



Strategies for Reducing Demurrage at the Douala Container Terminals (RTC Terminal) during Importation

Mundu Valentine Atud ^a, Okon Roland Njuma ^a,
Abonwi Chenea Takwa ^{b*} and Robinson Manjenpo Tenu ^c

^a Paris University of International Education, France.

^b Pan African Institute for Development West Africa, Cameroon.

^c HIPDET University, Cameroon.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJEBA/2023/v23i231169

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/108771>

Original Research Article

Received: 10/09/2023

Accepted: 17/11/2023

Published: 21/11/2023

ABSTRACT

COVID-19 diverse methods and procedures of different port actors are some of the reasons for increasing demurrage for containerized goods. Demurrage is the additional charges levied by the maritime carrier on the users of its equipment (container) after the container passes the normal time in the seaport, which is 11 days in Cameroon (Douala). This study aims to investigate the main causes of increasing demurrage at the Douala container terminal and recommend strategies to reduce the increasing demurrage at the port RTC terminal (Container terminal management or Regie du Terminal a Conteneurs). This study uses a target population of 700 actors selected using a stratified random techniques in different fields linked to the international logistics chain and the Douala port in particular. Moreover a total of 490 participants responded to the questionnaire distributed to them. Descriptive statistics such as table and pie chart were used to analyze the data collected during the research. Findings demonstrated that the activities of the different actors

*Corresponding author: E-mail: takwaabonwicheana@yahoo.com;

involved in the logistics chain, namely the customs administrators, customs brokers, importers, shipping line exporters, PAD (Douala Autonomous Port) and other actors such as Society General de Surveillance (SGS), Cameroon Customs Information System (CAMCIS) and RTC Terminal are the main causes of the increased demurrage at the Douala port. The study recommends, amongst others, eliminating public holidays and weekends by shipping line when counting the demurrage days at the Douala port. Also we recommend that, the demurrage days should only start when the manifest is visible to all the actors, which is not the case. Equally, the government should impose the demurrage charge on the actors, which are the principal cause of demurrage at the port. It should be noted that with the implementation of the above recommendations by the different actors, demurrage will reduce in the Douala port and many African countries.

Keywords: Demurrage; terminal; dematerialization; camcis; dwell charge; detention.

1. INTRODUCTION

Demurrage charges are essential tools for the shipping line to ensure efficient use of their container stock, representing a substantial investment to them. Due to this, the shipping line must turn their empty equipment as fast as possible to stay to their benefit [1]. This means that the users of the equipment or container who stay longer should be discouraged from this practice since it goes with extra charges known as abusive charges (demurrage). Demurrage inflicted by the maritime shipping line is for three reasons: compensation of the shipping line for using its containers, encouraging merchants to return the containers as soon as possible for the shipping line to reuse them. The objective is to have a fast turnaround and, finally, reduce port congestion by putting limited free days of stay in the port [2].

However, in every port in the world, including the Douala port, the shipping line always provides a free time known as a franchise in which importers must pick up containers in the port within the period or else demurrage will be charged (imposed) on this shipment. Recently, there has been increasing demurrage for containerized goods at the Douala International Terminal due to the activities of the diverse actors in the logistics chain and the port, which will be discussed below. However, the demurrage issue at the Douala port is not caused by a single actor or player but by the contribution of all the parties involved in the logistics chain in general and the Douala port in particular. These actors range from the port authority, the customs administrators, the licensed customs broker, the SGS, the consignee, the shipping line, the shipper and other actors [3].

The demurrage at the Douala port has been in constant increase all these past years due to diverse reasons, with one principal reason being

the new CAMCIS system, the financial strength of the consignee, the COVID 19, the activities of the licensed customs broker and many other factors. The demurrage at the Douala port has dramatically impacted not only the importer but also the general actors as well as the nation of Cameroon and the neighbouring countries who depend on the Douala port for their survival. These impacts may include congestion at the Douala port as a whole due to delay of the containerised goods at the port, leading to port inefficiency, increase in the final cost of clearance on the importers (consignee) which will automatically lead to an increase in the prices of imported items; delay in the delivery of goods to neighbouring countries which depend on the Douala port for its survival; difficulties of the ship (goods) berthing at the port because containers block the terminal (RTC terminal) etc.

As seen above, the increase in demurrage has led to consequences not only for the importers but also for the port of Douala, the container terminal (RTC) and the economy of Cameroon as well as the sub-region like Central African Republic and Chad. It should be noted that the main reason or aim for this research is to investigate the leading causes of demurrage at the Douala port to bring in some proposed solution to this issue, which is affecting the efficiency of the port and the economy of Cameroon and its sub-region.

Therefore, this article presents the increasing demurrage rate at the Douala port caused by the different actors or parties in the logistics chain who align with the Douala port. However, some strategies have been proposed in this article which can assist in reducing the increasing demurrage at the port. Therefore, we call on the parties involved in the different activities in the Douala port to study and implement the propositions to improve the port activities.

1.1 Research Questions

1. *What are the main causes of increasing demurrage during importation at the Douala Port?*
2. *What strategies should the different actors or parties implement to reduce the cost of demurrage at the Douala Port?*

1.2 Research Objectives

1. *To demonstrate the causes of increasing demurrage at the Douala port during importation*
2. *To investigate the strategies the different actors can implement to reduce the cost of Demurrage at the Douala Port.?*

2. LITERATURE REVIEW

This section of the paper reviews the concepts and theories used in this study. Demurrage is a word which has been used by different actors depending on the agreement with the maritime Carrier. For the charterer, demurrage is not the same as for the importer case. For the charterer, demurrage is the ship owner's additional charges when the charterer passes the time stipulated in the charter party contract. On the other hand, for the importer, demurrage is additional or abusive charges imposed by the shipping line on its equipment (container) users after it passes the average time in the port, 11 days in the Douala container terminal [4].

This means that Demurrage for the charterer results from a failure to abide by the rules agreed to in a charter agreement. Specifically, it is when a charge is payable to the owner of a chartered ship due to failure to load or discharge the ship within an agreed period. There are many 'free' days for importers and exporters to get goods in and out of ports and the logistics involved [4]. On the other hand, detention, on its part, is a situation where a container that is discharged from the vessel is taken from the port to the customer's premises and offloaded; the empty container (also referred to as empties) has to be returned to the port from where it has been picked up or to the empty container depot. Failure to bring the container back to the depot means the consignee or its representative will be charged detention, and in the Douala port, it is after 48 hours [5]. This means detention is the additional charge imposed on empty containers not returned to the container depot or in the port on time after unloading goods at the consignee warehouse.

Dwell time is the period a container spends at the terminal before being loaded on the vessel or the amount of time spent by containers after being unloaded from the vessel. The longer the container stays in the yard, the more difficult it becomes to locate. As such, it increases the dwell time, resulting in a storage charge or dwell fee [6]. This means that container Dwell time is a shipping term that primarily refers to the amount of time a container spends at a facility like a terminal or port between when it's unloaded from one form of transport and moved out of the facility. The issue of dwell comes into play in container shipping, so it's primarily associated with intermodal and ocean freight. The longer the cargo is stuck in the port, the more it becomes costly to the consignee since charges are levied by the terminal operator (dwell fee) and the port as a whole since it reduces the work efficiency of the Douala port.

Demurrage can be level on a ship, container or any other equipment owned by the shipping line if only the goods (equipment) bypass the average time in the Douala port. Notwithstanding, demurrage is a charge that should be eliminated at all costs to increase the benefits to the importers and the efficiency of the Douala container terminal. According to many authors, including this research paper [6], with the putting in place of this piece of research regarding the Douala container terminal, many changes will occur regarding the reduction of demurrage and efficiency of the Douala terminal.

The word demurrage originates from an old French word 'demurer meaning to be late' (delay) and was about the vessel chattering. By extension, demurrage refers to the charges that the charterer pays to ship owners for all delayed operations during the loading and unloading of the vessel during the charter party contract [7]. In short, demurrage is a form of liquidated charges for breaching the lay times; it is stated in the contract governing the two parties (charter party) [8].

In recent years, Demurrage at the Douala container terminal has seen a great increase, and this is due to diverse factors. This demurrage has resulted in congestion, poor port efficiency and delays in the Douala port for containerised goods [7]. The free day is fixed at the Douala International terminal for 11 days. After this, all containerized goods which do not benefit from additional free time (franchise) are bound to pay additional charges known as Demurrage. This extra charge will depend on

some criteria such as the size of the container (20' or 40'), the type of container (refer to the dry van or flat top) and the duration in the terminal (number of days). However, some importers agree with the shipping line for additional free days (franchise, which may be 14 or 21 days). The additional days demanded by the consignee are to reduce the demurrage rate at the Douala port [4].

Demurrage activities are made up of two stages, increasing as the stages change and as time passes the container at the terminal. Demurrage charges daily at the Douala port are 11.600 franc +VAT for 40 containers and 5.800 FRS + VAT per day for a 20-foot dry bulk container. For the referred container, it is 35.000 FRS +VAT France for 20 per day and 75000+ VAT franc per day for a 40-foot container (Fazi & KJ, 2018). The causes of demurrage come from diverse sources, particularly from the different actors in the chain, such as the shipping line, customs broker, shipper, importer, customs administrator, and port authority, as well as the different bodies involved in the logistics chain such as SGS (society General de Surveillance) and CNCC (Cameroon National Shippers Council). Despite the cause of demurrage by the different actors, the consequences, such as financial increase, always fall on the importer alone, who is not the sole cause of these charges [9].

Therefore, in summary, the word demurrage is defined as the additional charges level by the maritime shipping line on the users of its equipment after it bypasses its average time (free time) in the port during import or export [10].

The demurrage is charged for the fact that the goods occupy the container after a free time given by the shipping line. Demurrage days differ from one port to another and from country to country, depending on the policies. It should be noted that there are port-free days and line-free days [10]. The port-free days are the total number of days given by the port authority and the shipping line where the goods can stay in the port without any additional charge. In the Douala port, the total number of days is 11 days; the 11th day is already on demurrage (looking normal, there are 10 days free). It should be noted that the amount for demurrage depends on issues such as the type of containers, be it refer container or dry bulk, the size of the container, be it 20 feet or 40 feet, and the duration in the port [11].

In Cameroon and Douala, in particular, the referred containers stay just two free days in the port, and the third day is already on demurrage, costing 75000 FRS per day for the 40 feet and 35000 frs for 20 feet [12]. This is accounted for because it takes much energy to maintain the condition of the goods in the referred container. As such, the port authority always increases the charges to discourage the stay of this container at the terminal. On the other hand, the dry bulk containers stay in the port with a free day of 11 days frank after which the goods are on demurrage. In this case, 20 feet costs 5800, and 40 feet cost 11 600 without the VAT (Value Added Tax). The demurrages charge in the port area of two stages after the free time given by the shipping line: the first stage, which starts from the 11th day to the 21 days and the second stage, from the 21 days to 90 days [8].

The Cameroon customs law in 2015 article 273 in the customs code states that "containers that have spent 90 days and above in the Douala container terminal need to be on auction to the general public in the port. In the port of Douala, many actors are involved in different activities which lead to demurrage; these actors or parties may include the shipping line, the customs administration, the customs broker, the shipper, the consignee, the port authority and other organs like the CNCC (Cameroon National Shippers Council) and the SGS. All the above actors play one or two roles in contributing to demurrage in the port of Douala.

This study seeks to provide lasting solutions to numerous causes of demurrage in the Douala port. This demurrage led to some devastating effects, namely congestion in Douala port as a whole, port inefficiency, additional cost on the consignee and slow logistics activities in the hinterland [3].

2.1 Cause of Demurrage by the Different Actors

Demurrages are additional or abusive charges levied by the shipping line on the users of its equipment when it bypasses the normal days known as a franchise. The demurrage days in the port of Douala start when the goods spend 11 days in the port. There are many causes of demurrage at the Douala port due to activities of the different actors who are in the logistics chain and the Douala port in particular; these actors or parties may include the consignee, the shipper, the customs broker, the customs administrator,

the government of Cameroon; maritime shipping line and other factors as well as natural factors [13]. In this section, we are presenting the activities of the different actors and how they contribute to demurrage at the port in one way or the other. Each of these actors contributed to demurrage at different degrees or magnitudes, as can be discussed below.

2.1.1 Causes of demurrage by consignee

Firstly, the Insufficient or lack of finance by importers: Insufficient or lack of Finance is one of the principal issues that caused importer to allow their containers in the Douala port for long, resulting to abusive charges such as demurrage and storage charges [3]. Most importers in Cameroon are working on borrow or loan bases in which they depend on banks or financial institutions to finance their outing or customs clearing procedure of goods from the port. At times, the goods arrive when the bank cannot give out loan to the importer, as such cause the goods to stay in the port resulting in demurrage. In addition, the importers sometimes lack sufficient finance to pay the supplier for the imported goods so that the supplier can release the original BL to them, leading to delays in the customs procedure and demurrage [4].

Secondly, late release of shipment at destination: In international trade, the original bill of lading is sometimes represented by a telex release order in which the shipper gives an order to the shipping line to release cargo at the destination port. At this time, this telex release order is released late. This may be due to late payment of the shipper charges for the purchase of goods or late payment of maritime freight (maritime transport). As such, this will cost the cargo to stay in the port, leading to demurrage [14]. The shipping line holds the cargo without any telex release order to the consignee because they have not yet received payment as agreed in the INCOTERM (International Commercial Terms).

Also, there are delays because the consignee or its representative cannot be reached or contacted: At times, the containers will arrive at the port, and there is no way to inform the importer or consignee, possibly due to connection issues or out network [4]. There are many instances of cargo abandoned in the port for a very long time because the consignee is unreachable and, in the end, leads to enormous demurrage or, at times, the sale of the goods to auction sale.

In addition to that, there is a delay due to the late reception of documents by the consignee: In international trade, many documents are required for the clearance of goods in the port, such as bills of lading, certificates of origin, packing lists, commercial invoices, Electronic Cargo Tracking Notes (ECTN), etc. These documents might not arrive at the receiver in time. These issues normally happen because Shippers sometimes plan the documentary processes and wait until the last minute to gather all these documents [15]. In addition, Delays from the shipping line in issuing the bill of lading to the Shipper for various reasons are another cause of late pick up of goods at the port. Other reasons for late documents reception, which may lead to demurrage, include system problems or technical faults, customs-cleared export documents or port documents not received from the Shipper at origin, container load confirmations not received from the port, the shipping line has not yet received freight monies paid by the customer, Delays at the nominated bank (for financial transactions); all these accounts for increasing demurrage at the Douala port [4].

2.1.2 Causes of demurrage by customs administrators

Cameroon customs have one objective for facilitating the customs procedure with rapid pick up, but this is not the case nowadays. There are many activities carried out by the customs which encourage the increased demurrage at the Douala port.

Delay in liquidation by the customs officer: Liquidation, which means accepting the customs declaration by the coted inspector to pay customs duty, is problematic at the port and takes longer than usual. With the putting in place of a dematerialisation system known as CAMCIS, it was clear that the liquidation process would not take up to 30 minutes; however, this is not the case, as said during the theory phase [16]. The coted inspector may take about a day or more to liquidate a file as such, increasing or leading to demurrage at the Douala port.

Also, the change of Customs Platform: Following the change of the Cameroon customs platform in 2018 from Sydonia to CAMCIS (Cameroon Customs Information System), it has led to severe devastation and increased financial costs to most importers. The transfer from Sydonia to CAMCIS was delayed since it was a

new system that the actors needed to learn before implementing the procedure [16]. This significantly delayed the customs procedures, especially for goods validated with the old system. The deadline for the new system came in when the goods were still in the port. They needed to transfer from the Sydonia system to CAMCIS, which took some days, leading to the demurrage of many containerised goods at the Douala port.

In Cameroon, the customs procedure is complicated since one of their principal functions is the collection of duties and taxes during import and export, which are significant contributors to state revenues [17]. The efficiency of customs clearance in ports is monitored with more focus on revenue collection performance. However, there needs to be more awareness of the importance of customs clearance time efficiency to facilitate international trade. Theoretically, the time to perform import clearance formalities starts much before the containership arrives, and it is not strictly related to cargo dwell time. This means that in the port of Douala, more attention has been paid to collecting customs duties and taxes while almost forgetting the port's efficiency, leading to demurrage. In addition, the demurrage in the Douala port is caused by base movement (technical fault) and lack of scanning image to the coted inspector. Without the scanning image of the goods to visualise what is in the container, the container cannot go out of the port, leading to a demurrage of containerised goods. In addition, the issue of base movement blocks the goods in the port, leading to demurrage.

In addition, demurrage in the port of Douala is caused by the customs' physical visit of containerised goods. At this time, Cameroon customs will block a declaration and instruct a customs official to physically inspect the container. However, these customs visits may be caused by the customs administrator's non-satisfaction with the value declared by the customs broker, invisibility of the scanning image and suspect of prohibited imported goods. The physical visit by the customs takes much longer, increasing the demurrage of goods in the port [18].

2.1.3 Cause of demurrage by the shipping line

Shipping lines such as Maersk line, COSCO PIL (Pacific International Line), and CMA CGM, the main actors in the logistics chain, also play a more significant role in the port of Douala for an

increase of demurrage. The maritime carrier carried out many activities, which resulted in an increase in demurrage at the port.

Late issues of delivery order by the shipping line at the destination port: It should be noted that the delivery order is one of the most important documents issued by the shipping line to the consignee or its representatives, which permits the delivery of goods to the consignee [19]. The delivery order is a legal document issued by the shipping line, which gives authority to the broker or representative of the consignee to pick up the goods at the port. The delivery order is issued by the shipping line only after the consignee has paid all the invoices and bills or its representative and the presentation of original documents such as BL, Electronic Cargo tracking note (ECTN), and other documents like the power of Attorney. Sometimes, the shipping line only accepts the documents for the demand of delivery orders with a notification to the customs broker in charge of the documentation. This may be due to the irregularity of the document, or some of the documents are unclear, creating delays in delivery orders, hence the increase of demurrage.

Appropriate information from shipping line: The different shipping lines involved in maritime transport, such as Maersk, Safmarine CMA CGM, Nile Dutch, MSC and COSCO, do not give appropriate information to the importer on the arrival of their goods [17]. At times, the notice of arrival sent by the Maersk line arrives at the consignee only after the goods have been in the port for some days. The shipping line needs to call the importer at least two days before the goods arrive at the port to keep them informed, or they can constantly send them the tracking information about the ETA of the goods. This enables them to prepare to pick up the goods from the port before they enter demurrage [19]. Therefore, inappropriate or insufficient information from the shipping line leads to demurrage.

In addition, the shipping line can create a data platform to which the importer is connected so that he will have explicit knowledge of the container's ETA (Estimated Time of Arrival) [4]. For example, containers sit in port yards because the consignee is unaware of their arrival. Most consignees use their ocean carriers' estimated arrival time at the destination port as their guideline for notifying the broker to pick up the container; if the estimated time presented by the

shipping line is the fault, then the importer will be bound to pay demurrage. The Ocean carrier ETAs are sometimes known to be inaccurate since they change constantly. If the arrival time falls on the early side of the ETA, the container could be sitting in the yard for a week, waiting for pick up as such demurrage on goods [20].

Moreover, disagreement between the carrier and the receiver is another cause for demurrage at the Douala port. In international commerce at times, the carrier and the receiver may disagree on specific aspects such as the extra hinterland charges; BAF (Bunker Adjustment Factor), such as change in fuel prices, which may affect the general freight rate; congestion charges, which are usually inflicted by the shipping line. In addition to that, they can also disagree on the incoterm; they agree on the origin. This disagreement can come in only when containers have arrived at the port and are stocked at the terminal for a long, hence increasing demurrage.

Technical issue with the shipping line: There are many complications at the shipping line with the technical problems faced by the shipping line, which hinder their activities and result in late delivery of containers and an increase in demurrage at the port. The new CAMCIS system put in place by the Cameroon customs is another issue for the shipping line since the time manifest is not visible in their system on time [19]. Shipping companies such as Maersk, Saf Marine, Delmas, PIL, Nil Dutch and COSCO often delay issuing the delivery order due to the absence of the telex release order; Bichou & Gray, (2018).

The telex release order is a document which replaces the original BL during the pick-up of goods at the shipping line. The release of shipment can be delayed because the shipper or importers have not paid the freight at the level of the shipping line and also in case the importers still need to complete the shipper or seller money in the international transaction [21].

2.1.4 Causes of demurrage by customs broker

The Cameroon customs code defines the licensed customs broker as any natural or legal person mandated by the state and professionally engaged in completing the customs formalities about the declaration of goods on behalf of other persons (consignee). The customs broker contributed in a diverse form concerning demurrage at the Douala port.

Customs clearance delays: The delay of customs clearance can be caused in two ways: the unprofessionalism of the licensed customs brokers and the activities of the customs officials. The customs broker may carry on its activities of customs clearance with delay, which may, in turn, affect the pick-up of goods in the port [22]. On the same line, the customs brokers sometimes give poor estimations to the consignee who cannot pick up the goods with the amount given to the consignee. This led to a confrontation between the licensed customs broker and the consignee, as such, delay and lead to demurrage. On the other hand, the customs official may block the outing of a given container by prescribing a visit or demanding an increase in value or false declaration by the customs brokers, making the goods stay in the port above the expected time, leading to demurrage at the container terminal [22].

Moreover, unprofessionalism of the Customs Broker: The customs brokerage activity requires much professional know-how to meet the competitive nature of the job [23]. In Cameroon, this sector is not well organised since anyone with any education level can find himself or herself there. This makes the sector less professional, leading to mistakes that block importers' goods at the port. The unprofessional nature of these actors involved in the activities leads to demurrage in which the importer bears the consequences [22]. In addition to that, this sector is characterised by division among the syndicate or pressure groups that govern this body. As such, any individual can do all sorts of dirty jobs which affect the customs clearance procedure, leading to demurrage.

Wrong estimation of imported goods: At times, the customs broker may give a wrong estimate to take out goods from the port, which may result in a dispute between the consignee and the broker, leading to a delay in the pickup of the goods from the port, resulting to demurrage [23].

In addition, mistakes and delays in document preparation may result in late pick up of goods by the customs broker at the port. At times, the customs broker may delay the preparation of the documents to obtain the import declaration or the RVC on time, causing the goods to stay in the port for a long time after their arrival date, which leads to demurrage of goods at Douala port.

2.1.5 Causes of demurrage by other actors

Moreover, delays due to incorrect or incomplete documentation: The customs procedure and international trade comprise 15-18 documents used during the customs procedure. These documents must be studied and mastered well to avoid making mistakes during the procedure [24]. At times, the supplier will channel wrong or incomplete documents to SGS for evaluation, which SGS may reject and result in a delay of the RVC report (Valuation and Classification report) and such delay in the pickup of goods in the port as demurrage. In some cases, documents such as DI (import declaration) must be amended before resending to the SGS platform, which requires time.

The change of the SGS platform this year, 2023, is another cause of demurrage at the Douala port. SGS Cameroon is working with a trade work system, but they are migrating to a new E-trade platform, making things difficult for the protagonist. The report (RVC), one of the principal documents for the pickup of goods in the port, was challenging to issue due to the change in this platform. As such, many goods were blocked in the port, leading to demurrage.

Delay by SGS to issue RVC report: the RVC, known as Report for Valuation Classification, is one essential document which the customs broker cannot pick up new goods in the port unless it follows with a fine. The SGS are the principal protagonist who issues these documents. At times, SGS take a very long time to treat and issue these documents, resulting in the blockage of goods in the port and demurrage [24].

Government policy put in place: Each country has its system of government and policies to guide customs activities [25]. The policy put in place by the Cameroon government led to the demurrage of containerised goods in the Douala port. This is common with the increase in customs duty and taxes, which occurred in the port on 04/06/2022, which caused many importers to stop the finance of the clearance of their goods from the port, leading to a high demurrage rate in June 2022. This increase was abrupt without any information to the importer for them to prepare financially [23]. The state needs to keep informing the importer for some time before implementing the increase to prepare them. In addition to that, the change of the customs platform from SYDONIA to CAMCIS

was also another cause of demurrage at the Douala port since it was difficult to migrate from the old system to the new one, especially for goods which were declared immediately after the change occurred. In addition, holidays, which are implemented by the state, are also one principal cause of demurrage at the port of Douala. Holidays are always counted when counting the demurrage days at the port of Douala, making things more difficult for the port users.

However, there needed to be more equipment at RTC: The Douala international terminal received many containers for import and export. The different equipment, such as the reach stoker and gantry crane, are always occupied [25]. This equipment is unavailable or occupied with other activities in the port. Even with the putting or purchasing of new equipment by RTC, such as the 2eco-efficiency kone crane Gottwald mobile crane in 2021 and the six mobile harbour crane, they believe that it will solve the problem of container manipulation at the terminal. Some trucks enter the port on time to load goods, but lack of loading equipment and indiscriminate loading lead to pick-up delays, resulting in demurrage in the port.

In the international logistics chain, the supplier is one of the principal actors contributing to demurrage at the Douala port because they may poorly manipulate the documents used in the procedure or delay transmitting documents. A clear example can be seen when a supplier intern sent the original documents to the consignee in Cameroon, but he sent them to India. As such, these documents must move to India and back to China before being sent to Cameroon. This wasted time and demurrage at the Port [23].

In the same light, at times, the supplier may need to send the correct document to SGS, which SGS will reject the documents, and this will take a longer time to produce the report as such an extended stay of goods in the port of Douala. Due to this, the demurrage invoices are often addressed to the importer for payment of the charges. As such, there is usually an increase in supplier charges due to demurrage in the port [8].

2.2 Consequences of Demurrage

The extra charge known as demurrage at the Douala port is caused by the activities of the diverse protagonists involved in the international

logistics chain, particularly the Douala port. Demurrage significantly impacts or has consequences on the actors in the chain, particularly the importer, the general public, the neighbouring countries, and the port of Douala [24].

One of the principal consequences of demurrage on the Douala port is that it leads to congestion and inefficiency of the different activities at the port. With many containers at the terminal, it takes abnormal time to pick up. This will lead to congestion and inefficiency since container ships cannot unload the containers they arrived with. Also, the equipment used to load and manipulate containers must be fixed.

Importers or the consignees are the principal actors who bear the consequences of the demurrage in the Douala port. On the consignee, it leads to additional abusive charges, which are being paid before the goods can be taken out. This charge increase will automatically lead to an increase in their product prices in the market. In addition, the consignee may lose many customers due to this demurrage since many will keep waiting for the arrival of the goods, and with time, they may lose patience [22].

Another negative impact or consequence of Demurrage is that it reduces the capability of the importer since much finance is being spent on the extra charges for no benefit. This will weaken the consignee financially and, as such, reduce the number of containers to importers at a given time.

Demurrage in the Douala port has led to an increase of congestion at container deep seaports, and shortage of capacity has led inland transport systems worldwide to rely more and more on inland terminals and on the use of high-capacity modes of transport to generate economies of scale and reduce adverse effects of trucking. In this setting, planning the transport of maritime containers between a deep seaport such as Douala Port and a final inland destination must also consider due dates and soft time windows, the latter known as Demurrage. Demurrage at the Douala port devastates the port authority of Douala and the different parties involved in the logistics chain, such as the shipping line, customs broker, shipper, importer and the neighbouring countries [20].

However, demurrage has a significant impact on the economy of Cameroon in general. This is

because as the demurrage is inflicted on the importers or the consignee during the customs procedure, it increases the cost of clearance and total changes for importation. As such, the total selling price of the products is being increased to meet the purchasing cost. This will lead to increased prices of goods in the market, reducing the population's well-being [22].

For the inland countries such as the Central African Republic and Chad, the demurrage has delayed the reception of goods in these countries, resulting in the break of the logistics chain. However, even though the demurrage at the Douala port is hurting the parties, it is evident that the shipping line benefits from this since they received money from the importer for this extra charge as compensation. On the same line with the impact on the shipping line, many ships cannot berth at their post or berthing point because containers are still in the terminal, leading to demurrage on charter party contracts [25].

In addition to that, a critical consequence of demurrage is the abandonment of maritime transportation to other means of transport, such as rail, trucking and other modes to run away from the aspect of demurrage. This has led to difficulties in maritime carry since many customers are gradually using another transport mode.

One crucial positive consequence is the benefit the shipping line obtains from the demurrage charges levied on the users of its equipment—only the shipping line benefits from this demurrage issue at the Douala port.

3. METHODOLOGY

This study employs the explanatory research design, demonstrating the increasing demurrage rate compared to the past years' cost. The quantitative research method is used for data collection and analysis. A stratified random sampling technique was used in data collection with a sample size of 700 people selected randomly from the actors who are linked to the international logistics chain and the Douala port in particular. Here, the different groups were classified in their respective domain, and each case participant was selected randomly for the presentation of the questionnaire and interview. Hence, 700 participants were selected randomly from the different parties involved in the port activities. Data sources are mostly surveys on

the field in the domain of the different actors. In this case, 170 questionnaires were presented to the shipping line (CMA CGM, Maersk line and Pacific international line PIL), 100 questionnaires to CMA CGM, 40 questionnaires to Maersk line and 30 to PIL. One hundred thirty questionnaires were distributed to the different custom administrators, 100 questionnaires to the importers, 30 to the exporters, 200 to the customs brokers, 50 to the port authority (PAD) and 20 to the CNCC.

This sums up to 700 targeted people in the different activities sectors linked to the port of Douala. It should be noted that only 490 questionnaires came back filled by the different actors. At the same time, 210 were unfilled by the actors, giving a response rate of 70%.

4. DATA PRESENTATION AND ANALYSIS OF FINDINGS

In this section of the article, different data are presented about diverse activities leading to demurrage at the Douala port with analyses of the findings. The shipping line inflicts demurrage at the Douala container terminal on the users of its equipment after it passes the free days in the port. In the Douala port, this free day is 11 days for dry bulk containers during import and three days for reefer containers during import. The amount of demurrage paid for each will depend on criteria such as the container size (20 feet; 40 feet), the type of container (dry bulk and reefer) and the duration in the port. When the 11 days for dry bulk containers or three days for reefer containers pass the shipping line, impose the

demurrage on the importer until the date the goods will be cleared, loaded on the truck and left the port for deliverance. Demurrage is inflicted on the user of containers at the Douala port, even on public holidays and weekends, which is not the case with dwell charges [24].

However, importers or their representatives sometimes demand a franchise for an additional day of their goods in the port. Sometimes, the shipping line will give about 14 days or 21 days, depending on the volume imported by the consignee.

The amount paid for demurrage by the importer has two different stages depending on the duration of the goods in the port. From day 1 to day 10, it is demurrage-free. From day 11 to day 20 is the first stage, and from day 21 and above is the second stage, the double of the first stage [21].

4.1 Distribution of Respondents

Table 1 illustrates the questionnaires distributed to the different actors or parties involved in the international logistics chain and the customs procedure at the Douala port, which are the principal causes of demurrage. It brings out the point of view of these actors about the principal cause of demurrage. Seven hundred questionnaires were distributed to the different protagonists, with a total positive response of 490. At the same time, 210 have yet to respond, making a total percentage, while 30% never responded to the questionnaires.

Table 1. Identification of respondents

Actors or parties	Questionnaires	Total responses	Percentage responded
Shipping line CMA	100	90	90%
Shipping line Maersk	40	30	75%
Shipping line PIL	30	20	66.6 %
Other Parties			
Customs administrators	130	120	92.3 %
Importers	100	80	80 %
Exporter	30	20	66.6 %
Customs broker	200	100	50 %
Port Authority	50	20	40 %
CNCC	20	10	50 %
TOTAL	700	490	70%

Source: Field Work, 2023

4.2 Different Actors and their Contribution to Demurrage at the Douala Port

Table 2. Different actors and their contribution to demurrage at the douala port

Actors	Reason for long stay	Duration	Percentage	Cumulative Percentage	Remark
Customs	Delay in the manifest; the difference in point of view; blockage by customs	10 days	25%	25%	High contribution to demurrage
Brokers	Unprofessionalism; poor estimate	4 days	20%	45%	Low contribution to demurrage
consignee	Insufficient finance	20 days	35%	80%	Very high contribution to demurrage
PAD	Lack of equipment	2 days	5%	85%	Low contribution
Shipper	Error in documentation	5 days	10%	95%	Average contribution
government	Change of policy: light failure, holidays	2 days	5%	100%	Low contribution

Source: field survey 2022

Table 2 above shows the different actors involved in the logistic chain and the port of Douala, particularly with their contribution (percentage and number of days) to demurrage at the port. The parties include the customs officials, customs brokers, importers or consignees, PAD, shipper or consignor and the government of Cameroon. The above result is thanks to the responses to the questionnaire by the different actors in the logistics chain and the Douala port in particular. Looking at the table above, it is clear that the consignee or the importer is at the top when it concerns the actors who cause demurrage in the port of Douala (35%), followed by the customs administrator due to its diverse activities, such as late manifest; lack of scanning image of container and base movements (25%). The third party is the licence customs broker, who contributed

(20%) of the demurrage contribution. On the same line, the PAD (Douala Autonomous Port), shipper, and the government contributed (5%, 10% and 5%), respectively. To conclude, the consignee at the top of the table regarding the contribution of demurrage at the Douala port may be due to financial difficulties during the customs procedure.

Undoubtedly, the increasing demurrage rate at the Douala port is caused by the activities of the diverse actors, as stated above. These may include the customs broker, customs administrators, the shipping line, the shipper, the consignee, the state of Cameroon and other actors such as CNCC, SGS, and PAD who carry on one activity or the other, leading to demurrage at the Douala port.

4.3 Increase of Demurrage in the Port of Douala from 2018 to 2022

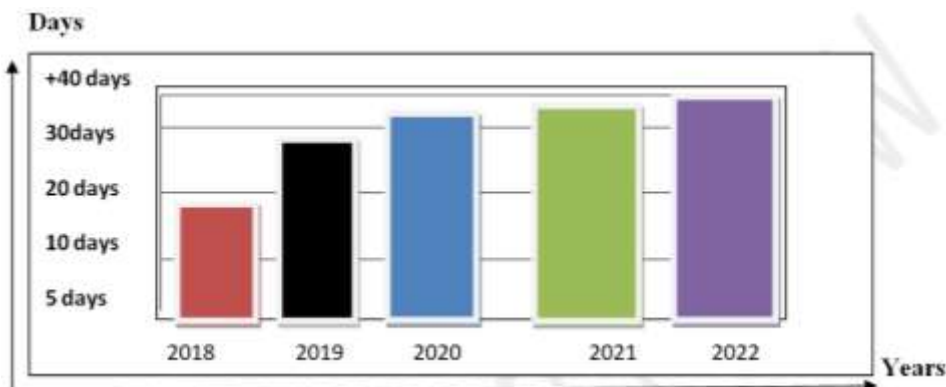


Fig. 1. Increase of demurrage in the Port of Douala from 2018 to 2022

Source: Field Survey, 2022

Fig. 1 above shows the increase of demurrage in the Douala port from 2018 to 2022 cause by the different actors. It should be noted that this result is from the responses from the different actors involve in the chain during this period. From their responses, demurrage has been a constant increase at the Douala terminal from 2018 to 2022 due to diverse reasons. Looking at Table 1 above, it is noticeable that since 2018, with the coming of the CAMCIS system and the emergence of COVID-19 19, there has been a tremendous increase in the demurrage rate, ranging from 5 days to 40 days and above. The table above shows that since 2018, there has been a constant increase in demurrage at the Douala terminal. In 2018, the number of days to pick up a container in the port was about 18 days, about eight days of demurrage; in 2019, the number of days the shipment stayed in the port was 28 days, about 18 days of demurrage. In addition 2020, there was still an increase in the number of days goods stay at the Douala container terminal. In this case of 2020, the container stays in the port for about 35 days or more, given a total demurrage day of 25 days. In 2021 and 2022, the number of days increased to 38 and 40 days and above, respectively, with total demurrage days of 28 and 30 at the Douala port. The above statistics show that the demurrage in the Douala port has increased since 2018 due to diverse reasons, which will be discussed below.

4.4 Number of Container Handles Kept at the Terminal and on Demurrage from 2019 to 2022

Table 3, which came from responses from the actor (terminal operator), shows an increase in

Table 3. Number of container handles kept at the terminal and on demurrage from 2019 to 2022

Different years	2019	2020	2021	2022
No of TC (containers) handle	13,020	13,763	14,230	14,800
No TC (containers) at the terminal	7,195	6,907	8,150	10,300
No of TC (containers) on demurrage	2,300	3,400	4,200	5,200

Source: RTC terminal 2022 statistics

Table 4. Increasing demurrage; case of customs broker firms 2017 to 2022

Years	No of declarations	No of containers	No of TC(containers) on demurrage
2017	306	450	150
2018	380	506	175
2019	410	610	205
2020	508	716	212
2021	560	750	312
2022	615	808	405

Source: Field Work, 2022

three dimensions: the total number of containers handled, the total containers at the terminal and the total containers on demurrage from 2019 to 2022. In 2019, 13,020 containers were handled, 7195 containers were stocked at the terminal, and 2300 containers were on demurrage (47%). In 2020, 13,763 containers were unloaded; 6907 containers were kept at the terminal, while 3400 containers were on demurrage (49.5%). In the same light, in 2021, 14,230 containers were unloaded, 8,150 were kept at the terminal, and 4.200 containers were on demurrage (55%). In 2022, 14,800 containers were unloaded, 10,300 were kept at the terminal, and 5,200 containers were on demurrage (61%). This shows that there has been a steady increase of containers on demurrage from 2019 to 2022, as seen in the table and explanation below.

4.5 Increasing Demurrage; Case of Customs Broker Firms 2017 to 2022

Table 4 shows activities by customs broker firms to pick up goods at the Douala port for different clients. From the look of things in Table 4, there has been an increase in the number of containers on demurrage declared by customs brokers since 2017. In 2017, the number of containers on demurrage was lower and increased with time.

The Table 4 shows the activities of a licensed customs broker company from 2017 to 2022. In this case, it presents the total number of declarations each year, the total number of containers delivered and the number of containers on demurrage. As seen in 2017, the licensed broker did 306 declarations and 450 containers delivered to the consignee, out of

whom about 150 containers were on demurrage before pick up. In 2018, there was an increase of 380 declarations; 506 containers were out, with 175 containers on demurrage. In 2019, this company carried a total declaration of 410, with 610 containers delivered to diverse clients and 205 containers on demurrage. In addition 2020, this customs broker's firm declared 508 declarations; 716 containers were delivered, and 212 containers were on demurrage before delivery. In 2021, there was an increase in all instances; this company declared 560 750 containers. Finally, in 2022, 615 declarations were made, with 808 containers delivered and 405 containers on demurrage before delivery.

4.6 Different Actors and their Level of Demurrage Cost in Terms of Percentage at the Douala Port

The findings in Table 5 reveal that the different actors involved in the logistics chain linking to the Douala port resulted in different magnitudes or degrees of demurrage caused by the different actors. This means demurrage at the Douala port

is caused by the different actors working there, such as the customs administrator, the customs broker, the importers, the port authority, the state and other protagonists like SGS and CNCC. It should be noted that from verifications and findings, each actor led to demurrage at a different magnitude or gravity, as seen in Table 5. Therefore, each of these actors or parties contributes in one way to encourage demurrage in the port of Douala. Amongst the parties, the one who tops the table is the importer, with 35% greater effect, followed by the customs administrators with 25% and customs brokers with 20%. All indications show that the importers are the key actors contributing to demurrage, while the customs administrators and the licensed customs brokers also contribute to this extra charge.

In addition, Table 5 shows that public holidays account for demurrage since these days are always counted as demurrage days even though they are non-working days and goods cannot be picked up from the port.

Table 5. Different actors and their level of demurrage cost in terms of percentage at the douala port

Protagonist	Percentage Of Demurrage	Effect (Great Or Less)	RANK
Customs broker	25%	Greater	2
Customs administrators	20%	Great	3
Port Authority	5 %	Lesser	4
Importers	35%	Greater	1
Exporters	5%	Less	4
Public holidays	5%	Lesser	4
Shipping line	5%	Less	4

Source: Field Work, 2022

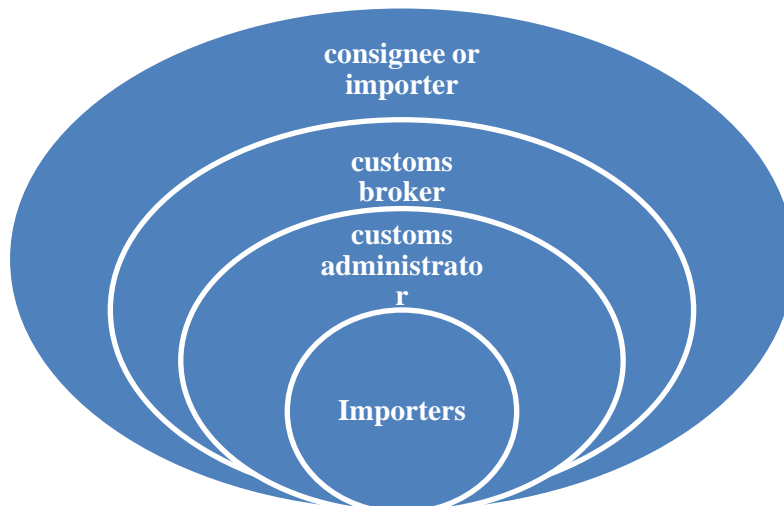


Fig. 2. The main actors of demurrage

Source: Field survey, 2022

Table 6. Summary of actors and their role in demurrage

Actors	Activities which lead to demurrage
Shipper	<ul style="list-style-type: none"> ❖ inexperience in their duties ❖ delay in documentation ❖ slow in their procedure ❖ difficulties in mastering the new platform exporter portal
Importers	<ul style="list-style-type: none"> ❖ insufficient finance ❖ delay by banks to finance their activities ❖ late documentation presentation
Customs brokers	<ul style="list-style-type: none"> ❖ unprofessional of most broker ❖ lack of organisation ❖ slow in customs procedure ❖ error or mistake by brokers ❖ wrong estimate presentation
Customs administrators	<ul style="list-style-type: none"> ❖ Late manifest ❖ Prescription of visit ❖ Lack of container image ❖ Base movement at the port ❖ The technical fault of the new customs system ❖ Suspicious of image ❖ Delay in liquidation ❖
Shipping line	<ul style="list-style-type: none"> ❖ Technical issue ❖ Disagreement between the carrier and consignee ❖ Inappropriate information ❖ Late issue of delivery order
Government	<p>Government policy like</p> <ul style="list-style-type: none"> ❖ public holidays ❖ change of customs platform ❖ increase in customs duty ❖ the putting in place of a new system without practical training for all actors
Port authority	<ul style="list-style-type: none"> ❖ Insufficient equipment for handling
Other actors	<ul style="list-style-type: none"> ❖ SGS lateness in issue RVC ❖ Change of platform ❖ Error and wrong evolution of RVC ❖ CNCC

Fig. 2 shows the principal actors contributing to demurrage at the Douala port. We know all the other actors play different roles to contribute to increasing demurrage at the Douala port. Still, the diagram above presents the four main actors in charge of demurrage to a greater extent. From our finding, the importer top the list, followed by the licensed customs broker, later the customs administrator and finally the shipper. About 80% of demurrage at the port is caused by these four actors.

Table 6 summarises the role played by the different actors leading to increased demurrage at the port of Douala. All the actors contributed to demurrage in the port in one way or another but are not of the same magnitude.

Therefore, demurrage is caused by all the different actors above but not of the same degree at the port of Douala.

5. CONCLUSION

Demurrage, one crucial abusive charge that significantly affects international commerce activities in general and the Douala port in particular, has increased in Douala in recent years. Our findings showed that since 2018, there has been a drastic increase in demurrage at the Douala terminal for containerised goods, as indicated in Table 2 (particularly between 2018 and 2020). Table 2 also indicates an increase in demurrage from 2019 until 2022 at the Douala terminal.

Findings demonstrate many reasons for this increasing demurrage at the port of Douala; however, some principal aspects lead to the demurrage, such as COVID-19, which emerged in 2019 with its devastating effects of preventing movement and contact of humans. However, today, COVID-19 does not exist, but still, demurrage is at an increasing rate. This means the increase in demurrage at the Douala port is due to different factors, such as the introduction of the new customs system known as CAMCIS implemented in 2018 and the activities of SGS and PAD. In addition, the importers, the customs brokers and the customs administrators are the principal actors contributing to this increasing demurrage at the Douala port, as shown in the table above. Table 2 also justifies the percentage of demurrage contributed by the different actors involved in the logistics chain and the Douala port.

Our findings showed that the impacts of this demurrage are mainly on the importer, who is usually the bearer of the increased charge of demurrage, even if they are not the author—also, the congestion of the Douala port and its inefficiency impact on demurrage activities.

6. RECOMMENDATIONS

To solve this issue of increasing demurrage at the Douala port, recommendations are made that need to be implemented by the entire parties in charge of the activities in the port. These recommendations may include eliminating public holidays, which are added as demurrage days; demurrage days only start the day the manifest is in the CAMCIS system; increasing the franchise on the consignee, warehouse visits for goods block in the port and many others.

The study's main findings comprise elements related to the Douala situation and other African ports. Cargo dwell time in the port of Douala for containerised imports is very significant since it determines the importer's or consignee's demurrage. An aggregate analysis shows that cargo dwell time exceeds 40 days for a substantial proportion of traffic, and average dwell time has been consistently about 25 days in the last five years due to many factors linked to the actors involved in the logistics chain. From a customs clearance standpoint, the two main contributors to long dwell times are the time between ship arrival, the putting in place of the manifest in the new CAMCIS system and lodging of declaration on one hand, and the time

between payment of customs dues and gate exit on the other hand.

Due to recent reforms, the payment of customs dues and the physical submission of documents are time efficient today in Douala. However, the recent reform of the new customs system has been one of the principal causes of demurrage at the Douala port today. Hence, the study recommends that there should be a distinction between operational dwell time (physical operations), transactional dwell time (customs clearance) and discretionary dwell time (storage). Data consistently show that operational (2-3 days) and transactional (2-4 days) dwell times are relatively limited and predictable in Douala, which seems to imply that most of the dwell time can be attributed to « discretionary ». It should be noted that the delay of goods in the Douala port is caused by diverse factors and actors involved in the chain, such as the customs administrator, customs broker, PAD, shipper, shipping line, SGS and consignee. The demurrage leads to diverse consequences for the port, particularly the Cameroon population as a whole, the importer and the neighbouring countries which use the Douala port as a hub. Due to the increased demurrage at the RTC terminal and its negative effect on Cameroonians' port efficiency and economic life, we must bring in some proposed strategies to overcome this situation at the port.

The shipping line should have a customer service in charge of calling or mailing the importer when the goods arrive at the port to ensure the container stays at the Douala terminal. Also, the tracking system implemented by the shipping line should be accurate in informing the consignee of the actual arrival date of the goods at the Douala port so as not to create confusion in which, at times, the tracking systems show that the goods will arrive in a later date of which they are already in the port.

Also, weekends and public holidays should be excluded when counting the number of days goods are in the ports of Douala. These are non-working days, and the consignee must refrain from performing any magic to take out goods from the port during these days. As such, the shipping line should eliminate the weekends and public holidays. Besides that, the starting count for the day the goods arrive at the port should begin when the manifest is put in the CAMCIS system and not when goods have been unloaded in the port and kept in the terminal. We also

encourage the RTC terminal to purchase more handling equipment to facilitate the loading and unloading of containerised goods.

In addition, the shipping line needs to accord more franchises (free days) to the importers to have more days of their goods in the port to reduce the demurrage on the imported containerised goods. In the same light, shipping companies should reward consignees who pick up their goods in the port rapidly to encourage others to pick up goods at the port.

One important role played by the customs for the increase of demurrage is the delay in putting in place manifest after the arrival of goods. This study proposes that customs collaborate with the shipping line to increase the free days or franchise of containerised goods from 11 days to about 15 days at the Douala port, not to penalise the importer for crimes they have not committed. It should be noted that as soon the goods are unloaded from the ship, the shipping line starts counting the days the goods arrive at the port, even if the customs have yet to introduce the manifest in the customs system. It should be noted that the absence of visibility of manifest accounts for about 60% of demurrage in the Douala container terminal. As such, this needs to be looked upon.

Moreover, technical fault in the Camcis systems is also another essential factor for demurrage at the Douala port; we propose that in terms of technical problem of the maintenance of the Camcis system, the customs should work in collaboration with the shipping line to cancel all the days during which the CAMCIS system does not function. On the same line, if they regulate the technical issue, they must ensure all the parties are at their post-work on non-working days like Saturdays and Sundays to meet up with the days they have lost to reduce demurrage.

Furthermore, to reduce demurrage at the Douala port by the Cameroon customs, this study proposes that for goods having issues in the port during customs procedure related to the image, poor declaration or non-respect of the value by the customs brokers, the customs are recommended to prescribe home visit of such goods so that it should not stay at the port causing demurrage on the importer which lead to additional charges.

Regarding the Cameroon government, the study recommends that the state stand as a neutral

body and impose demurrage on each actor who causes the delay of pick up in the port during the customs procedure. For example, the delay in putting in place the manifest to be visible in the CAMCIS system and technical issues should be attributed to the customs; the delay in issuing the SGS report (RVC) should be attributed to the customs; the delay in issue of the delivery order should be attributed to the shipping line, and finally, the delay of issuing of the customs quittance should be attributed to the PAD. In addition, the absence of equipment to unload or load goods on the means of transport, which resulted in demurrage, should be attributed to the PAD. This means the state should verify and ensure that all the actors causing a delay of goods in the port should be punished.

The customs brokers are recommended to implement the Right Technology in helping the actors keep track of essential documents, which will achieve supply chain visibility through real-time container tracking, leveraging the right technological solutions which can help optimise activities in the supply chain and limit demurrage and detention fees in a variety of different ways. The accurate preparation of the different import documentation on time allows the broker to carry on its activities without delay, such as rapid pickup and delivery of goods to the consignee on time.

Moreover, the errors committed by the customs brokers during the customs procedure for the pickup of containerised goods should be attributed to something other than the importer or the consignee. The brokers commit many errors, such as wrong documentation, the late payment of invoices or poor declaration, which leads to delays in the procedure. As such, they allocate them to the importer to pay the extra demurrage charges.

In addition to that, we also propose that the shipper or the importer should go into negotiation with the shipping line on the number of free days in which the goods can stay in the port without the payment of any demurrage (franchise). As mentioned earlier, ports and shipping lines will provide a window for pickup after the cargo has been discharged from the vessel before any demurrage fees are assessed. However, it is possible to negotiate ahead of time for a longer "free time" window (14 days, 21 days or even more). In addition to negotiating for a longer window to pick up cargo, the importers should

negotiate for a lower fee or reduction of demurrage with the shipping line.

In the same light, the SGS are one party who contributed to demurrage in the port of Douala because they did not issue the RVC report (valuation and Classification Report) on time. This was very clear in August and September 2023, when the SGS were changing their platform, leading to many issues in the port since containers could not be picked up on time. We recommend that in cases like this, the SGS can issue a manual evaluation to eliminate customs demurrage and can rapidly validate the file without the presentation of RVC (Valuation and Classification Report).

It should be noted that the importers are the principal actors who bear about 98% of these additional charges, even in cases where they are not the cause of demurrage at the port. We propose that for the importer to reduce the demurrage at the port, they should prepare their finance for customs clearance even before importation to avoid a financial crisis which may cause goods to stay in the port for so long.

CONSENT

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Oyatoye EO, Adebisi SO, Okoyee JC, Amole BB. Application of Queueing Theory to port congestion problem in Nigeria; 2011.
2. Khaslavskaya A, Roso V. Outcome-driven supply chain perspective on dry ports. *Sustainability*. 2019;11(5):1492.
3. Engel U, Zinecker H, Mattheis F, Dietze A, Plötze T. (Eds.). *The new politics of regionalism: Perspectives from Africa, Latin America and Asia-Pacific*. Taylor & Francis; 2016.
4. Aminatou M, Jaqi Y, Okyere S. Evaluating the impact of long cargo dwell time on port performance: An evaluation model of Douala International Terminal in Cameroon. *Archives of Transport*. 2018; 46.
5. Refas S, Cantens T. Why Does cargo spend weeks in African ports? The case of Douala, Cameroon. *The Case of Douala, Cameroon* (February 1, 2011). World Bank Policy Research Working Paper. 2011; 5565.
6. Awah PC, Nam H, Kim S. Short-term forecast of container throughput: New variables application for the Port of Douala. *Journal of Marine Science and Engineering*. 2021;9(7):720.
7. Ewamer A, Menyhárt J. Long Container Dwell Time at Sea port Terminals: An Investigation Study from a Consignee Perspective.
8. Christiansen M, Fagerholt K, Nygreen B, Ronen D. Ship routing and scheduling in the new millennium. *European Journal of Operational Research*. 2013;228(3):467-483.
9. Fazi S, Roodbergen KJ. Effects of demurrage and detention regimes on dry-port-based inland container transport. *Transportation Research Part C: Emerging Technologies*. 2018;89:1-18.
10. Yuen KF, Thai VV. Service quality and customer satisfaction in liner shipping. *International Journal of Quality and Service Sciences*. 2015;7(2/3):170-183.
11. Chinedum O. Port congestion determinants and impacts on five African ports' logistics and supply chain network. *Journal of Sustainable Development of Transport and Logistics*. 2018;3(1(4)):70-82.
12. Mutendera C. A systems-based comparative assessment of corridor bottlenecks: the case of Beira Corridor; 2022.
13. Onokala PC, Olajide CJ. Problems and challenges facing the Nigerian transportation system which affect their contribution to the economic development of the country in the 21st century. *Transportation Research Procedia*. 2020;48:2945-2962.
14. Ndikom O, Theophilus CN, Olusegun Buhari S, Okeke Okechukwu K. An appraisal of demurrage policies and charges of maritime operators in Nigerian seaport terminals: The shipping industry and economic implications. *NAŠE MORE: Znanstveni časopis za more i Pomorstvo*. 2017;64(3):90-99.
15. Amico C, Cigolini R. Improving port supply chain through blockchain-based bills of lading: A quantitative approach and a case

- study. *Maritime Economics & Logistics*. 2023;1-31.
16. Haasis HD, Hapsatou. Digital transformation of maritime supply chains focusing on ocean shipping, Port Management, and Hinterland Connection. In *Diginomics Research Perspectives: The Role of Digitalization in Business and Society*. Cham: Springer International Publishing. 2022;173-184.
 17. Diang TK, Tiafack O, Padison N. Dynamics of Maritime Trade along the Fako Coastal Belt of Cameroon: Ambiance, Challenges and Sustainable Combat Strategies. *Saudi J. Humanities Soc Sci*. 2022;7(7):313-323.
 18. Diang TK. An Assessment of Maritime Transport Facilities along the Fako Coastal Belt of Cameroon.
 19. Ako E. Impact of Proper Cargo-Handling on the Growth of the Douala Sea Port. *Journal of World Economy*. 2023;2(2):20-32.
 20. Balletto G, Borruso G, Campisi T. Not only waterfront. The Port-City relations between peripheries and inner harbours. In *International Conference on Computational Science and Its Applications*. Cham: Springer International Publishing. 2022, July;196-208.
 21. Pannala RPK, Bhanu Prakash N, sMogha SK. Efficiency measurement at major ports of India during the Years 2013–14 to 2018–19: A Comparison of Results Obtained from DEA Model and DEA with Shannon Entropy Technique. In *Soft Computing for Problem Solving: Proceedings of the SocProS 2022*. Singapore: Springer Nature Singapore. 2023;603-614.
 22. Cullinane K, Khanna M. Economies of scale in large container ships, *Journal of Transport Economics and Policy*. 2015; 33(2):185-207.
 23. Deng P, Song L, Xiao R, Huang C. Evaluation of logistics and port connectivity in the Yangtze River Economic Belt of China. *Transport Policy*. 2022;126:249-267.
 24. De Borger B, De Bruyne D. Port activities; hinterland congestion and optimal government policy. The role of vertical integration in the logistics operation. *Journal of transport economics and policy*; 2011.
 25. Kuteyi D, Winkler H. Logistics challenges in sub-Saharan Africa and opportunities for digitalisation. *Sustainability*. 2022;14(4): 2399.

© 2023 Atud et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<https://www.sdiarticle5.com/review-history/108771>