for the commonwealth Heads of Government Summit held in Durban from 16 November 1999. The heads of state from 53 countries were expected.

Whilst the outcome of the discussions of these two events is not yet known, it can be reasonably expected that issues related to the efficiency of the *TLSC* will have

been discussed since some of the agenda items of the Commonwealth Business Forum included:

- Developing Countries and the Globalisation Process
 - Commonwealth Interests in the WTO (World Trade Organisation) Debate: Towards the New Multilateral Round.
 - Challenges and Prospects for Long-Term Investment in Africa
 - Preparing for Global Competition
 - Investing in Transport Infrastructure
 - E-Commerce in the Next Millennium.
- f) The joint initiatives by Southern African countries to restore peace in the Congo and Angola are significant for the efficiency of the *TLSC* and the competitiveness of regional trade. Restoration of peace and stability will facilitate the quick movement of transported goods as well as the security of cargo being transported.
- g) The African Renaissance philosophy spearheaded by the South African President and embraced by many countries in Southern and Northern Africa can be used as a platform to advocate the economic benefits of an efficient *TLSC*, regionally and continentally.

The aforementioned developments can have both a direct and an indirect impact on the efficiency of the *TLSC*. The integrated approach and the spirit of partnership displayed in the regional initiatives will facilitate the improvement of the efficiency of the *TLSC* in the region.

7. CONCLUSION AND RECOMMENDATIONS

7.1 CONCLUSIONS

Based on the discussions contained in Chapter 4, it can be stated that the existing transport logistics supply chain (*TLSC*) has deficiencies which detrimentally affect liner shipping in Southern Africa. These are largely attributable to the individual deficiencies of the elements of the *TLSC* as reflected in their physical and financial performance.

The individual elements in the *TLSC* are not well-integrated because each element is focused on its own individual function and not on the overall performance of the *TLSC*. This lack of integration compounds the inefficiencies of the weak links.

There is an urgent need for the individual elements of the *TLSC* to make more use of information technology in order to save time and costs. Information technology can also be used to integrate elements of the *TLSC* e.g. a port community system can integrate shipping lines, ports, customs and the rail system. Use of information technology can also provide elements in the *TLSC* with a global reach for the benefit of importers and exporters. Presently technology used by many elements in the *TLSC* is focused only on local needs.

On a positive note, the South African liner shipping industry is beginning to recognise the importance of operating efficiently, largely because of the exposure of South Africa to international business and the globalisation of industry. This is reflected in the various developments currently taking place in South Africa as outlined in Chapter 6.

From a regional perspective, the importers and exporters in Southern African countries will reap the benefits of an improvement in the efficiency of the *TLSC* in South Africa and the implementation of the various regional initiatives discussed in Chapter 6. This

is because the countries in the SADC rely on the South African transport infrastructure for their liner shipping needs. The elements in the *TLSC* still have to recognise that they are all in the chain to meet the requirements of the importers and exporters before integration can take place.

7.2 RECOMMENDATIONS

In order to implement improvements in the *TLSC*, the following steps are recommended.

- a) The Department of Transport must co-ordinate the establishment of a Liner Shipping Steering Committee with representatives from all elements in the *TLSC*.

The main focus of the steering committee should be:

- i) to sensitise all the elements in the *TLSC* about the inefficiencies currently existing in the *TLSC*
 - ii) to analyse and prioritise the inefficiencies of the *TLSC* in order to determine a framework for improving its efficiency
 - iii) to form joint work groups to improve the identified inefficiencies
 - iv) to advocate the benefits of integration and co-operation between the elements in the *TLSC*
 - v) to lobby governments and other stakeholders in liner-shipping related issues in South and Southern Africa
 - vi) to monitor liner shipping developments internationally and advise the Department of Transport and elements in the *TLSC* on new changes to be implemented in South Africa and elsewhere in Southern Africa
- b) The organisers of maritime industry conferences must collaborate with the Liner Shipping Steering Committee to use the conferences as platforms to report progress made in resolving the inefficiencies of the *TLSC* and to highlight challenges facing liner shipping.

- c) The present Inter-Ministerial Committee dealing with issues such as the privatisation of ports must establish a joint ministerial work group:
- i) to evaluate and report to government on the role played by liner shipping in the South African economy
 - ii) to investigate and recommend to government the best framework for managing and co-ordinating liner shipping in South Africa
- d) The South African government must include “the efficiency of the *TLSC*” as an agenda item in all regional development initiatives with SADC counterparts.

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