

Logistics Performance of Algerian Exporting Companies in the Face of the Consequences of the Covid-19 Crisis

الأداء اللوجستي للشركات المصدرة الجزائرية في مواجهة تداعيات أزمة كوفيد-19

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Abstract:

Covid-19 is an unprecedented crisis that has disrupted the global economy and caused significant damage to businesses. This article focuses on illustrating the logistics performance challenges that companies are facing in order to adapt and cope with the consequences of this crisis. Several studies have been carried out to assess the impact of this crisis. Our contribution is part of the analysis of the impact of Covid-19 on the logistics performance of international companies while identifying the strategies deployed and the measures set up in the short, medium and long term. Based on a sample of 47 Algerian exporting companies. The main results revealed a disruption in each element of logistics performance and the export operation following complete lockdown and borders closure. The results also showed the behavioural patterns of companies between adaptation and standby.

Keywords: Logistics performance; Exporting companies; Covid-19 crisis; International transport; Infrastructures.

JEL Classification Codes: L91, R41, H12

ملخص:

يعد فيروس كورونا المستجد (كوفيد-19) أزمة غير مسبوقة أدت إلى تعطيل الاقتصاد العالمي وتسببت في أضرار جسيمة للشركات. يركز هذا المقال على توضيح تحديات الأداء اللوجستي التي تواجهها الشركات من أجل التكيف والتعامل مع تبعات هذه الأزمة. وقد تم إجراء العديد من الدراسات لتقييم تأثير هذه الأزمة. مساهمتنا هي جزء من تحليل تأثير كوفيد 19 على الأداء اللوجستي للشركات دوليا مع تحديد الاستراتيجيات المنتهجة والتدابير المتخذة على المدى القصير والمتوسط والطويل. وتشمل الدراسة 47 شركة جزائرية مصدرة، كما اكتشفت الدراسة عن وجود خلل في الأداء اللوجستي وعملية التصدير بعد الحجر الكلي وإغلاق الحدود. كما أظهرت النتائج سلوك الشركات المنتهجة في ظل الأزمة بين التكيف والاستعداد.

كلمات مفتاحية: الأداء اللوجستي، المؤسسات المصدرة، أزمة كوفيد-19، النقل الدولي، البنى التحتية.

تصنيفات JEL: H12, R41, L91

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Introduction:

Crises are becoming more diverse, frequent, and severe. A prime example is the Covid-19 pandemic, a health crisis that emerged in late 2019 and spread to over 200 countries worldwide by 2020. This unprecedented crisis has disrupted the global economy without exception, causing significant damage to businesses across all sectors. As a result, businesses have been forced to grapple with its consequences.

The intervention and strategic role of logistics and Supply Chains have often manifested themselves during previous crises and particularly the Covid-19 pandemic. But in the obviousness of criticizing certain aspects in times of crisis, the Supply Chain is considered as the core of logistics activities (transportation, storage, supply, production, transport, storage, distribution and reverse logistics), with the objectives of managing and operationalizing physical, financial and informational flows, to ensure the continuity of flows at essential needs (care, nutrition, hygiene). However, at the start of the crisis, the majority of global Supply Chains were affected, which revealed a situation of vulnerability caused by insufficient preparation to deal with unexpected circumstances. (Ziad & fabes coste, 2021).

In a context of trade globalization, where international trade is hyper-competitive, the growth in sales following a significant increase in consumption has had major consequences. Consequently, these developments have given rise to the concept of logistics performance constituting a powerful lever for competitiveness. The Covid-19 pandemic has revealed the strategic importance of logistics in the value chain of companies, but also of vulnerability. From the reduction of orders to the partial or total cessation of activities, almost all industries have suffered the consequences of the collapse of the volumes transported. (Boulitama, Rahli, & Sabri, 2021).

Given its strategic geographical position and economic connectivity, Algeria is compelled to adapt the logistics performance of its exporting companies to the new transformations of the economic era and constraints, and especially to crises and know how to deal with the consequences of the pandemic that has affected logistics performance on a global scale. Therefore, it must develop and align its logistics performance level to these changes. Therefore, the core research question we aim to address is as follow:

Have exporting companies developed and aligned the level of their logistics performance in the face of the Covid-19 pandemic?

From this main question, we ramify the following sub-questions:

- Can exporting companies preserve their logistics performance in response to the Covid-19 pandemic?

- How do Algerian exporting companies manage their logistics in the face of the consequences of the Covid-19 pandemic?

Hypotheses:

In order to answer our research problem, we proposed two hypotheses:

Hypothesis 1: The logistics performance of Algerian exporting companies has been seriously affected by the Covid-19 pandemic.

Hypothesis 2: Low resilience of Algerian exporting companies facing the multiple consequences of the Covid-19 pandemic.

Aims of Research:

Our study aims to measure the logistics performance of Algerian exporting companies in the face of the Covid pandemic and to enrich the current work on logistics in Algeria during the Covid19 crisis. After documentary research, we find that there is no research, which treated this subject in Algeria.

Methods research:

We conduct a quantitative study with an exploratory purpose in order to answer our research problem by using a questionnaire conducted with a representative sample of 47 business leaders and senior executives of exporting companies operating in different sectors in Algeria. Contacting companies that carry out export activity, export and import activity was made using the Algerian exporter's guide issued by the Ministry of Industry and the and promotion of exports, our sample represents the diversity of size and sector of activity of exporting companies in Algeria.

Literature Review:

Since the beginning of the pandemic, several studies have been carried out to assess the impact of this crisis on functioning of companies. Among them; there is the one in which the authors debated the case of the impact of the pandemic on the functioning of companies (Boulitama, Rahli, & Sabri, 2021). They concluded that the general confinement of population and the closure of borders caused an important description of the various links in the logistics chain, which led a significant contraction in activity. The study also developed the presence of three types of behavior of companies in facing this shock but which have not been mentioned. Other studies (Benremila, lfourah, & haddad , 2022), confirm that the Covid-19 pandemic is affecting the entire logistics chain, both upstream and downstream; we are seeing significant disruptions in distribution. On the other side, there is research in which the writers discussed the case of export performance in the context of the health crisis coronavirus (Elkhider & Kissai, 2023). The various industries they studied experienced very significant declines in 2020 and saw a small recovery starting in 2021. Then, the shock to international supply led to disruptions in the production chain, and most companies had to stop their activities or reduce their workforce. The reduction in transport flows caused by restrictive measures has led to a drop in company production. Thus, reducing their activities at the international level.

1-The logistics:

Although several definitions of logistics exist, we will retain the definition proposed by the preparatory scientific committee for the CNL which designates logistics as “a set of physical operations for processing peripheral products and complementary to manufacturing and/or distribution operations and which include in particular transport, handling, storage, packaging...” (CNL centre national du livre, 2015). Financial and information flows are closely associated with these physical operations.

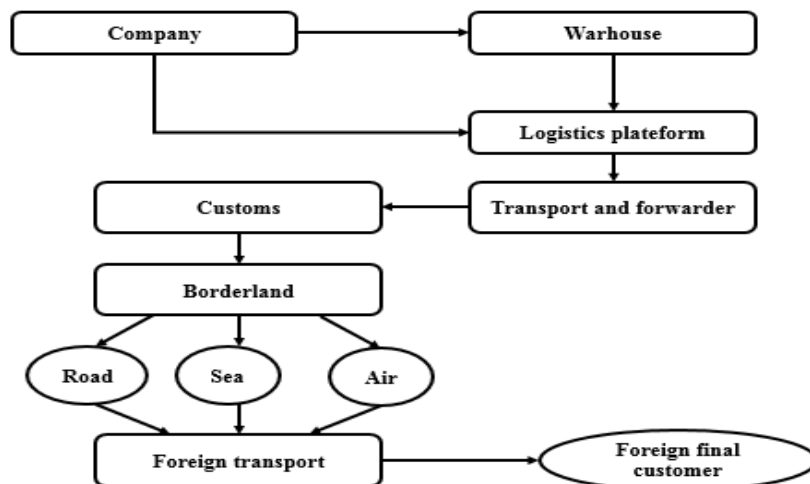
2- The international Logistics:

International logistics goes beyond the scope of international transportation. It includes all stages of logistics and distribution of products, as soon as they leave a warehouse of the seller (Duboin, 2020). Apart from the operations which appear in fig (1), international logistics must include in particular the following operations:

- Handling of batches by destination;
- Loading/unloading of each shipment;
- Storage before shipping each order;
- Traceability of shipments until arrival at the final foreign customer (all transport equipment is possibly tracked by GPS);
- All reverse logistics operations;
- Financial and administrative flows.

International logistics is a complex discipline; it presents strong potential for improvement and reliance on efficient administrative and performing IT systems.

Fig (1): The flows of distribution activity (Export Operations)



Source : by the researcher

3- Logistics performance :

3-1 Company Logistics performance:

The factors that contribute to define logistics performance and ensure its participation in the competitiveness of companies are mainly:

Cost of the service, the ability to contribute to the implementation of production and distribution objectives, and its ability to adapt to changing needs and expectations of the customer. (Fremont, 2015, p. 13).

The logistics performance of a company is measured through a set of models for example: the ASLOG logistics guide; the WCL model (World Class Logistic Model); the SCOR (Supply Chain Operations Reference); SC master; the EVALOG benchmark. These allow the strong points and weak points of the logistics chain to be analysed in order to be able to implement efficient logistics. (Consolidate strong points and develop weak points) according to (Gani, 2017), logistics plays a vital role in international trade. Improved logistics will have a positive

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impact on facilitating an increased volume of international trade, so it is very important that export companies will continue the process of performance logistics with greater strength and magnitude to achieve wider.

3-2 International logistics performance:

However, at the international level, the famous search engine «Google» when entering the word international logistics performance gives nearly 9 million answers, and nearly 13.000 results on the scientific search engine «Google Scholar» this clearly shows the importance of this concept in the field of scientific research and in the professional field.

The logistics performance of a country or international logistics performance is characterized by its advantages, which favor the creation of a more attractive climate for foreign investment and allowing the State to be competitive on an international scale. As the underlines (Ati, 2022), being efficient in logistics is having logistical assets allowing the creation of a conviviality attractive to investors. To measure international logistics performance a proposed index is published every two years by the World Bank, it is the logistics performance index LPI (Logistic Performance Index) which was published for the first time in 2007. This index is based on an international survey.

Under the label “logistics performance index”, we bring together various elements Table (1) some concern the skills of the State (customs, infrastructures and international shipments) and other elements target the strategies see the decisions of companies (logistics competence and quality, timelines and tracking and tracing).

Table (1): The elements of the logistics performance index LPI

The elements of the logistics performance index LPI	Signification
State competence in logistics	
Customs	Efficiency of the customs clearance process and facilitations (customs functions)
Infrastructures	The quality of infrastructure and logistics and transport implementation
International shipments	Pricing, frequency and availability (ease of organizing a shipment)
The company's logistics strategies (decisions)	
Logistics quality and competence	Skill and quality of logistics service offered
Tracking and tracing	The ability to track shipments in real time to their final destination (tracking and localization)
Timeliness	The ability to track shipments in real time to their final destination (track and trace)

Source: Made by the researcher

3-3 Logistics performance and Covid-19 pandemic:

This phenomenon has quickly affected logistics performance of Europe, Africa and the rest of the world. To defrost this complexity and improve flexibility in terms of responding to socio-economic needs, Supply Chain managers have placed themselves in the first line of defense. However, in order to stem the spread of Covid-19, gatherings were strictly prohibited.

According to (Queiroz, Ivanov, Dolgui, & Fosso Wamba, 2020), the Covid-19 pandemic has affected supply chains on a global scale. Regarding the logistics chain, it is true that the supply chain has been affected on a global scale by the Covid-19 crisis. And this destabilizing effect of the Covid-19 crisis needs to be sanded down managers and business leaders Thus researchers to rethink new logistics solutions.

Despite this uncertain context, companies have continued to supply products, manage stocks, prepare and deliver orders in often difficult conditions while finding solutions to the problems encountered throughout the crisis period. (Abbad & Hdidou, 2018).

Even outside of periods of crisis, companies must establish thoughtful strategies at all levels, even less when faced with a crisis such as that of Covid-19. In addition to the positive influence of aspects of export diagnosis on the decision of companies to enter international markets, (Bouziane, 2023), it is crucial to focus on the efficiency of logistics performance in order to reach foreign markets and obtain a competitive advantage.

The Covid-19 crisis has created a period of unprecedented uncertainty for businesses, as the majority of them have experienced a setback and a sharp decline in their activities. Disruptions in production chains are caused by the international supply shock, which has led most companies to stop operations or reduce their workforce. The reduction in transportation flows caused by the restrictive measures led to a reduction in the production of companies, which led to a reduction in their activities on a global scale according to. (Elkhider & Kissai, 2023) . Based on his study, he found that there are two levels of companies: companies that have permanently ceased their activities and companies, which have continued the activity by reducing production.

Developed countries and developing countries have different response capacity to the epidemic. Despite its weakness, the digital economy was the means many poor people had to survive. Furthermore, many companies tend to use robots to substitute humans to continue manufacturing essential products, such as masks and disinfectants, which serve to prevent and protect against the pandemic (Troubia, 2024) and to continue to produce the necessities for the survival of the inhabitants of the world.

3-4 Analysis of the logistics performance Index before and after the Covid-19 pandemic:

The table (2) compares Algeria's logistics performance according to the Logistics Performance Index (LPI) for 2018 and 2023 the period before and after the pandemic of Covid-19. It makes it possible to observe and evaluate the progress made and the elements to be improved in terms of logistics performance. The general ranking improved by 20 places, with Algeria moving from 117th to 97th position, reflecting a positive development. However, there is still a lot of space for improvement.

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Table (2): World ranking of Algeria within the Logistics Performance Index for the years 2018-2023

	LPI		Customs		Infrastructure		Internal shipments		Logistics. qualities and competenses		Tracking and Tracing		Timeliness	
Year	Rnk	Scr	Rnk	Scr	Rnk	Scr	Rnk	Scr	Rnk	Scr	Rnk	Scr	Rnk	Scr
2018	117	2.45	138	2.13	96	2.42	122	2.39	113	2.39	103	2.6	124	2.76
2023	97	2.5	101	2.3	125	2.1	57	3	126	2.2	98	2.5	116	2.6

Source the World Bank, connecting to compete, 2018, 2023, trade logistics in the global economy, the logistics performance index indicator.

Rnk: Rank, Scr: Score.

3-4-1 Improved elements:

The table highlights four elements where Algeria has made significant progress:
Customs: The ranking in this element moved from 138th to 101st position, demonstrating the effectiveness of customs services. Exports were favored, in particular thanks to the facilitation of export procedures during and after the Covid-19 crisis and investment in technology and training of customs agents;

International shipments: experienced significant improvement, as the element jumped from 122nd to 57th place, demonstrating considerable improvement in the area of international transportation;

Tracking and tracing: The ranking in this area increased slightly from 103rd to 98th place. This shows Implementing better tracking technology and improving transparency throughout the shipment distribution chain;

Timeliness performance: increased slightly from 124th to 116th, suggesting that there has been some progress in delivering shipments on time.

This progress is promising and demonstrates that Algeria is implementing concrete actions to improve its logistics performance.

3-4-2 Elements to Improve:

Despite the overall improvement in the general ranking, the table also reveals several elements where Algeria can still improve in terms of logistics performance:

Infrastructures: The ranking went from 96th to 125th place, indicating a deterioration of infrastructure linked to logistics such as roads, ports, airports, logistics establishments. Modern and efficient infrastructure is essential for efficient logistics;

Logistics qualities and competenses: this element also lost places, going from 113th to 126th place, which highlights a decline in the efficiency of quality and the competence of exporting companies. It is important that the country tackles the improvement of these elements in order to continue to progress in the LPI ranking and to strengthen its logistics competitiveness on an international scale.

3-5 Levels of resilience in logistics performance in the face of Covid-19:

According to (Fabbe-Costes & Sépari, 2020), Covid-19 represents an unprecedented and unique crisis which offers an exceptional observation framework for logistics and Supply Chain management. The Covid-19 pandemic could therefore lead to a change in behavior, as logistics researchers predict and as mentioned (Fulconis & Paché, 2020): Covid-19 is just another coronavirus, and probably not the last to face by humanity in the years to come, nor perhaps the most virulent on a purely mortal level. On the other hand, the negative consequences on the economy of the health crisis are on a scale never seen since the Second World War.

The Covid-19 crisis has created a period of unprecedented uncertainty for businesses, as the majority of them have experienced a setback and a sharp decline in their activities. Disruptions in production chains are caused by the international supply shock, which has led most companies to stop operations or reduce their workforce. The reduction in transport flows caused by the restrictive measures led to a reduction in the production of companies, which led to a reduction in their activities on a global scale according to. (Elkhider & Kissai, 2023). Based on his study, he found that there are two levels of companies: companies which have permanently ceased their activities and companies which have continued the activity by reducing production. On the other hand, according to Deloitte (2020), as mentioned (Boulitama, Rahli, & Sabri, 2021), the actions and reactions of companies facing the repercussions of the crisis are classified into three distinct groups:

Level 1: Companies that have anticipated the possibility of a crisis and have prepared to minimize the consequences and mitigate the repercussions;

Level 2: Companies are better prepared to face crisis risks;

Level 3: Companies that have failed to cope with the impact of the pandemic. (Abbad & Hdidou, 2018), but they continued to supply products, manage stocks, prepare and deliver orders in often-difficult conditions while finding solutions to the problems encountered all the time throughout the crisis period.

(Bellit & Belma, 2022), affirmed weakened but resilient companies at the same time, this study demonstrates how companies adapt in emergency situations, faced with the extreme experience experienced in 2020. Beyond other crises, that of Covid-19, which is unique in its nature, has forced businesses to review the way they operate in order to continue and to cope with their activities. (Paché, 2021), explained that it will be probably necessary to take time to measure the true extent of the crisis caused by the Covid-19 pandemic, then move forward, undoubtedly with a growth model that will have to learn lessons from experience.

3-6 Short- and medium-term advice for efficient logistics:

3-6-1 Short and term advice:

To optimize distribution management, several strategic measures can be implemented. First, it is crucial to accurately measure and time distribution times, a step often overlooked before taking action in some companies. Likewise, it is essential to remain attentive to updates to ERP (Integrated Management Software) systems, in order to guarantee the accuracy and relevance of the data. Regularly updating data is also essential to avoid disruptions in the supply chain. As noted by (Bensalem & Zouari, 2016). The internationalization process requires the provision of management tools to managers to help them lead effectively. In addition, due to the constant internationalization of global production, it is necessary to develop new models

that further integrate the role of new technologies in order to better understand business performance.

Another crucial aspect is to focus on the strategic products and customers. By focusing on products, for better efficiency obtained. There is a need to focus on products that are not directly linked to the supply chain and, in turn, do not require considerable transportation. In addition, it is recommended to develop a smooth communication strategy with customers and suppliers.

In response to recent challenges such as the impact of Covid-19 on logistics performance, it is prudent to increase lead times for products, which are strategic for distribution and offer a high margin. This approach helps build resilience to disruptions and ensure effective distribution continuity. In summary, by taking a proactive approach and implementing these strategies, companies can significantly improve their distribution management and overall performance.

3-6-2 Medium-term advice:

To respond to medium-term challenges effectively, several strategic initiatives can be considered. Automating interfaces is essential to improve deadline management (Benremila, Ifourah, & haddad , 2022, p. 735), making it impossible to continue to manage these processes manually. Diversifying supply sources is also crucial to reduce the risks linked to excessive dependence on a single supplier. It is essential to carry out in-depth supplier analyzes in order to guarantee supply for sectors which were not initially known by the supplier and manage the distribution of products according to requests. (Oruezabala & Poissonier, 2021).

Furthermore, the relocation of strategic industries is a strategic initiative, aimed at consolidating and bringing together production capacities, which strengthens the resilience and flexibility of supply chains. By adopting these approaches, businesses can position themselves more robustly for future challenges and improve their ability to respond to market demands in an agile and efficient manner.

4-Empirical study:

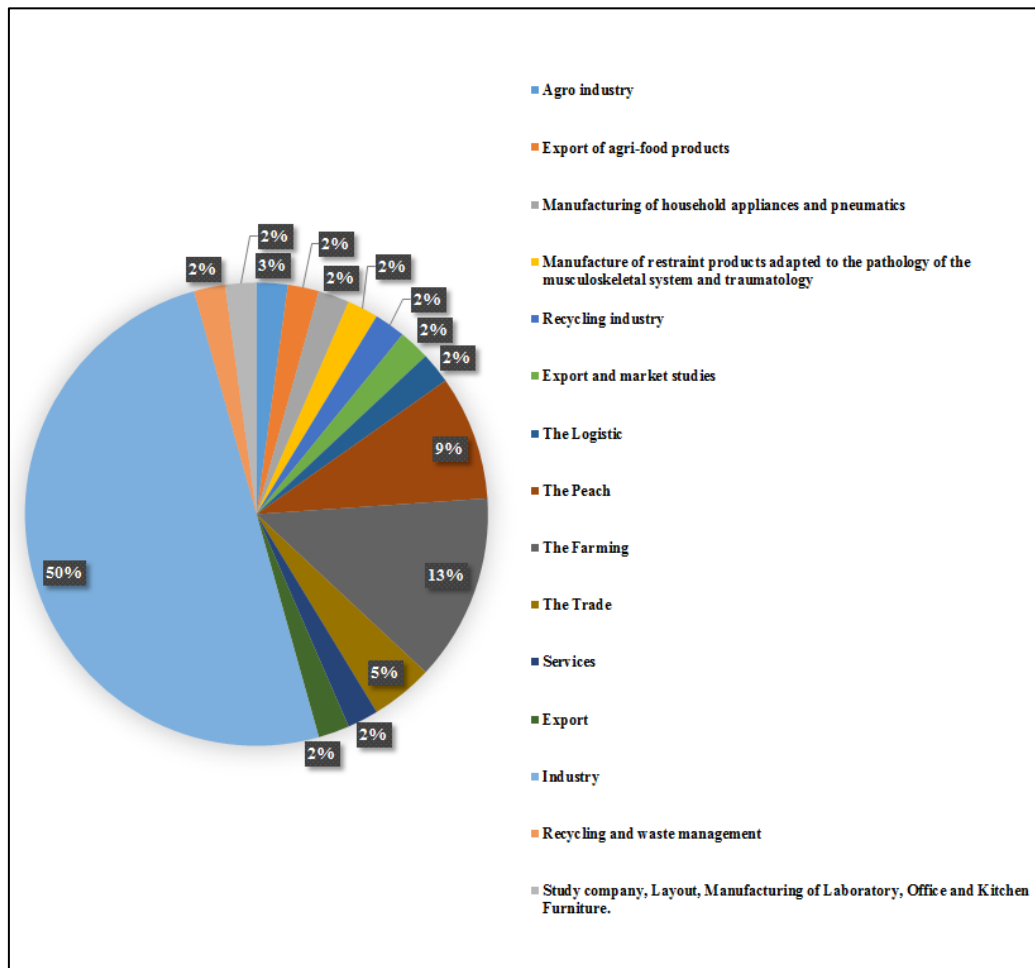
4-1 Study instrument:

The distribution of the questionnaire was carried out electronically, sending to the email addresses of managers and business leaders, and the responses were collected by online entry via the Internet (via the Google Forms application) with a total of 47 responses received. The Internet is the only tool that allowed us to distribute the questionnaire by sending emails to addresses obtained through the directory of the National Agency for the Promotion of Foreign Trade (ALGEX), under the aegis of the Ministry of Commerce, for development of Algerian exports excluding hydrocarbons. The directory constitutes an exhaustive database listing identification data of more than 1.100 Algerian exporting companies which carry out economic activities in various sectors of activity. It is, in fact, a directory which brings together a range of information to contact a company quickly and directly. (agence nationale de promotion du commerce extérieur (ALGEX), 2023).

4-2 Sample characteristics:

The sample is composed of 47 exporting companies operating in 16 different sectors (Fig 2). In fact, more than 51% of responses came from the industrial sector. The companies that participated in the study and responded to our questionnaire are small (from 1 to 49 employees) with a turnover of less than 200 million Algerian dinars and a market share of less than 25%.

Fig (2): Presentation of areas of business of companies

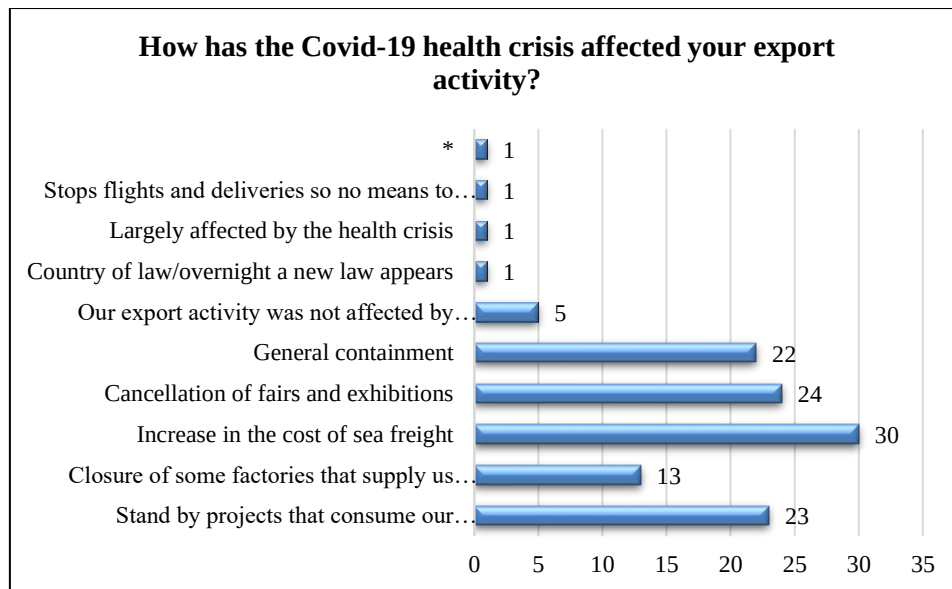


Source: Results obtained from statistics "Google form"

4-3 Export activity :

At this stage we have observed that the Covid-19 crisis has disrupted export activity, most companies have been seriously affected by the spread of the virus which risks not ending (64%) of companies have been affected by the increase in international transport costs against (48%) due to general confinement. (10%) the percentage of companies whose export activity has not been impacted by the pandemic.

Fig (3): Company's export activity

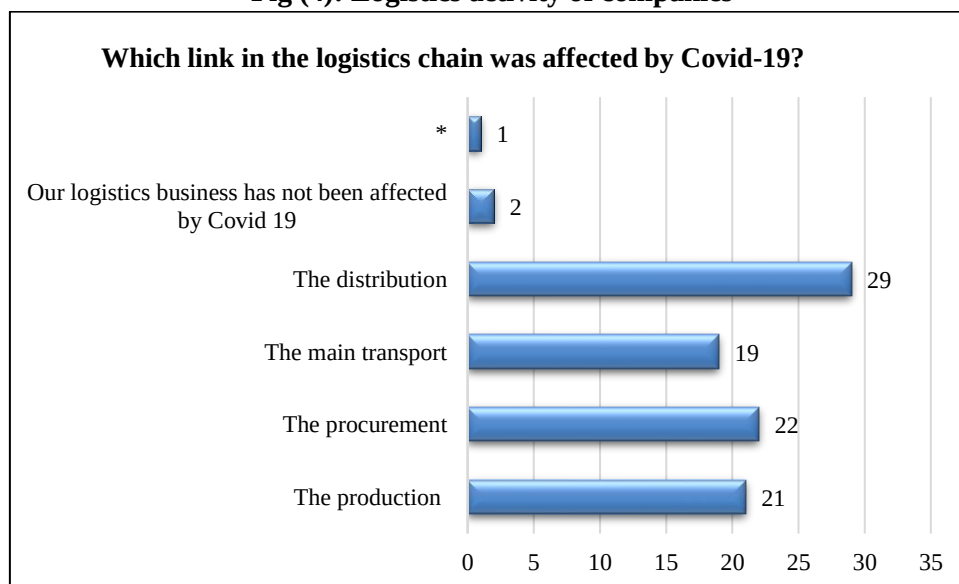


Source: Results obtained from statistics "Google form"

4-4 Logistics :

The effects of the Covid-19 crisis on the logistics activity of exporting companies have been observed at all levels and at different percentages from the supply chain (46%) to main transport (62%). highest percentage (40%) of companies were impacted in their production activity and (45%) experienced disruptions in their distribution activity due to lockdown and border closures.

Fig (4): Logistics activity of companies



Source: Results obtained from statistics "Google form"

4-5 Logistics performance:

4-5-1 Customs:

Most countries have taken measures to deal with the Covid-19 pandemic. When it comes to international trade, customs have an essential role to play in improving the economic situation. There is no direct impact on customs but facilitations put in place by customs services intended only for exporting companies, but other countries have minimized border bureaucracy and costs.

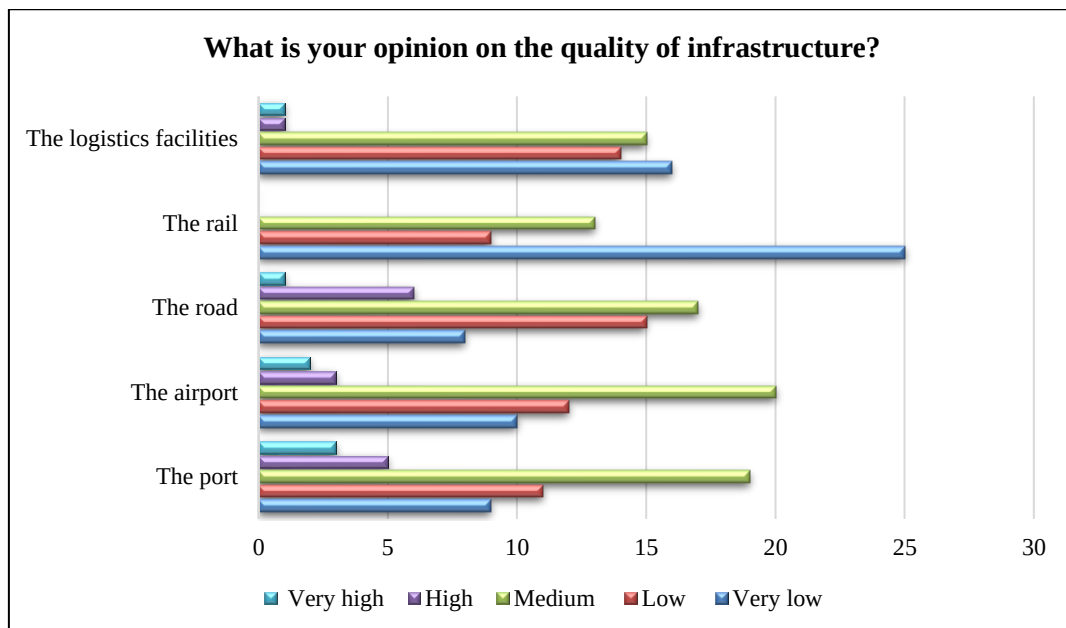
Facilitation of customs services offered for the export operation:

- Tariff denial (28%)
- SIGAD processing priority (17%)
- Green corridor (42%)
- Partial exemption from duties and taxes (14%)
- Storage (bonded warehouse) (12%)

4-5-2 Infrastructure:

The effects of the Covid-19 crisis have been observed at all levels of logistics performance, the quality of infrastructure degraded, 70% of companies judged the quality of infrastructure to be average, low or very low, especially rail transport. 28% of companies that responded to our questionnaire were affected by the closure of the airport and some roads due to lockdown.

Fig (5): Effect of Covid-19 on infrastructures



Source: Results obtained from statistics “Google form”

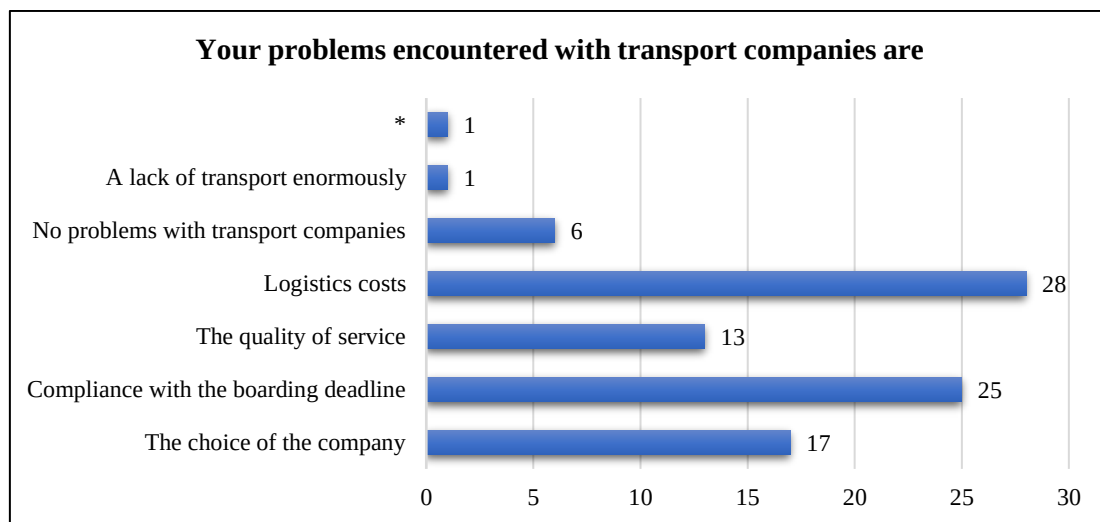
4-5-3 International shipments:

International transportation was at the forefront in the face of the consequences of the Covid-19 crisis. 62% of exporting companies that responded to our questionnaire suffered from disruptions to their international transport system due to high logistics costs 59%, and the non-compliance with boarding time 53%.

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The main constraint in terms of international transport in the midst of the Covid-19 pandemic is availability. 70% of companies complained about the availability of companies and connections and 64% about pricing.

Fig (6): Problems encountered by transport companies



Source: Results obtained from statistics "Google form"

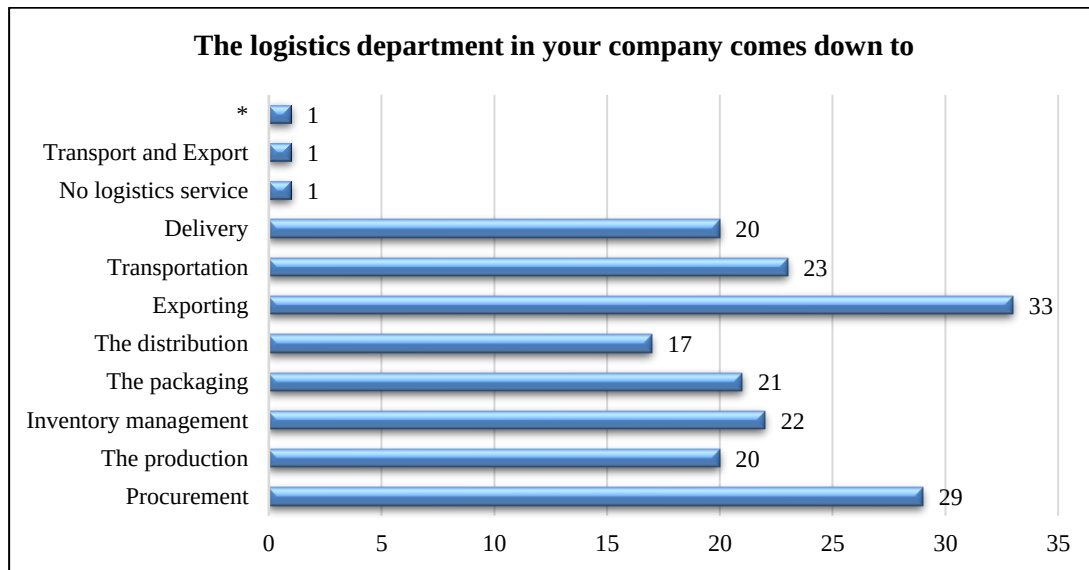
We can conclude that the main obstacles encountered at ports during the Covid-19 crisis are:

- Reservation of equipment (20%);
- Dock reservation (10%);
- Waiting time at the port (55%);
- Handling teams (36%);
- (8%) of the companies that participated in our survey declared that they had not had any problems at the ports.

4-5-4 Logistics qualities and competences:

As shown in the figure, (2%) of companies do not have a logistics service or structure compared to (70%) of companies whose logistics service is summarized in their export activity. Only (2%) of the companies in our sample summarize the logistics service for transport and exports.

Fig (7): Logistics service within companies



Source: Results obtained from statistics "Google form"

4-5-5Timeliness :

The consequences of the Covid-19 pandemic have proven to be heavy on virtually all elements of logistics performance. The results of our study on punctuality show that 5% of companies experienced low responsiveness in terms of missed deadlines due to:

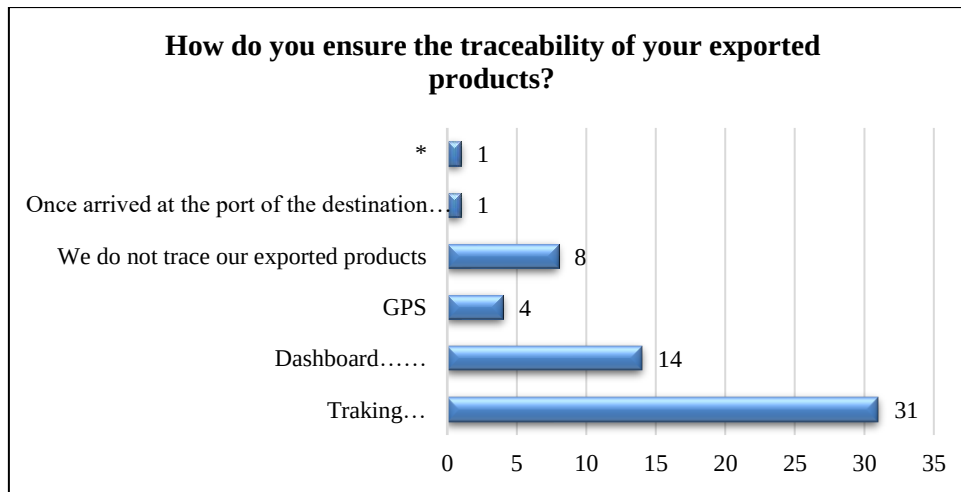
- Delay in delivery of the goods;
- Scheduling of customs visits;
- Perishable products have priority for boarding;
- Customs clearance procedures.

4-5-6Tracking and tracing

Technology and artificial intelligence help to rationalize and optimize resources and gain in terms of time and better exploit the company's supply chain. In addition, it will allow the company to minimize the impacts of the crisis of Covid-19, or another crisis. (60%) of companies tracked shipments in real time, only (10%) of companies used GPS. Unfortunately, (8%) have never tracked shipments.

During the pandemic, traceability helps reduce delays by helping the company by automating logistics operations and providing advance solutions.

Fig (8): Different traceability processes for exported products within companies



Source: Results obtained from statistics “Google form”

4-6 Measures undertaken by companies :

The crisis linked to the Covid19 pandemic has had a real impact on the company's various activities on the one hand and on the national economy on the other hand. According to our survey, 25% of the companies in our sample declared a total or partial shutdown (only export activity since they manage production for the national market) 34% of companies produce only for the international market versus 66% companies produce for the national and international market.

Faced with the scale of the crisis, companies have had to adapt their work system and their crisis management strategy in order to maintain their activity as shown in the Table (3):

- Solutions in different segments: human resources, treasury, production, supply and marketing.
- The provision of guides and posters of good practices and the hygiene rules to be observed during the different stages of production, supply and marketing.
- The strict application of health instructions in order to guarantee a good image among employees, suppliers, collaborators and customers.
- Implementation of a special plan to ensure good continuity of activities (Supplies, Production and Distribution: national and international market) following the hours and duration of lockdown.
- The exploitation of our technological means for remote work.

Table (3): Companies' suggested solutions and procedures in response to the Covid-19 pandemic

Solutions	- Processes
None	- Adjust nothing; - Pay additional costs
Adaptation	- Minimize fixed costs; - Employee layoffs; - Recourse to the state (request for help); - Produce to face post-Covid; - Exchange with stable and potential customers; - Promote teleworking; - Search for customers not affected by the crisis (Ghana); - Revise prices.
Setting on stand-by	- Block sales; - Cancel orders; - Suspend export activity.

Source: Done by researchers

Conclusion :

As a conclusion, our research consists of evaluating the logistics performance of Algerian exporting companies. The survey carried out focuses on private public companies and multinational firms and aims to reveal the extent of the crisis for the country's economy. Our problem aimed to explore the elements of logistics performance, which were impacted by the Covid-19 crisis. As such, we dealt with the elements of logistics performance challenges linked to the Covid-19 health crisis in the theoretical part. In the empirical part, we detailed the six elements of logistics performance: customs, infrastructure, international transportation, logistics competence, punctuality, traceability, and the impact of the Covid-19 crisis on each element of international logistics performance. Through our field study and after testing hypotheses, we can deduce that:

Hypothesis 1 is confirmed: the logistics performance of Algerian exporting companies has been seriously impacted by the Covid-19 health crisis; given that: customs, infrastructure, international transport, logistical competence, punctuality and traceability were all elements widely announced by respondents, processed and analysed.

Hypothesis 2 is confirmed: The resilience of Algerian exporting companies to the multiple consequences of the pandemic; because respondents proposed solutions for the simplification and optimization of procedures and processes.

Recommendations:

Algerian exporting companies should pay more attention to logistics performance by:

- Establishing a logistics department within the company, logistics facilities and participation in infrastructure maintenance,
- Implementing new crisis management strategies,

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- Improvement information system, new technologies NTIC and AI artificial intelligence for the benefit of logistics performance for more productivity,
- Investing in research and development R&D in the logistics service and logistics performance based on rationalization and optimization of resources in order to gain in competitiveness.

Therefore, several questions remain unanswered in future research such as:

- Will digital transformation simplify supply chain processes in terms of costs, deadlines and security?
- New storage technologies and implementations logistics, will they optimize export flows and the competitiveness of businesses?

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