

The role of maritime actors in optimising logistics costs and transit of goods at the port of Bejaia : case study

دور الفاعلين البحريين في تحسين التكاليف اللوجستية وعبور البضائع في ميناء بجاية: دراسة حالة.

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Abstract:

The purpose of this article is to explain the increase in maritime transport costs in Algeria and to look for ways in which maritime transport operators can participate in reducing time and thus transport costs. To do this, we collected qualitative and quantitative data through a field survey by questionnaire carried out among some large companies and stakeholders interacting with the port of Bejaia and on which we made a statistical analysis. The results show that the cost of shipping has exploded Algeria's import bill. Since the spread of the pandemic, containerized sea freight has accounted for about 70 per cent of the value of goods imported into India and about 35 per cent of the value of goods imported into Germany.

Keywords: Shipping; supply chain; maritime stakeholders; costs; port of Bejaia.

Jel Classification Codes: F130;R490

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Introduction:

International trade and the supply chain for goods rely heavily on the transport of goods by sea: more than four-fifths of world merchandise trade by volume is carried out by sea (UNCTAD, P4, 2019). It has accelerated the pace of global trade and has become the most widely used mode of transport in international trade. It is a major player in the economic growth of countries. It is closely dependent on the development of international trade activity and also on economic policy pursued by States. (Bauchet, Le transport maritime, 1992).

The efficiency of a transport chain and port passage relies on the participation of a series of players (ship owners, consignees, freight forwarders, etc.) who contribute to its implementation in order to guarantee optimal transit of goods at port level. Although they don't always intervene at the same time, they give maritime transport a chain structure, where each player must play his or her role fully and effectively. As a result, these players can have a direct influence on the cost of transporting goods, which is usually directly linked to the country of destination.

The maritime transport of goods represents a significant cost for the Algerian treasury, as it has a negative impact on the balance of payments, resulting in a disadvantageous imbalance in the country's trade balance. According to estimates, the Algerian national cargo fleet represents only a marginal share, around 3% of the cost of maritime transport, unlike other foreign ship owners. For example, the Compagnie maritime d'affrètement-Compagnie générale maritime (CMACGM) alone has a 35% share of the Algerian sea freight market (Algeria, Eco, 2021).

The costs of the transport chain and of port passage of goods in Algeria represent a very significant proportion of the final cost of imported or exported products, directly influencing the final price of goods and reducing the competitiveness of Algerian products on international markets. In Algeria, the cost of shipping goods by sea can in some cases reach 35% of the value of the purchase price of imported goods, whereas by international standards it is generally between 15% and 18% (Maghreb Emergent p12, 2016). These weaknesses in the maritime transport chain make the transport of goods to Algeria the most expensive among the Mediterranean countries.

In this connection, the purpose of this contribution is to explain the increase in the costs of the maritime freight transport and logistics chain in Algeria, and to analyse all the costs and additional costs which give rise to the long maritime freight transport process. Thus, we will confine ourselves to looking at how maritime freight transport operators can participate in reducing the time and therefore the cost of transport.

In an analytical and exploratory approach through the use of a field survey, and in order to provide answers to our question, we chose the port of Bejaia through the exploitation of different data from a few companies interacting with the port through import or export operations, and data from a few marine transport stakeholders. To this end, a questionnaire and semi-policy interview survey was carried out among these enterprises and auxiliaries. (Freight forwarders, Bejaia Port Company), To give some reasons for the rising costs associated with the maritime transport of goods in Algeria, and to analyse all the costs and additional costs that generate the long maritime process of transporting goods.

This article is divided into two main parts: the first deals with the state of maritime transport in Algeria, and the second with a case study of the port of Bejaia.

I-the state of shipping in Algeria:

The maritime freight logistics chain is considered to be the weak link in the Algerian economy. It cannot cope with the new circumstances of the country's economic development and adapt to the needs of international trade imposed by globalization.

In 2018, according to the Bank of Algeria, imports of transport service by foreign shipping companies in Algeria reached \$3.60 billion, about 97% of the country's import volume (Bank

Algeria P44, 2019). On the other hand, the national cargo shipping fleet guarantees only a marginal share, of about 3%, of the country's foreign merchandise trade volumes. The high price of shipping and port services increases the final purchase cost of products (raw materials) imported by domestic companies and affects the competitiveness of Algerian companies on the domestic and international markets. The weakness of Algerian non-hydrocarbon exports in relation to the overall volume of imports has caused empty returns of vessels and containers, leading to a double loss for Algeria (Slimane, 2023).

In Algeria, as in many ports around the world, the spread of the Covid-19 pandemic in 2020 also caused major disruption to sea freight shipments, which in turn led to a sharp rise in shipping prices. According to the figures provided, the cost of sea freight has tripled since the spread of pandemic 2020, the cost of transporting a 40-foot container has increased from \$1,700 to \$7,800 (Algeria, Eco, 2021).

The maritime transport sector in Algeria suffers from several obstacles at different levels which are generally linked to :

I-1- port infrastructures are inadequate.:

The majority of Algerian ports were built during the French colonial era between 1840 and 1960.(IGECLP P8, 2017). They are characterized by :

- Shallow water tie-rods and reduced and narrow storage spaces, which do not meet the requirements of large ships of more than 20 000 deadweight tonnes. As a result, just ships that contain up to 400 containers that can dock at Algerian ports (M'hammed Setti, Fatima Zohra Mohamed Cherif, & César Ducruet, 116/2011).
- With the exception of the port of Jijel, all the other ports have been built in the major cities with reduced storage space and very few prospects for expansion which do not meet the needs of port activity.
- They are located in short full lands that pose great problems to modernize Algerian ports and install large equipment.
- Algerian ports are characterized by low technical efficiency, averaging 18.85% between 2005 and 2016. This result explains the low utilization of Algerian ports of their production capacity, in other words, they waste 81.15% of their production resources(Fadloun, 2017-2018).

I-2- Ageing of the National Shipping Fleet

At the end of 2017, the national freight transport fleet consisted of 17 vehicles (16 owned by the public company CNAN and the other by the private company Nolis, a subsidiary of the Cevital group). On average, the CNAN fleet is over 30 years old (between 30 and 35 years). In 2016, CNAN had just under five (05) operable vessels(IGECLP P8, 2017).

I-3- Vessel Charter Problem

According to article 649 of the 1998 Algerian Maritime Code, all vessel charter activities in Algeria must be carried out by natural or legal persons of Algerian nationality who are ship owners and whose field of activity is in Algerian territory. (Algerian Maritime Code P61, 1998).

According to Article 572 of the Algerian Maritime Code Ship owners are individuals or companies who operate vessels on their own account, either as the owner of the vessel or for other reasons that give them the use of the vessel (Algerian Maritime Code P61, 1998).

Through these two articles, we find that in order to have a concession to operate maritime transport it is necessary to be owner or charterer. So the obstacle lies in the obligation to be a ship owner, which does not allow Algerian economic operators to negotiate charter contracts, which gives their foreign suppliers an advantage of negotiating contracts favourable to them. (Fodil, BOUCHELLAL Youcef, & DADDI ADDOUN Nacer, N°2 (2021)).

II- Results of the field survey

Data from this survey are collected through three large industrial companies importing raw materials and four large freight forwarders operating at the port of Bejaia, via two types of questionnaires (qualitative and quantitative) and semi-policy interviews in order to provide some explanations for the increase in the costs of the maritime transport and logistics chain of goods in Algeria, and to analyse all the costs and additional costs which give rise to the long process of transporting goods. We also used data collected at the Bejaia port company (EPB) through a field survey and semi-directive interviews with its management. The aim was to study and analyze the services offered in the port of Bejaia, as well as the level of satisfaction of other stakeholders. Thus, we will confine ourselves to looking at how maritime freight transport operators can participate in reducing delays and therefore the cost of transport.

II-1- The Port of Bejaia is considered to be the economic development lung of the region and Algeria:

By continuously improving its quality of services, The port of Bejaia is seen as an essential element in the country's economic growth. In terms of commercial activity, the port of Bejaia ranks second in Algeria, it plays a major role in the freight transport chain. It offers its customers enabling and competitive terminals with modern equipment and efficient infrastructure.

II-1-1- Port activity at the Port of Bejaia from 2017 to 2021:

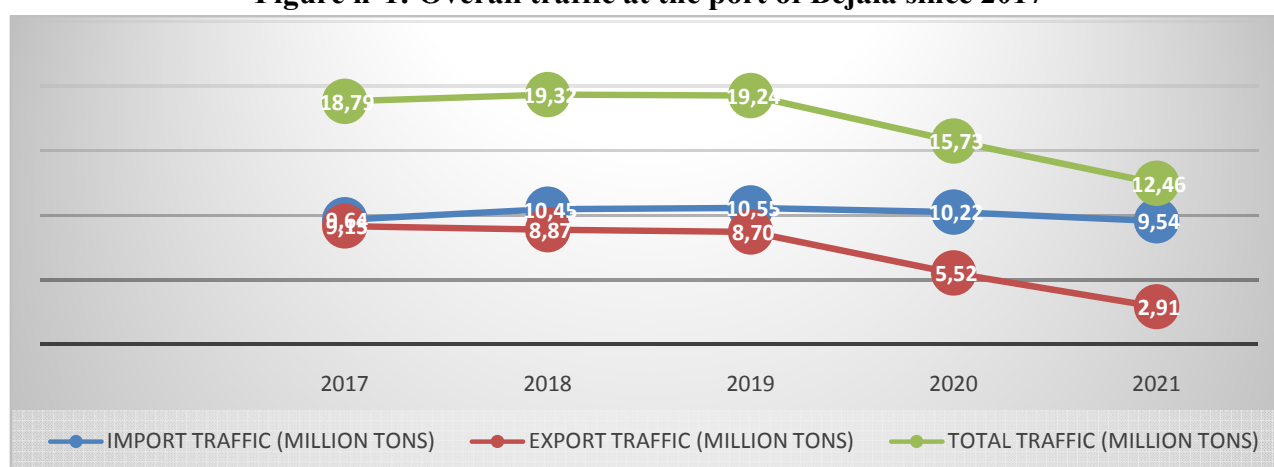
Table n°01 shows the evolution of overall traffic at the port of Bejaia from 2017 to 2021.

Table n°1: Overall traffic situation at the port of Bejaia

year	IMPORT TRAFFIC (TONS)	EXPORT TRAFFIC (TONS)	TOTAL TRAFFIC (TONS)	HYDROCARBON TRAFFIC (TONS)		TRAFFIC EXCLUDING HYDROCARBONS (TONS)	
				Import	Export	Import	Export
2017	9 640 106	9 147 946	18 788 052	862 532	8 311 172	8 777 574	836 774
2018	10 452 773	8 867 201	19 319 974	872 845	8 011 970	9 579 928	855 231
2019	10 545 690	8 698 535	19 244 225	975 611	7 804 097	9 570 079	894 438
2020	10 217 219	5 517 654	15 734 873	758 031	4 451 553	9 459 188	1 066 101
2021	9 544 816	2 911 218	12 456 034	902 279	1 815 213	8 642 537	1 096 005
Total	50 400 604	35 142 554	85 543 158	4 371 298	30 394 005	46 029 306	4 748 549

Source: Survey results, 2022

Figure n°1: Overall traffic at the port of Bejaia since 2017

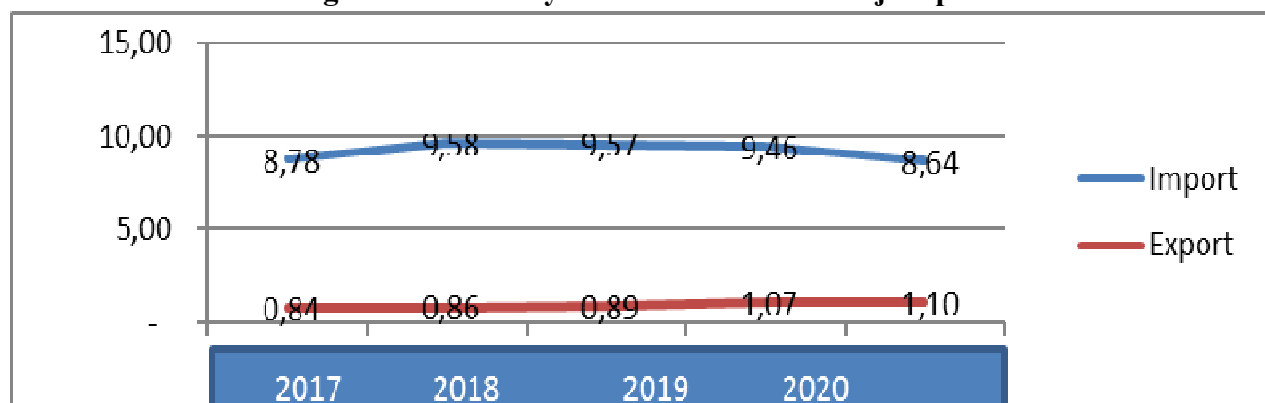


Source: Survey results, 2022

The Port of Bejaia closed the 2021 financial year with a significant drop in activity, recording an overall handling of 12,456,034 tonnes of goods in 2021, compared with 15,734,873 tonnes in 2020 and 19,244,225 tonnes in 2019. This drop in goods traffic was mainly due to the volume of hydrocarbon exports, with a volume of 1,815,213 tonnes in 2021 compared with 4,451,553 tonnes in 2020, representing a decline of 59%. The main reason for this is the Covid-19 health crisis, which has had an impact on crude oil prices. Total import traffic also fell by 6.58%, reaching 9,544,816 tonnes in 2021, compared with 10,217,219 tonnes in 2020.

In 2021, imports of goods other than hydrocarbons reached a volume of 8,642,537 tonnes, compared with 9,459,188 tonnes in 2020, representing a drop of 8.63%. Exports of non-hydrocarbon products, on the other hand, increased by around 3% compared with 2020, reaching a volume of 1,096,005 tonnes in 2021 versus 1,066,101 tonnes in 2020 (Figure n°2).

Figure n°2: Non-hydrocarbon traffic at Bejaia port



Source: Survey results, 2022

II-1-2- Port activity in Bejaia after the Covid-19 pandemic:

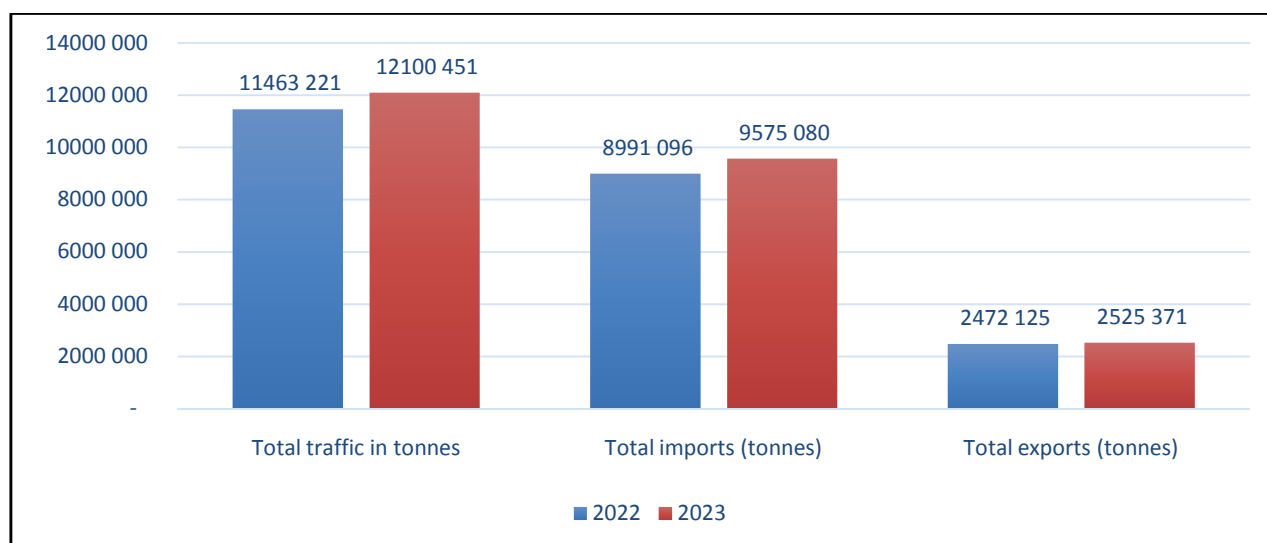
After two years of disruption due to the pandemic of Covid-19 where the level of traffic recorded a great fall, the port of Bejaia managed to achieve a significant recovery of traffic, it treated during the year 2023 a total traffic of 12.10 millions tons, an increase of 5.56% compared to 2022. This recovery is due to the increase in the treatment of non-hydrocarbon goods, it is both import and export. It managed to achieve an increase of 6.50% in terms of imports and 2.15% in terms of exports compared to 2022 (Figure n°3).

Table n°2: Traffic trends at the port of Bejaia:

	2022	2023	Change (+)	Change (%)
Total traffic in tonnes	11 463 221	12 100 451	637 230	5,56%
Total imports (tonnes)	8 991 096	9 575 080	583 984	6,50%
Total exports (tonnes)	2 472 125	2 525 371	53 246	2,15%

Source: EPB Annual and Statistical Report, 2023

Figure n°3: Traffic trends at the port of Bejaia



Source: EPB Annual and Statistical Report 2023

II-2- The results of an analysis of the costs of transporting goods by sea through the port of Bejaia

The following tables provide a summary of all the elements that make up the incidental costs of purchasing abroad, followed by a percentage estimate of the share of each of these elements in the total cost of transport in relation to the value of the imported goods.

Summary data from the questionnaires of three companies (E) concerning the evolution of ancillary costs linked to the purchase of goods abroad by sea are as follows:

II-2-1- Enterprise Case No. 1

Location: Akbou (W) Bejaia;

Type of activity: industrial;

Size: large;

Country of import: India;

Inco terms: CFR;

Port of import: Port of Bejaia.

Table n°3: Transport costs and port logistics (in DA)

Elements of purchase expenses	July 2022	%	March 2022	%	December 2021	%	June 2021	%
Foreign supplier purchase invoice	22 759 089	100%	22 397 663	100%	17 537 934	100%	14 677 156	100%
Transport costs (seafreight)	14 667 660	64,4%	16 084 800	71,8%	6 700 988	38,2%	5 742 276	39,1%
Amount of Consignees	360 679	1,6%	471 604	2,1%	332 948	1,9%	305 217	2,1%
Amount of freight forwarders	82 500	0,4%	93 500	0,4%	66 000	0,4%	60 500	0,4%
Amount BMT	306 404	1,3%	296 922	1,3%	166 947	1,0%	167 958	1,1%
Amount (EPB)	56 047	0,2%	51 017	0,2%	42 418	0,2%	43 393	0,3%
Amount of transport (ground)	450 000	2,0%	510 000	2,3%	360 000	2,1%	330 000	2,2%
Total miscellaneous purchase expenses *	15 923 290	69,9%	17 507 845	78,2%	7 669 301	43,7%	6 649 346	45,3%

Source: Survey results, 2022

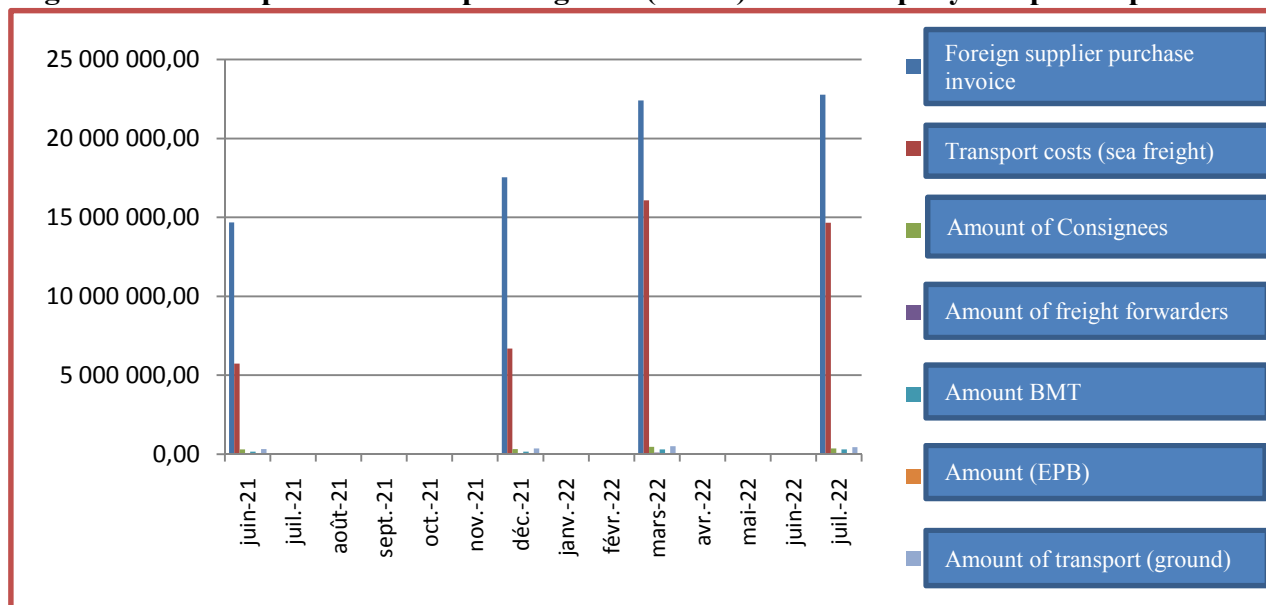
The percentages are calculated in relation to the purchase price of the products (purchase amount)

Example: $69.9\% = (15\,923\,290 / 22\,759\,089) \times 100$

Total ancillary costs of purchase = sea freight + amount of consignees + amount of freight forwarders + amount BMT + amount (EPB) + amount of transport (land).

Example: $15,923,290 = 14,667,660 + 360,679 + 82,500 + 306,404 + 56,047 + 450,000$.

Figure n°4: Transport costs and port logistics (in DA) of the company's imported products 1



Source: Survey results, 2022

The results from the previous table, where the company imported to distant countries (e.g. India), are as follows:

- Freight transport chain and port crossing costs (total purchase costs) account for a very large share of the value of imported goods, rising from 45.3 per cent in June 2021 to 78.2 per cent in March 2022;
- Ocean freight is too high, rising from 39.1% in June 2021 to 71.8% in March 2022, relative to the value of imported goods;
- On the other hand, the burdens of other marine stakeholders are acceptable, they are not high;
- It was also found that ocean freight almost doubled between 2021 and 2022 due to the global health and economic crisis caused by the COVID-19 pandemic, which directly influenced global supply chains: port congestion, lack of containers, travel or entry bans, mandatory quarantine, etc.

The same results are found for company 2 which imported into India,

II-2-2- Enterprise Case No. 2

Location: Takarietz (W) Bejaia;

Type of activity: industrial;

Country of import: India;

Inco terms: CFR;

Port of import: Port of Bejaia.

Table n°4: Transport costs and port logistics (in DA)

Elements of purchase expenses	June 2021	%
Purchaseinvoice (price)	4 559 708	100%
Transport costs (seafreight)	2 280 308	50,00%
Consignees' expenses	91 120	2,00%
Freightforwarders' loads	50 000	1,10%
Expenses of BMT	41 120	0,90%
EPB expenses	729	0,02%
Amount of land transport	24 000	0,50%
Total ancillary purchase costs	2 487 277	54,5%

Source: Survey results, 2022

The percentages are calculated in relation to the purchase price of the products (purchase amount)

Transportation costs = $(2,280,308/4,559,708) \times 100 = 50\%$

Consignee charges = $(91\,120/4\,559\,708) \times 100 = 2\%$

Freight forwarders = $(50,000/4,559,708) \times 100 = 1.1\%$

BMT loads = $(41\,120/4\,559\,708) \times 100 = 0.9\%$

EPB loads = $(729/4\,559\,708) \times 100 = 0.02\%$

Ground transportation $(24,000/4,559,708) \times 100 = 0.5\%$

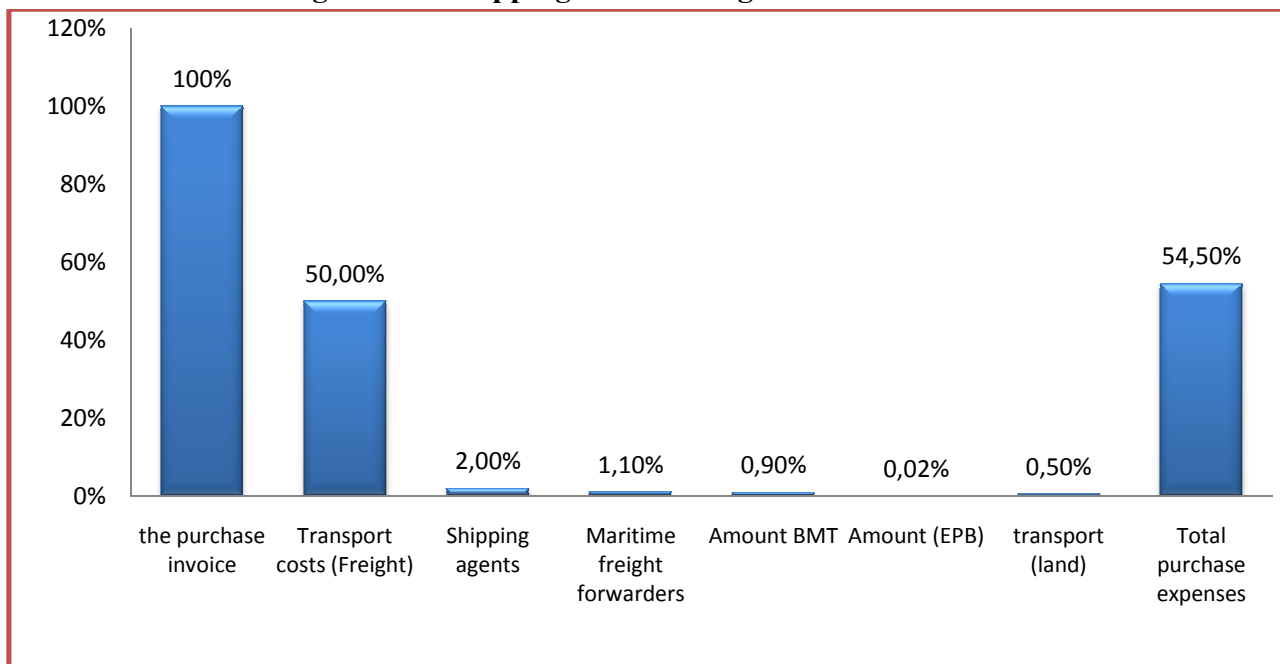
Total purchase ancillary costs = $(2,487,277/4,559,708) \times 100 = 54.5\%$

Total ancillary costs of purchase = sea freight + amount of consignees + amount of freight forwarders + **amount BMT** + **amount (EPB)** + amount of transport (land).

Total purchase expenses = $2,280,308 + 91\,120 + 50,000 + 41\,120 + 729 + 24,000 = 2,487,277$.

The total ancillary purchase costs represent a very important part of the purchase cost of the goods imported into India by the company N ° 2, it represents 54,5% of the initial purchase price. We also see that sea freight represents a very important part of the purchase cost, it represents 50% of the initial purchase price.

Figure n°5: Shipping costs and logistics undertaken 2



Source: Survey results, 2022

II-2-3- Enterprise Case No. 3

Location: El Kseur (W) Bejaia; **Type of activity :** industrial; **Size:** large ; **Country of import:** Germany; **Inco terms:** CFR.

Table n°5: Transport costs and port logistics (in DA) of imported products

Elements of purchase expenses	June 2022	%	February 2021	%	August 2020	%	July 2019	%
Purchase invoice	18 658 171	100%	33 032 355	100%	16 873 785	100%	31 994 149	100%
Transport costs (Freight)	6 676 665	35,8%	11 819 543	35,8%	6 037 729	35,8%	7 159 529	22,4%
Burden of consignees	323 609	1,7%	776 646	2,4%	416 142	2,5%	804 377	2,5%
Freight forwarders load	64 168	0,3%	116 831	0,4%	82 500	0,5%	159 500	0,5%
Amount BMT	231 520	1,2%	721 969	2,2%	337 919	2,0%	469 171	1,5%
Amount (EPB)	31 592	0,2%	59 093	0,2%	29 922	0,2%	49 600	0,2%
Land transport	128 336	0,7%	308 000	0,9%	165 000	1,0%	319 000	1,0%
Total purchase expenses	7 455 892	40,0%	13 802 083	41,8%	7 069 214	41,9%	8 961 178	28,0%

Source: Survey results, 2022

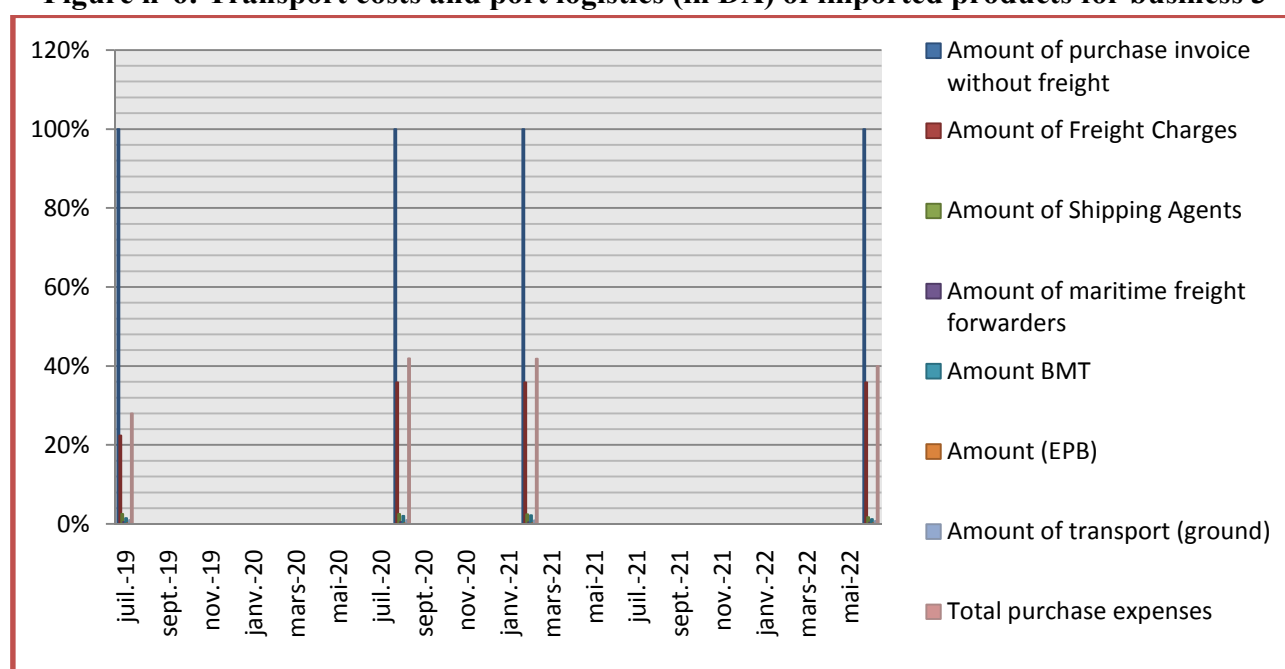
The percentages are calculated in relation to the purchase price of the products (purchase amount)

Example: $40\% = (7,455,892 / 18,658,171) \times 100$

Total ancillary costs of purchase = sea freight + amount of consignees + amount of freight forwarders + **amount BMT** + **amount (EPB)** + amount of transport (land).

Example: $7,455,892 = 6,676,665 + 323,609 + 64,168 + 231,520 + 31,592 + 128,336$.

Figure n°6: Transport costs and port logistics (in DA) of imported products for business 3



Source: Survey results, 2022

The analysis results from Enterprise 3 are as follows:

- Total purchase expenses represent a very large share of the value of imported goods, from 28% in July 2019 to 41.8% in February 2021, an increase of 13.8%;
- Ocean freight is too high, rising from 22.4% in July 2019 to 35.8% in February 2021, an increase of 13.4%, compared to the value of imported goods. This increase is justified by the global health crisis caused by the COVID 19 pandemic;
- The loads of other maritime stakeholders are acceptable, so their influence is very small compared to sea freight.

The Wilaya of Bejaia is known for its large agri-food companies, such as Laiterie Soummam, Cevital, Danone Algérie, Ifri, général emballage, etc., which supply a large part of the Algerian market. All these companies are directly connected to the port of Bejaia, where they import large quantities of raw materials for processing into finished products for the national or international market. Their aim is to maximize profits and minimize costs. A product's degree of profitability is directly linked to its cost price. The latter is calculated as follows: cost = raw materials purchase cost + production cost + distribution cost.

According to our research, the cost of purchasing raw materials abroad is excessively high, due to rising sea freight costs. The share of this purchase cost in the cost price of finished products is considerable, which has a negative impact on the performance of Algerian companies.

II-3- Results of an analysis of the quality of service provided by maritime operators at the port of Bejaia

The tables and figures below summarize all the replies to the questionnaires of 3 enterprises (E) and 4 freight forwarders (T) concerning the quality of services provided by maritime operators (EPB, BMT (Bejaia Mediterranean Terminal), Customs Bejaia and ship owners) at the port of Bejaia.

II-3-1- summary of service quality results at EPB (Bejaia port company)

Responses to questionnaires from 3 companies (E) and 4 freight forwarders (T) concerning the quality of the services provided by the Bejaia port enterprise (EPB) are as follows:

Table n°6: Summary of results on the quality of EPB services

Quality of services	T1	T2	T3	T4	E1	E2	E3
at port level	good	good	good	good	good	allowable	allowable
at the administrative level	good	good	good	good	good	allowable	allowable
Duration of port services	allowable	allowable	allowable	allowable	allowable	slow	allowable
Length of service to the administration	allowable	allowable	allowable	allowable	allowable	slow	allowable
Prices of services	Rather Satisfied	Rather Satisfied	Rather Satisfied	Rather Satisfied	Rather Satisfied	Rather Satisfied	Rather
the means of work used with the EPB	good	allowable	good	good	allowable	good	allowable
Duration of handling	allowable	allowable	allowable	allowable	allowable	allowable	allowable

Source: Survey results, 2022

The main results are summarized as follows:

- The quality of services at the port of Bejaia is good ;
- The duration of port services, the quality of the equipment used with EPB and the duration of port operations are acceptable ;
- The prices of EPB services are rather satisfied;

➤ Finally, the quality of the working methods used with EPB is good.

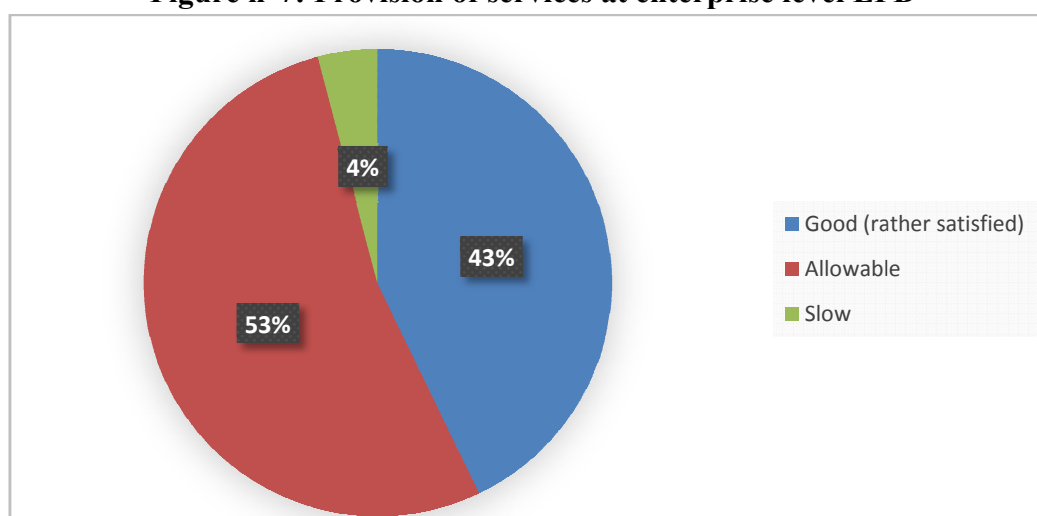
The previous results have been summarized in the following table to estimate the degree of the performance elements (good, acceptable and slow) of the services provided at the enterprise level EPB.

Table n°7: Provision of services at enterprise level EPB

Service delivery	Number	Percentage
Good (rather satisfied)	21	42,86%
Allowable	26	53,06%
Slow	2	4,08%
Total	49	100,00%

Source: Survey results, 2022

Figure n°7: Provision of services at enterprise level EPB



Source: Survey results, 2022

Figure (7) shows that the level of service provision at the EPB enterprise level is acceptable by 53%, good (somewhat satisfied) by 23% and slow by 4%. These results confirm the role that EPB plays, as a decisive player, in improving the quality of service and reducing logistical costs at the port of Bejaia.

Customer satisfaction has always been EPB's primary objective. It constantly devotes resources to the research and development of logistics and maritime solutions, in order to offer industry professionals a system that meets their expectations. In this way, EPB has played a major role in reducing lead times, and hence supply chain costs, at the Port of Bejaia.

II-3-2- Summary of Performance of Customs Services

Companies (E) and freight forwarders (T) responded to questionnaires concerning the qualities of Bejaia customs services, with the following results:

Table n°8: summary of service quality levels at Bejaia customs

Quality of Bejaia customs services	T1	T2	T3	T4	E1	E2	E3
Quality of control procedures at port level	good	good	allowable	allowable	allowable	allowable	allowable
Duration of controls at port level	allowable	allowable	slow	allowable	allowable	allowable	allowable
Quality of service at the administrative level	allowable	good	allowable	good	allowable	allowable	allowable
Duration of service delivery at the administrative level	slow	allowable	allowable	allowable	allowable	allowable	allowable
The quality of the working methods used with customs	allowable	allowable	good	allowable	allowable	allowable	allowable

Source: Survey results, 2022

The main results on the quality of service delivery at the port of Bejaia are summarized as follows:

- the quality of customs control services at the port of Bejaia is acceptable;
- Customs control of goods at the port of Bejaia takes an acceptable length of time ;
- The quality of service offered by Bejaia's customs offices is acceptable ;
- Processing times at the Bejaia customs office are acceptable ;
- The quality of the working methods used with customs is acceptable.

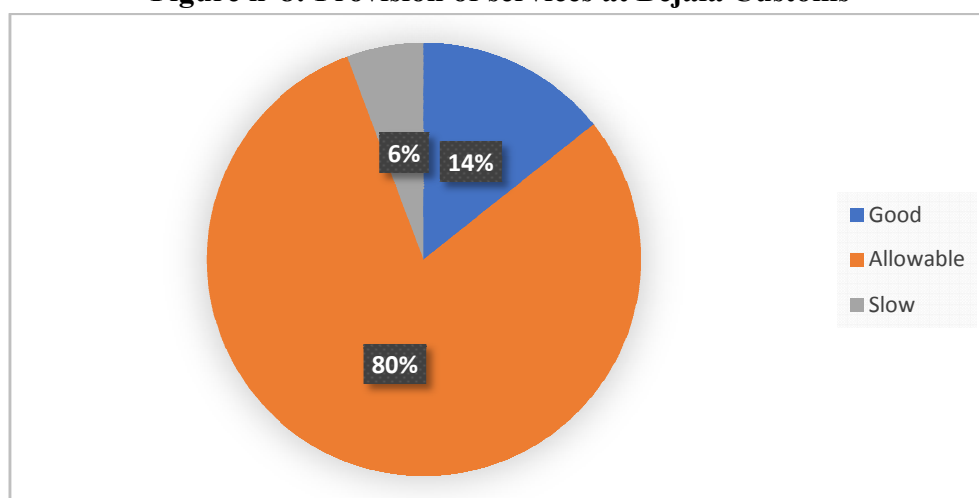
The above results have been summarized in the table below to assess the degree of performance (good, acceptable and slow) of the services offered by the Bejaia customs administration.

Table n°9: Provision of services at Bejaia Customs

Service delivery	Number	Percentage
Good	5	14,29%
Allowable	28	80,00%
Slow	2	5,71%
Total	35	100,00%

Source: Survey results, 2022

Figure n°8: Provision of services at Bejaia Customs



Source: Survey results, 2022

Figure (8) shows that the level of service provision at the level of the Customs administration of Bejaia is acceptable by 80%, good by 14% and slow by 6%.

The Bejaia Customs Force plays a decisive role in the process of customs clearance at the port of Bejaia and, with the assistance of other port-level actors, controls and organizes the various import and export transactions and operations of goods.

II-3-3- Summary of results on the quality of services at the BMT level

Table n°10: Summary of the results of the quality of BMT services

Quality of BMT services	T1	T2	T3	T4	E1	E2	E3
BMT's quality of service at the port	good	good	good	good	good	good	allowable
Service delivery qualities of the administration of BMT	allowable	good	allowable	good	good	good	allowable
The duration of BMT's service provision at the port level	allowable	allowable	allowable	allowable	allowable	allowable	allowable
The service life of the administration of BMT	allowable	allowable	allowable	allowable	allowable	allowable	allowable
Prices for the provision of BMT services	high	Some what satisfied	Some what satisfied	Some what satisfied	Some what satisfied	Some what satisfied	Some what satisfied
Duration of port handling	slow	allowable	allowable	allowable	allowable	allowable	allowable

Source: Survey results, 2022

The main results are summarized as follows:

- The quality of the provision of port BMT services is good and acceptable ;
- The quality of service delivery in the administration of BMT is good and excellent ;
- The duration of the provision of port and administrative BMT services and the duration of port handling operations are acceptable ;
- Tariffs for the provision of BMT services are almost quite satisfied.

The company BMT develops and manages the best container terminal in Algeria, and guarantees its customers the best services at adequate costs.

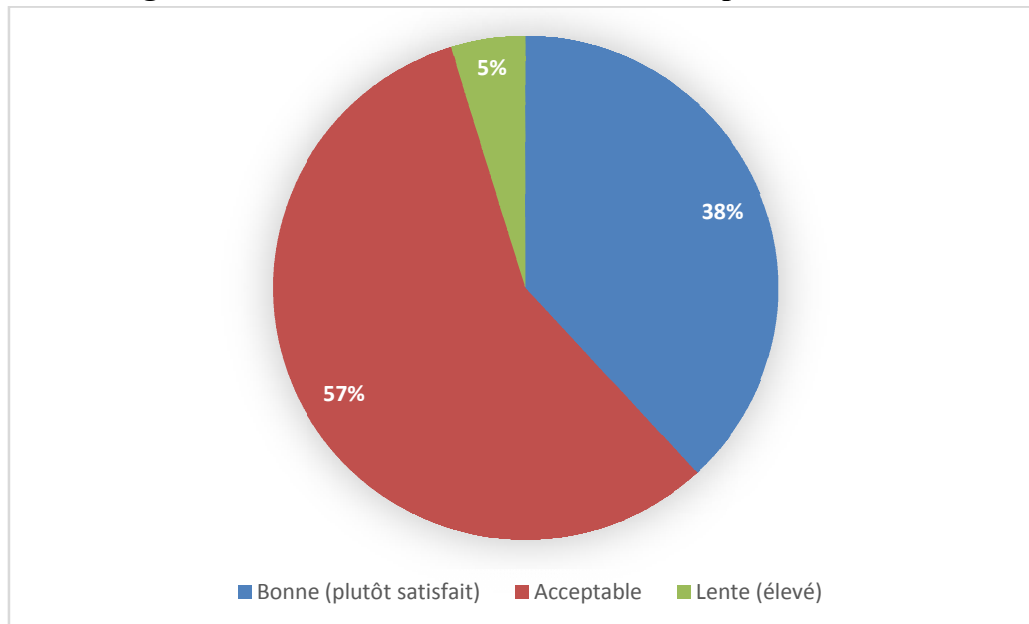
The previous results have been summarized in the following table to estimate the degree of the performance elements (good, acceptable and slow) of the services provided at enterprise level BMT:

Table n°11: Provision of services at the enterprise level BMT

Service delivery	Number	Percentage
Good (rather satisfied)	16	38,10%
Allowable	22	57,14%
Slow (high)	2	4,76%
Total	42	100,00%

Source: Survey results, 2022

Figure n°9: Provision of services at the enterprise level BMT



Source: Survey results, 2022

Figure (9) shows that the level of service delivery at the enterprise level BMT is acceptable by 57%, good (somewhat satisfied) by 16% and slow by 5%.

BMT (Bejaia Mediterranean Terminal) is a company managing and operating the Container Terminal at the port of Bejaia. It has a terminal to international standards with efficient equipment that ensures the treatment of containerized goods with quality services.

To study the estimation of the quality of services by the three stakeholders (EPB, Customs Bejaia and BMT) at the port level of Bejaia, we compiled the presidential results in a following table to determine the overall level of service provision.

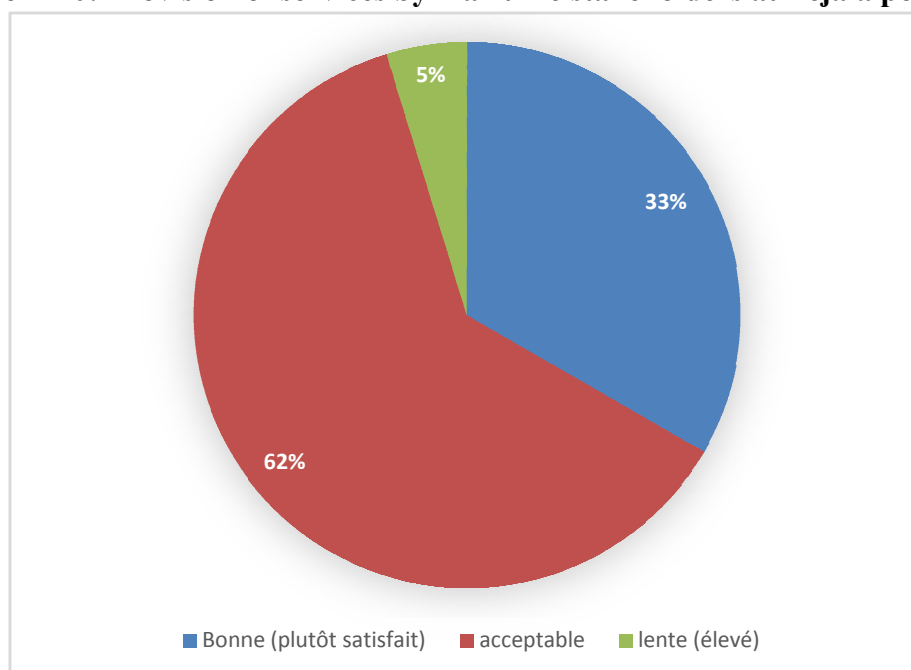
Table n°12: Provision of services by maritime stakeholders at Bejaia port level

Service delivery	Number	Percentage
Good (rathersatisfied)	42	33,33%
Allowable	78	61,90%
Slow (high)	6	4,76%
Total	126	100,00%

Source: Survey results, 2022

Figure (10) shows that the level of service delivery at the Bejaia port level by the three stakeholders (EPB, Bejaia Customs and BMT) is acceptable by 62%, good (somewhat satisfied) by 33% and slow by 5%. These results confirm the place of the port of Bejaia as an engine of economic development for the region and for Algeria.

Figure n°10: Provision of services by maritime stakeholders at Bejaia port level



Source: Survey results, 2022

II-3-4- State of shipping movements and length of stay of ships in the port of Bejaia:

The following two tables show the evolution of shipping movements and the length of stay of ships at the Port of Bejaia from 2018 to 2021.

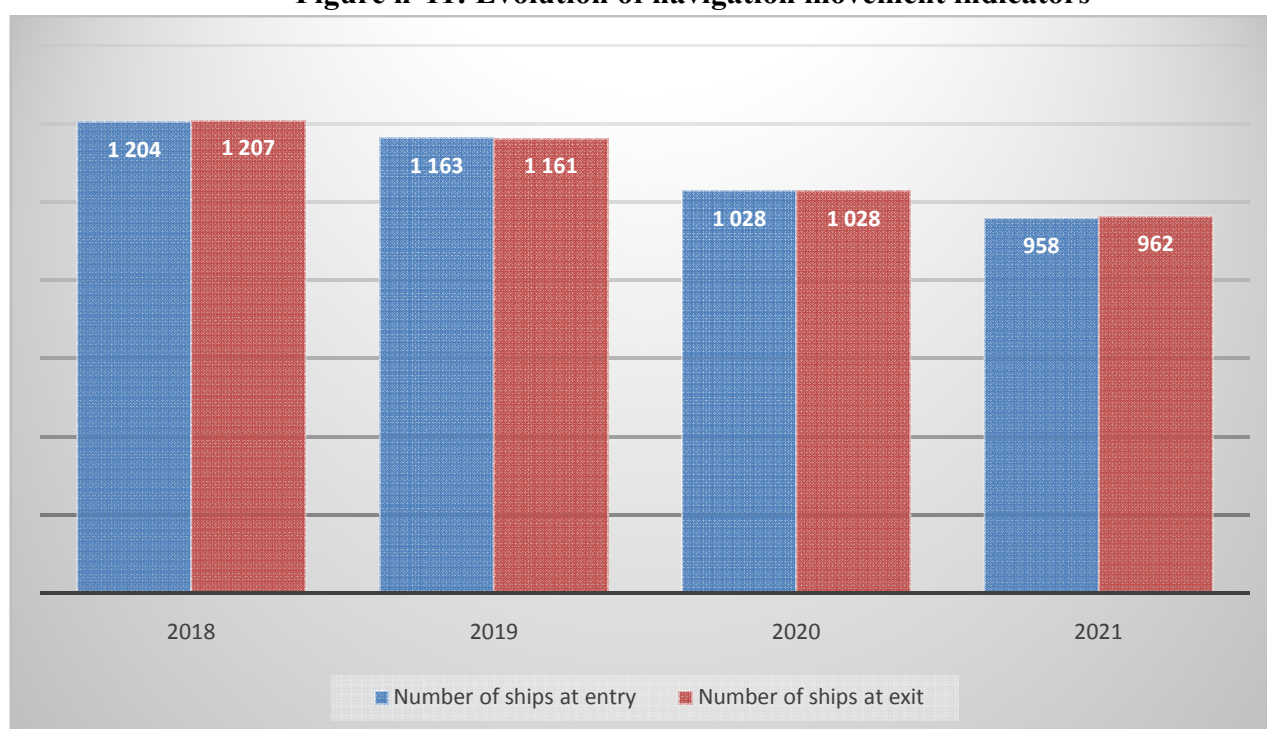
Table n°13: Evolution of navigation movement indicators

Year	Number of ships at entry	Number of ships at exit
2018	1 204	1 207
2019	1 163	1 161
2020	1 028	1 028
2021	958	962

Source: Survey results, 2022

The port of Bejaia is considered a key player in the region's economic development. In fiscal 2019, it handled 1163 incoming ships, compared with 1,204 ships in 2018, representing a decrease of 41 ships. In addition, the number of incoming ships in fiscal 2021 also fell by 6%, representing 70 fewer ships than in 2020. This means that 958 ships were processed on entry in 2021, compared with 1028 ships in 2020 (Figure n°11).

Figure n°11: Evolution of navigation movement indicators



Source: Survey results, 2022

On average, ships spent three days in harbor and at the quayside at the Port of Bejaia during 2021, for all ship types. The drop in ship waiting times at the Port of Bejaia is due not only to the reduction in activity caused by the health situation in Covid-19, but also to the efforts made by EPB to improve services at the Port of Bejaia. (Table n°14).

Table n°14: Average length of time ships stay in port and at the quayside

Years	Céréalières		Freighters		Containers		Wood		Iron&Tubes		Ro/Ro	
	in harbor	at the quay	In harbor	at the quay	In harbor	at the quay	in harbor	at the quay	In harbor	at the quay	in harbor	at the quay
2018	2,76	7,69	3,86	6,02	3,55	2,23	1,16	3,23	1,11	1,72	0,48	1,68
2019	5,45	7,95	4,93	4,87	7,34	2,77	1,38	2,4	2,21	2,39	0,7	2,02
2020	4,83	7,53	4,22	4,87	3,4	3,05	1,27	3,22	2,08	2,7	0,78	2,85
2021	3,74	7,9	2,62	4,37	0,43	1,99	0,46	2,72	0,74	2,19	0,42	2,32

Source: Survey results, 2022

Despite the efforts made by the various players in the transport chain and port passages to provide quality services and use efficient means, Algeria's maritime transport sector unfortunately lags far behind the majority of countries in the world. This is why it is necessary for the Algerian state to invest in port infrastructures and increase the national naval fleet, while allowing private companies to invest in this field.

Conclusion

Sea freight transport plays an essential role in economic development and helps countries to grow their international trade. Its contribution is essential to the global exchange of goods, accounting for over 80% of the total volume of goods transported worldwide.

In Algeria's foreign trade, sea freight is the most widely used mode of transport, but it is mainly dominated by foreign shipping companies, which account for around 95% of total cargo volume. The impact of this situation on the balance of payments is profound, leading to a negative imbalance in the country's trade balance, which has a considerable impact on the national economy.

The COVID-19 pandemic that spread in 2020 also caused world wide disruption to supply chains and disrupted the shipping of goods. Our study found that ocean freight costs have exploded since the spread of the pandemic, accounting for about three quarters of the value of goods imported per container in distant countries (e.g. India), from 39.1 per cent in June 2021 to 71.8 per cent in March 2022, an increase of 32.7 per cent. On the other hand, it represents about 35% of the value of goods imported into European countries (e.g. Germany), from 22.4% in July 2019 to 35.8% in February 2021, an increase of 13.4%. On the other hand, at the port of Bejaia, it has been found that the services provided by other stakeholders are acceptable.

The causes of the weakness of the maritime transport sector in Algeria lie in:

- Inadequate logistical infrastructure at Algerian ports ;
- Ageing of the national shipping fleet;
- Problem of Algerian regulation of ship charters, because the Algerian Maritime Code of 1998 does not allow national operators to charter ships to carry their cargoes, which has left the land open for foreign shipping companies to dominate the maritime transport market. They generally dictate exorbitant prices, which has led to the ignition of maritime freight in Algeria.
- The management of the transport and operation of containers which often arrive full and leave empty, due to the low level of exports of non-hydrocarbon goods, which leads to a double loss for Algeria ;
- The conclusion of contracts for the purchase of goods in CFR mode by Algerian operators with their foreign suppliers, which has increased Algeria's import bill;
- Algerian ports are characterized by their shall ownness, which makes it difficult to accommodate large ships carrying more than 500 TEU containers.

Algeria should therefore restructure and revitalize its maritime transport sector by promoting and modernizing the national maritime fleet, invest in extension or construction of new ports according to international standards, updating and updating the content of Articles 649 and 572 of the 1998 Algerian Maritime Code concerning ship charter activities, and the organization of the function and activity of maritime transport operators.

Referrals and references:

1. Algeria, Eco. (2021, May 6). Sea freight goods:"government examines emergency plan"article by Benali Arezki,. (A. Eco, Editor) Retrieved from Algeria Eco: <https://www.algerie-eco.com/2021/05/06/fret-maritime-marchandises-gouvernement-examine-plan-durgence/>.
2. Algerian Maritime Code P61. (1998).
3. Bank Algeria P44. (2019, décembre). economic and monetary developments in Algeria. Retrieved from Rapport Annuel de la: <https://www.bank-of-algeria.dz/wp-content/uploads/2023/02/rapport-ba-2019fr.pdf>
4. Bauchet, P. (1992). Maritime transport. 10. (ECONOMICA, Ed.) Paris.
5. EPB, 2017- 2021. (n.d.). Retrieved from Bulletins d'information de l'EPB: <https://www.por tdebejaia.dz>
6. Fadloun, C. (2017-2018). The performance of Algerian ports: Comparative study using the Data Envelopment Analysis method (DEA). Doctoral thesis, 126.
7. Fodil, T., BOUCHELLAL Youcef, & DADDI ADDOUN Nacer. (N°2 (2021)). Sea chartering and freight costs. Journal Organization & work, 10, 234-251.
8. IGECLP P8. (2017, July 11□13). Retrieved from Intergovernmental Group of Experts on Competition Law and Policy: https://unctad.org/system/files/non-official-document/ciclp17th_c_aca_mar_fr.pdf
9. M'hammed Setti, Fatima Zohra Mohamed Cherif, & César Ducruet. (116/2011). Algerian ports in a globalized world: the end of the paradox? Journal of Mediterranean geography, 85-93.
10. Maghreb Emergent p12. (2016, August 7). Journal of economic information. Retrieved from <https://maghrebemergent.net/algerie-comment-transpot>
11. Slimane, M. (2023). Maritime and Port Logistics and International Trade Case Study Algeria. Journal of Administrative Sciences and financial, 07/N°01, 598-616.
12. UNCTAD, P4. (2019). maritime transport study. Retrieved from UNCTAD/RMT/2019.: https://unctad.org/system/files/official-document/rmt2019_fr.pdf