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A STUDY ON IMPROVING OF PORT PERFORMANCE TO MINIMIZE LOGISTICS COSTS OF THE GRAIN TRANSITING BY THE TANGIER MED PORT

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Abstract: *The transport of goods is based on a supply chain. The total cost may include, for example, benefits of pre- and post-routing such as land transport (road and / or rail), the remuneration of armaments, insurance, freight forwarders, brokers and the cost ... port transit.*

The cost of the port means, all costs resulting from the provision of ships and goods through the port authority (fixed costs), tools (-variables rent) and services (variables - wages and fees) port; they are supported directly by the port, and then passed on to users through tariffs. The article proposes a literature review on the different types of logistics costs in a port, a comparative analysis of the traffic volume during a period in the old port city of Tangier and the new Tanger Med Port and finally an analysis of the existing situation, following which delays the grain have been identified at the General Cargo Terminal with a proposal as an investment project infrastructure to maximize storage spaces dedicated to grain.

Keywords: *Performance, Logistics, Minimizing of logistics costs, Tangier Med Port.*

1. INTRODUCTION

At the end of the first quarter of 2016, the activity of Moroccan ports reached a total volume of 27.8 million tonnes, representing an increase of 3.4% compared to the same period last year. This increase is explained by the 10.9% increase in domestic traffic (Import-Export), whose volume amounted to 21.5 million tonnes. Regarding the container transhipment traffic at the port of Tanger Med, this activity marked a decline of 8.4%, with a volume of 666,000 TEU handled the equivalent of 6.3 million tonnes (-16%).

Port logistics in Morocco is now characterized by high level of "competition" with the 15/09 law on port reform. The kingdom ports engaged in merciless wars to gain market shares at national and international level. Similarly port operators in the various terminals trying to gain customer confidence by mastering handling chain.

Indeed, the optimization of logistics costs of goods is a tool for port competitiveness because it reduces the length of ships' halt by offering a quality / best price, but also to retain customers.

Being the largest port in the kingdom, Tangier Med is invited to serve a large part of Morocco. At its terminals, dealers and subcontractors are required to optimize the performance of their conveyor chains. This is the case for example of the General Cargo Terminal dedicated to the processing of bulk and general cargo, subject of this article.

2. ISSUES

Imports of cereals in late October 2014 totaled 6.3 million tons, marking an increase of 55.8% compared to the same period last year.

The operation of the grain through in Tangier Med various goods terminal is characterized by a lack of buffer storage to increase the pace and ensure discharge continues along the stay of grain vessels. Indeed, the availability of the fleet of trucks for unloading grain leads to an effective yield of between 30 and 150 tons / hour.

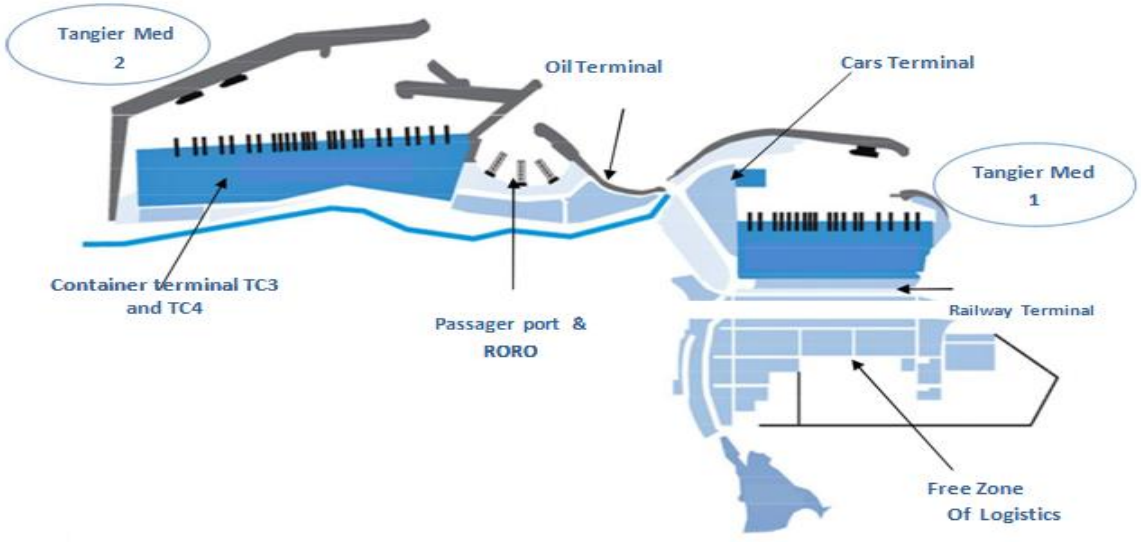

Figure 1: The structure of Tangier Med port

Furthermore, the commitment of a large mass of labor can wait 10 employees per crane per shift compresses beneficiary margin handler and TMPA. A generation of dust can penalize

other nearby activities (RTE and terminals TVCU cars), loss of goods and pollution of the water and solid land.

Based on these observations and their impacts, our objective is the contribution to the minimizing of logistics costs of goods through the cargo terminal and the study of the possible evolution of the traffic impact of this optimization.

3. LITERATURE REVIEW

A slight variation in the activity of ports managed by the National Agency is "the result of an increase in imports of 2.9%, which reached a volume of 29.2 million tonnes, and a regression exports of 3.9% (16.7 million tonnes), "says Maritime News.

After 2010 saw a significant recovery in exports of phosphates and derivatives induced revival of economic activity at the global level, the year 2011 was characterized by a slowdown in the pace of growth. Sales abroad of phosphate rock and phosphoric acid respectively have reached the end of August volumes of 6.2 million tonnes and 2.6 million tonnes or - 5.9% - 11.5% compared in the same period of the previous year, says the port authority.

However, these negative variances were offset by a 28.5% increase in exports of fertilizers, with a volume of 2.8 million tonnes, driven by rising global demand for fertilizers.

These are the costs of inventory turnover, customs clearance and delivery, insurance, loss or theft, as well as the costs of paying benefits provided by the ports to the goods: shelter, storage, handling and board handling land, transport, recovery and movement.

A. Handling costs: Before, traditionally, there are on-board handling or acconage (stevedoring) it is the responsibility of the ship, and ground handling is the responsibility of the goods. The increasing use of containerization and new types of multi-modal commercial contracts canceled this distinction. Increasingly, the vessel shall pay the entire bill container handling at the terminal.

In principle, since 1989, the cost of cross-docking Termila Handling Charges (THC) charged to customers include all operations from the entrance of the container terminal to its final stowage on board or in the opposite direction from its undocking and the final output device.

The cost of cross-docking Termila Handling charges may vary from one terminal and a regular line to another depending on the size of the ship and the cargo volume (intervention of economies of scale effect).

B. The costs of the system: When the system cost is the cost incurred for the implementation of specific private or public means, by various investors and traders, with a view to obtaining production given either:

- Cost dock and channel;
- Cost of the ship;
- Capital Cost of cargo (cost to the recipient or sender).

These costs can be total, average, marginal, etc.

Port costs because you have to think of the greatest drafts, longer platforms. The total cost of the system decreases to an optimal operating points to start to grow, there are optimum sizes of vessels.

C. The cost of the port for the user and the user surplus

C.1. Cost components: to better understand this concept, we must first define some terms:

- Cost Explicit (EC) or financial costs: the direct cost to the company for use of the port.
- Implicit Cost (IC) or Indirect cost: the cost incurred by the company due to imperfection port (the vessel, bad weather (Chargui).
- Cost = Cost Generalized Explicit (EC) + Implicit Cost (IC). The Generalized Cost includes the cost borne by the ship and the cost incurred for the goods for their passage to the port at a time.
- The cost of the port for the user (ship or cargo) is presented by the following function: C1 = (yt + ut + n) - k; or:

C1 = generalized transition in the port cost to the user;

y = the price paid or charged to ship the goods, or monetary cost;

t = the time spent (in days or hours);

u = the cost per unit of time due to immobilization, some logistics costs (storage, sorting, ...);

- The unit cost can be calculated by the day as follows: Cj = y + u + (1 -), or n = independent cost of living in Port: insurance, storage consolidation, etc.

K = coefficient of satisfaction, an indicator of the security of the ship and of the goods, the reliability of port service, the level of litigation, etc. It may be positive or negative.

Value of time: time spent in ports can represent up to 50% of the total travel time and so on total cost of the trip. It is obvious that when the rate of rotation increases time decreases and hence the cost.

We calculate the time spent by a ship (type X) in the port during a year as follows:

Cc = $\sum m$ qct ; or:

Cc: total cost of a shipment of goods m (eg container port);

q = quantity of the m through the port during the year;

c = cost of goods (FOB for exports and CIF imports);

t = the average storage time expressed in days for m.

The calculation of these indicators may be indicative of the performance of port services as well as the productivity of its facilities:

- The dead time (the operating time and standby time) is high in the crowded sports, under-equipped, not that effective administration and / or those undergoing high tide. It should be noted that sometimes the costs can be high in some ports not because their facilities are outdated but because the reinvestment of operators and port authorities in advanced equipment may result in a rate increase.
- The impact of time on the goods is proportionally related to its value. The higher the value the more high incident is great. Indeed, waiting at the port is a lengthening of the distance of the journey. E is calculated equivalence between the value of time lost or gained and distance as follows: E = $\frac{\frac{i(Vt)}{365}}{c}$ or:

i = the applicable interest rate to fixed assets;

Vt = value per tonne of goods;

c = the transportation cost per unit distance (nautical miles, miles, etc.)

Productivity: Productivity of a port is calculated by:

Productivity handling: The handling time is the most important e length of stay of the ship in the port factor. The low productivity of the port is reflected from the users in the form of additional costs, mass near the port in the form of profits (plus the ship is detained more it pays: piloting, various taxes, handling, maintenance, etc.).

There is a relationship between the average price of the day of call (p), and the daily cost of the vessel and the port (c) productivity. We talk about the port side. The objective is to minimize the ship and C p which is directly related to p; either: $\frac{\text{Daily cost at the port}}{\text{productivity}}$

User Satisfaction: The satisfaction is in addition to the time and cost, has its origin in the quality of service and security offered by the port. The quality factor is omnipresent as with the psychological factor, corruption, interference responsible for port authorities.

C.2. Cost of passage: the cost of movement of goods in the port, taken back to the ship or to the handling unit (container, ton, etc.) is the generalized cost to the user, the transit ship or the goods. In this cost, there is also a cost paid to the owner in the freight rate and represents the time spent by the ship in the port and the first to be extracted.

The cost of economic transition generalized transit of the same unit, the cost of the system that allows the passage of the goods actually. Various studies in this direction have shown that the cost of passage is composed of:

- port transit time 40%;
- Handling land 40%;
- Handling and 13% edge;
- Fees and charges 7%.

After this literature review, we present an analysis of the traffic of the port of Tanger Med, in particular traffic grain terminal and various goods, an economic impact assessment of trafficking and future market outlook of transport.

4. METHOD OF MINIMIZING THE COST OF LOGISTICS PASSAGE OF SHIPS

It is to review the policy of the direct output of cereals. Indeed, it begins unloading vessels unless the transport units are in the terminal. At first weighed tare trucks on the weighbridge and weighed each truck is placed under the hopper for loading, and so on. Just then, a truck loaded turns around and passes through the weighbridge gross weight. Thus, recording the net weight of each truck leaving the terminal.

On finding that the principle of the direct output makes unloading dependent or dependent on the availability of transport units for discharge of cargo ships. The existing facilities in the terminal superstructure of Tangier Med merchandise not used to store grain, which operates only Hangar terminal is leased by the KRAIMI client.

The establishment of silos for grain storage will have a positive impact on the speed of processing activity, the residence of ships at berth no longer depend on the availability of trucks, something that will result in reducing the time stopover vessels, allowing the terminal to receive grain or other bulk carrier.

To mount the need for implementation of the superstructure for the storage of grain, and to see the effect of such investment on the passage of grain, it is necessary to make an illustration by a case of a fictitious cereal TDG operating during the period from January to April 2011.

4.1. Calculate the storage space

This case will focus on an X ship with the following characteristics:

Joel lalaurie	Agent
Genaral Cargo Ship	Vessel Type
Cereal-Wheat	Goods transported
Fandy	Costumer
31500 T	Quantity
180	Length in m
30	Width in m
9,92	Tiran wanter in m
23456	Capacity gauge barrels gross
21/032011 à 17 :10	Input in port
11/04/2011 à 02 :13	Release Date
489 : 03 : 00	Stay in the administrative limit
21/03/2011 à 17 ::18	Start anchorage date
23/03/2011 à 21 :00	End anchor date
51 : 42 : 00	Stay in achorage
23/03/2011 à 22 :50	Docking date

Currently, the port landed 30-150 ton / hour. This rate depends on the availability of lorries. Among the objectives of a future investment project, is waiting for a discharge capacity of 1,000 tons / hour. In other words, the storage operating TDG will receive approximately 1000 tons of grain per hour. either:

- Let N **Cap** $_{dech}$ capacity goal we want to achieve and unloading is 1000 T / h. The rate of discharge of the storage space should match the speed of loading transport units.
- Either **Cap** $_{Char}$ throughput loaded trucks. Therefore, the quantity to be stored per hour corresponds to the formula: **Cap** $_{dech\ N}$ **– Cap** $_{Char.}$
- When unloading a ship, the amount we will have to store equal to the following formula:

Is the quantity to be stored Tps$_{déch}$ during unloading, and to store the amount QTest. from where

QTst ps$_{dech}$ * = (**Cap $_{dech\ N}$ – Cap $_{Char.}$**)..). It was time to unload the ship = $\frac{Cap_{ship}}{Cap_{dech\ N}}$. Hence the storage space required for a continuous unloading of the ship is: **Es** = (**Cap $_{dech\ N}$ – Cap $_{Char.}$**)* $\frac{Cap_{ship}}{Cap_{dech\ N}}$ =**CapNavire *(1-** $\frac{Cap_{ship}}{Cap_{dech\ N}}$ **).**

To calculate the discharge capacity of the storage space, it was based on the timing of the loading time of trucks. Certainly during the unloading of the ship in question, a truck takes 4 minutes in the loading hopper with a capacity of 27 tonnes. So in one hour we can load the best 60/4 = 15 trucks. What makes 15 * 27 = 405 ton / hour. So Cap Char = 405T / h. Hence the amount that must land in the storage space per hour corresponds to Cap ES = 1000 - 405 = 595T / h.

Digital Application: **ES = 31 500 *(1 -** $\frac{405}{1000}$ **) = 18742,5Tonnes.**

4.2. Comparison of the fees paid by ships:

In order to address the impact of future investment project in terms of cost and port transit stops in terms of time, it must make a comparison between the conditions of port passage Ship X before and after settlement silos storage. But before we recall the port dues levied at the Port of Tangier Med.

- Right port on ship: corresponds to the amounts required to be paid by the ship owner to the port authority for the use of port infrastructure for docking.
- Parking fee: means the fee paid by any ship afloat parked within the perimeter of the port.
- Water Law (including the mooring and towing) refers to the specific fee that pays Assistance nautical character a contribution Port Authority, excluding pilot services. These services include assistance to the vessel including the vessel traffic service, assistance in positioning vessels and generally all means available to ship under this assistance.
- Right anchor: means the fee paid by a ship at anchor, which means it is anchored within the perimeter of the port.
- Right to control: means the fee that pays for the support given to the captains of ships to conduct services.

At the port of Tanger Med port charges are made based on the geometric volume denoted VG, which formed the basis of pricing. Its formula is as follows:

VG = L * b * Te; where

VG is expressed in cubic meters;

L and Te b respectively represent the length overall of the ship, and its maximum width is the maximum draft in meters.

The value of drawing up of the ship taken into account in applying the above formula can in no case be less than the theoretical value equal to:

T_{emin} = 0.14 * $\sqrt{L}$ x b) ; L and b are respectively the length and the maximum width of the ship.

Amount H.T	Quantity	Unit	Nature	Code
1366,64	1	M3	BULK Right harbor	DPN 202
283,33	1	Unit	Nautic right VRC	DNN 401
56665,52	1	Unit	Parking right BULK	DSN 401
336,60 224,40 265,20	1 1 1	Unit Unit Unit	steering harbor entrance exit Movement dock	PIL 401
Amount TTC		Amount TVA	TVA rate	Total HT
59141,69€				59141,69€

The bill set by the shipping agent

When unloading the ship, the activity required a period of 21 days, according to a rate of continuous work, or 2 shift per day, making 42 shift. There 'was no place to weather conditions impeding the regular sequence of loading grain apart from 05/04/2011 at 12: 10 until 06/04/2011 at 10: 20 of the wind.

In the case of the hypothesis of setting up investment in superstructure, storage silos and conveyor belts and a gantry unloading continuous one wonders that will be the effect of this investment in terms optimization cost?

Indeed, suppose we proceed to unload the ship X in other conditions, namely the establishment of investment in superstructures. The problem of availability of the fleet of trucks will no longer arise to the extent that the unloading of the ship no longer depend on the direct output of the goods.

Indeed, the establishment of silos for grain storage, conveyor belts and continue unloading gantry will achieve the goal of discharging 1000 T / hour cereals.

In this case, opting for 1000 T / hr unloading of cargo X whose cargo is 31500 T should be done over a period of 2 days or 4 shits. Usually 2 shift of eight hours a day working which is

8 * 2 = 16 h / day. So disembarking 1000 T / h, we arrive to land 16 * 1000 = 16000 t / d. Hence the time taken for the discharge of a quantity of matches 31500T 31500T / 1600A approximately = 4 shift.

To calculate the Human Port, one should first calculate the taxable amount:

Taxable volume VG = (180*30)*0,14* $\sqrt{180}$ *30= 55554,43m3.

On the basis of this volume we calculate taxable rights paid by the ship X. These rights will be:

- Right of Port BULK VG = * = Unit Price * 55554,43*0,246= 13666,39
- Right Nautique BULK = VG = Unit Price * 55554.43 * 0.0051 = 283.33
- For the calculation of Law Parking, vessels are exempted for a period of 24 hours. Beyond the first 24 hours of landing, the ship must pay the parking fee.

  So the Law of parking BULK VG = * Unitarian Price * days docking = 55 554.43 * 0.051 * 1 = 2833.28
- Steering BULK:

Amount H.T	Quantity	Unit	Nature	Code
1366,64	1	M3	BULK Right harbor	DPN 202
283,33	1	Unit	Nautic right VRC	DNN 401
2833,28	1	Unit	Parking right BULK	DSN 401
336,60 224,40 265,20	1 1 1	Unit Unit Unit	steering harbor entrance exit Movement dock	PIL 401
Amount TTC		Amount TVA	TVA rate	Total HT
14775,92€				14775,92€

Enter = 336.60

Output = 224.40

Movement = 265.20

The bill set by the shipping agent if implementation of the investment project

Indeed, the establishment of silos for grain storage will reduce the cost of port passage. In the case of this ship, the customer could win:

59141,69 – 14775,92 = 44365,77 €.

Which will be beneficial for the terminal retaining existing customers, and potential to tap new ones.

Regarding the return on investment of the project, several factors indicate a future worth to the grain business in Tangier Med port motivated by the following: The general cargo terminal in the port Tanger Med has a straight 560m of quay with depths of 12-15 m, this will enable importers to initiate Handymax vessels (DWT 50 000T see Figure 1) and negotiate the purchase of cereals in America and Canada which will allow them to reduce the cost of return per tonne of cereal.

Moroccan traders and partners could use the facilities to ensure the transshipment of grain through tariff incentives (50% reduction in rates of handling and storage), Terminal General Cargo has two train stations, connected to the national rail network which will break the monopoly of Casablanca to serve Kenitra region, Fez and Meknes.

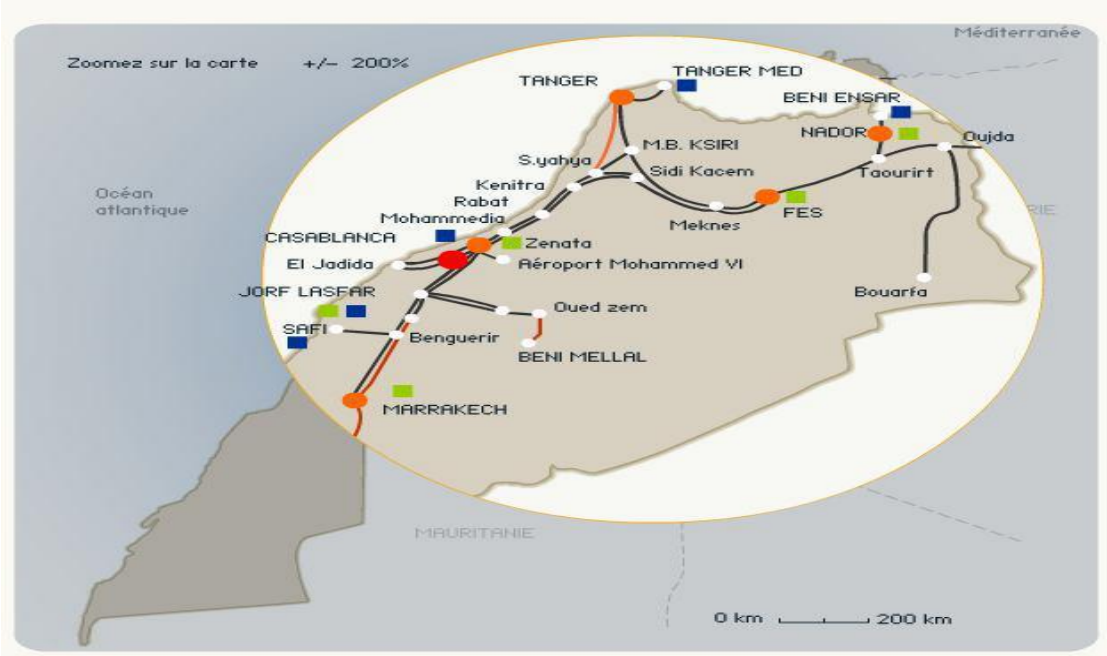

Figure 2: Network of rail links to Tangier Med with Hinterland

4.3. Recommendations and perspectives

From the foregoing and to improve the performance of the terminal and follow the necessary support to the growing needs of the region and partners and users of the port, the management mode of the terminal should be revised to allow the integration of new investments, particularly installation of storage bins of sufficient capacity to provide a buffer storage at the height of the terminal's capacity to receive Handysize (35,000 DWT) Hadymax (50,000 DWT) and Panamax (70,000 DWT) if development transfer activities cereals besides installing cranes and continuous discharge conveyor belts canopy builds.

Since this requires significant investment capital of about 300 million dirhams, the management method recommended is the concession, without separating the grain from the cargo business activity to ensure balance financial investment.

Regarding the return on investment of the project, several factors point to an interesting future for the grain business at the port of Tanger Med motivated by:

- The cargo from the port of Tangier Med terminal has a linear quay 560 m with depths of 12-15 m, it will allow importers to engage Handymax vessels (50,000 DWT T) and negotiate purchase grain in America and Canada which will enable them to reduce the cost of return per tonne of grain.
- Moroccan traders and partners could use the facilities for the transshipment of grain through tariff incentives (50% reduction in tariffs handling and storage)
- The cargo terminal has two positions being connected to the national rail network which will break the monopoly of Casablanca to serve the region of Kenitra, Meknes and Fez.
- Connecting the Tangier Med port to the motorway network and accessibility to areas Fez, Meknes and Kenitra.
- The region of Fez, Meknes and Kenitra presents more than 40% of the national capacity for grain storage.
- Some grain traders and partners have expressed their interest in participating in the project investment as part of a concession (KRAIMI CEREALS DNCD ...)
- The saturation of the Casablanca port grain terminals (MASSA CEREALS Maghreb, SOSIPO) and grain problems waiting in the harbor of Casablanca

5. CONCLUSION

The overall port traffic was up 7.5% at the end of July, with a net increase in transhipment in Tanger-Med. However, domestic traffic fell by 3%, according to the National Ports Agency. The decline in domestic traffic primarily due to imports contracted by 4.5%, as exports fell 0.4%. The net recovery of activity in the port of Tanger-Med is confirmed from month to month. Which offset the underperformance of national traffic.

The share of imports remains clearly important, with 63% of the overall volume of national port traffic. Note that the Tanger-Med Port contributes 11% of this traffic.

The drop was sharper for dry bulk (-11%), mainly cereals (-25%), fertilizers (-23%) and coal & coke (-18%). The ANP also reported lower volumes transported for hydrocarbons (-5%), when the phosphoric acid on traffic increased by 11%. The container traffic has also declined (-4.1%). By port, a decline of 9% has been found in Casablanca, against 20.7% for Nador, Mohammedia 4.2%, 6.1% and 9.5% Jorf Lasfar for Safi. At Kenitra, the underperformance reached 81.8%. By cons, traffic improved significantly in Tangier city (41.1%) and is supported in Agadir (12%). Indeed, the port of Tanger Med treated under the September 1, 2011 a total traffic of 16.3 million tonnes, an increase of 82% compared to the same period last year. As a direct consequence of the continuity of progress and consolidation of port Tanger Med, the turnover of the Port Authority of Tanger Med is estimated at nearly 493 million Dhs 30 June 2011, an increase of 96 % over the same period. However, the development of the grain in the port activity raises serious difficulties. Indeed, the operation of the terminal cargo come started in December 2010. In analyzing this end, it turns out that invest in setting up storage space dedicated to cereals will prove relevant in strengthening the performance of TMD.

REFERENCES

1. Aziz BABOUNIA, & Ouail EL IMRANI, (2016), The logistics of port container terminals: What prospects for fostering the role of Tangier Med port in the global maritime logistics?. Revue De Gestion Et D'ÉConomie, 4(1), 30-49.
2. Aziz BABOUNIA, & Ouail EL IMRANI,(2016), Test benefits evaluation of highways of morocco on the user, the community and the state, International Journal of Development Research, Impact Factor: 4.25, Vol. 06, Issue, 07, pp.8593-8598, July, 2016
3. Babounia, A., (2004), « The role of public authorities in the provision of infrastructure: the case of highway funding in Morocco », PhD thesis, in economics. FSJES, Rababt-Agdal.
4. Babounia, A., (2007), « The expectations of the people of the port of Tangier Mediterranean ». Communication at the international conference in Fez on 11 and 12 December 2007 under the theme «Technological development, productivity, competitiveness, economic growth and employment.»

5. Babounia, A., (2009), « Interaction between public policy and regulation modes of public services in Morocco » REMALD, July-October 2009, No. 87-88, pages 133-153.
6. Babounia, A., (2009), « State and Market: what independent regulatory authority services ». Communication International symposium on « International financial crisis and development issues » organized on 19-20 November 2009 at the Faculty of Law Economics and Social Sciences of Meknes.
7. Benadenbi M., (2002). « La planification stratégique de l'ODEP ». Bulletin Annuel de l'Observatoire Marocain de l'Administration Publique (OMAP), n°3.
8. C.A. Jyoti Spara Madan Assistant Professor, Supply Chain Management and Its Impact on Today's Business Scenario, IRJBM – (www.irjbm.org) Volume No – VIII, February – 2015, Issue – 3 pages 118-122
9. Dr. Nirali Pandit, Special Economic Zones (SEZS) in India and Gujarat: A Policy and Performance Perspective, IRJBM – (www.irjbm.org) July- 2014 - Volume No – VII pages 36-49.
10. Hajbi A. (2011). « Traffic Fore Casting in Moroccain Ports » Supply Chain Forum : An International Jpurnal, Vol . 12-N° 4-26-35.
11. Elkhayat .M. (2005), « The inland freight transport in Morocco: current status and challenges. REG-MED, third workshop: The conditions for efficient multimodal transport in the Mediterranean.
12. Elmatoui. M. (2005) « The regulatory framework governing road transport in Morocco, REG-MED, third workshop: The conditions for efficient multimodal transport in the Mediterranean. Casablanca.
13. Quinet, E., 1992, « Transport and Economic Theory », Press the School of Civil Engineering.
14. Kingdom of Morocco, Ministry of Equipment and Transport, Road Transport Department [Accessed April 2010] « Réforme du secteur de transports Routier de marchandises », [online]http://www.mtpnet.gov.ma/
15. Kingdom of Morocco, Ministry of Equipment and Transport, Road Transport Department [Accessed April 2010] « Road transport sector reform Merchandise », [en ligne]http://www.mtpnet.gov.ma/.

16. Ouail EL IMRANI & Aziz BABOUNIA "Optimizing logistics costs: the case of grain through the port of Tangier Med ", The International Journal of Multi-disciplinary Sciences - ISSN: 2421-9606 (Online) (2016), Impact Factor : 0.7 (p94-p114).
17. Ouail EL IMRANI & Aziz BABOUNIA., "Tangier Med Port: What role for the Moroccan Economy and the International Trade?" International Journal of Research in Management, Economics and Commerce, ISSN 2250-057X, Impact Factor: 6.384, Volume 06 Issue 07, July 2016, Page 73-81
18. Smouny, R. (2003), « The logistics performance in the service of economic performance of the Moroccan company »Edition Economica.
19. Tefra, M., 1996, « Transport Economics » Edition Ellipses.
20. Transport and Logistics News (2003), « New regulations for road transport of goods », Transport and Logistics News, °9.
21. Veganzones., A. (2000) [Accessed January 2010] « infrastructure, investment and growth: a review of ten years of research », [online] http://www.cerdi.org/Publi/Doced/2007.pdf
22. Song D-W (2003) « Port Co-opetition in concept and practice» Maritime Policy and Management, n° 30, pp.29-44.
23. Stevens H. (1999) « The institutional position of seaports. An international comparaison». Dordrech, Kluwer Academie Publishers.
24. Wasim M.Y.Falah, The Review of Modern Management Theories, IRJBM – (www.irjbm.org) Volume No – VIII, February – 2015, Issue – 3, pages 54 – 57.
25. World Bank., (1997), « Private sector participation in infrastructure ».

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