

THE CORONA VIRUS CRISIS AND ITS IMPLICATIONS ON THE AIR TRANSPORT SECTOR IN ALGERIA A COMPARATIVE STUDY WITH SOME ARAB COUNTRIES

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SUMMARY

This study aims to examine the implications and losses faced by the air transport sector in Algeria compared to some Arab countries in light of the lockdown of borders after the spread of the Corona virus in early 2020. Especially in light of the structural problems that the sector suffers under the monopoly of the National Company AIR ALGERIE which has always resorted to the intervention of public authorities to finance its deficit. The study based on the descriptive analytical method. As for data sources, the research relied on data issued by the IATA and ACAO as well as the data of airlines.

The results of the study show a sector loss of revenues of \$ 273 billion in 2020, and in Algeria, and considering that the National Company AIR ALGERIE almost monopolizes the domestic flight market, with estimated losses of more than \$ 320 million, in addition to the regular losses that the company has suffered from . It seems that the period of recovery of the aviation sector will be long in light of the expected reluctance to travel and the expected increase in the cost of flight, which requires the necessity of restructuring the air transport market in Algeria.

Key words: Air transport, Corona pandemic, AIR ALGERIE.

Classification: L93.

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أزمة فيروس كورونا و تداعياتها على قطاع النقل الجوي في الجزائر دراسة مقارنة مع بعض الدول العربية

الملخص:

تهدف هذه الدراسة إلى بحث التداعيات و الخسائر التي يواجهها قطاع النقل الجوي في الجزائر مقارنة ببعض الدول العربية في ظل إغلاق الحدود بعد انتشار فيروس كورونا مطلع 2020. و تبحث في نجاعة السياسات التي تم إتباعها من أجل تخفيف هذه التداعيات، خاصة في ظل المشاكل الهيكلية التي يعاني منها القطاع ومع احتكار شركة وطنية لسوق الطيران و اللجوء دوما لتدخل السلطات العمومية لتمويل العجز المزمع الذي تعاني منه الشركة. و تعتمد الدراسة على المنهج الوصفي التحليلي، أما فيما يتعلق بمصادر البيانات فقد اعتمد البحث على البيانات الصادرة عن المنظمة الدولية و العربية للطيران المدني و كذلك على بيانات شركات الطيران.

تظهر نتائج الدراسة وفق التقديرات، خسارة القطاع لعائدات بقيمة 273 مليار دولار سنة 2020، و في الجزائر و باعتبار الشركة الوطنية للخطوط الجوية الجزائرية تحتكر تقريبا سوق الطيران الداخلي ، قدرت خسائرها بأكثر من 320 مليون دولار، تضاف إلى الخسائر العادية التي تحققها الشركة منذ عدة سنوات. و يبدو أن مدة تعافي قطاع النقل الجوي سوف تكون طويلة في ظل توقع الإحجام عن السفر، والارتفاع المتوقع في كلفة الطيران، مما يتطلب ضرورة إعادة هيكلة سوق النقل الجوي في الجزائر.

الكلمات المفتاحية: النقل الجوي، جائحة كورونا ، الخطوط الجوية الجزائرية.

تصنيف جال: L93.

LA CRISE DU VIRUS DE CORONA ET SES IMPLICATIONS SUR LE SECTEUR DU TRANSPORT AÉRIEN EN ALGÉRIE

UNE ÉTUDE COMPARATIVE AVEC CERTAINS PAYS ARABES

RÉSUMÉ

Cette étude vise à examiner les répercussions et les pertes subies par le secteur de Transport aérien en Algérie par rapport à certains pays, dues à la fermeture des frontières après la propagation du Corona virus au début de l'année 2020. Notamment à la lumière des problèmes structurels dont souffre le secteur sous l'état de monopole de la société nationale AIR ALGERIE qui a toujours eu recours à l'intervention des pouvoirs publics pour financer son déficit. L'étude est basée sur la méthode analytique descriptive. Quant aux sources de données, la recherche s'appuie sur les données publiées par l'Organisation d'IATA et ACAO ainsi que les données des compagnies aériennes.

Les résultats de l'étude montrent une perte de revenus de 273 milliards de dollars à cause de cette pandémie. En Algérie, la compagnie nationale AIR ALGERIE ayant estimé ses pertes à plus de 320 millions de dollars, ce chiffre vient s'ajouter aux pertes régulières de l'entreprise depuis plusieurs années.

Cependant, il semble que la durée pour la reprise du trafic aérien soit longue, compte tenu de la réticence attendue à voyager et de l'augmentation prévue du coût des voyages, ce qui nécessite une restructuration du marché de Transport aérien en Algérie.

MOTSCLÉS: Transport aérien, pandémie de Corona, AIR ALGERIE.

JEL CLASSIFICATION: L93.

INTRODUCTION:

The output of the Air Transport sector in the world is about \$ 2.7 trillion , equivalent to 3.6% of the world GDP, and the global aviation industry contributes to 65.5 million jobs worldwide, either directly or indirectly. Unlike the direct jobs that the air transport industry itself provides, the sector supports millions of indirect jobs in global supply chains serving the industry. It also contributes to creating millions of jobs in the tourism sector, with an estimated 36.5 million jobs. On the other hand, the aviation sector supports international trade, transporting goods valued at about \$ 6.0 trillion annually.

In the Arab countries, air transport provides about 2.4 million direct and indirect jobs; In addition, the aviation industry in the region contributes about \$ 130 billion to economic activity, equivalent to about 4.4 % of the region GDP.

In Algeria the HQ of Algerian Airlines AIR ALGERIE estimated the financial losses caused by the suspension of its domestic and international flights due to the Corona pandemic at 40 billion dinars (about 320 million dollars).As for the Algiers Airport Company, it recorded losses estimated at 1.3 billion dinars since last March, representing about 13 % of the expected annual revenues.

The Air Transport was greatly affected by the Covid-19 virus crisis. while the rapid spread of the epidemic remains strong, many countries declared the state of emergency to confront the epidemic , and they imposed of total or partial lockdown , which forced airlines around the world to suspend or reduce the number of flights significantly, Especially with regard to passengers transport flights, which threatens many of these companies with bankruptcy.

The main problematic presented by the study can be formulated as follows:

- What are the expected impacts of the Corona virus Covid-19 crisis on the Air Transport sector in Algeria compared to some Arab countries, and what are the possible recovery policies to revive the sector?

To answer the previous question, the following hypothesis can be formulated:

- Estimates expect the number of air passengers to drop sharply, and Arab airlines, including Air Algérie, face economic challenges in light of the crisis threatening to bankrupt them, which require government support to save them.

In order to take into account the specific situation of Algeria, the research is based on the descriptive analytical approach, with the application of various statistical indicators to analyze and measuring the impacts of the crisis on Algeria and some Arab countries. As for data sources, the research relied on data issued by the International and Arab Civil Aviation Organization as well as the data of airlines.

1- THE IMPLICATIONS OF THE CORONA VIRUS CRISIS ON THE AIR TRANSPORT SECTOR

Despite the deep negative repercussions of the spread of the virus on the aviation sector, the air transport sector plays an important role in facing the spread of the epidemic, as global aviation continue their cross-border flights to ensure the flow of supplies of goods, and supplies of medical devices needed to combat the epidemic. Airlines also embark on some flights to transport stranded passengers to their countries.

1.1-The impacts of the crisis on the passengers' air transport

Despite the precautionary measures taken by many countries, the Covid-19 virus spread widely throughout the globe on March 2020. In the second half of March, the borders were closed and flights were stopped on a large scale in most countries of the world, and all Airlines has few flights to transport stranded passengers, which has increased the economic burden facing the aviation sector.

At the level of expectations for the performance of the passengers air transport sector in 2020 and with a view to assessing the

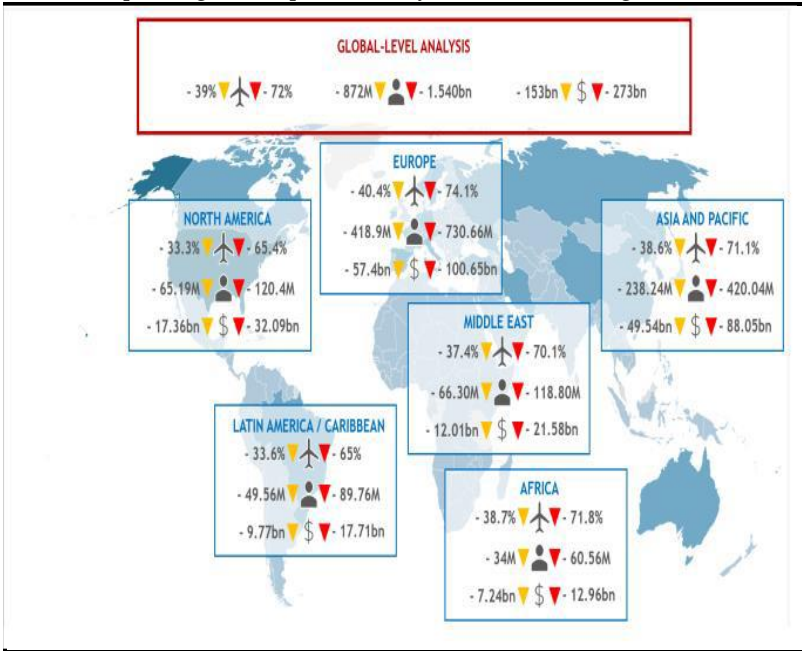
implications of the virus spread on passenger air transport, the International Civil Aviation Organization has estimated the potential effects of the spread of the virus according to three hypotheses and according to possible recovery that depends on the length of the virus's spread and the time needed to recover from its impacts.

The first hypothesis is a recovery path that takes the form of a curve (V), meaning that the world will witness a short period of Downturn followed by a rapid recovery at the end of May 2020, which represents the most optimistic hypothesis, while the second hypothesis is in a path characterized by the prolonged period of virus spread and gradual recovery of its effects during the third quarter of the year according to the curve (U), the third hypothesis, which is the most pessimistic, is an extended path of economic stagnation according to the curve hypothesis (L) (IATA,2020).

Based on the above hypotheses, the organization expects:

- Passenger air traffic declined by 39 % for the optimistic hypothesis, and 72 % for the pessimistic hypothesis.
- The number of passengers carried by air decreased by 872 million passengers for the optimistic hypothesis, and 1,540 million passengers for the pessimistic hypothesis.
- Passenger air transport revenue decreased between \$ 153 billion for the optimistic hypothesis and \$ 273 billion for the pessimistic hypothesis,

Figure 1. The possible effects of the spread of corona virus on the Air passenger transport industry worldwide during 2020



Source:(ICAO ,2020).

In this context, the negative repercussions of the Corona virus on the passenger air transport industry appeared clear during March 2020, in light of the decrease in the total revenues of air passenger transport sharply at the global level, including domestic flights, as it decreased by 52.9% compared to March 2019. This was expected in light of the decline in these revenues during February 2020. The decline recorded during March is the largest recorded decrease in the level of revenue for passenger air transport since the events of the 11 Th, September 2001 (ATAG,2020).

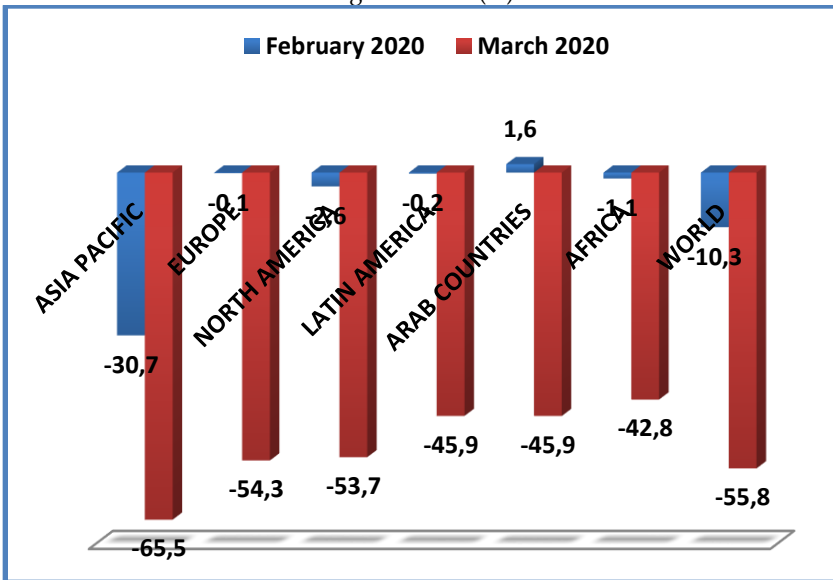
Regarding the air transport of passengers through borders, revenues decreased by 55.8 % on March 2020 compared to the corresponding month of last year. This is mainly due to the large-scale closure of international borders, and travel restrictions imposed in

many countries, revenues in all regions have sharply decline in this regard.

At the level of airlines in the Arab countries recorded a decrease of about 45.9 % in the number of international passengers on March 2020 compared to the corresponding month of the previous year.

The Arab countries were the only region that witnessed an increase in aviation sector revenues during the month of February and was also the only one globally to have recorded revenue growth in 2019.

Figure 2.The percentage of change in air passengers transport revenues at the regional level (%)



Source: (IATA ,2020).

1.2- The impacts of the crisis on the cargo air transport

On the other hand, the impact of the crisis on the cargo air transport is relatively less than the passengers' air transport sector in light of the continuing cargo transport flights between countries of the world, especially in light of the urgent need to continue the flow of goods and medical devices supplies to fight the pandemic.

Nevertheless, data on March 2020 indicate that international trade traffic was affected by the spread of the COVID-19 pandemic, which was reflected in the movement of air freight of goods worldwide, which declined on March by 15.1% compared to March 2019 (IATA,2020).

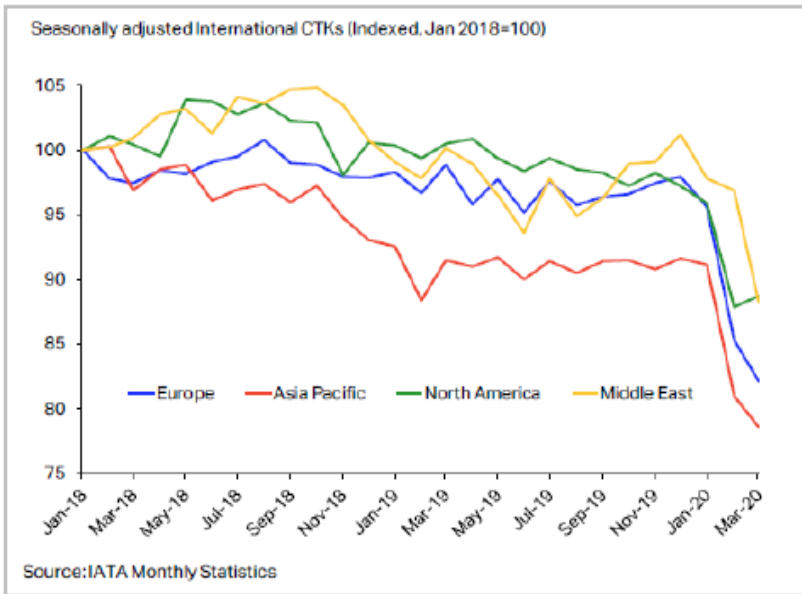
These developments deepened the scale of the crisis in the air cargo since November 2018 due to global trade tensions, especially between the United States of America and China (which exacerbated the decline in air cargo movement). This decline in Air Cargo has continued to the 12th consecutive month, and it is the longest continual decline since the global financial crisis in 2008.

The decline included most of the geographical regions in the world, while Asia and the Pacific region, Europe and North America, registering a decline of 18 % year on year basis. On the other hand, the decline in Africa was relatively limited, reaching 2.1 %, as a result of the decision to completely close the aviation market in that region later in March, compared to other places in the world.

It should also be noted that the continued outbreak of COVID-19 led to pressure on global supply chains as restrictions imposed on borders, and the closure of factories, and interruption of transportation networks resulted non-compliance with deadlines for supply. In March, the highest level of delay was achieved in global supply chains since 2004, due to prolonged factory closures.

The data also indicated that the volume of air cargo, reported by airlines in the Arab countries, decreased by 14.1% on year basis, after a growth of 4.3 % in February.

Figure 3.Changes on Air cargo index by regions



Source: (IATA, 2020).

1.3- Interventions by governments to support the Air Transport sector

Globally many companies operating in the sector face significant economic risks. The government's support for the aviation sector at this stage is necessary to prevent the bankruptcy of about 85% of these companies by the end of this year, according to expert Sector estimates (US-UAE business council,2020).

In this context, the estimates of the International Air Transport Association (IATA) show that international airlines need more than 200 billion dollars to face the repercussions of the spread of the new Corona virus after several countries stopped flights. These developments led to huge losses for the shares of international airlines in light of a number of investors implementing sales waves for the shares of these companies.

In Britain, airlines have warned that they will not survive the consequences of the epidemic without full financial support from the government. For example, Virgin Atlantic airline announced cut 3,150 jobs in a plan to reduce costs in order to enable it to obtain support from the British government or private investors (IATA,2020).

In the United States of America, companies such as "American Airlines" and "Atlantic Airlines" have tended to adjust passenger transport planes so that they can be used to transport goods in a move that aims to overcome operational losses benefiting from low fuel prices and from the lower number of flight crews required to transport goods compared to Transporting passengers (IATA,2020).

This comes at a time when airlines employing about 750,000 people in the United States of America are facing severe difficulties threatening their survival, which prompted the US Senate to agree on the end of last March to support the American aviation sector by about \$ 85 billion, which is allocated half of it to cover the salary of 750 thousand employees.

In Italy, the country is studying the nationalization of the airline "Alitalia", which was facing financial difficulties even before the spread of the Corona virus, while the repercussions resulting from the virus accelerated the direction of the government to find an urgent solution and provide a financial rescue package of 600 million Euros to support the aviation sector, and the establishment of a new company managed by the Ministry of Economy and Finance holds the largest stake in the company "Alitalia" (IATA, 2020).

For its part, the German airline "Lufthansa" has implemented since the beginning of the crisis many measures to reduce costs, including the reassessment of all new jobs and their suspension or postponement to later date, and the granting of employees leave without pay, in addition to expanding options for part-time work in the context of Collective negotiation agreements. However, those policies did not work and the company announced that it incurred huge losses estimated at two million Euros every hour (Lufthansa Group, 2020) .

This prompted the company to negotiate with the German government represented in the Economic Stabilization Fund for a \$ 10 billion bailout package. Pursuant to this deal, the company will obtain a guaranteed loan from the German government, and an increase in the capital by a share of the government in the capital of the company that qualifies it to vote in what is known as a “silent share” estimated at 25 % of the shares. The company aims of ensuring its continuity in the future, for its customers and employees.

In this regard, it is indicated that the German “Economic Stabilization Fund” is a government mechanism whereby government support is provided to support private companies facing financial difficulties within the framework of support packages, some of which end up the German government owning a share in the capital of these companies similar to what happened in the aftermath of the crisis Global Finance.

2- THE IMPACTS OF THE CRISIS ON THE ALGERIAN AND ARAB AIR TRANSPORT SECTOR

The Corona virus crisis has cast a shadow over the Arab Air Transport, which contributes to important part in the gross domestic product in some countries, job opportunities, because of the strategic location of the Arab countries, and their linkages with global aviation routes.

2.1- The expected effects of the virus on airlines in the Algeria with compare with Arab countries

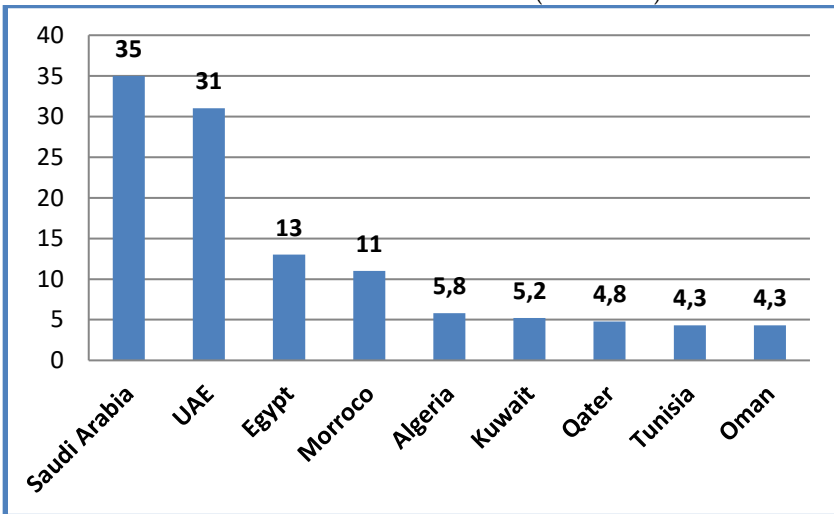
The companies operating in the sector witnessed a big operational challenges in light of the almost non-existence of air passengers, which caused the stop of revenues flow to Arab airlines.

In this context, the Arab Civil Aviation Organization (ACAO) indicated the difficult economic conditions facing these companies, which no matter how they try to reduce costs, will not survive the financial liquidity crisis without emergency support from the governments of the region to preserve their important economic role, and the continuity of air transport movement in a way that supports the process Economic recovery in the medium term.

In terms of the repercussions of the Covid-19 crisis on the Algerian aviation sectors, the organization pay attention to the financial challenges resulting from the stoppage of flight in Algeria due to the precautionary measures taken by the countries to fight the outbreak of the Corona pandemic, and directed its call to the countries of the region to provide appropriate financial packages for the sector.

Undoubtedly, the Covid-19 virus crisis affected the aviation sectors in a large number of Arab countries. Nevertheless, the impact seems to be much deeper with regard to five Arab countries in particular, including Algeria (ACAO, 2020).

Figure 4. The expected decrease in the number of passengers in the Algeria and some Arab countries in 2020 (individual)



Source: (ACAO, 2020).

In First range, the United Arab Emirates, where the aviation industry has witnessed remarkable growth since the mid of 1980s, and its national carriers have become a strong competitor on the world level, which boosted expectations for the aviation sector to contribute

at about 45 % of the gross domestic product of the Emirate of Dubai in 2030 (The Council of Saudia chambers, 2020).

On the other hand, the aviation sector in Saudi Arabia occupies a distinguished position among the economic sectors that contribute to the gross domestic product in light of the influx of millions of travelers annually to the Kingdom to perform the worship of Hajj and Umrah.

Algeria comes in the fifth range, where the HQ of Air Algérie (The national airlines company), The management of Algerian Airlines estimated the financial losses caused by the suspension of its domestic and foreign flights due to the Corona pandemic, at 40 billion dinars (about 320 million dollars), a situation that led to a reduction of wages by up to 50 %, to maintain the company's financial balance. With the exception that only Algerian Airlines cargo transporters remained in operation, the situation is almost the same as that of Tassili Airlines, which is a branch of the Sonatrach company , as a total of 15 aircraft (7 Boeing and 8 Bombardier type) consisting of the Tassili Airlines fleet are currently present. At the airport level in Algiers, however, the figures for this airline's losses have not yet been released.

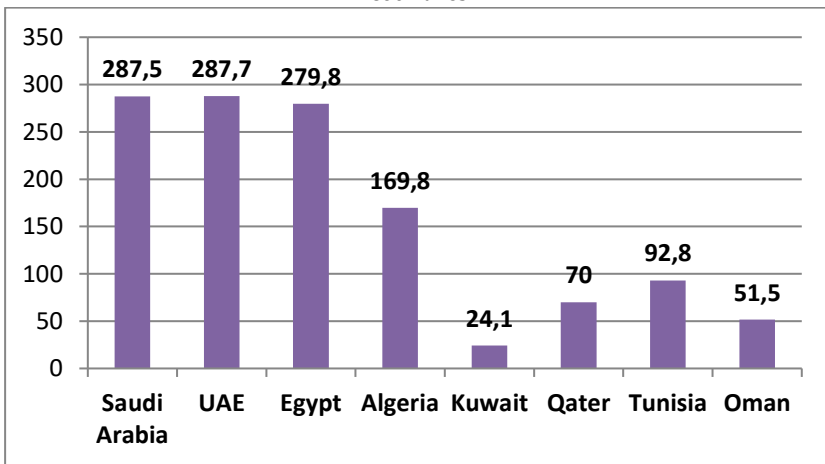
As for the Algiers Airport Company, it recorded losses estimated at 1.3 billion dinars since the middle of last March, representing about 13% of the expected annual revenues, due to the Covid-19 pandemic, as the revenue of the corporation decreased by about 96 % compared to incomes recorded during the same period of In 2019, preventive measures from this epidemic led to the suspension of 99% of flights, as well as the closure of shops and service stores.

Based on the foregoing, the IATA expects a decrease in the number of passengers in nine Arab countries in which the aviation sectors play a prominent role including Algeria,UAE, Saudi Arabia, Egypt, Morocco, Kuwait, Qatar, Tunisia, Oman ,about 114 million passengers in 2020(IATA, 2020).

While the spread of the virus is expected to lead to an expected loss in the number of jobs in the aviation sector in Algeria and some

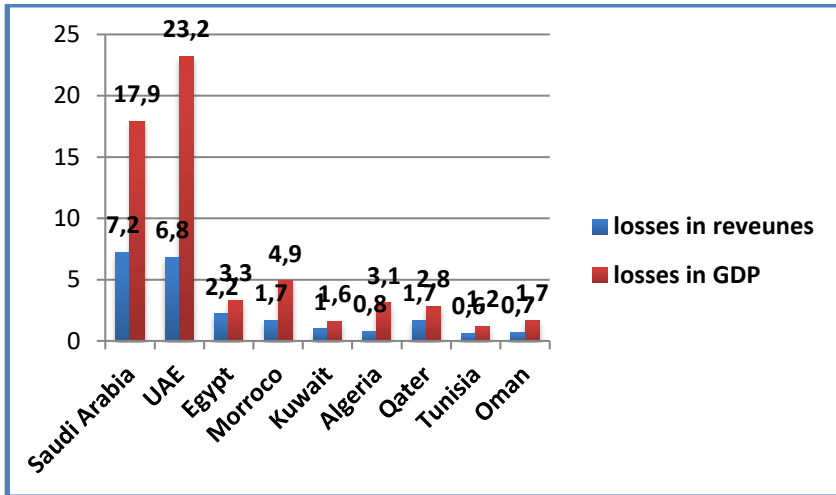
Arab Countries by about one million jobs, a decline in the sector's revenues by about 23 billion dollars, and a decrease in its contribution to the gross domestic product of the nine Arab economies mentioned above by about 60 billion dollars on 2020.

Figure 5 .The expected jobs losses in thousands in Algeria and some Arab countries



Source: (ACAO, 2020).

Figure 6.Expected losses in aviation sector revenue and GDP in Algeria and some Arab Countries (in Billions USA dollars)



Source: (ACAO, 2020).

2.2- Interventions of Algerian and Arab governments to support the Air Transport sector

In light of the emerging Corona virus crisis, Arab airlines have taken a number of measures since the beginning of the crisis towards reducing costs and mitigating the financial effects accompanying the crisis, in light of the large decrease recorded in their revenues, which affected the ability of these companies to cover costs, and threatening its continuity in light of the liquidity crisis it faces since the start of the epidemic globally.

In order to support the ability of these companies to overcome the aforementioned challenges, a number of Arab governments have provided financial support to airlines - most of which are state-owned - with the aim of compensating them for the severe decline in revenue and liquidity levels. In addition Arab governments granted some of airlines with a tax exemptions and postponing the payment of loans installments.

In Algeria, despite the high prices of its services and its acquisition of 95 per cent of the internal air navigation traffic, for years now, this

public company has been experiencing financial troubles because of its inability to achieve profits, even though it has benefited from rescheduling its debts with Algerian banks several times, As part of a fleet renewal process that started in 2013, payment terms have been extended until 2021.

The company's general problems all stem from the random and intensive employment, which made it record a "surplus in workers", especially in external offices, that is, with salaries in hard currency, which costs the company large sums of money.

However, successive Algerian governments refuse to open the capital of Algerian airlines and privatize them, as they are "strategic" companies despite the large annual losses they incurred to the public treasury, even though the sale of a share of them is the best solution to save them, from the continuing and growing financial deficit that can become threatened by bankruptcy.

In Egypt, the Egyptian Cabinet coordinated between the Ministries of Petroleum, Mineral Resources, Tourism, Antiquities, and Civil Aviation regarding the controls and proposals for implementing the Aviation Incentive Program By reducing fees and costs for airports and aviation fuel. It was also agreed to present a new initiative to stimulate domestic tourism. Also, the Egyptian Presidency directed to provide support for the civil aviation sector with a grace period of two years. On the other hand, it is being studied that the Ministry of Finance will bear some of the burdens of the civil aviation sector to deal with the implications of the current circumstances (ACAO, 2020).

In Morocco, with a view to reducing the impact of the Corona pandemic on the aviation sector and the attendant loss of jobs, the Moroccan government approved a draft law relating to "establishing a legal framework that allows travel, tourism, and air transport service providers for passengers to offset the sums owed to their customers in the form of a voucher that proposes a similar service or equivalent, without any price increase (Royal Air Maroc, 2020).

At the end of March 2020, the UAE announced the intention of the Dubai government to support the capital of the National airline Company of Dubai by injecting liquidity into the company to enable it to meet the challenges resulting from the emerging Corona virus (ACAO, 2020).

3- RESULTS AND DISCUSSION: THE FUTURE OF THE AIR TRANSPORT SECTOR

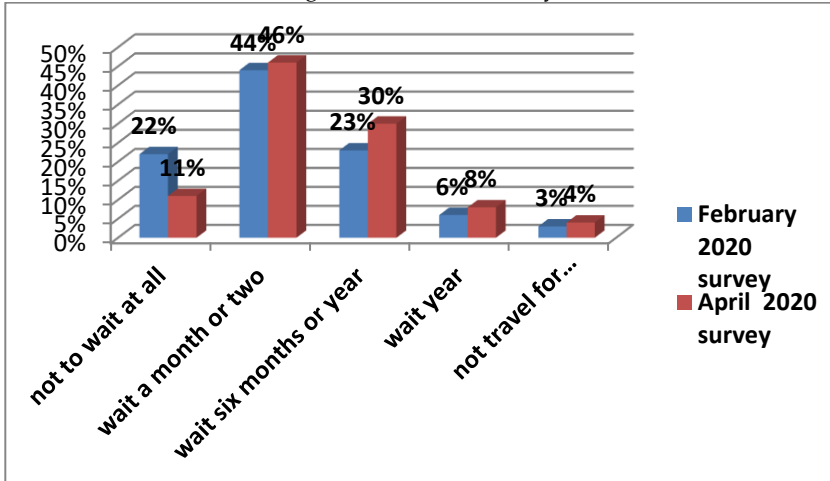
It is expected that the Air Transport sector, internationally and regionally, will face profound challenges after the end of the Corona crisis, especially with regard to the air transport of passengers in light of the many economic consequences resulting from the spread of the virus, as well as the unprecedented transformations that the sector is expected to witness, as follows:

3.1- Reluctance to travel

Looking to the future, even when travel restrictions and closures are lifted, it is expected that consumers 'desire to travel by air will remain limited at first globally.

According to a poll conducted by the International Air Transport Association (IATA) in April 2020, 30 % of respondents indicated that they would wait about six months or so before travelling. And about 10 % of the respondents indicated that they had not travelled by air at least a one year before.

Figure7.Result of traveler confidence survey for the expected period before taking a decision to travel by air



Source :(IATA, 2020).

3.2- A Deep changes in the aviation industry

It is expected that the aviation industry after the end of the Corona virus pandemic will differ radically from before, as the procedures used to travel before the spread of the Corona virus are now considered unsafe in light of the rapid spread of the virus.

In contrast to the efforts made by airlines before the crisis to increase the capacity of the aircraft as much as possible, it is now necessary to make a fundamental change in the method of travel used to maintain the health and safety of passengers in terms of travel procedures used within the airports or inside the aircraft itself, which will reduce the ability of airports and airplanes to receive the same number of passengers.

Many countries around the world have announced their tendency to radically change procedures inside airports, starting from not allowing any traveler to board the plane unless there is a certificate stating that the traveler is free of the Corona virus, passing through equipping the airports with cameras that indicate the body temperature, until the application of social distancing procedures.

When completing travel procedures and on airplanes as well , the major challenge that airports are confronted to is that they are not equipped in terms of the availability of the huge areas necessary to implement the measures of social distancing properly, especially in the large airports that receive large numbers of travelers daily. In addition to the criticism leveled at these temperature-checking cameras for their ineffectiveness and usefulness in detecting people with the epidemic, which will lead to the continued fear of some travelers from air travel.

As for the health safety measures expected to be followed on the aircraft, it is to leave an empty space between the passengers to apply the principle of social separation between them by removing the middle seat. And focus on the procedures to periodically renew air in aircraft to reduce the spread of the virus among passengers. In addition to adopting all health methods in terms of sterilization and not dealing directly with passengers by the hospitality crew, to maintain the safety and health of these passengers.

In regard to the measures announced by the Arab countries, if travels around the world are permitted again, some Arab countries have announced similar measures. For example, Egypt announced that strict controls will be established once foreign tourism begins to return to Egypt, such as not allowing any tourist to board a plane and enter the country unless there is a free-covid certificate of the last 48 hours . Arab airports have also started implementing new precautionary measures to prepare for receiving passengers in the wake of the end of the virus outbreak.

3.3- Expected rise in prices

It is expected that the new procedures for air transport will be reflected in the cost of travel, which will increase the prices of tickets.

In this context, it is expected that the precautionary measures related to the measures of social distancing, and the consequences that some airlines remove the middle seat will reduce the maximum load factor to 62%, which is much less than the average "separation factor"

in the industry, which unit costs increase dramatically by between 43 and 54 %, which will reflect heavily on ticket prices and lead to lower levels of demand for aviation (CAPA, 2020).

Therefore, the International Air Transport Association does not support the procedures for removing the middle seat, but rather prefers the commitment of travelers to wear masks.

3.4- Reduced demand in light of the entrenching "telework culture"

The emerging crisis of the Corona virus will result in a prolonged decline in the levels of travel demand over the coming years, whether due to reluctance to travel in light of worrying and fear of movement in these circumstances, or the expected increase in the cost of flight tickets, or even because of the large changes that have left their mark on patterns And labor markets around the world.

There is no doubt that the Corona virus crisis will be followed by major transformations that affect travel trends worldwide in light of the gradual consolidation of the "telework". Evidence for this is numerous, including the increase in teleworking levels by nearly 90 % over the past decade (the council of Saudi Chambers, 2020), not to mention the increase record in the levels of telework and teletraining under the Corona virus crisis.

It is expected that many companies and governments in the aftermath of the crisis will lead to a significant reduction in travel expenses for their employees in light of the possibility of holding many telemeetings and teleconferences. This will greatly reflect the demand for travel for business, training and contract deals.

The same is confirmed by the estimates of the International Labor Organization, which indicate some future transformations that are expected to witness in the labor markets, which will reflect negatively on the global aviation sector in the aftermath of the Corona virus crisis.

Businessmen make up about 12 % of aircraft seats and contribute about 75 % to the airline's annual profit (IATA, 2020). And in the event that these people prefer to rely on and in the mechanisms of telework and teltraining for them and their employees, the job market

in the aviation and travel industry will shrink dramatically during the coming years.

3.5- The challenge of digital transitions

On the other hand, the aviation sector is facing other challenges as a result of the digital transformations that would lead to the widespread abolition of jobs in the sector and its support sectors. The procedures for automating reservations and ending passenger boarding operations electronically, and carrying out baggage and cargo handling works through robots and air freight of some goods through drones are all transformations that will affect the traditional business models of airlines and will make significant challenges to them. Their profitability levels and will force them to significantly cut future employment.

Nevertheless, these transformations will also provide many of them with opportunities to reduce costs and to compete in providing greater added value to their customers if those companies succeed in seizing the opportunities of digital transformation.

CONCLUSION:

The Air Transport sector recovery is an essential pillar to ensure a smooth recovery of economic activities in the wake of the end of the emerging Corona virus crisis, in light of the governments 'need to ensure the continued flow of international trade and the movements of individuals and tourists those support levels of output and employment.

It is expected that the recovery of the aviation sector from the implications of the emerging corona virus crisis will be long and may require at least three years. In this context, it is important that the sector's recovery policies in the medium term should focus on the Specific actions, among the most important recommendations that can be presented in this framework:

- Ensure the provision of the necessary credit and support liquidity of the two national airlines:

It is appropriate for Algerian government to intervene urgently to alleviate the financial burdens faced the two national airlines, whether by granting them access to easy lines of credit and facilities to support liquidity, as the data indicates that the levels of liquidity available in most airlines around the world do not enable them. On average, it only covers its expenses for no more than three months, at the latest. Available liquidity levels vary from one company to another according to their financial positions, but in general the recent repercussions require urgent support for the credit and liquidity lines of these companies to avoid the bankruptcy of these companies.

- Reducing financial burdens on the two national airlines:

It is of great importance that Algerian government seeks to support Air Algérie and Tassili Airlines by reducing the financial burdens imposed on them, whether by postponing the payment of the due loans, or postponing payments of it, or bearing full or part of the wages of their employees so that they can exceed this period without having to resort to large layoffs.

- Stimulating restructuring, rationalization and merger:

In light of the pressures that Air Algérie is currently experiencing and the future challenges it faces in the post-Corona world, these checks should adopt broad programs to reduce and rationalize expenditures, except the expenditures necessary to restore operational operations in the medium term in order to maintain its profitability. Further, merger options may be among the options available for the two national companies (Air Algérie and Tassili Airlines) to promote its revenues and ability to overcome the financial difficulties that will characterize the next stage.

- Encouraging low-cost and domestic flight:

There is a good opportunity for Algeria to benefit from encouraging airlines to reduce the cost whose activities have witnessed during the past years a significant growth in a number of countries in the region, registering an increase of 9.3 % in 2019, which helped to increase their share of the total seating capacity in the countries of the region from 14.9 % in 2018 to 16.5 % in 2019.

In view of the novelty of the crisis and the short time passed on its repercussions, and the lack of knowledge of the prospects for its spread in light of the accelerating spread of the virus on the one hand, as well as the great lockdown that affected various economies and demands to open economic activities, expectations remain uneven and under review in light of many scenarios recovery, between a very pessimistic and optimistic about the end of crisis.

In this context, one of the most challenges facing such research is the lack of sufficient and comprehensive studies in light of data, most of which are based on constantly changing expectations, which makes developing scenarios and policies to hardly face the losses and impacts faced by the air transport sector .

Prospects for future research, updating the data according to the actual data for the losses incurred by the sector after the receding of the crisis and the resumption of flights, which allows the development of future plans to restructure the air transport sector and adapt it to the new situation that will undoubtedly be different from the pre-crisis period.

Bibliographical references

Air Transport Action Group (ATAG), (2020), Aviation Benefits and Beyond the Borders.

CAPA Centre for Aviation, (2020), The latest Novel Coronavirus (COVID-19) Global Situation, May 2020, on: <https://centreforaviation.com/analysis/reports/covid-19-aviation-impact-capa-daily-update--16-mar-2020-517569>.

Lufthansa Group, (2020), Coronavirus: Lufthansa Adopts A Package of Measures – Budget Reduction in The Administrative Areas – Offer

of Unpaid Leave for Employees – Expansion of Options for Part-Time Work Planned – New Recruitment Suspended, on : [//www.lufthansagroup.com/en/newsroom/media-relations-north-america](http://www.lufthansagroup.com/en/newsroom/media-relations-north-america).

Royal air Maroc, Frequently asked questions covid 19,(2020), on : <https://www.royalairmaroc.com/cm-fr/information/questions-frequentes?categoryId=40980645>.

The Arab Civil Aviation Organization ACAO, (2020), Support for airlines in the region is necessary in light of the worsening corona implications, ACAO, on : <https://acao.org.ma/news.php?id=360>.

The Arab Civil Aviation Organization ACAO, (2020), Covid-19 and Air Travel – Impact on Airport,on: <https://acao.org.ma/show.php?id=23>.

The Council of Saudi Chambers, (2020), the economic effects of Covid 19 virus,Information and Research Center.

The International Air Transport Association IATA, (2020), Air Cargo Market Analysis: Air cargo plunges in March as COVID-19 spreads globally.

The International Air Transport Association IATA, (2020), COVID-19 Airlines' Liquidity Crisis.

The International Air Transport Association IATA, (2020), IATA Monthly Statistics, IATA, on: www.iata.org

U.S- UAE business council, (2020), video conference with Emirates President Tim Clark and Etihad Chief Executive Tony Douglas.on :<https://www.aviationbusinessme.com/covid-19/21515-video-emirates-etihad-chiefs-warn-of-mass-airline-insolvencies>.