



PORT AND TERMINALS 201

Assignment 1

ASSIGNMENT QUESTION

Identify a major threat to Durban or another major South African port of your choice. Justify how you would resolve this, given existing constraints, with reference to other port either in Africa or globally.

GROUP MEMBERS:

1. PULENG MOLOI - 21637485
2. PHILILE SHANGE - 21720079
3. THABILE NDIRIMANDE- 21700267
4. ZAMANTUNGWA KHUMALO - 21605353
5. NOTHANDO SIMELANE - 21402134

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Introduction

“A port is a place at which the transfer of cargo and passengers to and from waterways occurs” (Talley. 2009). Port connect the world through maritime transportation networks, promotes international trade, and support global economic growth. The port of Durban (figure1) is situated on the East of South Africa, strategically located on the world shipping routes, it is premier multi-cargo port and counted among the busiest ports in Africa, handling over 80 million tons of cargo. Port of Durban is a public port that is owned by government (local, state or federal). Its objectives may include promoting regional employment, economic development and export of commodities for which a region has a competitive advantage. Although Durban is one of the busiest container terminals in the region, it will start losing dominance as capacity and reliability in other ports serving the region and globally improve, putting the status of Durban as the dominant container port in Sub-Saharan Africa under threat from rivals.



figure 1: shows a port of Durban

Threats and Solutions

Pollution/Environmental challenges

“Ports worldwide are facing many challenge including environmental while facilitating maritime trade. The negative environmental impacts of ports are increasing with their ever-increasing cargo volumes” (Talley.2009). In Durban, water pollution is the major environmental impact which poses as a threat to the port. Pollutions in the port may be associated with the disposal of vessel ballast water and wastes, the use of vessel and anti-fouling paints, vessel oil spillage and their dredging of waterway to maintain channel depths in order to accommodate larger equipment and railroad locomotives while in port.

Ballast water



figure 2: shows a ship deballasting water.

Ballast water is the water either fresh or seawater taken from ports of discharge and kept in the ballast tanks to provide the ship with better balance during a voyage when a ship is empty or not carrying heavy cargo. “It is a common practice for vessels while in port to take on and discharge water in order to stabilise the vessel” (Talley.2009). Ballast water (figure 3) is pumped into specially designed tanks to compensate for the variance in cargo weight distributions after removing the cargo. “The ballast water can be a ‘mode of transport’ for invasive alien species, which are a threat to biodiversity that has not yet received the attention it deserves” (Luo and Yip.2017). These species can cause significant damage especially in property like water pipes, boat hulls and other surfaces it can also have a disastrous effect on both the environment and the economy especially if the economy is dependent on these species to provide food.

Solution: The International Maritime Organisation (IMO) has promoted mid ocean ballast exchange as the best short term solution for avoiding the discharge of ballast water with non-indigenous species, though the exchange is time consuming. The long term solution for avoiding the discharge of ballast water with non-indigenous species in port harbours is likely

to be treatment innovated that will remove or kill non-indigenous species found in ballast water.

In our views, instead of killing these species, a safe solution would be to sift the non-indigenous species found in ballast water before it is taken in by vessels or when the vessel comes to port of Durban. South Africa can also benefit in a way that the sifted species can be used for food or commercial goods, but it rarely happens

Dredging



Figure 3: shows how the dredging works.

Dredging, as shown in figure 3, is the process of removing underwater sediments. It may be undertaken to create water depths, recover valuable materials and remove harmful toxins. Creating greater water depths is associated with the dredging of waterways, port channels and water bottoms at marine terminal berths. “Dredging is essential to maintaining navigation in ports and harbours, as well as for the development of port facilities; however it also causes a lot of environmental problems” (Luo and Yip. 2017). In the port of Durban dredging is needed so that the entrance channel can be enlarged to especially accommodate larger vessels.

Solution: The dredged material can be used to create new land e.g. the dredged site may be a port where not only deeper water is needed (so that larger containership can call) but also new land is needed on which a new marine terminal could be built so as to expand the port’s throughput capacity. As a new terminal (cruise) will be built in Port of Durban. It will also help in enlarging the entrance channel as there was once an incidence where “in one of the entrance channel two ships touched bottom while trying to enter the port, there were no suggestion of pilot error but there was a problem with the available depth of water. This incident followed that involving the oil tanker Pacific Quarz in October last year – the tanker tore a large hole in its bottom hull after also touching bottom, while trying to enter the port” (Hutson. 2017).

Hong Kong Port participated in the research aiming at discovering the best treatment technologies for beneficial use of sediments like materials for building port infrastructure. Moreover, the port's competitive position is vulnerable and none of the ports are willing to lose their clients in favour of other port, only because of stricter environmental rules.

Other threats faced by the port of Durban:

Congestion



Figure 4: shows the congestion of trucks on the road to the port of Durban.

Port congestion, “is a term commonly used to describe the situation where vessels have to queue up outside a port and are waiting for a spot so they can load or offload” (Marine Traffic. 2017). The port is a very busy place, it deals with vessels, trains, vans and trucks making it the busiest place ever. Congestion makes entrance impossible for these transport, as shown in figure 4. In most cases capacity does not match demand, that’s why port have a limited amount of dockage and vessels usually have to wait in the anchorage before being able to access the port. Although the port of Durban operates 24 hours day, 7 days week, there are still critical problems with access. There are times when the port, roads and yards are deserted. “At other times, the traffic is backed up so that drivers have to wait for hours to get into the port” (S. Le Guem. 2014). The rapid increase of this problem is of greatest concern since the port’s activities are increasing. The reason for congestion in port of Durban is caused by people that are only willing to work during office hours and the management think it is a good thing since they do not have to pay for overtimes.

When looking at the port of Hong Kong, they had a same problem but the government proposed they alleviate the port congestion by opening another route at Kwai Tsing. “Opening a new terminal was helpful as they are now handling containers without taking into account the high rate of congestion compared to before” (T. Mooney. 2015).

Solution: the port of Durban can reduce the congestion by opening new routes or building of logistics parks that will accommodate the number of containers that are being handled at the container terminal as Durban is also known as the world’s biggest container terminal.

Other alternative route must be considered like trains as they will also help in eliminating the pollution as they are environmentally friendly.

Growth of competitive pressures

“A port in a competitive environment is concerned not only with whether it is efficient but also whether it is effective in proving throughput. A port’s competitive position may be evaluated in terms of the growth, market shares and diversification of its traffic volume” (W. K. Talley. 2009). Competitive pressures encourage port and terminal operators to maximise their efficiency and pass on those efficiency gains to clients, shippers and shipping lines. Durban is the port of call for shippers but that could change given the competitive pricing pressures from other ports. Port inefficiencies coupled with non-competitive pricing make it vulnerable to competition. The major shipping companies have fleets consisting of hundreds of vessels, so if just one were to switch to another African port, it would affect Durban significantly.

Competition is mounting everywhere. For instance, port competition in Southern China for a share of the liner shipping business is fierce. The port of Hong Kong and other Southern ports in China not only compete among themselves, but also with Northern rivals like Shanghai and Ningbo. It should only get worse as capacity collides with the Chinese economy, stagnant trade flow and migration of manufacturing inland.

Solutions: Hong Kong was the world’s busiest container port from 1992 to 2004 but now it holds fifth place, all because of competition. However, the government’s responses to address their situation was to establish a maritime and port board to study ways to devise maritime and port strategies. Currently, it is still looking to enhance Hong Kong’s port to strengthen its competitiveness. Some initiatives include deepening the Kwai Tsing container terminals to accommodate future growth in the transshipment and additional large berths. Durban ranks 63rd in the world in the Lloyds list of container ports in 2017. While this is the highest ranking of any container port in Sub-Saharan Africa, its position so far down the list shows that there is a room for improvement. Good thing is SA ratified the World Trade Organisation Trade Facilitation Agreement (TFA). This agreement sets out procedures for expediting the movement, release and clearance of goods across borders, with a view reducing costs while at the same time ensuring safety and security of trade goods through efficient compliance controls. Basically, one way for Durban port to strengthen its competitiveness was for the government to become part of the TFA. There is also a need for the port expansion and modernise the port.

Conclusion

Our aim was to find the threat faced by the port of Durban, as well as the solutions with reference to other ports. The ports can also be the checkpoint for anthropogenic inputs of environmental pollution through maritime transportation activities, which presents new and critical challenges to port managers regarding the provision of efficient port services and utilization of their unique position to curb global environmental problems. These factors are considered as threats because they contribute to being port effectiveness measures, so the port of Durban needs to guard against these things. The environmental performance of a port has significant implications not only on the surrounding city environment but also for the marine environment. Hopefully, good and applicable solutions were provided to ensure an efficient and profitable port performance.

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