ANALYSING THE IMPACT OF INCREASING MARITIME TRANSPORT COSTS ON PRICE OF IMPORTED GOODS“CASE FOR ZANZIBAR”

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for the acceptance of dissertation titled; ***Analysing the Impact of Increasing Maritime Transport Costs on Price of Imported Goods "Case for Zanzibar"*** submitted in partial fulfillment for the requirements of the award of the Masters of Master of Project Management of the Open University of Tanzania

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Dr. Salum Mohamed

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DECLARATION

I, **Abdullah Hussein Kombo**, do hereby declare that this dissertation is my own original work. It has not been submitted and will not be submitted to any other university of higher learning for a similar or any other degree award.

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Date

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DEDICATION

To my late loving mum and dad for your invaluable kindness in up-bringing, supporting and taking care of me during my child and adulthood period. You will ever continue to be my number one in memory in my life. May Allah the Merciful place you in heaven.

ABSTRACT

The study was piloted to analyze the impact of increasing maritime transport costs on the price of goods imported through Zanzibar port. This study followed the principles and procedure of a case study design, which is characterized with the study of a single unit over a range of variables. The researcher chose this study design that can take one single social unit for the study purpose. The total of 42 respondents included Government authorities, ship-owners, importers and shop retailers were selected through simple random and purposive sampling. A structured questionnaire and interview were used as major tools for data collection besides documentary review used as a means of beefing up the empirical data. Data was analyzed and the results presented in figures, tables and percentage (qualitative and quantitative).

Transports cost is one of the major components of the cost structure in calculating the price of any commodity. Findings of this study shows that maritime transport costs contribute ranges from 1.5% to 5% of the total costs, Source author's findings. The increasing price of goods imported through Zanzibar port is caused by the increasing maritime transport costs. Study findings shows that slight increase in stevedoring or ships waiting time costs increases the total freight charged by ship-owners which ultimately ends up increasing price of the specified goods.

With an annual increase of maritime transport costs amounting to approximately USD $16.5 million on freight rates on goods imported through Zanzibar compared to other neighboring ports, impacts the additional price of goods imported through Zanzibar.

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CIF	Cost Insurance and Freight
CMA CGM	French Group of Shipping Company would wide.
DWT	Dead weight of ships
FCL	Full Container Load
FOB	Free on Board
LCL	Less container load
MSC	Mediterranean Shipping Company
TEU	Twenty Equivalent Unit (twenty feet container)
TPA	Tanzania Ports Authority
UAFL	United Africa Feeder line
ZPC	Zanzibar Ports Corporation

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Zanzibar like many Developing Countries use sea transport as the main mode of transport for transporting their larger volume of goods both imports and exports. Like wise, larger volume of International Trade is conducted by maritime transport. Credible Surveys done in Zanzibar port articulates that costs of transporting these imported goods have been on an increasing rate due to increasing maritime transport costs including ships delay in our ports, few and poor handling equipment, shortage of berthing facilities and lack of sufficient operational space in port. Source, ZPC Information papers.

The increasing Port throughput resulting from increased volume of international trade requires both port efficiency in its operations and efficient handling of ships calling our ports. Many Ports in developing world, including Zanzibar are seen to be highly congested and inefficient in its operations Source, United Nations Conference on Trade and Development, Resource paper on Port Performance Indicators Ref. TD/B/C.4/131/sup.1/Rev. The increasing price of goods transported by sea through Zanzibar port is primarily caused by the increasing time of vessels waiting for loading or discharge of goods imports combined with limited inadequate logistics and other working facilities.

Ports in today's world, are assessed from their management performance in areas related to combination of analysis of several factors, including the duration of ships stay in port, the quality of cargo handling services and the quality of services to inland

transport vehicles during their passage through the port (Logistic facilities).Source, Research paper on Transportation Business & management: port performance and strategy, Vol. 8. Oct 2013. The fact that Zanzibar Port faces these challenges, an economic solution to examine areas of international cargo business or international trade, inter islands cargo and cargo from Mainland Dar es salaam entering Zanzibar Port, is obligatory. Relative to the outcome from the above analysis, the problem of management of port in relation to its overall efficiency are among the key factors contributing to increasing maritime transport costs to ships calling Zanzibar port.

In analyzing the reasons behind increasing maritime transport costs, other areas that need a critical analysis are the rising volume of goods (increased demand) discharged in Zanzibar port which instigates the ships delay in ports waiting for discharge together with both inadequate handling equipment and poor operation performance. The cost of one TEU from Dubai or Far Eastern ports like Singapore, Hong Kong, Bangkok to East African Ports (Dar es salaam or Mombasa) varies between $1500 to $2000 depending on market demand. The same container destined to Zanzibar is charged between $2000 to $2500, presenting surcharge on freight rate of about $500 per TEU. (Source, interview with FAZAL Forwarding agents from Thailand).

A practical analysis demonstrates that ships calling Zanzibar port faces numerous challenges that reflect the increasing ships costs. Among the challenges, include limited water depth at berth area for cargo vessels, poor and limited handling equipment in port, low productivity in cargo/container handling, higher ships delay in port and overall poor performance in its port operation. This study underlines the contribution of maritime costs including costs caused by ships waiting time (termed as queuing costs) to the final price of imported goods through Zanzibar port.

1.2 Statement of the Research Problem

The increasing volume of cargo into and out of Zanzibar, which replicates the consequent increase of ships calling Zanzibar port, originates a serious ships delay in port with subsequent increasing ships costs. It is apparent that the increasing ships costs have direct impact on price of goods transported by these ships.

Average number of vessels calling Zanzibar port annually is ranging between 150 to 200 ships with an average annual tonnage discharged of about 60,000 TEUs with general cargo ranging up to 100000 tons including liquid cargo, Source, Statistics division, Department of Planning, Ministry of Infrastructure and Communications Zanzibar. These vessels include Container vessels, passenger vessels, general cargo vessels and tankers. The average delay for ships waiting for berth is approximately 5 days.

The difference between the freight rates of one twenty feet container from Dubai or far eastern ports or Mediterranean port to Dar salaam and that destined to Zanzibar is ranging between USD $300 to $500 per TEU Source, Fazal clearing and Forwarding agent - Thailand. Considering the container imports to Zanzibar annually is again approximately 55,000 TEU (Zanzibar Ports corporation statistics 2013), the annual increase or additional surcharge paid per container passing Zanzibar port is 300x55,000, which is roughly$16,500,000. End user or customer of goods passing Zanzibar port pays this additional cost.

The fact that the surcharge of $300 per container imported into Zanzibar is persistently increasing annually, it certainly impacts the economy of Zanzibar. Zanzibar port needs

to find alternative solutions of rescuing this increasing cost, which impacts the price on goods into Zanzibar. Ship-owners claims that reasons behind the increased surcharge by shipping lines are the increased costs for Zanzibar port precisely on the costs of ships waiting time.

With the increasing demand in shipping business through increased imported and exported cargo in and out of Zanzibar and the worldwide shipping lines demanding adequate port handling equipment of containers with accelerated performance, Zanzibar port must study its port challenges and come up with constructive and conventional solutions. The problem of increasing consumer prices for goods passing through Zanzibar port is to a large extent contributed by increasing maritime transport costs related to these imported goods. The additional cost of one container (TEU) from Far eastern port like Thailand or Singapore to Dar es Salaam port compared to the same container destined to Zanzibar is about $300, Source, Fazal Forwarding agent Thailand 2015.

The fact that the problem of increasing maritime cost of imported goods (CIF price), that constitutes cost structure or rather final price of goods, includes the initial price of goods from the factory added with Maritime costs (transportation cost) and the clearing plus insurance of goods transported), have a direct relation with the final price of goods imported. This is the problem, which this study has analyzed and come up with constructive conclusions and recommendations.

1.3 Objectives of the study

1.3.1 General objective of the study

The general objective of this study is to analyze the impact of increasing Maritime costs on the price of imported goods, with specific attention on goods passing Zanzibar port.

1.3.2 Specific Objectives

Specific objectives of this study are:

i. To analyze the effect of increasing port charges to the cost of goods imported though port of Zanzibar.
ii. To study the influence of increasing freight rates and its impact on cost of goods imported.
iii. To analyze the impact of port surcharges particularly costs of ships waiting in port in overall costs of goods imported.
iv. To evaluate the effect of clearing cost and insurance costs on overall costs of goods imported through port of Zanzibar.

1.4 Research questions

What is the effect of increasing port charges to the cost of goods imported though port of Zanzibar?

What is the influence of increasing freight rates on cost of goods imported?

What are the effects of ships waiting costs in port on price of goods imported?

What are the effects of Clearing and insurance costs on overall cost of goods imported?

1.5 Significance of the study

Zanzibar being in a central location in African Continent serves a strategic position to serve as cargo distribution center, a hub for commercial activities, tourism center and its historic socio-cultural activities demonstrates a rich potential for development. Transforming Zanzibar Island with better port management initiatives that will change Zanzibar to be a Port complex and world-class logistic center will make Zanzibar an important trans-shipment gateway for national, regional and international market. In deed, as an island like Mauritius, Malta or Seychelles, island economy is rather boosted in optimal utilization of its maritime services. Taking experience of transshipment trade in Malta and Mauritius, Zanzibar has an absolute advantage in utilizing its historic nature to avert its deteriorating economy and ease the freight burden of international cargo entering Zanzibar and the neighboring nations.

Market trends in shipping indicates a change from traditional conventional higher cost vessels to new generation larger scale ships giving an advantage of economy of scale in shipping trade. These ships need efficient ports. Several studies have been done showing that in Zanzibar there is very deep water, well-protected sheltered port sites in Zanzibar west coastthat can be utilized to be Hub port to serve these type of new generation vessel calling East African region that can ease the freight burden to goods transported into Zanzibar. Reduction of maritime cost would enhance the multiplier effects to the economy of Zanzibar and hence boost the well being of citizens.

1.6 Scope of the Study

This study has analyzed the impact of increasing Maritime costs on price of imported goods through Zanzibar port. In so doing, detailed analysis of ports costs and key

determinant of surcharges in the port of Zanzibar have been critically evaluated. Analysis of sources of Maritime costs increases have been thoroughly or critically examined by observing what constitutes Maritime costs. The comparisons of costs of imported goods from neighboring ports have also been examined. The relation between Maritime costs and the cost of goods sold to end-user has been analytically assessed.

1.7 Organization of the study

This study constitutes five chapters of which the first chapter as introductory information on the proposed research. The introduction chapter gives a brief outline of the reasons behind exploring this study, its objectives and the significance of the study problem. Chapter two outlines the literature review constituting a conceptual framework, critical supporting analysis and empirical theories on relevant studies made, definitions of some the key concepts and analysis done on specific issues relevant to the study. Chapter three outlines the Methodology used in the study analysis. Chapter four covers the data analysis and chapter five includes summery, conclusions, recommendations and policy implications.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

As ocean freight rates have fallen and increased competition has driven margins downward, the importance of transport costs in the final price of imported goods is significantly important. Ninety per cent of world trade by weight is carried by ship. Maritime traffic in 2007 was almost double its 2003 level, Korinek and Patricia Sourdin, 2009. Operation of merchant ships generates an estimated annual income approaching USD 380 billion, equivalent to about five percent of total world trade. However, Korinek and Sourdin, 2009,illustrate the fact that high shipping costs significantly impede trade for some countries.

Transport costs are also highly differentiated between different products. For some countries, the cost of importing some agricultural or industrial raw materials necessary for their own consumption such as cereals or iron ore have reached 20- 30 percent of the imported value of these goods in 2007-08, Korinek and Sourdin, 2009. These transport costs are strong determinants of how much, and from whom, such products are imported. In addition, transport costs are more volatile than some of the other elements that impact trade.

The analysis made by Korinek and Sourdin, 2009, provides evidence that maritime transport costs; precisely freight rates have a strong impact on price of imported goods. The study indicates that a ten percent increase in freight rates is estimated to decrease trade (increase prices) by six to eight percent, other things being equal. Overall, the impact of maritime transport costs is large and changes in their magnitude will have a

strong impact on trade flows. Given that large differences exist in the price of transporting containers between different countries, those countries facing high transport costs will suffer heavily in terms of lower trade flows, other things being equal.

"Handling charges in Caribbean ports are two to three times higher than in similar ports in other regions of the world. In some cases, it costs significantly less to ship a container to Hong Kong, China, or Europe than it does to ship to a neighboring island no more than 100 miles away" (World bank Group on Transport and ICT, January 2015, research working Paper pg. 7162). The reasons for high port-handling costs are linked to procedural inefficiencies along the logistics chain, high freight rates that shipping lines attribute to empty backhauls, and the poor performance of port management and operations. The Organization of Eastern Caribbean States shares the larger Caribbean region's advantages, challenges, and concerns related to the performance of port management and operations. Yet performance assessments have been difficult to make because of data constraints.

2.2 Conceptual Definitions

2.2.1 Transport costs

Transport researchers on Transport costs give several definitions of transport costs. The precise and rich definition is that transport costs are a monetary measure of what the transport provider must pay to produce transportation services, Rodrigues and Notteboom, 2005. They come as fixed costs and variable operating costs, depending on a variety of conditions related to geography, infrastructure, administrative barriers, energy, and on how passengers and freight are carried. Transport costs have significant

impacts on the structure of economic activities as well as on international trade. Empirical evidence underlines that raising transport costs by 10% reduces trade volumes by more than 20%, Rodrigues and Notteeboom, 2005.In a competitive environment where transportation is a service that can be bided on, transport costs are influenced by the respective freight rates of shipping lines which is the portion of the transport costs charged to users.

2.2.2 Freight Rates

Freight Rates are the price of transportation services paid by their users or Shippers Rodrigues and Notteboom, 2005.They are the negotiated monetary cost of moving a passenger or a unit of freight between a specific origin and destination. Freight Rates are often visible to the consumers since transport providers must provide this information to secure transactions. They may not necessarily express the real transport costs; the difference between costs and rates either results in a loss or a profit from the service provider.

Considering the components of transport costs previously discussed, Freight rate setting is a complex activity subject to constant change. For public transit, rates are often fixed and the result of a political decision where a share of the total costs is subsidized by the society. The goal is to provide an affordable mobility to the largest possible segment of the population even if this implies a recurring deficit (public transit systems rarely make any profit). It is thus common for public transit systems to have rates that are lower than costs. For freight transportation and many forms of passenger transportation (e.g. air transportation) rates are subject to a competitive pressure. This means that the rate will be adjusted according to the demand and the supply.

Freight Rates either reflect costs directly involved with shipping (cost-of-service) or are determined by the value of the commodity (value-of-service). Since many actors involved in freight transportation are private, rates tend to vary, often significantly, but profitability is paramount.

2.2.3 Port Costs

Ports are basically sheltered area where ships load or discharge goods or passengers Heggie 1974**.**Indeed, the logistics arrangements in ports are paramount operational activities port must perform efficiently. Port costs are basically classified as Port dues (include, harbor dues and pilotage dues), stevedoring costs and port wharfage costs, other miscellaneous costs including agency costs and supplies costs which may include several costs such as shore electricity, security costs, ships supplies etc., Heggie 1974.

However, there are other hidden costs, which are caused by ships delay in port waiting for discharge. Some researchers call these as ship's waiting costs or Queuing costs. These costs are not directly seen or charged by shipping lines but contribute at high level the overall costs of ships operation. Port operations and logistics are complicated and costly; inefficiency in port operations results in higher ports costs and reflects a higher freight charged by ship-owners.

Heggie 1974**,**in his paper on charging port facilities, challenges that current discussion of transport pricing concentrates on the role of pricing system in encouraging the efficient usage of the existing facilities and in giving guidance on investment and disinvestment in them. He further argues that price need to be based on marginal social opportunity cost of the resources used to provide each service. If users are prepared to

meet this cost by actual price they are prepared to pay, it is reasonable to suppose that they prefer to purchase this service rather than the alternative goods or services (opportunities) they have implicitly forgone.

"Terminal handling charges (THC) are essentially charges collected by shipping lines to recover from the shippers the cost of paying the container terminals or mid stream operators for the loading or unloading of the containers (Stevedoring costs), and other related costs borne by the shipping lines at the port of shipment or destination" Council of Hong Kong special Administration Dec 1998**.**

Shipping lines used to charge a single rate to cover all shipping and terminal handling and related charges before 1990. Since 1990, most shipping lines have introduced separate charges for the freight rate and THC. However, for these costs are in all part of port costs. The introduction of separate charges for the freight rate and THC was intended to serve two purposes: firstly, it helps to increase the transparency of shipping charges, so that shippers may know how much they are paying to the shipping lines and how much they are paying for the handling of the containers at the port of loading or unloading; secondly, it helps to protect the shipping lines from the fluctuation of currencies, since terminal handling costs charged by terminal operators are usually paid in local currencies, while freight rates are calculated in US dollars.

2.2.4 Port Surcharges

Port congestion surcharge is defined as insufficient port capacity to cope with ship and cargo traffic arriving at the port, Alderton 2005. He further explains that this phenomenon can occur in any port if there is a sudden upsurge in demand or hold up in the port such as strike. Recent events in international trade coupled with the re-

emergence of huge imports from china have rendered several ports congested. According to Hilling 2009, “even with their long history of gradual improvements and readily available expertise and funds, ports in advanced economies have not managed to achieve acceptable expeditious flow of cargo and turn round time.

For the case of the congestion, shipping company’ so pinion is that they are incurring vastly increased costs, arising from factors such as labor overtime, extra fuel costs as ships are forced to stay idle at anchor awaiting a berth, and having to charter additional vessels to maintain their schedule. They are also suffering from losses because of canceled sailings and missed port calls. Retailers or importers are suspending orders that fail to arrive on time, and vendors are insisting on price reductions on their shipping contracts. For these reasons, carriers impose port congestion surcharges, on top of their normal charges to importers, affecting price of cargo imported.

2.2.5 Clearing and Insurance cost

The port-clearing process consists of managing pre-shipment issues, such as documentation, which are often required for the clearance process, identifying and anticipating the arrival of shipments, locating the shipments of particular consignments, obtaining documents needed for clearing before the arrival of supplies at a port, and ensuring that the documents are in accordance with the country’s port and customs requirements, making timely payments relating to the clearance process, ensuring that appropriate storage space is available to receive the shipment and that transport is available immediately and delivering goods to the warehouse or other storage facility as appropriate.

Expediting port clearing is an important function, requiring either a well-organized, paper-based activity monitoring system or a computerized information system, as well as suitably trained human resources. Port clearing may be slowed by Government customs and import regulations, and inefficiencies within agencies that import goods. Private companies are sometimes able to achieve more rapid port clearance than Government agencies. Two private-sector choices are available: either the supplier can be made responsible for the port clearing process and delivering goods to a nominated warehouse, or the task can be contracted out to a Port clearing and forwarding agent. Experience shows that Zanzibar importers outsource the services of experienced and well-trained clearing agents staff to do the port-clearing process. A cost/benefit analysis should be carried out to establish the most suitable method for managing port clearance - either in-house or outsourced to the private sector.

Insurance costs is the cost covered to ensure your shipment for the replacement of the goods shipped in case of total or partial loss or damage, request insurance for the replacement value of the goods or commercial invoice value, PWS 2015 (Priority Worldwide Service). Shipping valuable cargo many miles away and completely out of shipper’s control is obvious that risk has to be taken. Avoiding that risk on your vessel foundering in a massive mid-ocean storm or your airline simply losing track of your cargo altogether you must insure your cargo to be compensated for your cargo's value in case of loss.

Insurance coverage for export shipments is traditionally provided either through your shipping line, logistics specialist, and freight forwarder or from an insurance company specializing in ocean and/or air cargo. There are three types of coverage commonly

provided for export shipments: perils, broad-named perils and all-risks. Since most transport companies offer an all-risks plan and few if any shippers are likely to want to withhold on coverage. The premium you pay to secure these risks is the insurance cost.

2.3 Theoretical literature reviews

There are two main elements to the cost of transporting goods by sea - the ocean freight charged by the carrier, and costs associated with handling and clearing the goods at the ports of loading and discharge, sourcewww.nibusinessinfo.co.uk.A number of factors can influence how these charges are calculated. First, for liner traffic, freight is usually charged according to the shipping company's standard tariff, although larger or frequent shippers and freight forwarders may be able to negotiate preferential shipping rates. Secondly, charter rates for other vessels which normally depends on supply and demand conditions prevailing at the time when the charter is negotiated

However, there are many other factors that can impact on the final price, including different rates for specific goods and general cargo, congestion surcharges at busy ports, currency adjustment factor to take account of exchange rate changes during the journey,bunker adjustment factor to take account of fuel price fluctuation, surcharges (like a security surcharge) levied by ports and/or by the shipping company to cover the costs of particular regulatory regimes.

2.3.1 Evolution in maritime transport costs

Korinek2011, in his paper “Clarifying trade costs in maritime transport” indicates that a number of factors contribute to the evolution of maritime transport costs. There have been significant technological advances in the shipping industry, not least of which the

advent of containerization and increasing automation. Economies of scale due to the phenomenal growth in ships' size are evident over the past decades. These changes however mean that transport costs are more differentiated between hubs -- deep ports that host large ships and are fully automated -- and small out-of- the-way ports that are far from markets and have benefitted less from investments in infrastructure.

These evolutions also imply that the effect of distance on trade has changed in a variety of ways. At the same time, opportunities are created for countries that are located along major trading routes to act as hubs thereby creating value added through their maritime transport and logistics services, and facilitating access to markets for their domestic exporters and importers. Larger, faster ships are capable of transporting large volumes of merchandise long distances. Yet larger ships may need to use longer sea routes to avoid the Panama and Suez canals that restrict access based on ships' size. Since the greatest economies of scale will be realized on routes with very large volumes of trade, a greater gap is potentially created between transport costs of large trading nations and small ones.

2.3.2 Ad Valorem Measures of Maritime Transportation Costs

International trade economists typically express transportation costs in ad valorem terms, that is, the cost of shipping relative to the value of the good. This is equivalent to the percentage change in the delivered price as a result of paying for transportation **(**Hummels, 2006).The best data for evaluating the ad valorem impact of transportation costs over time comes from a few importers such as New Zealand and the United States that collect freight expenditures as part of their ^{import} customs declarations. These data enable us to examine ad valorem transportation costs for an individual good, or to

calculate aggregate expenditures on transportation divided by aggregate import value. Hummels, in his study, 2006, suggests that aggregate measure is equivalent to an average of ad-valorem transport costs for each good, after weighting each good by its share of value in trade.

2.3.3 Maritime Transportation Costs and the Relative Prices of Goods

Ad-valorem transportation costs for a particular product depend on how far the good is shipped, the quality of the transport service offered, and the weight/value ratio of the good, Hummels 2007. Because all three factors vary considerably across shipments, transportation costs significantly alter relative prices and patterns of trade. Transportation costs play a large role in altering relative prices across exporters and determining bilateral variation in trade. For a typical product exporters in the 90th percentile of costs faced shipping charges that were 11 times greater than those faced by exporters in the 10th percentile.

Transportation costs also change the relative prices of different goods in the export bundle. The weight/value ratio of a good is a useful summary statistic both for the intensity of transportation services it consumes, and of the impact that transportation costs will have on its delivered price**,** Hummels 2007. Compare the cost of shipping $100 of coal (weighing a metric ton) to $100 of computer microchips (weighing a few ounces). The greater weight and bulk of the equivalent value of coal requires greater stowage space and fuel expenditures to move, which means that transportation increases the delivered price of coal relative to microchips. Similarly, compare the impact of transportation costs on the delivered price of a $10 wristwatch and a $1000 wristwatch of similar weight and size. The $1000 watch will typically require higher quality

transportation services such as more insurance, greater care in handling, and more rapid delivery, but these services are not 100 times more expensive than those demanded for the $10 watch. Hummels and Skiba, 2004 estimate that a 10 percent increase in product price leads to an 8.6 percent fall in the ad-valorem transport cost. That is, transportation lowers the delivered price of high quality relative to low quality goods.

2.3.4 Transportation Quality and Speed of Delivery

Hummels, 2007focused on the cost of shipping goods, taking the quality of the transportation service as fixed. However, the quality of international transport has improved over the past 30 years, with the most notable gain being shorter transportation time. Ocean liner service itself has become much faster than in years past, both because the ships are larger and faster, and because their loading and unloading time is dramatically lowered by containerization. But even after these improvements ocean shipping is still a slow process. Shipping containers from Europe to the U.S. Midwest requires 2-3 weeks; from Europe to Asia requires five weeks. In contrast, air shipping requires a day or less to most destinations, consequently, the 10-fold decline in air shipping prices since the late 1950s means that the cost of speed has fallen dramatically.

The impact of the declining cost of speed depends on how valuable is timeliness in trade. Hummels, 2007, estimates a demand for timeliness by examining the premium that shippers are willing to pay for speedy air shipping relative to slow ocean shipping. There are two effects. Every day in ocean travel time that a country is distant from the importer reduces the probability of sourcing manufactured goods from that country by 1 percent. Second, conditional on exporting manufactures, firms are willing to pay just under 1 percent of the value of the good per day to avoid travel delays associated with

ocean shipping. Falling air transportation costs can then help explain trade growth: those goods with the highest estimated time sensitivity have exhibited the most rapid growth in trade.

Time in transit doesn't matter much for bulk commodities and simple manufactures but for goods like fresh produce and cut flowers, lengthy travel times lead to damage. More generally, if there is uncertainty in demand plus lags between production and final sales, firms may face a mismatch between what consumers want and what the firm has available to sell. In the case of apparel, for example, firms are unable to predict in advance which fashions will be especially popular, making the ability to respond quickly to revelation of market information an important advantage.

2.3.5 Theory of freight rate and their effect on price

"A freight rate is a price at which a certain cargo is delivered from one point to another (UNCTAD Review of Maritime Transport, 2007). The price depends on the form of the cargo, the mode of transport (truck, ship, train, and aircraft), the weight of the cargo, and the distance to the delivery destination.

For the case of maritime transport, the pricing of cargo ships services or freight rates' services is dependent on the forces of supply and demand. The demand for shipping is derived from the demand for the commodities carried. The demand for sea transport is affected both by direct competition between carriers and, because it is a derived demand, by the competition of substitutes or alternatives for the particular commodity carried. On any particular route, the ship-owner is subject to competition from carriers on the same route, and also from carriers operating from alternative supply areas. On

some routes there is also competition from air transport for high value to low weight ratio consignments, and in the coastline trade there is also competition from inland transport.

The elasticity of demand for shipping services varies from one commodityto another. In normal times, an important factor affecting elasticity of demand for sea transport services is the cost of transport in relation to the market price of the goods carried. “The cost of sea transport and associated expenses is often a considerable element in the final market price of many commodities. It may be between 8 and 15%” (UNCTAD Review of Maritime Transport, 2007). The price eventually fixed depends largely on the relationship between buyers and sellers and when demand is fairly elastic, conditions of relatively perfect competition prevail. Under these circumstances, prices are fixed by the ‘haggling of the market’ and are known as contract prices. The market for tramp charters operates under such conditions, and the contract is drawn up as an agreement known as a charter party.The contract may be for a single voyage at so much per tone of the Commodity carried, or it may be for a period at a stipulated rate of hire, usually so much per tone of the ship’s deadweight carrying capacity.

The Charter rates are quoted on a competitive basis in various exchanges throughout the world. Foodstuffs and raw materials in particular are traded in a highly competitive world market and their movement are irregular, depending upon demand and supply conditions. It is quite usual for cargoes of these commodities to be loaded and actually marketed during transit, the charterers instructing the ship to proceed to a certain range of ports and determining the port of discharge while the ship is en route. In the case of very long-term charters, tankers or ore carriers, the rate of hire is fixed to give the

owner a reasonable return on his investment(UNCTAD Review of Maritime Transport, 2007).

In recent years there has been a tendency in an increasing number of liner cargo trades to impose a surcharge on the basic rate and examples are Bunkering or fuel surcharge which applies when fuel costs now represent a substantial proportion of total direct voyage cost. A situation, which has arisen from the very substantial increase in bunkering expenses, ship owners are not prepared to absorb the variation in fuel prices. They take the view that price variation of bunker fuel tends to be unpredictable bearing in mind it is usually based on the variable dollar rate of exchange and it is difficult to budget realistically for this cost to reflect it adequately in their rate formulation. Moreover, an increase in the bunkering price erodes the ship owner's voyage profitability.

Secondly, Congestion surcharge arises when a vessel may have to wait several days outside a seaport waiting for a berth due to an increase in traffic volume and the facilities cannot cope with the situation. Examples are found in container terminals and a surcharge is raised on a landed container basis. Thirdly, Currency surcharge(currency adjustment factor - CAF) which arises when the freight rate is related to a floating currency such as sterling.

2.3.6 Factors that influence the formulation of freight rates

Formulation of freight rates counter several factors such as competition on rates, which exists among various modes of transport. For example, in the UK-Europe trade, competition exists amongst air freight agents offering consolidated services(Le Shuttle,

2009). Another factor is the nature of the commodity, its quantity, period of shipment(s) and overall cubic measurements/dimensions/value. Third is the origin and destination of the cargo and also the overall transit cost. Other factors may also be considered such as the nature of packaging and convenience of handling, the susceptibility of the cargo to damage and pilferage, the general load ability of the transport unit, provision of additional facilities to accommodate the cargo, namely heavy Lifts, strong room, livestock facilities, etc, the mode(s) of transport and its actual routing of cargo consignment. Alternative routes tend to exist in some trades particularly with multi-modalism/containerization with a differing rate structure and overall transport cost. Other considerations exists on Logistics – the supply chain 'value added benefit' and security cost.

2.4 Empirical Literature Review

A "literature review" should cover all of the scientific literature in a field that is defined by the author, Willison 2014. Empirical Literature review is achieved by reference to previous study reviews of the past literature. This includes all studies that have been published since the most recent. Many researchers would prefer to review studies done world wide, regional and within the specified area or Country. The amount and quality of analysis in a review may vary from study and research made but it may give a researcher a clear symptom of what are the contents and details of the subject or assist the researcher to focus on areas related to study in question.

However, Empirical literature review for dissertation would generally require a much more comprehensive literature review than a journal article. For example, a literature review for a political theory would require a much different approach than one for a

psychology dissertation that uses experimental design with human subjects. The political theory literature would include a lengthy discussion and critique of theories while the psychology experimental design literature review would focus more attention on previous studies that tackled the same or a related question. It would include analysis of theories, data, findings and methodology.

2.4.1 Empirical literature review Worldwide

Study on maritime transport costs and their impact on trade outlines the fact that Maritime transport costs overall have not evolved in a clear way in the 17 years of data analyzed in this study, Korinek & Sourdin, 2009. After a slight rise in maritime transport costs in the mid-1990s and a fall in the early 2000s, maritime costs rose again in the mid 2000s and have fallen in recent quarters. Maritime transport costs accounted for about 6 percent ad valorem overall of the imported value of traded goods in 2007 in all countries and products included in the dataset. This corresponds on a cost-per-weight basis of about USD 59 per tone of merchandise on average. The said study elaborates the impact of transport costs on trade by quantifying the effect of maritime transport costs on bilateral trade flows. Several augmented gravity models are estimated in order to quantify the effect of maritime transport costs on the value of seaborne imports.

The OECD Maritime Transport Cost database allows us to model the empirical relationship between trade costs and the value of imports more accurately by accounting for the transport cost component of distance. By explicitly allowing freight charges to impact trade, we are able to measure the size of the transport cost barrier while allowing the distance variable to capture some of the remaining components of trade costs. To the extent that distance has been found to be a poor proxy for transport costs. Hummels

2001and Martinez, Zarzoso, Nowak, Lehmann 2007,state that modeling imports as a function of freight charges as well as distance and other trade determinants should shed light on their importance in determining trade flows.

Study on maritime transport costs and their impact on trade by Soudin 2007 implies that Maritime transport costs are believed to have a strong impact on trade. A ten percent increase in maritime transport costs is associated with a six to eight percent decrease in trade, other things being equal. An alternative model specification, making use of product-level data, indicates that a ten percent increase in shipping costs is associated with a three percent drop in trade. This analysis shows that the strong impact of maritime transport costs over time is falling, and the impact of distance between trading partners is rising. One reason for this finding may be that higher value-added products are increasingly being transported by air.

Hummels, 1999, in his research study on "Have International Transportation Costs Declined?" clarifies that "The term "transport cost" in popular use, subsumes shipping expenses but is also used loosely as a catch-all for any number of important costs that impede trade. His paper focuses on shipping costs rather than a broader basket of component costs for three reasons. First, measurement must start somewhere and it is sensible to begin in obvious place. Secondly, changes have attempted to attribute trade growth to changes in tariffs, and third, transport costs as measured by cif/fob ratios, and other causal factors.

An exception is on Lundgren 1996, who relies on a very small number of goods and routes to conclude that the constant dollar price of shipping a ton of bulk commodities

fell substantially between 1950 and 1993. However, the ad-valorem barrier posed by shipping has not fallen for bulk commodities, and a considerably broader set of data reveals a general pattern of shipping cost increases. Small reductions in trade barriers yield large trade volume increases (and little additional gain from trade) if foreign and domestic goods are sufficiently close substitutes in production or consumption. In shipping costs can be directly interpreted in terms of their effect on trade - all trade necessarily requires shipping and the ad-valorem equivalent of the barrier is simple to calculate.

The impact of terminal handling charges on overall shipping charges, an empirical study done by Fung**et**2001outlines that before the introduction of terminal handling charges (THCs), traditional freight rates included both ocean freight charges and terminal charges at ports. Since the introduction of THCs in 1991, the freight rate has become a ‘‘port-to-port’’ charge that covers only the sea leg, while the on-shore costs of using the container terminals are charged separately as THCs. Although both THCs and freight rates are collectively set by conferences, in this study we argue that the former are easier to enforce because they are invariant to other attributes such as haulage distance, inland transport services and types of commodity being shipped.

The study concludes by suggesting the separation of voyage costs to that of terminal handling charges. As per the context of this study, the terminal handling charges are part of freight charges. This argument is consistent with the empirical findings from this study, which suggest that the separation of ocean freight rates from terminal charges has increased the overall shipping charges.

Empirical findings suggests that the introduction of THCs has resulted in an increase in the price of shipping a container and the profits of shipping lines, but at the expense of shippers or importers. In addition, the study found out that THCs affected the Hong Kong container handling industry by reducing its throughput.

2.4.2 Empirical Literature review in Africa

Investment in port systems (a case study of Nigerian Ports) by Dan Sheneerson1999, tries to answer the question whether, when and where investment in port systems should be made. It then describes necessary port changes that are consistent with optimal port investment. The methodology developed uses the technique of dynamic programming. The analysis is confined to theory that ports are public utilities. The main problem on this static criterion for port investment in this case is the comparison between queuing costs and the cost of expansion. If for a given demand queuing costs of ships exceed the cost of adding a berth, the investment should be made.

Two notable elaborations to this criterion were made by Weillie and Ray 1974, and Goss, 1967. Weille pointed out that the approach assumes a perfectly elastic demand. The investment criterion therefore is analogous to determining the minimum cost solution for alternative levels of given demand. An obvious extension is to attempt to derive the whole shape of demand curve at each predicted period of time. Weille and Ray do this by assuming a particular shape of demand curve. The Gross benefit of Investment is then measured by adding the reduction in queuing costs to the consumer's surplus of the additional induced traffic. Goss emphasized the need to optimize the combined costs of both ports and ships. Criterion of Port investment must include shipping considerations and specifically the type and size of ships.

The East Africa logistics Performance Survey2014 highlights the maritime transport costs of imports in East Africa. The survey shows that Maritime freight rates for exports from East Africa to North America average USD 2800 for a TEU and USD 5000 for an FEU, making it the most expensive destination. The most popular country of destination in North America for exports from East Africa is the USA which ranks at positions four for Kenya, fifteen for Uganda, Eighteen for Tanzania, eight for Rwanda and Nine for Burundi.

Maritime freight rates to Europe stand at USD 2,000 for a twenty foot container and USD 4,000 for a forty foot container while those to the Middle East average USD 1,500 for a 20 foot container and USD 3,000 for a 40 foot container, while rates to Asia average USD 600, making it the destination with the lowest freight rates.

Freight rates for imports from South America average USD 2200 for a TEU and USD 4500 for an FEU, making it the most expensive destination. Europe, with an average freight rate of USD 2000 per TEU and USD 4000 per FEU follows closely, while Asia Pacific region which averages USD 1200 per TEU and USD 2000 per FEU and the which averages USD 1000 for a TEU and 2000 for an FEU close our analysis of freight maritime rates. Freight rates for imports from South America average USD 2200 for a TEU and USD 4500 for an FEU, making itthe most expensive destination. Europe, with an average freight rate of USD 2000 per TEU and USD 4000 per FEU follows closely, while Asia Pacific region which averages USD 1200 per TEU and USD 2000 per FEU and the which averages USD 1000 for a TEU and 2000 for an FEU close our analysis of freight maritime rates. In analyzing Port charges, two main measures of port charges were used in the survey to compare the costs incurred by shippers as they import and export through the two East African Ports of Mombasa and Dar-es-Salaam. These

measures were shore handling charges, which are levied by service providers for handling cargo at the quayside, and wharfage charges, which are raised on all cargo including empty containers passing over the quays, wharves, jetties, buoys and other installations within the harbor limits except for transshipment cargo. The most striking differential in port charges between the ports of Dar-es-Salaam and Mombasa is the fixed wharfage charges of USD 70 for a 20 foot container and USD 105 for a 40 foot container at Mombasa, while Dar-es-Salaam levies its wharfage charges as a percentage of the value of the cargo – usually 1.6% for domestic cargo, 1.25% transit imports and 1% for domestic and transit exports. Clearly this is a disadvantage for shippers who import through Dar-es-Salaam port as high value cargo will attract higher port charges.

The Significance of Transport Costs in Africa, by Naudé & Matthee, 2007, reveals that high transport costs pose a significant barrier to development in Africa causing friction in the movement of labor and goods, transport costs effectively reduce the markets for labor and goods, and for the transmission of knowledge and technologies. Reducing transport costs in contemporary Africa has become even more of a priority, with many countries having reduced tariffs on their international trade, and as protectionism in developed countries are scaled down. The success of Africa's exports, as well as its rural and more generally its spatial development, now depend on lowering its transport costs.

A recent survey concluded that transport costs are the most important component of trade costs and that the 'death of distance' has been exaggerated. The survey found that in industrial countries, total trade costs add 170 per cent to costs, of which 21 per cent are transport costs. Radelet and Sachs, 2003 found that countries with lower transport

costs have had faster manufactured export and overall economic growth during the last three decades than countries with higher transport costs. They found that if transport costs double, annual growth would increase at a slower rate of about 1.5 per cent. Limão and Venables, 2001, found that an increase in international transport costs of 10 per cent could reduce the volume of trade by as much as 20 per cent.

For countries in Africa, the reduction in trade volumes due to transport costs could be much more severe, as many countries in Africa are landlocked. In fact Africa is the continent with the largest number of landlocked countries in the world. Radelet and Sachs2001,found that landlocked countries' transport costs are up to 50 per cent higher than those of coastal countries, while Limão &Venables estimate that their trade volumes are around 60 per cent lower. Landlocked countries may lose the equivalent of up to 40 per cent of the export on high transport costs. Remoteness from sources of supply is a major determinant of the price of capital goods. for example, due to remoteness; capital equipment in South Africa is twice as expensive as in the Europe.

A study by the UNCTAD Secretariat,(2003) found that international transport costs faced by African countries are almost twice as high as the world average, it amounts to 12.6 per cent compared to 6.1 per cent for the world average. In this sense it would be scant consolation to African countries if international transport costs had been declining in absolute terms since Africa's relative position remains a concern. Relatively high transport costs in Africa are one reason for the continent's relatively slow growth in exports compared to other developing regions.

2.4.3 Empirical Literature review in Tanzania.

The recent study done in Tanzania titled Tanzania – trade and transport facilitation audit by Meeuws 2004 indicated that costs associated with sea transport has increased but the efficiency of port handling, in particular the container terminal in Dar es Salaam, is steadily increasing. In the Port of Dar es Salaam the ship turn-around time has fallen from 4.1 day in 1995 to 2.0 days in 2003. The waiting time in this period decreased from 0.5 days to 0.2 days; and the service time from 3.6 to 1.8 days. The crane productivity of the Container Terminal improved from 12 moves per hour in 1998 to 23.2 moves per hour in 2003. The overall dwell time of an imported container was reduced from 42 days in 1995 to 12.9 days in 2003.

However, the good performance of the handling of the container terminal was not accompanied by improved performance in the clearing of the containers in the port. The situation got worse in the second semester of 2004 after the introduction of the Destination Inspection making use of high tech scanning equipment replacing the Pre Shipment Inspection. Importers and their clearing agents complain that it takes two or even three weeks more to get a container cleared from the port area than before the introduction of Destination Inspection.

What is affecting the efficiency of the ports operations are the operational problems that both TRC and TAZARA are facing. Both railway companies have planned to have two container trains per day in the port of Dar es Salaam, but in practice only achieved in transporting about 30 containers per day in 2003.

About 25 international shipping lines were serving the Port of Dar es Salaam in 2003. What can be observed here is the wide variation in prices for the transport of tobacco to

Europe and of coffee to Europe, the Far East and North America, There is also quite variations in the prices depending on the type of goods exported. The prices for imported containerized shipments to Dar es Salaam are generally 20-25 percent higher than those for exported containerized shipments, which reflects both the fact that the value per ton of imported goods are generally higher than the value per ton of exported commodities and the imbalance of imported and exported freight flows.

This study does not give a clear explanation on the impact of increase of maritime costs on imported goods. In deed the time lapse is too high that indicate a hue change within maritime industry. However, data in these studies will be used by researcher to develop a indicative trend of changes in cost structure and its implications on final price of goods.

“Can the transport sector development program deliver, by Abedi 2009, suggest that Transport is one of the key factors that determine the price of goods and services. A properly functioning transport system can minimize transport costs. It is therefore essential that the sector is operated efficiently and effectively to enable the economic sectors contribute optimally to socio- economic development. Transport, therefore, has the potential to help reduce poverty through supporting economic growth by directly and indirectly promoting trade and higher productivity in the economic sectors. The provision, expansion and maintenance of transport infrastructure create employment, which can reduce income poverty while easier access to services such as health facilities and schools reduces non-income poverty.

The study suggests that Transport is one of the key factors that determine the price of goods and services. Empirical analysis shows that the contribution of maritime transport

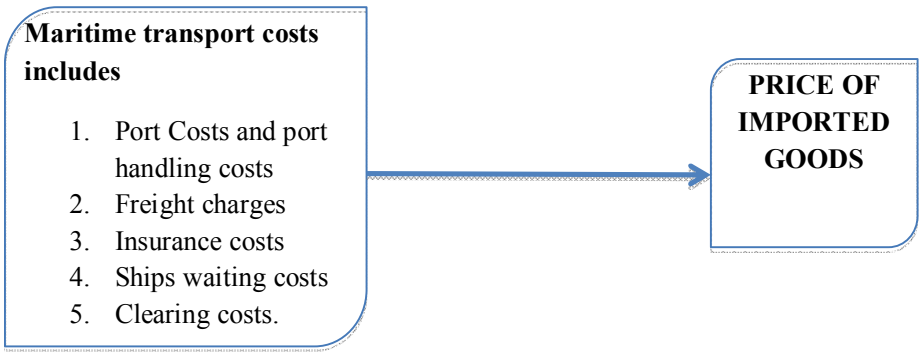
cost to the total transport cost is to a large extent higher for imported goods. This fact will be used in this research paper to prove our research findings.

2.5 Research Gaps

The analysis made on studies on impact of maritime transport costs increases on price of imported goods reveals that port delays or rather ships waiting time are not directly linked with port costs. Ship-owners consider these costs as additional cost or opportunity cost of utilizing the ships on time charter. They calculate the time lost and compare it with time charter rate that could be gained if the ship was employed. The emphasis on this study is to analyze the impact of the cost of maritime transport costs on final price goods imported, in this respect, this study takes these costs as additional costs.

Secondly, the Research uses the container liners in all its data ignoring the other vessels costs. However, as per responses and claims from many ship-owners representatives, the main concern on increasing costs is rather on container vessels calling Zanzibar port.

2.6. Conceptual Framework



Freight rate-Independent Variable Price of Goods-Dependent Variable

Figure 2. : Conceptual Framework. Source: Researcher's Construct.

2.7 Theoretical Framework

Theoretical framework is defined as a conceptual model that theorizes or makes a logical sense of the relationship among the several factors that have been identified as important to the problem, Sekaran 2003. The aim of the theoretical framework is to elaborate the most important areas to be covered by the study. In this study assumptions is that price of imported goods is the dependent variable and maritime transport costs, which includes port costs (port handling costs), freight charges, insurance costs, ships waiting costs and forwarding costs, is independent variable. It identifies the network of relationships among the variables considered important to the study.

2.7.1 Port costs and Port handling costs

Port costs include berth dues, stevedoring charges, wharfage costs and port security costs. Some ports may include landing charges and shipping costs. However, among these costs, the most important costs is the stevedoring costs, which is the payments made from ships loading or discharge of cargo on board. Normally stevedoring costs is charged as identified by the port tariff set by port authority, which normally rate per container and gang hour utilized by the ship. It is the highest costs among ports costs. Port costs are paid by ship-owner directly, however, ship-owner passes these costs to importer who ultimately include as costs of goods imported. In this respect, port charges directly impact the cost of goods imported. The increase in port costs will have a direct increase in cost of goods imported.

2.7.2 Freight charges

“A freight Charges are those costs charged by ship-owner for services of transporting cargo from one point to another, (UNCTAD Review of Maritime Transport, 2007). The

cost which a shipper (the consumer or business providing goods for shipment) or consignee (the person or company to whom commodities are shipped) is charged for the transportation of goods is determined by a number of factors. The main factors in determining the freight rate are: mode of transportation, weight, size, distance, points of pickup and delivery, and the actual goods being shipped. All of these factors play their own independent role in determining the price or rate at which the freight will be charged but they are also all interconnected. The freight charges paid by importer are also part of cost of goods imported in calculating the final price of goods imported.

2.7.3 Insurance costs

Insurance costs is the cost paid to ensure the shipment for the replacement of the goods shipped in case of total or partial loss or damage, PWS 2015-Priority Worldwide Service. However this cost on goods transported is paid by importer and as other transport costs is part of cost on goods imported.

2.7.4 Ships waiting costs

Ships wait in ports for discharge or load goods. Waiting costs are caused by high traffic in ports and inefficiency of port operation. These costs can be high due to fact that a daily hire of ships is very high. Ships sizes calling Zanzibar port ranges between 10000 metric tons to 25000 metric tons DWT. These vessels costs a ship-owner a daily hire cost or daily charter rates of average of USD $15000. Waiting cost in our developing country ports are on increasing rate due to inefficiency of operation of our ports caused by lack of adequate handling equipment. Ship-owners charge these costs to importers as port surcharges or sometimes added directly to freight charged.

2.7.5 Clearing & Forwarding costs

Goods arriving in ports are legally subjected to country's customs duty and income tax. Depending on the country's customs procedure, special agents are authorized to perform the clearing of goods from port. Agents charge these costs to importer. The ultimate price of goods imported constitutes among other costs the cost of clearing and forwarding of goods from port. However, clearing agents on behalf of Importer pays other port costs such as wharfage and landing costs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter establishes the elements of methods used in research design, survey population and study area covered in the study. Furthermore, it covers the sampling design and procedures with variables and measurement procedures. The chapter advocates how data has been processed and analyzed and come up with results of the study.

3.2 Research Design

Research design is a plan that lead you to collect and analyse data in line with your research objectives, and hence indicates the approach you intend to use – inductive or deductive approach which are associated to qualitative or quantitative data respectively or both approaches, secondly, data collection methods and procedures and thirdly methods of data analysis.

The research strategy applied in this study is the case study design approach for conducting the study that exploits control over factors that could affect with the validity of the findings. This Design approach helps the researcher to plan and implement the study in a way that helps the researcher to obtain intended results, thus increasing the chances of obtaining information that can be associated with the real situation (Burns and Grove, 2001).

Several research designs are documented such as cross-sectional, case study, experimental and longitudinal, Bryman 2001.This study followed the principles and

guidelines of case study design, which is characterized, with the study of a single unit over a range of variable. The researcher proposes this study design because the focus is to explore factors that influence the increase of consumer goods prices triggered by increased maritime costs of goods passing Zanzibar port. Similarly this study design is easy to conduct in terms of cost and time.

Under this method, the selected unit could be studied intensively and the effort is to know the mutual inter – relationship of causal factor, Kothari 2006. That is to say the researcher understands underlying effect between the increasing costs of goods and the influencing factors such as port costs and ships waiting costs. Eventually, this study method has resulted in effective hypothesis along with data that has been expended in testing them and thus enables theoretical analysis to generalize them.

3.3 Study Area

The study has been conducted in Zanzibar port within the main city and only international entry point in shipping business for Zanzibar. However, Zanzibar port Corporation, which is public corporation running this port is stand alone as a directorate by itself which is a key player in overall research. While providing all shipping services to entire Zanzibar, it predominantly operates under very challenging situation where shipping lines claim that this port is the most expensive port in the region.

Zanzibar port serves also passenger ferry boats with daily scheduled routes from Dar es Salaam to Zanzibar and from Zanzibar to Pemba likewise its International imports from mainly Dubai, Far east and other countries worldwide. In this respect, the study has also collect data in Dar es salaam port and some prices of imported goods in Dar es Salaam.

3.4 Population of the study

The population is a collective or totality of all the objects, subjects or members that conform to a set of specifications, Polit & Hungler 1999, while the target population is the group of people that the researcher wants to draw a conclusion on, once the research study is finished. Targeted population of this study are shipping lines, Government authorities and shippers/importers and retailers who are benefactor of increased costs of goods in Zanzibar and the study population are all ship-owners, importers and retailers or other stakeholders including final consumer of imported goods who are paying additional maritime costs. In total the population size is about 20 ship-owners, Government authorities, over 100 importers and over 2000 retailers in Zanzibar.

3.5 Sampling Design and sample size

3.5.1 Sampling design

Sampling is the process of selecting a portion of the population to represent the entire population, LoBiondo-Wood & Haber 1999; Polit & Hungler 1999. This research has used simple random and purposive sampling technique to draw its respondent.

Purposive sampling, also known as judgmental, selective or subjective sampling, is a type of non-probability sampling technique which focuses on sampling techniques where the units that are investigated are based on the judgment of the researcher. The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which best enable you to answer your research questions. In this respect the study used this design to ensure that the research questions get correct answers from intended respondents, which has assisted in the study analysis and conclusion. The purposive sampling has been used for 7 respondents who are 5 ship-

owners as key informant, 2 Government authorities and the random sampling for the remaining 5 importers and 30 retailers.

An important benefit of simple random sampling is that it allows researchers to use statistical methods to analyze sample results. For example, given a simple random sample, researchers can use statistical methods to define a confidence interval around a sample mean. The study has used simple random design in order to utilize statistical tools in analyzing the data obtained.

3.5.2 Sample size

A sample size is the number of units in a population to be studied, and it is used in statistical measurements. In this study, the researcher selected 5 shipping lines (ship-owners), 2 Government authorities, 30 retailers and 5 shippers/importers from study population.

Table 3.1 : Constitution of sample size

Types of respondents	Number	Percent. %	Sampling design	Data collection tools
Ship-owners	5	12	Purposive sampling	Questionnaire and interview
Importers	5	12	Random sampling	Questionnaire and interview
Retailers	30	71	Random sampling	Questionnaire and interview
Government Authorities	2	5	Purposive	Questionnaire, document review, observation
Total	42	100		

3.6 Variables and measurement procedures

Sampling is the process of selecting a portion of the population to represent the entire population, Wood & Haber 1999; Polit & Hungler 1999. This research used purposive sampling technique to draw its respondent. The purposive sampling has been used for 5 shipping lines who are frequently calling Zanzibar port and two government authorities, ZPC/TPA and Ministry of Infrastructure and Communications. Random sampling has been used for 5 reputable importers in Zanzibar and 30 retailers from both Zanzibar and Dar es Salaam. The researcher has produced the names of all importers, ships and shipping lines and retailers selected.

3.7 Data Collection Methods

Data collection method is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypothesis, and evaluate outcomes, This study used primary data, obtained from the primary source which has been generated by the researcher. The researcher collected qualitative data by using three methods for data collection including interview to get information from 42 participants, questionnaire and observation from responsible authorities. The researcher used self-administered interview because it is cost effective and time efficient.

3.8 Data Collection Tools.

A case study is usually an in-depth description of a process, experience, or structure at a single institution, Stephanie October 2013. In order to answer a combination of ‘what’ and ‘why’ questions, case studies generally involve a mix of quantitative (i.e., surveys, usage statistics, etc.) and qualitative (i.e., interviews, focus groups, extant document

analysis, etc.) data collection techniques. This research used qualitative strategies to look deeper into the meaning of the trends identified in the numerical data. In-Depth Interviews include both individual interviews (e.g., one-on-one) as well as "group" interviews (including focus groups). Special interview has been conducted between ship-owners, importers and retail sellers by researcher.

Sometimes, the best way is to collect data through observation. This can be done directly or indirectly with the subject knowing or unaware that you are observing them. This has been applied in Zanzibar port where loading and unloading of cargo is conducted. Works in container loading has been observed to see how the discharge process is conducted.

3.9 Reliability and Validity of Data

Reliability is the degree to which an assessment tool produces stable and consistent results, Phelan and Wren 2006.Reliability is chiefly concerned with making sure the method of data gathering leads to consistent results. Assuring research can be replicated and can produce similar results is an important element of the scientific research method.Several sources of data has been used to identify the reliability of the data given including Zanzibar Ports Corporation tariff rates, Government statistic departments, shipping lines, reliable importers and small retailers.

Validity refers to how well a test measures what it is purported to measure, Phelan and Wren 2006. Research validity is measured in several ways; those evaluating research results should keep asking themselves whether their research data is measuring what it is supposed to measure. This study tested the validity of data prior to data collection by

first preparing the questionnaire and the interview questions and were sent to respondents to see if they can deliver the answers expected. Questionnaire and interview questions were properly answered and were seen to produce the answers expected and thus used in the data collection.

3.10 Data Processing and Analysis

Data analysis referred to the computation of certain measures along with searching for patterns of relationship that exist among data group, Kothari 2004. In this study both qualitative and quantitative data analysis has been applied. Qualitative approach has been used in factual and logical interpretation of data, while quantitative data applied for describing statistics such as tables, frequencies, charts, percentages and average in data presentation. Devices like calculators, computer software package like Excel has been used during data analysis process. These enhanced simplicity, clarity and easy presentation of findings and contribute to relevant recommendation.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter justifies the results obtained from the study aimed at analyzing the impact of increasing maritime costs on costs of goods imported into Zanzibar through Zanzibar port. This study answers the questions including what is the effect of increasing port charges to the cost of goods imported though port of Zanzibar? What is the influence of increasing freight rates on cost of goods imported? What are the effects of costs of ships waiting time in port on price of goods imported? And What are the effects of Clearing and insurance costs on overall price of goods imported?

The overall objective of the study is to analyze the impact of increasing Maritime costs on the price of imported goods, with specific attention on goods passing Zanzibar port and the specific objectives are to analyze the effect of increasing port charges to the price of goods imported though port of Zanzibar, to study the influence of increasing freight rates and its impact on price of goods imported, to analyze the impact of port surcharges particularly costs of ships waiting in port in overall price of goods imported and to evaluate the effect of clearing cost and insurance costs on price of goods imported through port of Zanzibar.

This study has analyzed all these questions and the result of which has been used to identify solutions that can be utilized by both Zanzibar port authorities and ship owners towards reducing the price of goods imported into Zanzibar.

4.2 Results

In calculating commodity costs structure or price components, transport cost is one of major element of the price of any commodity; additional increase in transport costs is directly related to the price of that particular commodity. The price of imported goods (CIF Price) comprises of FOB price plus freight charges, plus Port Surcharges, plus port handling costs plus clearing and Insurance costs. Findings of this study shows that many respondents explained the reality that the main cause of increasing price of goods imported through Zanzibar port is the increasing maritime transport costs including the most notorious one, the waiting time for ships to discharge cargo at port of Zanzibar. Analysis of this study put emphasis on increasing maritime costs in port of Zanzibar, which impacts the price of imported goods. Ship's waiting costs, Freight rates, stevedoring costs and insurance and clearing costs are the major elements that are seen to on increasing part in port of Zanzibar.

The study focused on discovering the influence of increasing maritime costs on price of goods imported into Zanzibar. The target population was5 shipping lines, 5 importers, 2 Government authorities and 30 retailers. However, the respondents were 5 shipping lines representing ship owners (100%), 3 importers (60%), 2 Government authorities (100%) and 30 retailers. The study population was generally all ship-owners, importers Government authorities and retailers and other stakeholders including final consumer of imported goods who are paying additional maritime costs.

Small Retailers in Zanzibar indicated their concern on increased prices of goods compared to prices of goods in Dar es Salaam and Mombasa. Some small retailers responded that they are now buying from Dar es Salaam importers rather than Zanzibar importers due to high price difference. The fact that goods prices in Dar es Salaam are

less than those in Zanzibar signifies the fact that this study can assist the entire population to understand the reason behind this increased prices and consequently utilize the outcome of this study to further find alternative solutions to reduce such burden to Zanzibar population at large.

4.2.1 The analysis of impact of maritime costs on price of imported goods through Zanzibar port.

As said earlier, CIF price of Imported goods = FOB price + Freight charges + port surges(ship's waiting times) + port costs + Insurance plus Clearing charges. This study will analyze the effect of ship's waiting charges, stevedoring costs which is sometimes included in freight charges, ports costs clearing and insurance costs.

4.2.1.1 Ships waiting Costs

For the purpose of this study, ships waiting cost will be used for container vessels only and has been used as the cost of time lost for ships kept waiting at anchorage area waiting to discharge goods in port. It has been calculated from ship's daily charter hire proportional to the time lost.

Table 4.1 : Table 4.1 Ships waiting costs

ship. company	**CMA CGM**		**MSC**		**Global shipping**		**UAFL**		**Average waiting time per call**		**% cost increase in zaz/teu**
Port	znz	dar	znz	dar	znz	dar	znz	dar	znz	dar	znz
waiting days/call	5	3	5	3	3	2	3	2	4	2.25	43.75%
daily hire rate (000)	$15	$15	$20	$20	$15	$15	$15	$15	$16.25	$16.25	
Containers	450	450	450	450	300	300	650	650	462	462	
cost increase per container	$67		$89		$50		70		$36		$62.9/container per call

Source: Ship-owners representative responses.(questionnaire and port tariff).

From the table 4.1 above, it shows that the average ships waiting time per call in Zanzibar is higher by 1.75 days compared to Dar es Salaam port. With average ships capacity of 462 containers for ships passing Zanzibar port, and average charter rate of $16250 per day, the average increase in waiting cost per container in Zanzibar port is 1.75 x $16250/462, which is approximately $61.5 per container per call higher in Zanzibar port compared to Dar port. With an average annual number of containers imported in Zanzibar approximately 55,000 TEUs in 2013, the total annual increase in ships waiting cost in Zanzibar port in 2013 is approximately USD 61.5 x 55,000 which is approximately $3.385 million. This cost is passed to importer or rather final consumer and is passed through increasing price of goods imported.

4.2.1.2 Stevedoring Costs.

Ships arrive in port for loading or discharging goods. Costs paid by ship-owners for these services are called stevedoring costs. They are normally charged as per tariff rates set by respective port. For the purpose of this study, analysis will concentrate on stevedoring costs associated with container only (TEU). The tariff rates applied in both ports are set in the table 3 below.

Table 4.2 Indicates that there is an increase of up to $46,5 per TEU discharged in Zanzibar compared to Dar es Salaam port on these stevedoring costs. If we take example of the same traffic of 2013, 55,000 TEU approximately USD 2.557 million annually paid by importers as extra cost to goods passing Zanzibar port. As explained in CIF price of imported goods, stevedoring cost is a direct component of transport costs and therefore increasing stevedoring costs impacts directly the price of goods imported through Zanzibar port.

Table 4.2 : Stevedoring cost. (Ship-owners account)

Ship-owners account	ZNZ port				Dar port			Difference			% cost Increase in znz
Stevedoring charges/per container	loading	discharging	zma charges	Shipping Charges	loading	unloading	other charges	loading	discharging	other charges	38% incr. ($46.5/ TEU)
	$50	$95	2.5	20	50	71	-	0	24	22.5	

Source: ZPC and TPA

4.2.1.3 Clearing charges

There are normally four types of charges paid by clearing agents. Wharfage charges paid to ports, shipping charges, agents fees and Customs fees on imported goods. As customs fees are not part of maritime costs, this study will not consider these costs in its analysis.

Wharfage Fees are set fees by port and are normally charged as per tariff rates issued by respective port. However, for comparison purposes between Zanzibar port and Dar port , table 4,3 below indicates the wharfage fees as per tariff issued byZPC and TPA ports.

Table 4.3 : Wharfage charges (shippers /importers account) Per TEU

Cost category	znz Port	Dar Port	Difference	%increase
Wharfage Charges	100	240	140	($140) less than dar port
Shore handling costs	50	-	50	$40 more than dar port
Stuffing costs	30	-	30	$30
Extra movement costs	8	-	8	$10

Source: ZPC and TPA tariff booklet.

Table 4.3above indicate that on wharfage charges, Zanzibar port charge less by an amount of up to $100 per TEU compared to Zanzibar port. However, there are

additional costs in Zanzibar port that are paid separately from wharfages charges but the same are inclusive in Dar es Salaam port. These costs are mainly extra movement costs $8 per TEU, stuffing and de-stuffing costs $30 per TEU approximately. If you consider these costs as part of wharfage costs, the difference is reduced to $62 per TEU higher in Dar es Salaam port.

Shipping charges are part of port costs and are paid by clearing agents on behalf of importer as shipping charges or delivery charges and are normally paid on each Bill of lading in Dar es Salaam port not in excess of $20 per Bill of lading. However, in Zanzibar port shipping charges are paid per container in excess of about $20 per container. For importers of 100 container as one consignment, he/she will pay only $20 dollars in shipping fees in Dar es salaam while the same importer if he/she passes his goods in Zanzibar port he/she will pay $2000. This extra cost is part of costs importer will pass to consumer as increased maritime costs.

Importers pays clearing Charges on negotiation basis with clearing agents. However, as indicated by importers, there is no significant difference between clearing fees in Dar port and Zanzibar port. So this cost does not have significant impact on increasing price of goods imported.

4.2.1.4 Freight Charges

These are charges for transporting goods from one place of origin to place of destination. For the purpose of this chapter, the freight considered is for transporting one TEU from Dubai destined to Zanzibar port and the same container to Dar es Salaam

port. Table 4.4 below indicates the freight rates charged by different shipping lines from Dubai to Zanzibar and Dar es Salaam.

Table 4.4 : Freight Charges per TEU (Port of origin Dubai).

cost /TEU (USD)	ZNZ port	Dar port	Difference	% Increase
CGM CMA	2000	1700	300	17.6%
MSC	2000	1700	300	17.6%
Global shipping	2000	1700	300	17.6%
UAFL	2000	1700	300	17.6%

Source: Questionnaire/interview with importers.

Recognizing the table 5 above, it can be noted that there is extra freight difference of $300 per TEU applied in Zanzibar on all shipping lines. The total amount of TEU passing Zanzibar port annually is on average of 55000 TEUs, (2013 statistics issued by ZPC). This increase in costs amounts an additional of USD $16.5 million annually. Additional freight charged by shipping lines is a cost to importers of goods. As said earlier, CIF price of Imported goods = FOB price + Freight charges + port surges(ship's waiting times) + port costs + Insurance plus Clearing charges, hence, any increase in freight charges will have direct impact on the CIF price of goods.

4.2.1.5 Price of Retail goods imported.

Data collected from retailers both in Dar es Salaam and Zanzibar on some selected goods shows that prices are the same, however, most of highly consumed goods are higher in prices in Zanzibar than in Dar es Salaam. Table 4.5 below shows these differences.

Table 4.5 : Retailers price of Goods

Type of goods	Prices		Difference	% increase on cost
	Dar (tsh)	ZNZ (tsh)		
air condition	1,200,000	1,250,000	50000	4%
trousers	7500	10000	2500	50%
Kids Garments	5000	7500	2500	50%
Bicycle	65,000	85,000	20000	31%

Source: Retailer in Zanzibar and Dar es salaam

Prices of kids garments and Trousers, which are seen to be high consuming goods, are highly priced in Zanzibar. These goods are imported from same countries and transported through same shipping lines by sea transport. The difference observed is the additional maritime transport costs charged to goods passing Zanzibar port. As elaborated earlier, CIF price of Imported goods = FOB price + Freight charges + port surges(ship's waiting times) + port costs + Insurance plus Clearing charges, increased surcharges results in an increased CIF price of goods imported.

4.2.1.6 Port Dues (rate for first five days) in USD $

For the purpose of this study, port dues considered in ports of Zanzibar and Dar es Salaam, are for the first five days which normally is charged in port tariff for ocean going vessels calling both two ports. For this particular cost, Dares Salaam port is higher priced than Zanzibar port. However, its significance in terms of its amount per call is less compared to other costs. Table 4.6below shows the port dues for Zanzibar port and Dar es Salaam port.

Table 4.6 : Port Dues

Cost type	Zanzibar port	Dar port	Difference	% increase
Port Dues per 100 GRT per call	10	13.4	3.4	34%

Source: ZPC and TPA tariff booklet

With vessels capacity calling both ports ranging between 15000grt to 25000grt, the ships port dues ranges between $150 to $250 per call. There is difference between Zanzibar port and Dar es Salaam port, however, this difference does not present a significant effect on price of goods.

4.2.2 Increased port Performance:

Port congestion is caused by high traffic in ports but also contributed by operational productivity in port. Operational productivity depends on the port handling facilities, equipment available and port operational space available for cargo handling purposes. Operational in efficiency in Zanzibar port contributes to ships delay in loading and

discharging of goods. Neighboring ports in East Africa demands highly effective port operational practices. Poor Port efficiency in Zanzibar port has resulted in increased ships waiting cost, which is a component of maritime transport costs. As discussed in previous chapters, any addition in transport cost results in ultimate increase in final price of goods.

4.3 Discussion of the findings.

The East Africa logistics Performance Survey2014 highlights the maritime transport costs of imports in East Africa. The survey shows that in analyzing Port charges, two main measures of port charges were used in the two East African Ports of Mombasa and Dar-es-Salaam. The most striking differential in port charges between the ports of Dar-es-Salaam and Mombasa is the fixed wharfage charges of USD 70 for a 20 foot container and USD $105 for a 40 foot container at Mombasa, while Dar-es-Salaam levies its wharfage charges as a percentage of the value of the cargo. Clearly the same is seen in comparing Dar salaam port and Zanzibar port as indicated in this study. However, the said survey of 2014 done does not justify the impact of these costs on final price of goods imported as analyzed in this study. Analysis made by Korinek & Sourdin 2009, in their study on maritime costs and their impact on trade suggested that maritime costs amounted to 6% ad valorem overall imported value, this study suggests that the extra surcharge or additional costs added to goods passing Zanzibar port is ranging between 1.5% to 5% depending on volume and price of goods.

Study done by Abeid 2009, “Can the transport sector development program deliver?” indicates that transport is one of the key factors that determine the price of goods. Empirical analysis shows that the contribution of maritime transport cost to the total

transport cost is to a large extent higher for imported goods. A clear analysis is shown in this study proves the same that an increase in maritime costs such as stevedoring costs and freight charges have impact the price of goods imported through Zanzibar port.(CIF price of Imported goods = Freight charges + port surges(ship's waiting times) + port costs + Insurance plus Clearing charges).

Naude and Matthee 2007 reveals that higher transport costs pose a significant barrier to development in Africa. This study findings illustrates the same by analyzing the additional of $3.385 million annually on waiting costs which is transferred to consumers through added price on goods. Like wise Soudin 2007 suggests that maritime transport costs are believed to have strong impact on trade. Soudin 2007 concludes that a 10% increase in maritime transport costs component is associated with a 6% to 8% decrease in trade, Observing the trends of trade in Zanzibar compared to Dar es Salaam, relatively, matching results has been realized in this study and Soudin study where retailers are now jumping to buy goods from Dar es Salaam rather than importing from abroad. However, the empirical analysis suggests effect on trade costs rather than price of goods.

The recent study done in Tanzania titled Tanzania – trade and transport facilitation audit by Meeuws, 2004, indicated that the good performance of the handling of the container terminal was accompanied by improved performance in the clearing of the containers in the port. The situation in Dar es salaam port got worse in the second semester of 2004 after the introduction of the destination Inspection making use of high tech scanning equipment replacing the Pre Shipment Inspection. Importers and their clearing agents complain that it takes two or even three weeks more to get a container cleared from the

port area than before the introduction of Destination Inspection. This observation has also been observed in Zanzibar port which again causes delay and hence increase clearing charges to goods imported.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In analyzing the consumer prices of imported goods transported through sea transport, maritime transport costs is among the major components of the final price of corresponding goods. Maritime transport costs is constituted among others the freight rates, costs of ships waiting time in ports, port dues, port handling charges including stevedoring charges, insurance and clearing charges. The fact that maritime transport costs are straight component of the final price of imported consumer goods, any increase in the maritime transports costs will impact the final price of particular goods transported.

Increasing maritime transport costs realized in the port of Zanzibar has a significant contribution to the increasing price of imported goods through this port. This study has done a thorough analysis of the impact of these increasing maritime transport costs on final price of consumer goods. The outcome of the study has given an absolute scrutiny of the reasons behind the increasing maritime transport costs happening Zanzibar port.

5.2 Summary of the main findings

This study entails the analysis of the impact of increasing maritime transport costs on the price of goods imported through Zanzibar port. Approach used in this study is the case study design where one single social unit is studied over range of variables. The study considered the price of goods imported as the independent variable over series of dependent variables including shipping freight rates, ships waiting costs, port handling

costs such as stevedoring costs and wharfage costs, port dues, insurance and clearing costs.

In conducting this study, total of 42 respondents were selected including two Government authorities, ship-owners, importers and shop retailers. The selection process was done through simple random and purposive sampling. Data collection process was conducted through structured questionnaire and interview, besides documentary review used as a means of adding up the empirical data. Data analysis guided the results presented in tables and percentages (qualitative and quantitative).

In computing the price of goods imported, transport costs has direct link to the price of that quantified goods. This study explored the said linkage between maritime transport costs and its impact on price of goods transported. In its analysis, the study compared maritime transport costs of goods passing Zanzibar port and those costs experienced by same shipping lines calling neighboring ports such as Dar es Salaam. Findings of the study demonstrates that many respondents rationalized the reality that the increasing price of goods imported through Zanzibar port is due to the increasing maritime transport costs. These costs includes the cost of waiting time for ships to discharge cargo at port of Zanzibar, port dues, port handling costs including stevedoring costs, freight charges, insurance and clearing costs.

5.3 Implications of the findings

Freight rates increases for goods' passing through port of Zanzibar is a result of freight surcharges imposed by ship-owners. In deed, ships waiting costs is a result ofpoor port operation and poor handling facilities in Zanzibar port. Other cost areas which has been

analyzed including, port dues, wharfage charges, insurance and clearing costs have little, if any, weight on the increasing price of imported goods through Zanzibar port. The final outcome of the analysis reveals that any additional costs on the cost elements of maritime transport explored increases the final price of goods through port of Zanzibar.

This study indicates that there is annual increase of maritime transport costs amounting to approximately USD $16.5 million on freight rates on goods imported through Zanzibar compared to other neighboring ports. Like wise, stevedoring costs has shown an increase of up to $46,5 per TEU discharged in Zanzibar compared to Dar es Salaam port. This represents approximately USD $2.557 million annually paid by importers as extra cost to goods passing Zanzibar port with an average of 55,000 TEUs passing Zanzibar port. This increase impacts the additional price of goods imported through Zanzibar.

5.4 Conclusion

The findings of this study reveal that there is a direct relationship between the price of goods imported through port of Zanzibar and the increased maritime transport costs related to these goods. This fact is based on the data and analysis made in this study whichspecifies that an annual increase of about USD $16.5million on freight rates to imports through Zanzibar port has a significant impact on price of goods. In deed, costs of ships waiting to discharge and stevedoring costs, which reflects the increased freight rates has an annual increase of $3.385 million and $2.557 million respectively taking the 2013 port throughput.

In conclusion, if issues of ship's waiting time and stevedoring operations are improved or rather port operations done efficiently and port handling equipment and procedures one effectively, properly addressed and timely taken care of, the port of Zanzibar could lower maritime transport costs and reduce the final price of imported goods.

5.5 Recommendations

This study advocates that the most important part that needs urgent action is the port operation improvements to upgrade its efficiency. Particular attention should be given to port handling facilities and operational procedures and port planning.

In deed, the study recommends that in its long term planning, Government of Zanzibar should contemplate an alternative solution of investing on new port to counter the problem of increasing volume of cargo through port of Zanzibar.

5.6 Limitations of the study

Data collected and analyzed in this study were limited to maritime transport costs areas of ship's waiting time, freight charges, stevedoring charges, port dues, insurance and clearing costs. Other maritime transports costs data were not considered due to unavailability of data.

Freight rates data were taken on 2013 data as base. Fluctuations during that year were not considered for analysis purposes. However, observation shows that there is less difference in its fluctuations and hence ineffective.

Capacity of ships given by shipping lines is limited to specific capacities given. Practical observation shows that shipping lines keep on changing vessels capacity depending on demand and available cargo on specific voyage.

Limited information was obtained from insurance agents and clearing agents. Most agents keep their data as confidential and hence the researcher was forced to use his experience and know how by expressing the request of insuring and clearing expected incoming cargo.

Importers of goods were reluctant to reveal the real figures of fright rates negotiated suspecting that researcher is working for one of their competitor.

5.7 Suggested areas for further studies

Additional to the investment opportunities that can be utilized, Port of Zanzibar should consider to further study on how to utilize the queuing theory in serving ships arriving and departing port of Zanzibar. This study should concentrate on frequency of arriving vessels and the volume of cargo in and out of Zanzibar port.

New port Investment needs a detailed study that must be conducted to evaluate the return on investment on new port. In deed, the size and market analysis must be thoroughly analyzed to ensure correct decisions are made. Care should be taken on the competition with neighboring ports, however, Zanzibar Government should take advantage on the Zanzibar island's strategic location in shipping business and reconsider of investing on hub port for the entire region.

REFERENCES

Alderton, P. M, (2005), Port Management and Operations, Senior Lecturer at World Maritime University, Malmo, Sweden. Associate Professor of Economics Purdue University.

Cubas , D. & Bofinger, H. C. (2015), An efficiency and Performance Assessment, OECS Ports, Transport and ICT Global Practice Group, World Bank Group. USA.

Dan, S. & De-Willie, (1981), Investment in port systems (a case study of Nigerian Ports). Published in Journal of Transport economics and Policy . London school ISSN 0022 – 5258 2DB ID 2193012. United Kingdom.

Drewry Publication 2015, *Multipurpose Shipping Market Review and Forecaster*, Quarterly,1st Quarter No. 03 – 05.

Disdier, A. & Head, K. (2004), "The Puzzling Persistence of the distance effect on bilateral trade," University of Milano, Italy.

Evans, C. & Harriga, J. (2003), "Distance, time, and specialization," American Economic Review, International Finance Discussion Papers 766, Board of Governors of the Federal Reserve System (U.S.A).

Fazal, A. J (2015) Clearing & forwarding agent – Thailand.

Funget, C. (2001), Impact of terminal handling charges on overall shipping charges. Transportation Research Part A.37(2003). Department of Business Studies. Hong Kong Polytechnic University. China.

Goss, K. U. (1967), Investment in Ports Systems, Journal of Transport Economics and policy London school , United Kingdom.

Harrigan, J. & Venables, T. (2004), "Timeliness, trade and agglomeration," LSE Research Online Documents on Economics, 2300, London School of

Economics and Political Science, LSE Library. London. UK.

Harrigan, J. (2005). "Airplanes and Comparative Advantage," NBER-Working Papers11688, National Bureau of Economic Research, Inc. USA.

Heggie, I. G, (1974), Charging for Port Facilities, *Journal of Transport Economics and Policy* Vol. 8, No. 1, pp. 3-25.

Hilling, D. (1996), Transport and developing countries. Psychology Press, 1996 - Science - 345 pages

Hoggle , I. G, (1974), Charging for port Facilities, Director of the Oxford University, Transport Studies, , United Kingdom.

Hummels, D. (2007), Transportation Costs and International Trade Over Time, Associate Professor of Economics, Purdue University, USA.

Hummels, D. (1999), "Have International Transportation Costs Declined", University of West Indiana, USA.

Hummels, D. & Ishii, Y. (2006), Transportation Costs. Department of Economics, Krannert School of Management, Purdue University, West Lafayette, USA.

Kothari, C. R. (2004), Research Metodology, Methods & Techniques, Second Edition,. New Delhi: New Age International publisher, **2004**, PP. 1-2.

Korinek, J. (2011), "Clarifying trade costs in maritime transport". Organisation for Economic Co-operation and Development. Working Party of the Trade Committee, Paper No. TAD/TC/WP(2008)10/FINAL

Korinek, J. & Sourdin, P. (2010), "Clarifying Trade Costs: Maritime Transport and Its Effect on Agricultural Trade," Applied Economic Perspectives and Policy, Agricultural and Applied Economics Association, vol. 32(3), USA.

Korinek, J. & Sourdin, P., (2009), "Clarifying Trade Costs: Maritime Transport and its Effect on Agricultural Trade," *OECD Trade Policy Papers 92, OECD Publishing, USA*.

Limão, N. & Venables, A. J, (2011), Transport costs and International Trade.World Bank studies. Oxford Journals, social sciences. World bank Economic Review Vol. 15.issue 3.

Michael K. F., Leonard K. C., and Larry, D. Q. (2001), The impact of terminal handling charges on overall shipping charges, Department of Business Studies, Hong Kong Polytechnic University, Hung Hom, Kowloon, The Hong Kong SAR, China . Department of Economics, Hong Kong University of Science and Technology, Clearwater Bay Road, Kowloon, The Hong Kong SAR, China

Naudé, P. & Matthee, M. (2007), The Significance of Transport Costs in Africa, Senior Research Fellow at WIDER, Helsinki, Finland and Marianne Matthee 2007, lecturer in economics at North-West University (Potchefstroom Campus).

Radelet, S. & Sachs, J. (2003), Economic growth in Asia. Harvard Institute for International Development. Harvard Institute for International Development.

Research paper on Transportation Business & management: port performance and strategy, Vol. 8. Oct 2013

Rodrigues, J. & Notteboon, T., (2005), The Economic Importance of Transportation, Hofstra University New York. USA.

United nations Conference on trade and development 2004: *UNCTAD* Review of maritime Transport. Paper no. UNCTAD/RTM/2004.

United Nations Conference on Trade and Development, Resource paper on Port Performance Indicators Ref. TD/B/C.4/131/sup.1/Rev.

World bank Group Paper on Transport and ICT, January 2015, research working Paper no. 7162

APPENDICES

QUESTIONNAIRE

PART A: IMPORTERS

1. Type of staff imported

(1) General cargo ( )

(2) specialized products ( )

2. Size of imports

(1) Below I container ( )

(2) 1-5 container ( )

(3) 6 – 10 containers ( )

(4) Above 10 containers ( )

3. Country of origin of imports

(1) Far East ( )

(2) Middle East ( )

(3) Europe ( )

(4) Africa ( )

(5) USA ( )

4. Port of destination

(1) Zanzibar ( )

(2) Dar es salaam ( )

5. For how long have you been working as importer? ……

6. What do you understand about Port Surcharges?

……

7. Can you say anything on Maritime costs?

……

8. How do you feel importing goods into Zanzibar compared to other ports in East Africa?

……

9. What is the freight, Insurance, Port handling and clearing costs charged per container

Country of	Freight Destination		Insurance cost		Port handling costs		Clearing Costs	
Origin	znz	Dar	znz	dar	znz	Dar	znz	Dar
South Africa,								
Middle East,								
Far East,								
Europe								
USA.								

Comments:……

10. Do you import to Dar essalaam too. if yes why there is difference in freight.

……..

11. Do you pay for any other additional costs ? Yes ( ) No ( )

If Yes, name those costs…….....

PART B: SHIP OWNERS/SHIPPING LINES

(i) Type of ships

1. Container lines ( ) (2) General cargo ships ( )

2. Number of calls per month

(i) once every month ( )

(ii) 2-5 times ( )

(iii) above 5 times a month ( )

3. what is the average capacity of your vessels calling Zanzibar port. (GRT & DWT)

…….....

4. What are the main ports of loading?

…….....

5. What are the main challenges your ships face when calling/arriving in Zanzibar port.....

6. How long your ship has to wait in port anchorage area before getting berth.

……

7. How much is your charter hire per day for vessels with capacity like yours

…….....

8. How do you compensate your time lost to your vessel waiting in port.

……

9. Do you get complains from your customers/importers on freight charged.

(1) Yes ( ) (2) No ( )

If yes, on what

……

10. How long your vessel takes to discharge/load 50 containers.

…….....

11. What is the average ship's turn round time in Zanzibar port.

…….....

PART C: PORT CORPORATION AND TPA

1. What kind of equipment used for loading and unloading ships

(i) ……
(ii) ……
(iii)……
(iv)……
(v) ……

2. What is the average breaking time for these equipment during operation.

……

……

3. What is the average waiting time for ships in port before getting service of loading or discharging

…….....

……

4. What is the crane productivity of container handling (moves per hour)

……

5. What is overall dwell time of imported container.

…….....

Do you have Port tariff?

Yes…….. No……

PART D: RETAIL SHOPS IN ZANZIBAR.

What are the prices of goods in Zanzibar

(i) Toyota Carina saloon car tsh……

(ii) 1 ton Air condition…….

(iii) 40’ SAMSUNG TV set Tsh…….

(iv) one trouser tsh……..

(v) Kids garments Tsh. ……..

(vi) Panasonic Electric fan tsh. ……..

(vii) Home utensils tsh……..

(viii) Bicycle tsh…….

PART E: Retail Shops in Dar essalaam.

What are the prices of goods in Zanzibar

(i) Toyota Carina saloon car tsh……

(ii) 1 ton Air condition…….

(iii) 40’ SAMSUNG TV set Tsh…….

(iv) one trouser tsh……..

(v) Kids garments Tsh. ……..

(vi) Panasonic Electric fan tsh. ……..

(vii) Home utensils tsh……..

(viii) Bicycle tsh…….