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## **The logistics of port container terminals: What prospects for fostering the role of Tangier Med port in the global maritime logistics?**

**Abstract:** Morocco, member of many international transverse agreements, is confronted with an increasingly hard international competition, which proves to be a real challenge with a future for the penetration of the overseas markets. Thus, the development of many infrastructures of the Kingdom is revealing dynamism of the sector: it is the case of the harbor complex Tangier Med. This site makes it possible to support the economic development of the country but also to reduce the costs in logistics of the companies. The purpose of this article is to contribute to improving logistics performance of Tangier Med port in view of making it more competitive at the international level. To do this, the article proposes a literature review related to the management of container terminals and a measure of performance test using certain criteria of container terminal management model for Tangier Med port and competitiveness relative to its competitors.

**Keys words:** Competitiveness, Performance Logistics, Port Facilities, Tangier Med Port.

**Résumé :** Le Maroc, membre de nombreux accords transversaux internationaux, se trouve confronté à une compétition internationale de plus en plus rude, qui s'avère être un réel défi d'avenir pour la pénétration des marchés étrangers. Ainsi, le développement de nombreuses infrastructures du Royaume est révélateur du dynamisme du secteur : c'est le cas du complexe portuaire Tanger Med. Ce site permet de favoriser le développement économique du pays mais aussi de réduire les coûts en logistique des entreprises. L'objet de cet article est de contribuer à l'amélioration de la performance logistique du port Tanger Med dans la perspective de le rendre plus compétitif à l'échelle internationale. Pour ce faire, l'article propose une revue de littérature liée à la gestion des terminaux à conteneurs (volet théorique), un Essai de mesure de la performance à l'aide de certains critères du modèle de gestion des terminaux à conteneurs du port Tanger Med et sa compétitivité par rapport à ses concurrents (volet empirique).

**Mots clés :** Compétitivité, Performance Logistique, Installations portuaires, Tanger Med.

## INTRODUCTION

The pace of container traffic and freight is an important criterion of health of an economy reflected in the performance of its international trade .Nevertheless, the trade expansion has been hindered by the efficiency of the ports of obsolescence and the lack of port performance.

The definition of the port performance areas remains a difficult exercise because these structures are characterized by the multiplicity of actors involved in the transition of goods.The problem of the logistics of port container terminals requires a more significant interest from researchers, and it has become a major concern for countries which recognize the importance of the role of port cities in the growth of their economies, including in the image of the current general context of the global economic recession, aggressive competition, the assessment of complexification activity ... etc.

Morocco has not stayed out with the rapid pace of shipping worldwide. In this context, it has made over the past three decades, considerable efforts in the development, adaptation and modernization of its port infrastructure, as well as the legislative level by implementing institutional reforms.

However, Morocco is faced with a number of global constraints that hinder the development of its logistics activities; First, export, costs and delays in the passage of the Strait are serious obstacles which discourages Moroccans exporters. Furthermore, the complexity of the import process or increases the clearance procedures along the chain. Another aspect to be noted concerns the heavy document workflow delaying the release of the goods from the port and causes longer delays and increased costs. This adds an institutional vacuum which penalizes the development of effective and efficient supply chains.

In response of this situation, the public authorities got down to improve the competitiveness of the port sector through several measures aimed at improving the quality and efficiency of services. These efforts have quickly grown their fruits, which clearly appears in Morocco position which was 94th position in 2007 and jumped to the 55th position in December 2013, according to the British magazine "Container Management"<sup>1</sup>.

In this context this research aims to analyze and assess the current level of performance of container terminals of Tangier Med port to detect flaws that hinder its development in terms of the logistics of port container terminals, with the aim of recommendations propose a plan and appropriate building tracks.

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<sup>1</sup> <http://container-mag.com/>

## 1 Issue

The port and maritime sector in Morocco, since the adoption of the port reform law and 15-09 has experienced a dynamic change, in order to meet the requirements of international trade competition .

The development of many infrastructure of the Kingdom is indicative of the dynamism of the sector: the case of Tangier Med complex. The operation of the port terminal in Tangier Med container began in November 2010, after the transfer of the business of the old port of Tangier City Mega Port of Tangier Med. This site allows you to promote the economic development of the country but also to reduce costs in logistics businesses.

The performance of container terminals depends as much on the organization of the terminal and the equipments, and in order to better determine responsibility and for good speed in work, multiple loading and unloading are entrusted to businesses handling whose activity increases seen the decisive progress made by the introduction of containers in the movement of goods. In addition to changing infrastructures and equipment, containerization has likely created a redevelopment of the port handling which required implementation of land for container management. They therefore changed their way of working face new needs of their contractors. Thus, they have started to make the reception of containers, checking the condition of containers, potting and unloading of goods on movement and storage of empty containers to take care of special containers; many tasks remuneration but which require the establishment of new facilities and new organizations.

In this context, our Issue for communication to see how the public authorities can contribute to improved logistics performance of Tangier Med port in view of making it more competitive at the international level. It has the following areas:

1. A literature review related to the management of container terminals (theoretical part).
2. Test for Measuring the performance or nonperformance with certain criteria of container terminal management model of the Tangier Med port (empirical part).

## 2 Literature review related to the management of container terminals

The purpose of this literature review is to deepen the understanding of the operation of these terminals, and process and the flow of information related to the management of a container terminal.

### 2.1 Port terminals and intermodal transport <sup>2</sup>

Intermodal transport is the transport of a load of a point of origin to a destination via a sequence of at least two modes of transport, transshipment from one mode to the other

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<sup>2</sup> La logistique des terminaux portuaires de conteneurs, Julien DUBREUIL, Aout 2008, CIRRELT-2008-38

being carried out in an intermodal terminal. In other words, the transportation of goods from an origin to a destination via at least two modes, including a transfer to an intermodal terminal. According Crainic and Kim (2005), the intermodal transport chain multimodal container transport services linking the sender to the recipient in a service "door to door" occurring over large distances. This definition has identified the role and the importance of the management of container port terminals in intermodal transport.

In practical terms, port terminals must transship between different modes of transport, compared to other types of terminals are limited to one or two interface modes. The equipment necessary for the operation of a port terminal is very specific. Although the equipment used in the terminal are similar to those used in many types of intermodal terminals as inland terminals, the need to use the docks cranes for transfers between ships and dock helps to increase the capitalization of terminals port.

The essential role of these terminals is the loading and unloading of containers transported by container. And to serve the transshipment hub between ocean vessels and other local transportation. A container terminal usually includes a basin (a rectangular pool primarily for the docking of cargo) with a large draft; a dock for mooring; gantries or cranes; transport networks for inter-modality (roads and railways) and an area devoted to the stacking of containers.

## 2.2 The container shipping

Historically, "cargo", manufactured or processed products were packaged in cartons, crates or pallets marine, transported by ship type "general cargo". In the mid-sixties, the market for shipping containers has appeared to grow very quickly. Containers, commonly called "boxes" are standardized and are 20 or 40 feet long. This standardization has profoundly transform transport logistics chains by the container unit type of intermodal transport that can move from ship to truck or train. Once containerized goods not undergo any manipulation until their final destination <sup>3</sup>.

Packaging of goods in containers ensures better protection against breakage, loss and theft. Furthermore, the efficiency of loading and unloading of ships has been greatly increased, allowing significant reductions in operating costs.

The EVP or the TEU is the measure used in the field of intermodal transport container. A TEU is equivalent to the space occupied by an ISO container, which has a width of eight feet, a height of eight feet and a half and a length of twenty feet. According to this measurement unit, a container forty feet long corresponds to two TEUs.

The container shipping has undergone significant changes in recent years. First, the market has been marked by numerous mergers and acquisitions among the giants of the field. Then the main intercontinental transport routes also suffered significant changes. Traditionally, these routes between North America, Europe and Asia. Specifically, there were three main transportation services. The first service linked the ports of Western Europe and North ports on the east coast of America. The second service linked the

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<sup>3</sup> SHIPPING CONTAINERS : [http://www.armateursdefrance.org/uploads/decryption\\_document9.pdf](http://www.armateursdefrance.org/uploads/decryption_document9.pdf)

Asian countries, mainly Japan and Hong Kong, to ports on the East Coast of America via the Panama Canal. Finally, the third service linked the ports of Western Europe and North North Asian ports by crossing the Atlantic and Pacific oceans, which required a transfer through the Panama Canal. It was therefore of crucial importance in international maritime routes 4.

The consolidation of carriers and larger ships construction have led to a reorganization of marine transportation systems in a form "hub and spoke". In this type of network, the larger vessels operate on regular transoceanic lines between a limited number of ports. From these ports, containers are transferred to smaller vessels and distributed to ports that can receive larger vessels. The development of these networks has had significant impacts on international transport. Indeed, the ports that have been selected as the transfer point (hub) with the major shipping lines have faced significant and rapid increases in the volume of containers handled. The reorganization of the international marine transportation system in a form "hub and spoke" as well as the strong competition between the ports have the effect of creating significant pressure on port container terminals. At these pressures, there is the steady growth in container volumes transported. This is why the ports are often identified as the bottleneck in international intermodal transport networks. To remain competitive, port container terminals must rely on the efficiency of transshipment operations.

The major global shipping container transport are, in order of importance, Maersk (Denmark), MSC (Switzerland), CMA CGM (France). In total, the global fleet of container ships increased from 2004 to late 2011 from 3 000 to nearly 5 000 units.

### **2.3 The physical organization of a container terminal**

Concerning the physical organization, the container terminal is the set of technical installations and port facilities that are used to load, unload or store products (handling) 5.

#### **2.3.1 Port Operations :**

The equipment used to perform the loading / unloading of ships and transport operations between the dock and the court of the terminal. Its role is to serve as a point of transfer containers between the terminal and the ships.

#### **2.3.2 The storage :**

That means to store containers when they are unloaded from ships or waiting to be loaded. Its role is to act as a buffer to temporarily absorb the flow of containers to and from ships and other modes of transport.

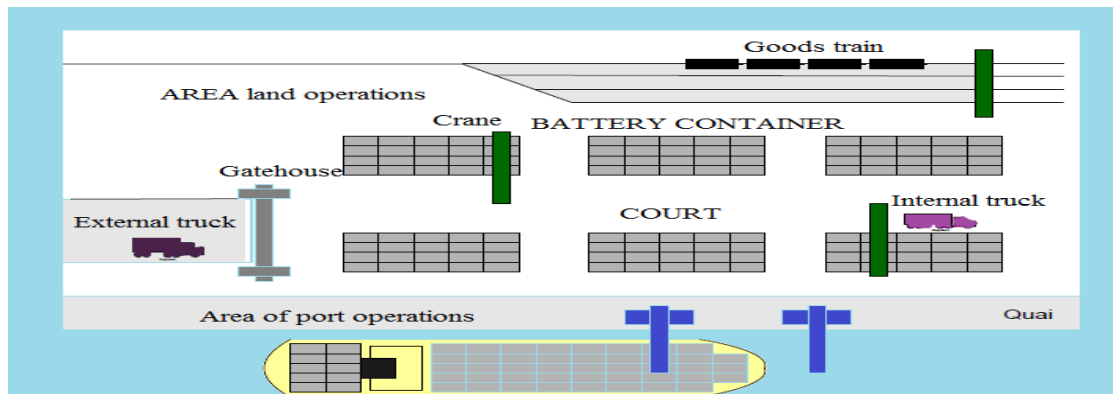
#### **2.3.3 Land Operations :**

<sup>4</sup> Cossi Hervé Assongba. Les contentieux en transport maritime de marchandises par conteneurs.. Law. Université du Droit et de la Santé - Lille II, 2014. French. .

<sup>5</sup> La logistique des terminaux portuaires de conteneurs, Julien DUBREUIL, Aout 2008, CIRRELT-2008-38

These are the operations of receiving and shipping containers from trains, trucks and barges. Its role is to act as an interface between the terminal and the means of transport mentioned above. In addition, this role of interface implies that it is this area that is responsible for managing the entry and exit of trains and trucks. The equipment used for handling containers in this area depend on the transfer system that was chosen in the terminal storage area. Indeed, maritime container terminals generally use the same type of equipment in both areas.

**Figure 1 : The physical organization of a container terminal**



This physical organization main purpose is to facilitate the operations of container terminals, which can be divided into three categories: The first category includes the operations related to the loading and unloading of ships and barges. These operations are performed in the area of port operations. The second category contains all the storage operations and handling of containers in the yard and the operations are performed in the terminal storage area. The last category of transactions for the transfer of containers to the land transport modes. The transactions in this category occur in the earth's area of operations.

## **2.4 The information's flows related to the management of container terminals**

Container marine terminal management is now supported by various information systems. Among these, the main one being the operating system of the terminal. This is the transactional system used for all business processes that support the business processes of the terminal. The information's on these systems comes from two sources: commercial websites of companies that distribute products and existing scientific literature that presents systems under development or in a conceptual phase. In the first case, references include companies Navis <sup>6</sup> and Cosmos <sup>7</sup>.

The Navis system relies on a series of modules that can be added to the operating system named Sparcs terminal. Additional modules are Expert Decking, Auto Stow, Quay Commander and Prime Road. The first is a position of the container allocation system in

<sup>6</sup> <http://www.navis.com>

<sup>7</sup> <http://www.cosmosworldwide.com>

the batteries of the terminal storage area. The second is a vessel loading planning software. The third performs the quay cranes allocation to vessels and can track in real time the status of operations on ships. Finally, the Prime route module performs the allocation of tasks to the terminal equipment. Although Navis system allows the use of other software with the operating system of the terminal Sparcs, the use of modules with a different operating system is not possible. Regarding the Cosmos system, it is composed of six modules. These can be integrated with each other or with other existing systems. The heart of the system, which is the operating system of the terminal, is called CTCS (Container terminal control system). Added to this, the Ships module for load planning and allocation crane ships, the Space module for planning of the court, the Traffic module for allocating tasks to equipment, Visual Gate System module for automation of the gate and the E-Terminal module for operational information online on the terminal. The purpose of this system, as in the case of Navis, is to computerize see automate the capture of some tactical and operational decisions in port container terminals 8.

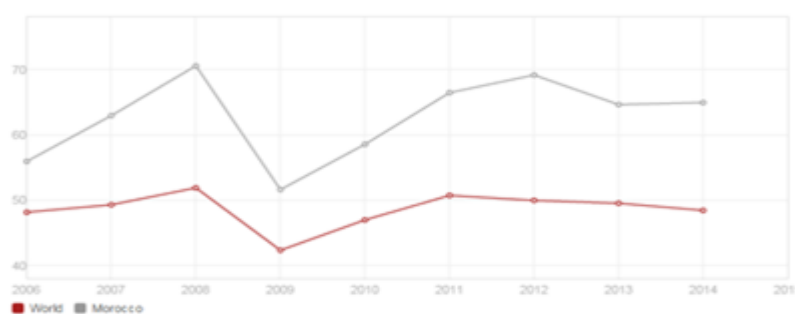
The process of a container terminal are supported by a multitude of information flows that include two speakers:

- ✓ **Feeds downstream terminal** : Downstream flow of information from the terminal aim to coordinate following the delivery operations of containers to the final destination. The majority of this information is up information for the next terminal visited by the container.
- ✓ **Feeds upstream of the terminal** : Information flows start with the service offering of the shipping line sales department. When the customer accepts the price, he must then make a reservation according to the date of departure of a ship and the destination.

### 3 Test for Measuring the performance of container terminals of the port Tangier Med

The accelerated pace of the global economy and the consequences that it stems put Morocco in critical condition, prompting him to take all measures available to promote its economy.

**Figure 2 : Merchandise trade Morocco / World**



Source : World Development Indicators report 2015:Trade facilitation.

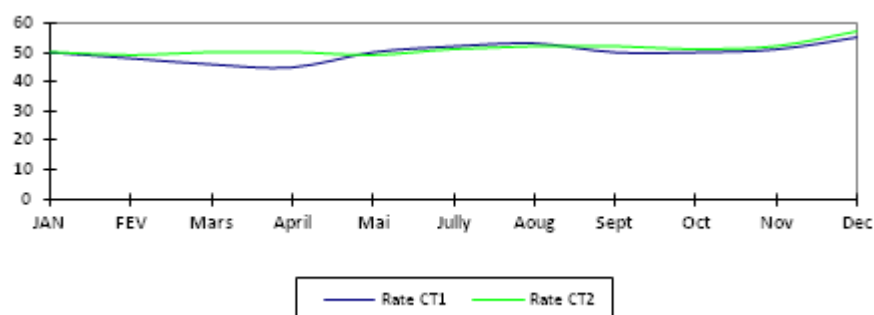
<sup>8</sup> La logistique des terminaux portuaires de conteneurs, Julien DUBREUIL, Aout 2008, CIRRELT-2008-38

Nevertheless, Morocco spares no opportunity granted and all these efforts in the development, modernization of its infrastructure and the implementation of economic policies that promote the national economy, especially logistics policy. It is in this context that this communication is part, to Measurement test the performance of container terminals of the port Tangier Med.

### 3.1 Tangier Med port: The container terminals and the intermodal transport.

July 27, 2007, the date of the entry into service of the first container terminal, the port Tangier Med handled a volume of over 4 million TEUs (4,296,275 TEUs) of which 97.2% in transshipment. In 2010, for its second full year of commercial operation, the port Tangier Med has strongly consolidated its position as a hub port containerized leading in the Mediterranean, with a volume of more than 2 million TEUs, an increase of 68.4% compared to 2009.

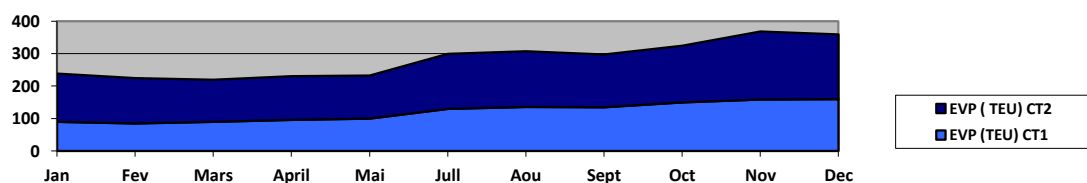
**Figure 3 : Occupancy rate of container terminals 2012**



Source: Tangier Med annual report.

This performance places the Tangier Med port in line with its targets of business development, reflecting both the strategic positioning of Tangier Med in the heart of East / West sea routes and North / South, the fundamentals of competitiveness (port waters deep, performance and operational flexibility, cost).

**Figure 4: Evolution of container traffic cat both terminals-KEVP**



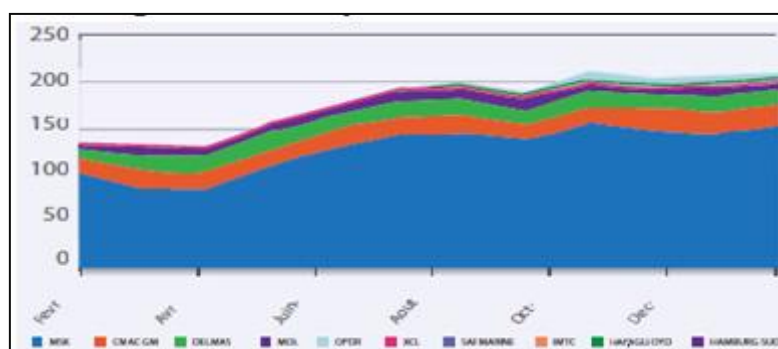
Source: Tangier Med annual report

This performance was due, firstly, by the recovery of container traffic worldwide and on the other hand, by the gradual rise of the two port container terminals, which in 2010 reached a rate of use of rated capacity 2/3, with strong support client shipping lines such as Maersk Line, CMA-CGM, Delmas, MOL, Hamburg-Sud and Hapag Lloyd.

### 3.2 Maritime transport container at the Tangier Med Port: an increase in traffic.

Containerized traffic rose 6% annually since the assignment of terminals. However, keep in mind that volumes have not reached 2007 levels.

**Figure 5: KEVP by Owners -12 Months**



Source : Tangier Med Annual report

Transit traffic to Europe and Africa is growing rapidly as it has more than doubled since 2010. The explanation comes from the stable political situation and trade agreements with Morocco.

In 2010, the Tangier Med port has undergone significant development in terms of deployment of liner services. So at the end of 2010, the port was connected directly to 120 ports and 60 countries, through 48 liner services.

**Table 1: Distribution of traffic by region**

Region	Ports
Europe	32
Africa	30
Asia	19
Middle East	12
South America	12
North America	7
Southern east Asia	7
Central America & Caribbean	3

Source: Tangier Med annual report.

The geographical distribution of ports affected are as follows:

- ✓ In terms of relative contribution of different routes traffic from the port Tangier Med, West Africa, Asia, Europe and South America are, in 2010, the major axes of development of the activity in Tangier Med.
- ✓ The corridor North America, although modest in terms of relative contribution to the overall business, however, is rapidly developing in 2010.

**Table2 : Distribution of traffic by sea Road**

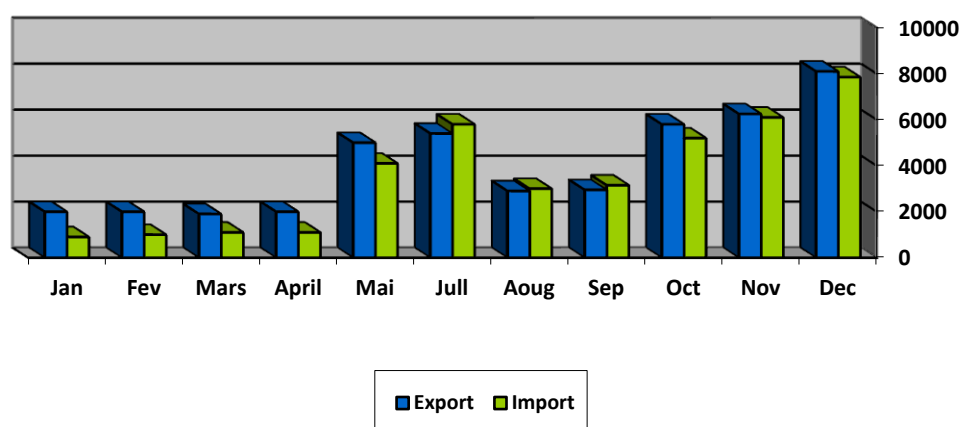
Region	Ports	%
<b>West Africa</b>	773226	38
<b>Asia - Europe</b>	711964	35
<b>Middle east - Nord Europe</b>	76817	4
<b>Tangier Med - West Africa</b>	78266	4
<b>South America - Nord Europe</b>	222874	11
<b>North America</b>	36322	2
<b>USA - Tangier Med - Asia</b>	30278	1
<b>Greece - Turkia - Tangier Med - Nord Europe</b>	21825	0,1
<b>Other serviceces</b>	106869	4,9
<b>Total ( EVP)</b>	2058440	100

Source: Tangier Med annual report

The geographical distribution of ports affected are as follows:

In terms of relative contribution of different routes traffic from the port Tangier Med, West Africa, Asia, Europe and South America are, in 2010, the major axes of development of the activity in Tangier Med.

**Figure 6: Monthly Evolotion of TIR traffic.**



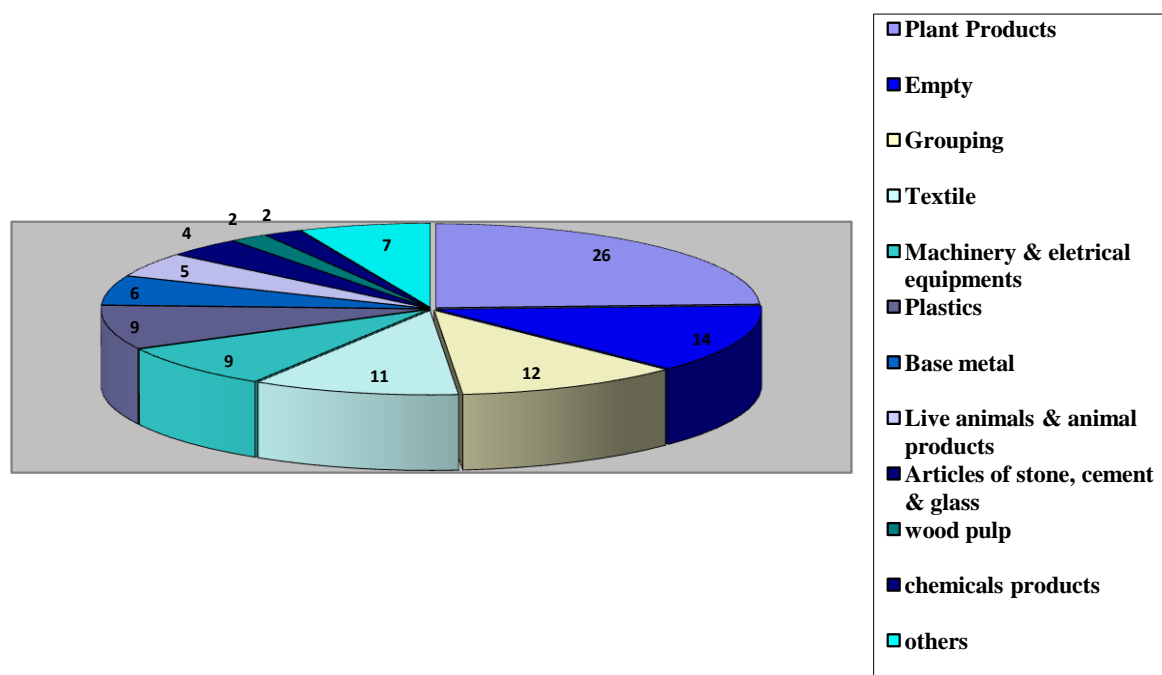
Source: Tangier Med annual report

The corridor North America, although modest in terms of relative contribution to the overall business, however, is rapidly developing in 2010.

On the ro-ro traffic with the transfer of its entire port of Tangiers City to Tanger Med port Passengers, all the TIR operation connecting the two sides of the Strait of Gibraltar is treated in Tanger Med port.

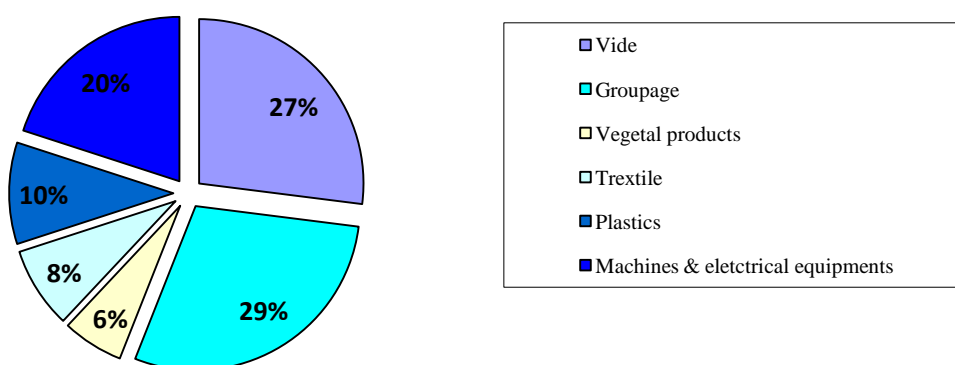
At the end of 2011, the port registered a traffic TIR of 99,518 units. Punctuated by the seasonality of the business of Morocco's exports to Europe, the peaks of traffic were recorded in the 2nd and 4th quarters of the year.

**Figure 7: TIR traffic by type of goods**



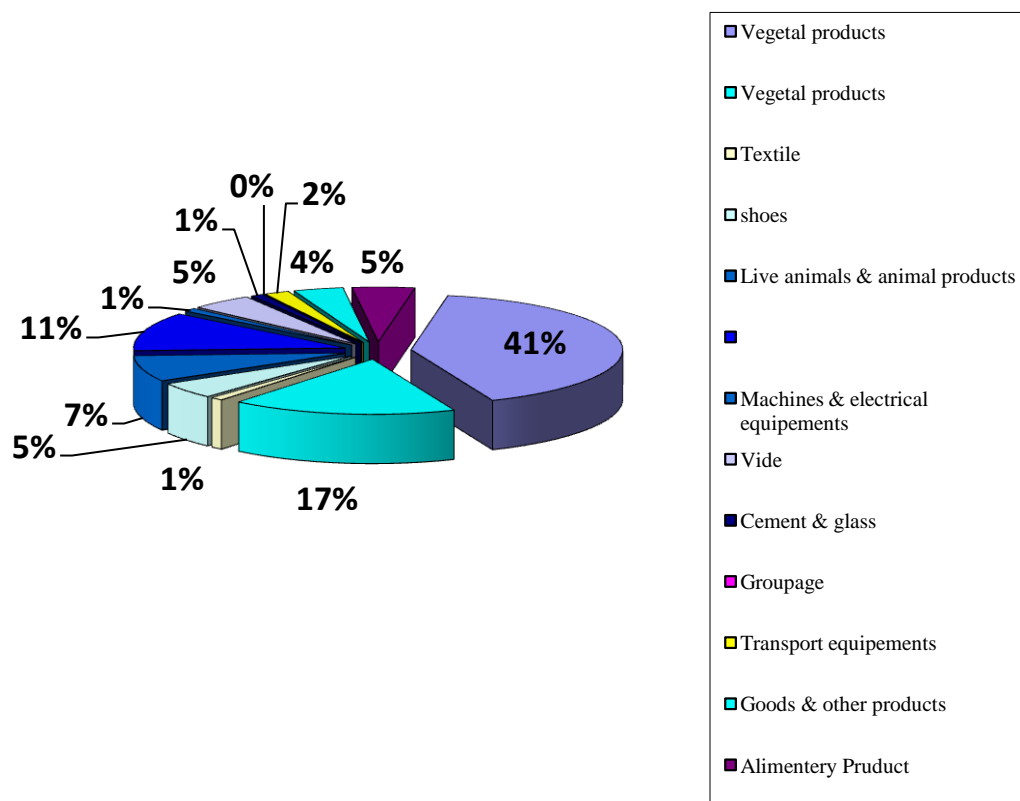
Traffic distribution shows a predominance of export activities of fruits and vegetables and headed citrus and vegetables, with nearly 26% of units with TIR through the port Tanger Med.

**Figure 8: Distribution of TIR traffic at Import.**



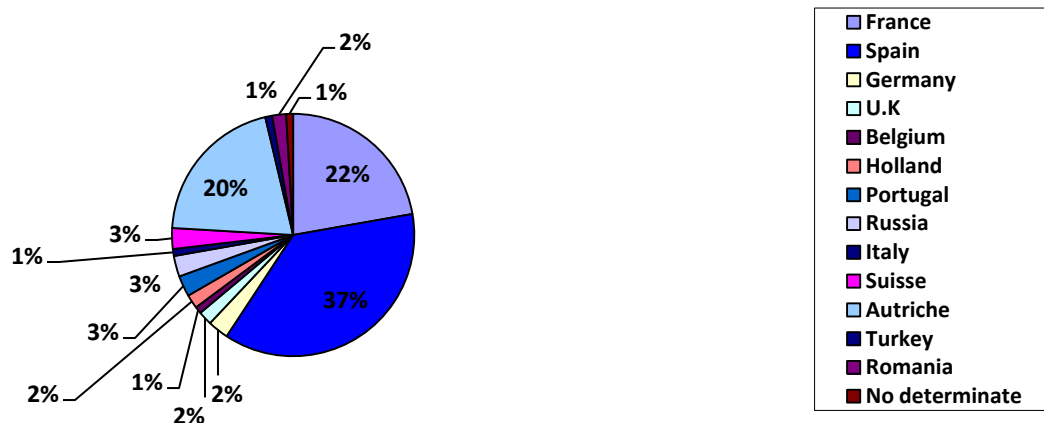
For imports, the volume of traffic reached 47,153 units TIR. Much of the TIR units through the port Tangier Med for import are returns, following export operations. The TIR export traffic through the port Tangier Med has reached 52,365 units in 2010 TIR.

**Figure 9: Distribution of TIR traffic at Export.**



The TIR traffic handled at the port Tangier Med Passengers allows Morocco to achieve economic exchanges with several European countries. However, both countries a significant share of total traffic TIR: Spain, which monopolizes 40% of these exchanges and France with 24% of traffic.

Regarding water conditions port, access port for merchant ships is safe and easy. The docking of vessels is fast. Which makes Tangier Med port is one of the easiest ports of Mediterranean basin, served by good drivers and efficient towing service. However, an extension should give the Tangier Med2.

**Figure 10: Geographical distribution of TIR traffic**

### 3.3 Physical organization of Tanger Med Port

The Tanger Med port, tool for growth and creator of value added and employment for Morocco is a catalyst for competitiveness of the national economy and is an attractive port for the automotive industry installed at the Casa- axis Kenitra- Tanger. It is also unifying the different links of the supply chain to converge to a better performance, it is also a key player in the positioning of the Kingdom as a logistics platform in the Mediterranean. The purpose of this article is to contribute to improving logistics performance of Tanger Med port with a view to make it more competitive at international level.

**Figure 11: Tanger Med Port Complex**

On the other hand, Tanger Med has linked Morocco to more effectively Europe's freight transport. Whether by containers or TIR trailers, Morocco's trade with the Old Continent take place in better conditions. A broader offer, but also with more fluidity and a net reduction of delays, all made possible by a direct service from Tanger Med by large container ships.

The port Tanger Med I has two container terminals with a total rated capacity of 3 million TEUs. With 1600 m linear quay, 80 hectares of quay and a depth (level mzh) varying between -12 and -18m, the port receives the largest container doors of the

world (400 m LOA, 18,000 TEU) with the implementation of the TC1 service in 2007 and that of the second terminal TC2 containers a year later, the port Tangier Med I has forged its place as a container transshipment platform in the west of the Mediterranean. This site continues to consolidate due to the good performance of major shipowners operating at container terminals namely Maersk Line, CMA-CGM / Delmas, Hamburg Sud, Hapag Lloyd., ARKAS, etc.

In addition to its role as a strategic platform container transshipment on East / West axes (Asia / Europe) and North / South (Europe / Africa), the port Tangier Med I plays a key role of connectivity for the promotion and development traffic Import / Export Morocco. Tangier Med I is still an outstanding opportunity to increase the share of rail in supporting the development of Morocco / World trade.

### **3.3.1 Port operations**

#### **3.3.1.1 TC1 : APM Terminals Tangier**

The first container terminal (TC1) is operated as part of a 30-year concession granted in 2005 AAPM Terminals Tangier, a subsidiary of APM Terminals Group, one of the world leaders in the management of container terminals, and 'AKWA Group, leader in Morocco in the distribution of fuels, gases and fluids.

Terminal TC1 has 8 gantries Super Post Panamax quay (lifting capacity of 61T), 28 portals wheel, 27 trucks like Kalmar, 37 trucks like ATT, 34 frames 40 'and container storage gantries refrigerated. More Reach Stacker 2 and 5 Empty Handler. Investment in TC1 superstructure and equipment amounted to more than EUR 140 million. Dredging made late September 2012 on the platform of the container terminal TC1 brought the draft to -18m. This achievement allowed the terminal to receive dice 2013 Triple E class vessels Maersk line. TC1 performs since 2008 on international high standard productivity levels (30+ movements / hour / portal) with non-stop operations in 24h / 365d, enabling TC1 to ensure an equal level of annual processing capacity or above 1.3 Mil TEUs.

#### **3.3.1.2 TC2 : EUROGATE Tangier**

The second container terminal (TC2) is operated as part of a 30-year concession granted in 2006 to the consortium EUROGATE TANGER, Contship Italia, Europe's largest port operator and leader and shipping lines MSC and CMA-CGM, respectively 2nd and 3rd global carriers containers. Entered service in July 2008, the second container terminal (TC2) is operated by Eurogate Tangier. The terminal TC2 is multi users and receives the biggest shipowners CMA CGM / Delmas, Hamburg Sud, Hapag Lloyd, akas, Xpress Line Feeders, EMES, DAL, etc.

Besides a draft of up to -18m, allowing the terminal to receive ships generation CMA CGM Marco Polo, the second container terminal TC2 is equipped with 8 Super Post Panamax gantries type of dock (lifting capacity of 61T) 21 gantry wheel trucks 36, 36 frame 40 'as well as storage of refrigerated containers gantry. More Reach Stacker 4, 1 Empty Handler, and a mobile crane. Investment in TC2 superstructure and equipment amounted to more than EUR 140 million.

TC2 performs on international standard levels of productivity ensures operations in 24h / 365d. The nominal capacity of the terminal is about 1.3 Mil TEUs.

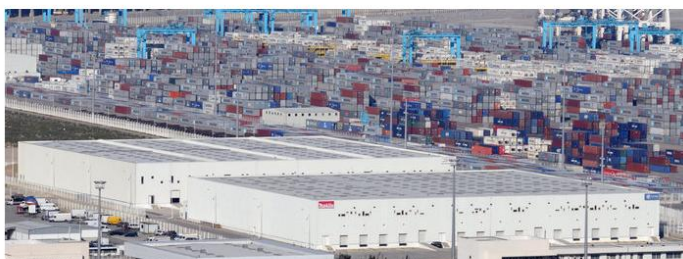
✓ **Harbor Dues:**

	Rate ( Euro /M3)			
	Container terminals	Bulk Terminal and Various Goods	Vehicle Terminal	Hydrocarbons Terminal
<b>Conservancy charge</b>	0.0052	0.0054	0.0054	0.0054
<b>Harbor Dues On Ships</b>	0.0251	0.0261	0.0261	0.0261
<b>Berthage Charge</b>	0.052	0.054	0.054	0.054
<b>Anchorage Charge</b>	0.051	0.051	0.051	0.051

Source : Rates & Charges Tangier Med Port 2015.

### 3.3.2 Storage: The Free Zone Logistics managed by Medhub ٩.

Located in the port Tangier Med complex, Free Zone Logistics managed by Medhub is an ideal platform for the establishment of logistics bases to cover the Europe, the Mediterranean and Africa. Located in close proximity to the port via a single customs area, is at the door Medhub business markets and centers in the region, allowing a quick and efficient distribution to a market of over 600 million consumers. Launched in November 2008, Medhub is mainly dedicated to the logistics value-added bundling, distribution and supply across international flows.



Source : Tangier Med port : <http://www.tmpa.ma/medhub/>

<sup>9</sup> <http://www.tmpa.ma/medhub/>

Medhub is also a storage point for distribution to other free zones in Morocco and the release for consumption on the subject territory. Many operations can be performed in the zone: Order preparation, storage, packaging, labeling, assembly and quality control. Today, over 50 companies are installed Medhub, which are divided into:

- ✓ Logistics operators (Third Party Logistics "3PL's").
- ✓ Multinational retailers.
- ✓ Trading companies and trading internationally.
- ✓ Providers of port services.

Covering an area of 250 hectares including 130 hectares will be built between 2008 and 2014, the Tangier Med Logistics Free Zone offers to rent a full range of real estate warehouses, offices or serviced vacant land.

✓ **Storage Rates:**

	Rates in Euro			
	Import / Export		Transshipments	
	Exemption in calendar days	Rate / Calendar day	Exemption in calendar days	Rate / calendar day
<b>New vehicle &lt; 5T</b>	5D	3.29 €	5 days [6D;10D]>10D	0 €/0.60€/3.29€
<b>New vehicle &gt; 5T</b>	5D	4.33 €	5 days [6D;10D]>10D	0€ 1€ 4.33€
<b>New high &amp; Heavy</b>	5D	5€	5 days [6D;10D]>10D	0€ 1.50€ 4.50€
<b>New Mafi Trailer</b>	5D	10€	5 days [6D;10D]>10D	0€ 2.20€ 5.00€

**AD VAL :**

	Import / Export (On(single declaration of Goods)Value)	Transshipments
<b>Any vehicle</b>	0.20 %	

Source : Rates & Charges Tangier Med Port 2015.

### 3.3.3 Land Operations

#### 3.3.3.1 Import / Export

The general cargo terminal is dedicated to the processing of import / export traffic mainly due to the activities of industrial firms located in the northern region. In a total area of 5 hectares of which 2 hectares of quayside and 3 hectares of storage, the terminal has a quay length of 500 meters and a draft of water permissible between 10.8 and 13, 5

meters to accommodate Panamax, Handymax and handysize. The general cargo terminal became operational in October 2010. The port authority has outsourced the handling activities in port operator MARSA Maroc. Today, the general cargo terminal is equipped with two quayside unloading crane having successive capacity of 63 tons and 45, in addition to the various means necessary for ground handling of goods, all this equipment can treat two ships simultaneously. Currently, the general cargo terminal can process the following goods: project cargo, grain, sheet metal coils, scrap metal, wood, goods in bags or big bags, heavy lifts, cement, etc. For a total of more than 350,000.

### 3.3.3.2 Temporary holding area of import containers

The waiting area of import containers was commissioned 22 October 2013, it is temporarily located in the east side of the railway terminal. This is an area that is dedicated to the storage of import containers in need of time to obtain the results of analyzes of samples taken by the various governments. The area also meets the demands of customers who wish to have an additional storage time prior to discharge its duties. Traffic distribution shows a predominance of export activities of fruits and vegetables and headed citrus and vegetables, with nearly 26% of units with TIR through the port Tanger Med.

For imports, the volume of traffic reached 47,153 units TIR. Much of the TIR units through the port Tanger Med for import are returns, following export operations. The TIR export traffic through the port Tanger Med has reached 52,365 units in 2010 TIR. The new import containers of visiting area aims to facilitate the processing of import containers at the port of Tanger Med operations. It is dedicated to import containers in need of time to obtain the results of analyzes of samples taken by the various governments. The new TC import business area is spread over an area of 18,000 m<sup>2</sup> and has a storage capacity of 600 containers in 3 levels on land and shelter visit containers by Customs 1000 m<sup>2</sup> and capacity of 20 containers.

#### ✓ Harbor Dues on Goods :

	Import	Export	Transshipment
Light vehicles	2.89 €	2.50 €	1.56 €
	Import	Export	
1.1 Trailer or Vehicle combination – full- or any gear not coming under the categories below	190 €	150€	
1.2 Truck, Van or gear up to 12m ( Overall) – full-	100€	80€	
1.3 Vehicle and gear >= 18m ( Off size)	300€	220€	
1.4 Agricultral and construction industry gear	190€	190€	
1.5 Vehicle Combination – empty-	60€	60€	
1.6 Empty trailer, paillet or tractor	30€	30€	
1.7Truck and gear up to 12m (Overall) – empty-	30€	30€	

High & Heavy New	Transshipment
High & heavy gear up to 10 T	9.36€
High & heavy gear up to >10 T	15.60€
Tower gear up to 50 T	12.48€
Tower gear > 50 T	15.60€

Source : Rates & Charges Tangier Med Port 2015.

### 3.4 Discussion of Results

The development of transport and improving logistics performance are key issues for countries that wish to become more competitive in the international geo-economic scene. Good infrastructure, able to fluidifierles exchanges represent additional pledges for success international trade while providing local solutions to open up certain marginalized areas and to involve them in the national economy, is the case of Port Tangier Med in Morocco.

The study of the management of Tangier Med port container terminals allowed us to analyze the operation of handling subsystems and the organization of shore operations. Barriers to optimizing the commercial service were identified. These have an impact on the role of Tangier Med in global maritime logistics firstly affect the quality of services to shippers, traders, ship operators and ship owners, on the other hand the overall performance of handling companies.

### CONCLUSION

At the end of this work, it should be noted that the performance of containers are primarily related to the coordination between all the actors upstream and downstream of the receipt of the container and its installation on board ship. However, as part of a search of a problem linked to the role of performance in container terminals in a port, this work began with put the item on the definition of the parameters involved in the good performance in a port to understand the various differences and complexities. According to the results, a discussion was initiated on the role of Tangier Med port for maritime logistics with a view to make it much more competitive globally. Thus, good governance and the logistics of port container terminals play an extremely important role in the positioning of the international port.

From the analysis we conducted, the test measuring the performance using some criteria of container terminal management model of Tangier Med port and analysis of results, the performance of logistics terminals is critical to be able to position the port Tangier Med internationally, as has already been pointed out in the literature review.

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