

**ECOLE DES HAUTES ETUDES
COMMERCIALES (EHEC)**



**Thesis Submitted in partial Fulfillment
Of the Requirements for Master's Degree in Commercial Sciences**

Major: Distribution and Supply Chain Management

**The impact of COVID-19 crisis on the distribution
logistics performance**

**CASE STUDY: NAFTAL (O.E.B
district)**

Submitted by:

Mr.Yaaqoub TAROUM

Supervised by:

Mrs.Ouardia LAOUDJ

8th promotion

Academic year 2020-2021

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DEDICATIONS

I wrote this part especially to dedicate this small modest work to my dear parents who sacrificed to see me succeed in my career, i love you this is for you in the first place ...

To all my brothers and sisters ...

To my dear little niece and my two adorable nephews...

To all my family...

And to all my true friends... my closest friends Achraf and Yacine who shared with me the journey, and especially to the future doctor Safa who helped me to prepare the Covid-19 chapter.

Yaaqoub...

Acknowledgements

Firstly, I thank God almighty for giving me the strength to realize this work.

Above all, my deepest gratitude and appreciation goes to my lovely family and especially my parents for their unconditional love and support that have carried and sustained me on this journey.

I might thank my Professor, Ouardia LAOUDJ, whose expertise was significant in formulating the research methodology. Your constructive criticism and feedbacks carried my work to a more significant level. Without forgetting all our EHEC teachers and administration staff.

I would like to make a special reference to the staff of NAFTAL (O.E.B district), especially to the distribution department. Their cooperation in providing me with the relevant data and insight has broadened my knowledge and perspective on distribution logistics in general and greatly contributed to the completion of this project.

My appreciation also goes to my closest friends, without their relentless effort and encouragement; this journey would not have been completed.

Thank you very much for making it all possible.

Abstract

The wild spread of the COVID-19 pandemic crippled the world and exposed the critical importance of logistics, significantly reduced business activity around the world, and led to the cancellation of several projects.

Distribution logistics, as an essential part of logistics, has also failed to stay outside the borders of the pandemic crisis. The impact of the pandemic on the performance of the distribution logistics during Corona virus is the subject of consideration in this research work.

Despite, the negative impacts of COVID-19 pandemic still have a positive side, for example, organizations will know how supply chain structures and processes can be adjusted in case another pandemic shows up.

Keywords:

COVID-19 pandemic, Performance, Distribution logistics.

RÉSUMÉ

La propagation aléatoire de la pandémie de coronavirus 19 a paralysé le monde. Elle a mis en évidence l'importance cruciale de la gestion de la chaîne logistique, elle a réduit considérablement l'activité commerciale dans le monde et a provoqué l'annulation de plusieurs projets.

De même, en tant que composante stratégique de la logistique, la logistique de la distribution n'est pas parvenu à se maintenir hors de la crise liée à la pandémie. Les répercussions de cette dernière sur la performance de logistique de la distribution au cours du coronavirus a fait l'objet d'une réflexion dans le présent travail de recherche.

Néanmoins, le bilan négatif de la pandémie COVID-19 a également un revers positif. À titre d'exemple, des entreprises ont appris de quelle manière les structures et les processus de la chaîne logistique peuvent être adaptés en cas de nouvelle pandémie.

Mots-clés:

La pandémie COVID-19, La logistique de la distribution, La performance

الملخص

أدى الانتشار الكبير لوباء الكوفيد19 إلى شل العالم وكشف الأهمية الكبيرة للخدمات اللوجستية ، حيث قلل بشكل كبير من النشاط التجاري في جميع أنحاء العام ، وتسبب في إلغاء العديد من المشاريع. كما لم تستطع لوجستيات التوزيع ، باعتبارها جزءًا أساسيًا من الخدمات اللوجستية ، في البقاء خارج حدود أزمة الوباء. لذا فتأثير الوباء على أداء لوجستيات التوزيع خلال فترة تفشي فيروس كورونا هو موضوع الدراسة في هذا العمل البحثي. وعلى الرغم من الآثار السلبية للوباء عامة إلا أن له جانب إيجابي، على سبيل المثال ، ستعرف المنظمات كيف يمكن تعديل هياكلها وعمليات سلسلة التوريد في حالة ظهور جائحة أخرى.

الكلمات المفتاحية:

وباء الكوفيد19 . لوجستيات التوزيع . أداء

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List of abbreviation

COVID-19	Coronavirus Disease 2019
WHO	World Health Organization
AHC	Acute Hemorrhagic Conjunctivitis
IMF	International Monetary Fund
OECD	Organization for Economic Cooperation and Development
ILO	the International Labor Organization
AUC	African Union Commission
GDP	Gross Domestic Product
UNCTAD	United Nations Conference on Trade and Development
E.U	European Union
IATA	International Air Transport Association
GDP	Gross domestic product
CBN	Christian Broadcasting Network
SNTF	Société tunisienne des industries de raffinage
LPG	Liquified Petroleum Gas
MERS	Middle East respiratory syndrome
AIDS	Acquired Immuno deficiency Syndrome
GHRF	Global Health Risk Framework for the Future
SC	Supply Chain
SCM	Supply Chain Management
USD	United states dollar
O.E.B	Oum El Bouagui
EHEC	École des haute études commerciales

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General Introduction

General introduction:

Within the context of an environment in which natural and human-made catastrophes seem to be increasingly common, the issue of supply chain risk has forced itself onto the corporate agenda of all the world's largest multinationals.

Disasters such as the Japanese tsunami and the Thai floods have not only wreaked havoc in regional supply chains, but they have also had far reaching consequences for manufacturers and retailers many thousands of miles away in Europe and North America.

Pandemics such as trending COVID-19 poses urgent and prolonged threats to the health and well-being of the population worldwide, additionally to the global economic crisis, most governments and companies face hard choices about how to manage the virus.

Corona virus disease 2019 (COVID-19) has brought to light the fact that distribution logistics function as the lungs of every company. Unfortunately, logistics functions are confronting demand imbalances leading to inventory difficulties, uncertain reliability of delivery as well as high risk of risk to a supplier in single-source supplier situations.

Non-transparent supply chains and a new reality require flexibility and extra focus on logistics functions along with risk management to sustain operations and thrive as a flourishing business in the future. Logistics performance evaluation is proposed to assist in evaluating the company supply chain focusing on distribution logistics operations that touch the internal and external aspects of the company. We notice that Algerian companies have not resilient supply chain which can confront crisis quickly.

We chose this topic because we think it is one of the significant issues in the world and our community today. Many countries have faced health and economic issues because of the spread of COVID-19.

This thesis aims to examine the effects of the pandemic on the distribution logistics performance of companies. The results ought to be of interest to any organization to reinforce their backup to be ready for any new future pandemics or crisis.

The main objective of this research is to answer the following central question: **“How can an international pandemic such as COVID-19 affect the distribution logistics performance?”**

In order to fulfill the research objective three central research questions are formulated. Answering these three research questions will generate the research objective:

- 1- What are the performance measures of distribution logistics within NAFTAL in age of COVID-19 crisis?**
- 2- How could the coronavirus impact the distribution logistics?**
- 3- Which operations related to distribution logistics might be affected by this pandemic?**

As a starting point, after initiating prior documentary research, and from the basis of some personal remarks and perceptions, three main hypotheses were conceived:

H01: COVID-19 crisis affects the Customer satisfaction which is the most important indicator to ensure the performance of distribution logistic.

H02: The Coronavirus interferes with distribution logistics process negatively.

H03: The Coronavirus results in transportation costs increase.

The adopted methodology was both descriptive, and analytical through a qualitative study that included interviews for better data collection. The final work was therefore divided into four chapters as follows:

Chapter I: The first one provides determinants of the pandemic, and the most critical outbreaks of disease in history, it continues with the background and the effect of the novel COVID-19 pandemic on the international economy in general and on the African countries and Algeria in particular.

Chapter II: This second chapter will discuss the logistics in general, and then it will talk about distribution politic and the distribution logistics process.

Chapter III: The last theoretical chapter presents the theoretic concept of performance and distribution logistics performance measurement, it will cover general concepts about overall performance, then it will focus on the performance of distribution logistics..

Chapter IV: The last chapter is about finding and discussions; it includes the back ground of NAFTAL company well as the practical methodology which is applied for this research purpose; and it followed by explaining the performance indicators for distribution logistics within NAFTAL (O.E.B district) and then the analysis of the data that were conducted through interviews, and finally summarizing the main conclusions of this research and provides recommendations.



CHAPTER ONE:

Covid-19 crisis and its economic impact

Chapter one: Covid-19 crisis and its economic impact

Introduction:

The following chapter is dedicated to reviewing the terminology of the word pandemic and infectious diseases, in different aspects and periods of history and their effect on the global economy and supply chain.

In two main sections of this chapter, I am introducing in the first section the definition of pandemic, the determinants of the pandemic, and the most critical outbreaks of disease in history, reviewing both positive and negative impacts on human life developments and finally the challenges and the risks in supply chain management.

The second section summarizes the background and the effect of the novel COVID19 pandemic on the international economy in general and on the African countries and Algeria in particular.

Section 1: About diseases and pandemics.

Since the beginning of mankind's history and when humans started to develop their way of living by gathering in bigger groups and interact more with the ecosystem and animals and have wild movements, the infectious disease starts to show up and a perfect environment for its development and emergence was set up. And the bigger the groups are the more the disease spread, the more people were infected and died, the more the pathogen had the chance to develop its resistance and get out of control. the more civilized the humans became the more likely pandemics would occur.

From the Antonine plague to the Spanish flu to Ebola and cholera and different pandemic that shaped our world with its large impacts on many sectors.

1.1 Definition of a pandemic:

The word pandemic originates from the Greek pan signifying "all" and demos signifying "the people", and is ordinarily taken to a widespread epidemic of infectious diseases all through the entire country or at least one more continents simultaneously.¹

¹HONIGSBAUM,(M): **Historical keyword Pandemic**,The Lancet, P. 373.

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A pandemic is an epidemic happening around the world, or over a broad region, crossing international boundaries and generally influencing a large number of individuals.²

In the previous two decades, the term has not been characterized by numerous modern medical texts. Indeed, even legitimate writings about pandemics, for example, comprehensive histories of medicine, classic epidemiology textbooks, or the Institute of Medicine's influential 1992 report on rising contaminations, do not 16 records it in their files.³

The universally accepted meaning of a pandemic as it shows up in the Dictionary of Epidemiology is direct and notable: epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people. This definition does not take into consideration the population immunity, virology, or danger level of the pandemic. According to it, we can say that pandemics happen yearly all over the globe and this is not correct.

Generally, an epidemic is the rapid spread of disease to a large number of people in a given population and within a short period. "There is a temporary increase in the prevalence of an infectious disease of such extent and course as to indicate a definite change in the balance of forces controlling the occurrence of the disease in the population".

Seasonal epidemics spread quickly and cross borders, infecting a significant number of people, although they are not considered pandemics. According to current definitions, a "extensive epidemic" is one that is extensively disseminated and affects a large number of individuals. It spreads terrifically throughout an area, a country, even an entire continent.

In the case of influenza, biologists propose that epidemiological strains be subjected to primary genetic alterations known as antigenic transformation for those claiming to have reached the sixth stage of the pandemic; there must be a prolonged outbreak in two regions at the same time. The criterion for defining pandemic influenza by the World Health Organization is a new viral subtype of such high impact that few populations have resistant

²Dictionary of Epidemiology, John M. Last, Oxford University Press, 2000, P131.

³MORE, (D. M), FOLKERS, (G. K), & FAUCI, (A. S): **What is a pandemic?** J Infect Dis,2009, P.200.

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immunity, Which is fast-moving between humans and is the focus through which it spreads rapidly to the rest of the world.⁴

1.2 Pandemics through history:

Humans have a long history with pandemics and infectious disease in different levels and periods, the whole story started when the human build societies and increase the interaction between each other and between the animals what help creating and spreading new pathogens and diseases. Smallpox, cholera, plague t, the flu, and the list goes by. Wars were the critical periods of pandemics history, it was one of the best ways to transmit and get affected by new infections. take the black death and the Spanish flu as an example.

Flu pandemics and since the 1500s occur every 10 to 50 year. They are unpredictable and easy to emerge and this is how it affected extremely the whole world, in the twenties century alone, there are three colossal flu pandemics occurred: "Spanish influenza" in 1918-1919, "Asian influenza" in 1957-1958, and "Hong Kong influenza" in 1968-1969 (Table 1). Every one of these hurt human lives and economic growth. For instance, the influenza pandemic of 1918-1919 killed more than 20 million individuals on the planet and is considered as the most devastating epidemic in recorded world history.⁵

Table 1: Characteristics of the three influenza pandemics of the 20th century:

PANDEMIC (DATE AND COMMON NAME)	AREA OF EMERGENCE	INFLUENZA A VIRUS SUBTYPE	ESTIMATED REPRODUCTIVE NUMBER	ESTIMATED CASE FATALITY RATE	ESTIMATED ATTRIBUTABLE EXCESS MORTALITY WORLDWIDE	AGE GROUPS MOST AFFECTED (SIMULATED ATTACK RATES)	GDP LOSS (PERCENTAGE CHANGE) ⁷
1918-1919 "Spanish Flu"	Unclear	H1N1	1.5-1.8	2-3%	20-50 million	Young adults	-16.9 to 2.4
1957-1958 "Asian Flu"	Southern China	H2N2	1.5	<0.2%	1-4 million	Children	-3.5 to 0.4
1968-1969 "Hong Kong Flu"	Southern China	H3N2	1.3-1.6	<0.2%	1-4 million	All age groups	-0.4 to (-1.5)

Source: WHO 2011

China has experienced numerous public health crises in the last 15 years caused by disease outbreaks, including Severe Acute Respiratory Syndromes (SARS) in 2003 and Influenza A

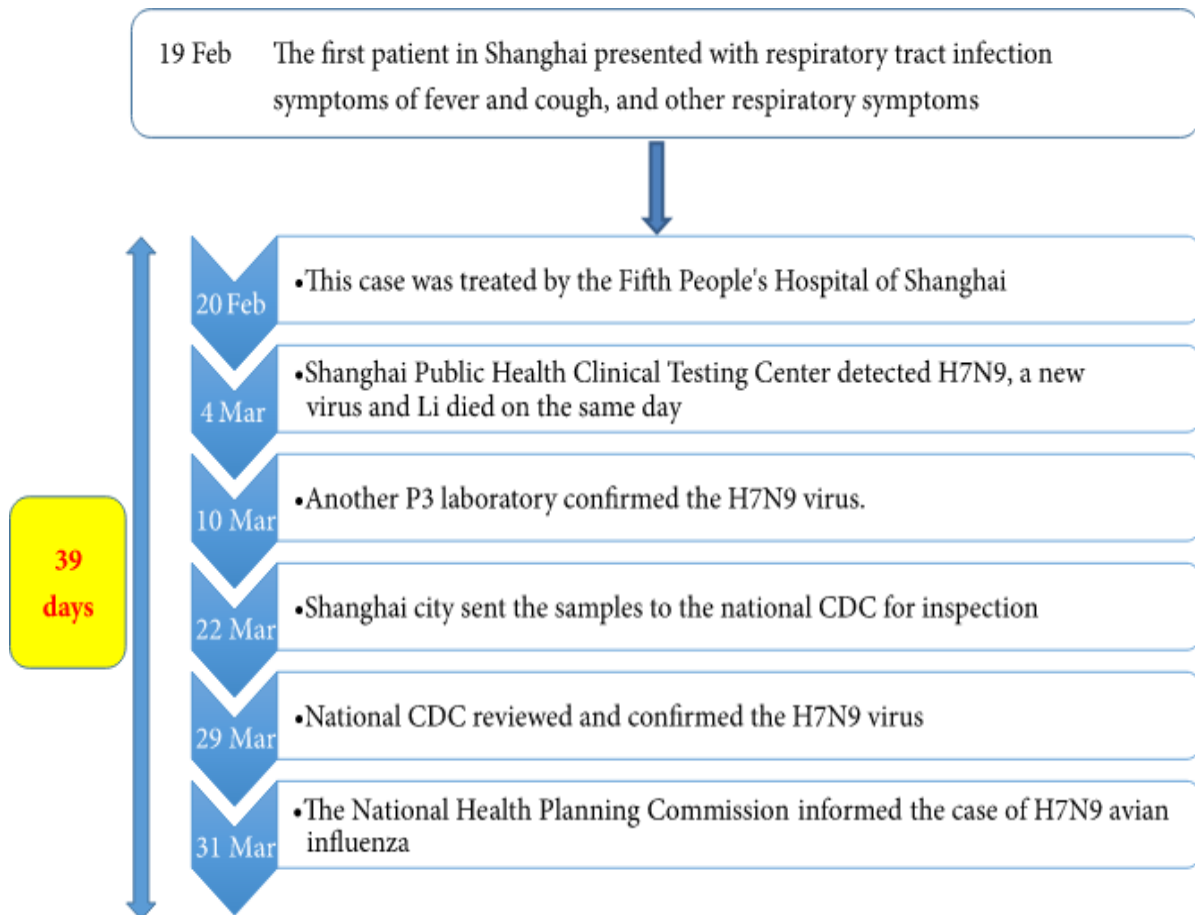
⁴Wuqi,(Q): **Risk Communication for Emergency Management of Pandemic Prevention and Control in China**,2016, P.16.

⁵World Health Organization: **Comparative analysis of national pandemic influenza preparedness plans**, 2011.

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Virus Subtype H7N9 (H7N9) in 2013. Epidemics such as SARS and H7N9 have caused substantial negative impacts on population health and the economy. H7N9 avian influenza is an infectious disease that has caused severe illness and death in humans in China. It has a high fatality rate. The timeline for the beginning of the outbreak of H7N9 is presented in Figure 1.⁶

Figure 1: Timeline for the beginning of the outbreak of H7N9



Source: Hindawi website

Latest years have seen at least six colossal scale disease outbreaks including, but not constrained to, flu and H7N9. They are Hantavirus pulmonary syndrome, SARS, H5N1 flu, H1N1 flu, the Middle East respiratory syndrome, and Ebola virus. The flu H1N1 2009 virus (A/2009/H1N1) was the first pandemic flu of the 21st century. It influenced the entire world

⁶<https://www.hindawi.com/journals/jep/2018/2710185/> (Published: June 28th, 2018, consulted May 11th 2021 at 15:40)

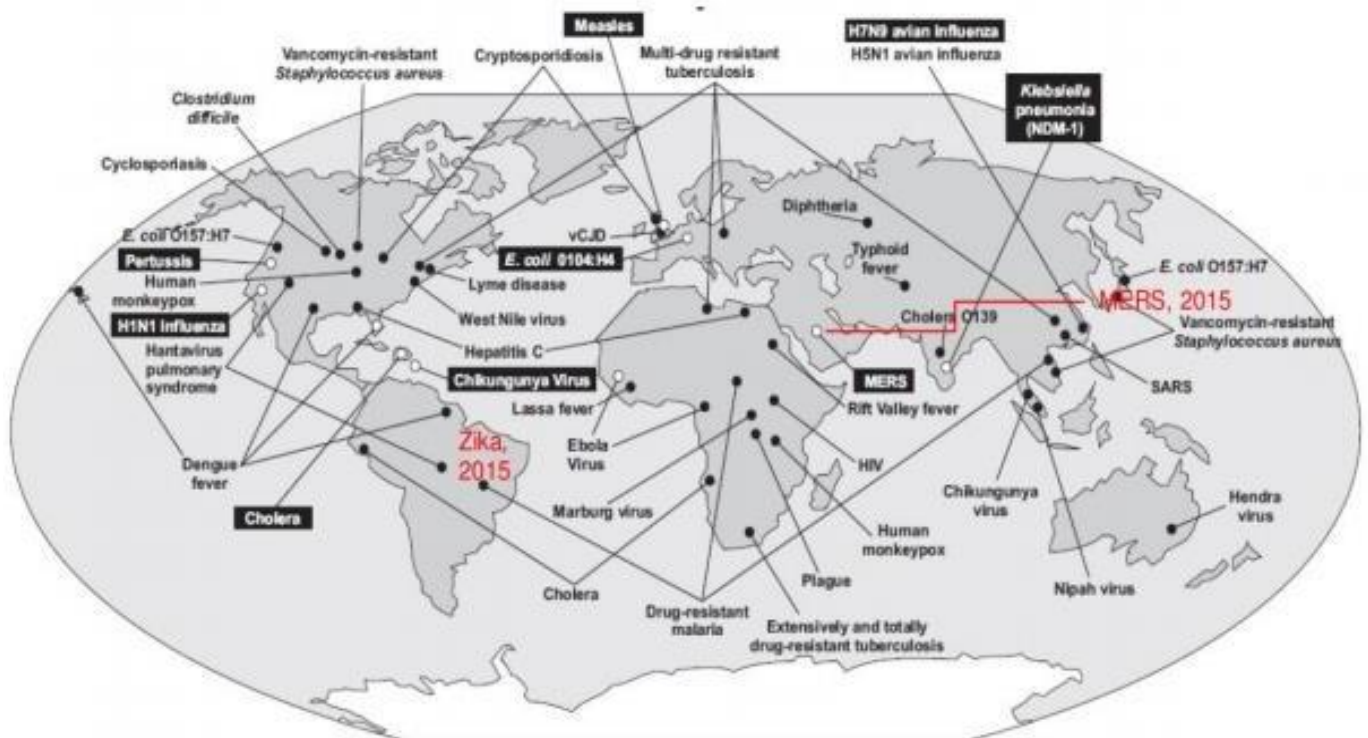
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and caused more than 18,000 deaths (2015). As indicated by World Bank calculations, Ebola slaughtered more than 11,000 individuals and cost the world more than 2 USD billion.⁷

Presently, Zika virus is still spreading and compromises the health of individuals in 34 countries. These outbreaks raised feelings of fear among the two researchers and laypeople that a developing flu outbreak could repeat the devastation of the Spanish influenza of 1918.⁸

As well as these large scale outbreaks, other emerging and re-emerging infectious diseases or agents during the period from 1990 to 2015 are documented, and Kern provides their distribution in Figure 2. The diseases or agents in the black box with the white dots show those which occurred between 2010 and 2014 (Kern, 2016).

Figure 2: Emerging and re-emerging infectious diseases (1990 to 2015):



Source: Kern 2016

⁷ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00156-2/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00156-2/fulltext) (Published on January 23th, 2016, consulted May 11th, 2021, at 19:54).

⁸ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7107521/> (Published on April 15, 2016, consulted May 11th, 2021, at 20:05).

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1.3 Features of a pandemic:

When should we consider an epidemic or an outbreaking disease a pandemic?

The determinants of a pandemic are the characteristic set by the epidemiologists to identify it and precise it, what helps us understand the challenges of supply chain risk management. The essential features according to the journal of infectious disease of oxford are: ⁹

1.3.1 Wide geographic extension:

The term pandemic ordinarily refers to diseases that stretch out over enormous geographic zones for instance, the fourteenth-century plague (the Black Death), cholera, flu, and human immunodeficiency infection HIV/AIDS. In a recent of the historical backdrop of pandemic flu, pandemics were ordered as trans- local and global. There were 178 countries involved during the H1N1 outbreak in 2009.

1.3.2 Disease movement

In addition to the geographic extension, most uses of the term pandemic imply unexpected disease movement or spread via a transmission that can be traced from place to place. Examples of disease movement include the widespread person-to-person spread of diseases caused by respiratory viruses, such as influenza and SARS, or enteric organisms, such as Vibrio cholera, or by vectors, such as dengue associated with the extension of the geographic range of vectors, such as Aedes albopictus mosquitoes.

Also, the geographic expansion, most uses of the term pandemic imply sudden illness development or spread employing a transmission that can be followed from place to place. Examples of disease movement include a widespread person-to-person spread of diseases brought by respiratory infections, for example, flu and SARS.

In the case of Pandemic Influenza (H1N1), the transmission was widespread in both hemispheres between April and September 2009. The influenza season was early in the temperate southern hemisphere, .the northern hemisphere. This out-of-season transmission is an- other factor that characterizes an influenza pandemic.

⁹ <https://academic.oup.com/jid/article/200/7/1018/903237> (Published on October 01, 2009, consulted May 12th, 2021, at 15:07).

1.3.3 Novelty

The term pandemic has been used most commonly to describe new diseases, or at least associated with novel variants of existing organisms, for example, antigenic shifts occurring in influenza viruses, the emergence of HIV/AIDS when it was recognized in the early 1980s, and historical epidemics of diseases such as the plague.

Novelty is a relative concept, however. "There have been seven cholera pandemics during the past 200 years, presumably all caused by variants of the same organism". Not all of these were necessarily novel organisms. In the 21st century, SARS 20 and avian influenza are two new infections with pandemic potential that arose from Asia.

1.3.4 Severity

The term pandemic has been applied to severe or fatal diseases (for example the Black Death, HIV/AIDS and SARS) substantially more generally than to mild diseases. There is no immunity for a human population when a virulent new viral strain influences the world, and this prompts high mortality and morbidity.

The case-fatality ratio estimates severity. Most Ebola cases die within ten days of their initial infection, with the disease having a mortality rate of 50–90% (WHO 2003). The outbreak of H7N9 has caused more than 600 human infections, with nearly 30% mortality. Thus these outbreaks are classified as pandemics.

1.3.5 High attack rates and explosiveness

Pandemics are characterized by high rates of attack and by the explosive spread. Examples are influenza H1N1 and Ebola. However, if the transmission is non-explosive, even if it is widespread, this is not classified as a pandemic. For example, West Nile virus spread to the Middle East and Russia, and the Western Hemisphere in 1999, but the transmission was slow, and the attack rate was low, so it is not classified as a pandemic.

Maladies with low rates of transmission or low rates of symptomatic disease are seldom pronounced as pandemics, even when they spread broadly. However, sicknesses of low or moderate seriousness, for example, Acute Hemorrhagic Conjunctivitis (AHC) in 1981, and

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cyclic worldwide repeats of scabies additionally have been called pandemic when they exhibit explosive (AHC) or widespread and recurrent geographic spread.

1.3.6 Minimal population immunity

Pandemics arise when populations have little immunity. So it is easy for a large part of a population to be infected. For example, since H7N9 was a new variant of the influenza virus A, the population had no immunity, so there were many cases worldwide in a short time ²¹.

Although pandemics often have been described in partly immune populations, it is evident that in limiting microbial infection and transmission, population immunity can be a powerful anti-pandemic force.

1.3.7 Infectiousness

The term pandemic has less commonly been used to describe presumably non-infectious diseases, such as obesity, or risk behaviors, such as cigarette smoking, that are geographically extensive and may be rising in global incidence but are not transmissible.

1.3.8 Contagiousness

Pandemic ailments are infectious, so they are communicated, starting with one individual then into the next individual.

This transmission can be immediate (individual to individual) or indirect (individual to vector to the individual). For instance, the SARS infection was communicated from individual to individual by people around other people, while H7N9 was regularly spread through contact with living poultry. The significance to human health of H7N9 and other flu strains lies in their capability to change into a structured fit for continued individual-to-individual transmission.

1.4 Impact of pandemics:¹⁰

In different aspects of life pandemics affect the usual life, whether negative or positive side, this impact plays a great role in shaping and developing our future

¹⁰ Wuqi,(Q) : Op.cit,p.21-28.

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As the HIV, H1N1, H5N1, and SARS epidemics and pandemics shown, infectious illness outbreaks may easily traverse borders, posing a danger to economic and regional stability.

Pandemics entail a variety of detrimental social, economic, and political implications in addition to the debilitating, and often deadly, repercussions for individuals immediately impacted.

The impact of the pandemic influenza H1N1 in 2009 was not only on mortality, but also on health-care systems, animal health, agriculture, education, transportation, tourism, and the financial sector...

1.4.1 The economic impacts

In the rapidly emerging diseases with high rates of attack and easy transmission, the government stops the interactions and local transport to control the pandemic, tourism, and related industries are the most damaged sectors which mean that the economy is at a real threat.

The impact of economic loss has the potential to cause economic instability. Direct costs, long-term burden, and indirect expenses all have an impact. The initial costs of dealing with a disease epidemic might be substantial.

The Ebola outbreak has severely harmed the economy in West Africa. In 2015, the Ebola epidemic in Sierra Leone cost 6 billion USD in direct expenditures (hospitals, workers, medicines), which is more than 20 times the cost of WHO's emergency response reduction in its 2014–15 budget.

Infectious illness outbreaks are estimated to cost the globe some 60 billion USD in indirect costs per year, according to the Global Health Risk Framework for the Future (GHRF) Commission. The long-term cost is also significant. The loss of earnings of persons who have died is one of the most significant responsibilities. Long-term economic expenses are forecasted in a variety of ways.

Prager, Wei (2016) have assessed that economic losses from pandemic flu in the USA would be 90 – 220 billion USD, and of that, 80% would come from the value of expected future lifetime incomes of the individuals who might die. However, McKibben and Sidorenko

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(2006) evaluated that the overall financial expense of a flu pandemic would go from 374 billion USD for a mild pandemic to 7.3 trillion USD for a severe pandemic.

Backhanded expenses can likewise be noteworthy. They incorporate everything that adds to a decrease in GDP.

The 2003 SARS outbreak caused losses of USD 12.3-28.4 billion and an expected diminishing in GDP of 1% in China and 0.5% in South-east Asia. New Zealand

Treasury estimates that a pandemic with a 40 per cent attack rate and a 2 per cent case-fatality rate would decrease GDP by 5-10% in that year.

A few sectors of the economy might be more intensely influenced than others. For example, Prager et al. (2016) gauge that the air transport industry would endure lost practically 20% or USD 7.9 billion if U.S. residents cut down on travel. Thus, pandemics have both immediate and long impacts that can harm the financial life of a country for a long time following the pandemic.

1.4.2 Social impacts

The social impact of a pandemic depends on the way of contamination and the population culture and social structure. The more the transmission is easy the more the social distinction is obliged.

With the need to follow the health procedure and restrictions, other social and psychological issues show up to the surface, an increase in domestic violence, suicide, depression, destruction of relationships, and many others.

With the huge aviation movements and the increase of passengers traffic, the chances to spread the disease become bigger and especially for the respiratory pandemics, In early 2003, SARS, which began in southern China, was swiftly spread to more than 30 nations. Travel is generally discouraged or limited during a pandemic. For example, during the Ebola outbreak in West Africa, highways were closed and cars were halted at military checkpoints.

It is true that restricting travel was effective in controlling the pandemic's spread but on the other side families were split apart, students abroad got stuck there with no jobs or help,

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patients needing care outside the country, and no need to talk about transportation of goods and needs that were blocked.

That what impacts the families and the economy, abstract most of the commercial transactions because of the interruption of the food supply in the cities and public services. The whole thing turns to war on resources, rising crimes rates, some people were accumulating goods where others can't find what to eat and this inequality and the deficit in needs can destruct the social fabric.

However, this has caused food shortages in cities. Markets and stores were closed, so people couldn't get the food they needed. This phenomenon also resulted in a long-term alteration in people's eating habits. Following the outbreak of avian influenza, consumption of chicken products in China's Jilin province decreased by more than 80% on average, affecting many people's lives.

The closure of schools and universities also was a way to control the diseases and new questions about the effectiveness of the new educational strategies and if it does manage to maintain the same advantages and qualities of the old school.

Other venues where people congregate are frequently closed as well. Public events, such as athletic events, are frequently canceled. Workplaces aid in the spread of the disease as well. Enforced close contact at work and household congestion were linked to a greater prevalence of self-reported influenza-like illness H1N1 during the 2009 H1N1 pandemic.

Some businesses were shut down. However, shutting businesses has a significant negative impact on the local economy and workers' well-being. Any choice to reduce pandemic outbreaks must consider tradeoffs between the socioeconomic costs of interventions and the cost of uncontrolled viral propagation.

1.4.3 Health impacts

Throughout history, the development of mankind and its immunity, figure, attitude, civilization, and many others were affected by pandemics at different levels. each outbreaking disease had not just killed huge numbers of people and take the black death that spreads by the movements of the Mongolian army and killed half of the European population in the 14th

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century. but created long-lasting changes or impairments in the population and made even genetic and epigenetic modifications that reshaped the humans.

In the 20th century, there were three significant pandemics:

1-Spanish flu in 1919-1920, by 20-40 million deaths

2-Asian flu in 1957-1958 with about 2 million deaths

3- Hong Kong flu in 1968-1969, caused 1 million deaths.

Quarter to third of the yearly global mortality is due to pandemics and infectious disease

In fact its health impact depends on the health system and its workers and the awareness of people. Pandemics in the developing countries with their poor health systems which can't contain the emergency effectively have big mortality and attendance to death is from 5 to 10 percent. During the SARS outbreak in 2003, approximately 8000 people became contaminated, with over 700 fatalities (almost 9%) occurring in just six months.

According to WHO reports of 2004, one of the most dangerous pandemic viruses is influenza. Influenza epidemics can cause major morbidity and death in up to 23 people. Influenza pandemics are marked by high rates of infection and death, as well as quick and broad transmission.

The Ebola outbreak in West Africa was a global public health concern on a scale never seen before. In October 2015, the World Health Organization (WHO) reported 28,581 Ebola Virus Disease (EVD) confirmed, probable, and suspected cases in West African nations, with 11,299 deaths. As a result of the delayed reaction to the Ebola zoonotic 'spillover,' more than 11,000 people perished in nine countries. The estimated Ebola case-fatality proportion was 40%.

Some epidemics can impact the next generations by affecting the embryos causing disabilities and physiological dysfunctions that lead to death, in the case of the Zika virus, the virus that causes microcephaly of the infant leading to his death directly, and neurological anomalies and birth defects for the adult. In early 2015 the virus spread from Brazil to the south and north America, by 2016 the WHO declared the epidemic a public health emergency

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of international concern. Zika is one of the examples of those epidemics that can lead to the loss of demographic balance.

Despising the negative impact of those outbreaks, we can't ignore its positive impact, its role in improving living and health conditions in the long term, developing medicine and raising whole civilizations, developing different since. Historically was one of the most important factors that help in the European renaissance, by reducing the population and raising the awareness and the need to improve the living conditions.

Section 2: Covid-19 crisis and the new international economical context:

By the beginning of 2020, the world had to deal with of one the hardest global pandemics, covid19 which set the whole world in a state of panic and chaos, from the cessation of most daily activities and economic systems to the collapse of the medical and economic systems and the announcement of a complete quarantine.

This virus emerges from china to the rest of the world within two months. In this section first I'm going to talk about COVID19 in general and its background, and then concentrate on the latest epidemic implications and the international economical situation and its impact on the African countries and Algeria, this section aimed to describe and discuss COVID19.

2.1 Novel Corona virus disease 2019 (COVID-19):

The Corona virus pandemic is an ongoing pandemic caused by severe acute respiratory syndrome Corona virus SARS-COV-2. COVID 19 and from December 2019 to nowadays affected over 1 billion and killed over 3 million people around the world and interrupted in different aspect our life.

The exact origin of the virus is still unknown but looking at the early cases in Wuhan which were the visitors of Hunan seafood wholesale market, most of the prediction thinks that the virus transmitted to human in that market.

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The material and human losses were large, but we still can't estimate the total losses and their impact on the economy as long as the pandemic is in a state of spread.

In our linked world the impact of the disease beyond mortality and morbidity is increasing and affecting the global economy widely

The functioning of global supply chains has been disrupted during China's economic slowdown, which has resulted in production interruptions. Organizations all over the world, regardless of size, that rely on Chinese inputs have begun to experience production contractions. The fact that transportation between countries is limited, if not prohibited, has also hampered global economic activity.

Above all, some extreme fright among buyers, consumers, and firms has distorted regular consumption patterns and made market anomalies. Global financial markets have likewise been receptive to the changes, and global stock lists have plunged. Amid the global turbulence, in an initial evaluation, the International Monetary Fund expects that China will slow off by 0.4 percentage points contrasted with its initial growth target to 5.6 %, likewise hindering global growth by 0.1 percentage points.¹¹

2.2 COVID19 pandemic background:

Before the end of February 2020, several countries were encountering continued local transmission, including in Europe. The most customarily revealed clinical symptom in hospitalized patients is fever, trailed by cough, dyspnoea and myalgia, fatigue. More uncommon side effects are diarrhea and throwing up. The infected individuals develop symptoms within 4–5 days; however, the incubation period ranges from 1 to 14 days. About 80% of patients have gentle to moderate infection (counting non-pneumonia and pneumonia cases), 13.8% have a severe illness, and 6.1% are critical (respiratory failure, septic shock, and various organ failure).

People at highest risk for extreme sickness and death are individuals aged more than 60 years old and those with hidden conditions, for example, hypertension, diabetes, cardiovascular disease, chronic respiratory illness and cancer. Disease in youngsters seems, to be generally uncommon and gentle—about 2.4% of the

¹¹Australia Research Council Centre of Excellence in Population Ageing Research, *The Global Macroeconomic Impacts of COVID-19*, Report 2020.

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absolute reported cases where people under 19 years old. A small extent of those aged under 19 years have developed severe (2.5%) or acute disease (0.2%).

Robust evaluation for final case fatality ratio for COVID-19 is yet lacking and biased because of unsatisfactory results and initial detections of most severe cases in many settings.

In China, the general case-fatality ratio (CFR) among laboratory-confirmed cases was higher in the beginning phases of the outbreak (17.3% for cases with symptom beginning from 1- 10 January) and has diminished over time to 0.7% for patients with symptom beginning after February 01. Mortality expanded with age, with the most elevated mortality among individuals more than 80 years old (CFR 21.9%).

There is currently no particular treatment or vaccine against COVID-19 infection; however, a lot of clinical trials are recruiting in Wuhan and globally to evaluate the impact of antiviral medicines.¹²

2.3 Current international economic context:

The World Health Organization declared the viral outbreak a pandemic on March 11, the highest level of a health crisis.

A growing list of economic indicators clarifies that the outbreak is adversely influencing global economic growth on a scale not experienced since the global financial crisis of 2008-2009. Global trade and GDP are estimated to decrease forcefully, at least through the first half of 2020.

The worldwide pandemic is influencing international economic and trade activities significantly, from services to the travel industry and hospitality, medical supplies and other global value chains, electronics and financial markets to energy, transportation, food, and scope of social activities, to give some examples. The health and economic emergencies could have a predominantly negative effect on the economies of developing countries that are limited by constrained financial resources and where health systems could immediately become overloaded.

¹²European Center for Disease Prevention and Control, *Outbreak of novel Coronavirus disease 2019(COVID-19): increased transmission globally fifth update*, report 2020.

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The international economic situation, as well of most countries and regions, remains very unstable. Uncertainty regarding the length and complexity of health care related economic deals is generating risk and instability perceptions in financial markets and business decision making.

Additionally, uncertainties concerning the international pandemic and the capability of public policies purposed to contain its spread and avert the second wave of infections are adding to market volatility and unpredictability. In a developing number of cases, organizations are delaying investment choices, laying off workers who recently had been laid-off and in some cases filing for bankruptcy. Compounding the economic circumstance has been a notable drop in the price of crude Oil that mirrors the international decrease in economic activity and prospects for disinflation, while also contributing to the decline of the global economy through different channels.

In this condition, COVID-19 could have an outsized effect. While the degree of economic impacts is getting more explicit, the reaction to the pandemic could have a striking and suffering effect on the way organizations sort out their workforces, on global supply chains, and how governments react to a global health emergency. Because of the quickly spreading virus and its compounding consequences for global and national rates of economic development, determining the effect of the virus has been particularly challenging.¹³

2.3.1 COVID-19 Pandemic have a Severe Impact on Global Growth:

There is extraordinary vulnerability around the global growth estimate because the economic fallout relies upon unsure variables that interface in manners challenging to foresee, despite all these uncertain factors IMF, OECD and World Bank tired to change their forecast depending on current conditions. The global growth forecast assumes that all countries experience disturbances to economic activity because of a mix of factors. The extent of supply interruptions and productivity losses, the pathway of the pandemic, volatile commodity prices and conduct behavioral changes, for example, individuals abstaining from shopping centers and public transportation.¹⁴

¹³ Congressional Research Service, *Global Economic Effects of COVID-19*, report 2020.

¹⁴ International Monetary Fund, *WORLD ECONOMIC OUTLOOK: THE GREAT LOCKDOWN*, Report 2020.

Table 2: Major Economic Forecasts, Differing Assessments

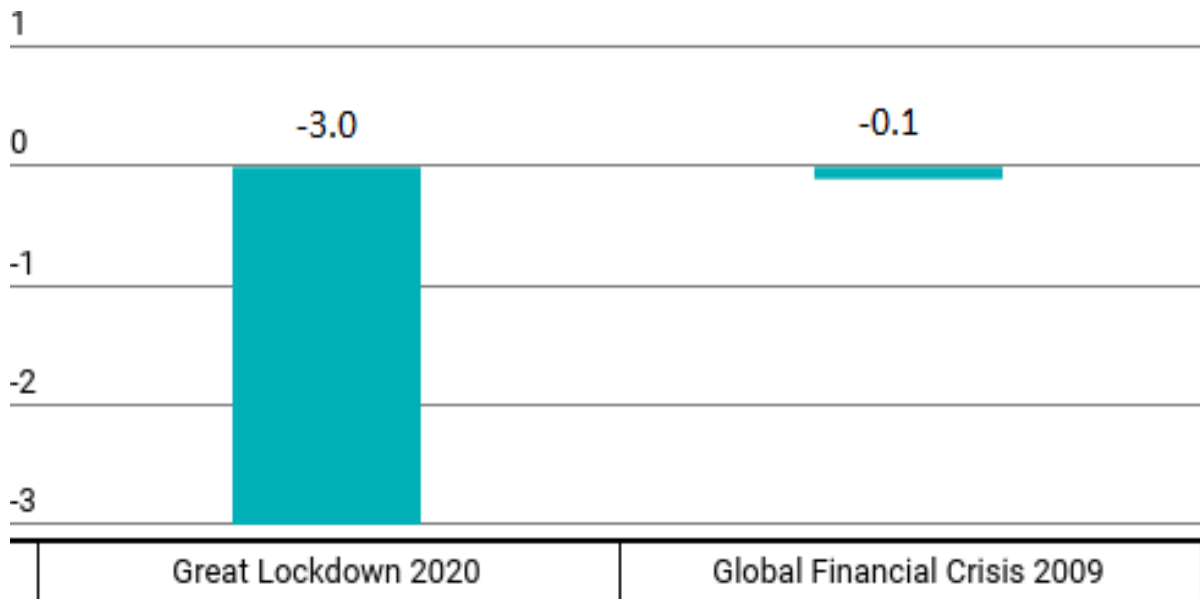
	World	
	2020	2021
IFM OCT 2019	3.4%	3.6%
IFM APR 2020	-3.0	5.8
IFM JUN 2020	-4.9	5.4
World Bank JAN 2020	2.5	2.6
World Bank JUN 2020	-5.2	4.2
OECD NOV 2019	2.9	3.0
OECD MAR 2020	2.4	3.3
OECD JUN 2020 single	-6.0	5.2
OECD JUN 2020 double	-7.6	2.8

Source: World Economic Outlook, various issues, International Monetary Fund; OECD Economic Outlook, various issues, Organization for Economic Cooperation and Development; Global Economic Prospects, various issues, World Bank.

2.3.2 Global Economy in recession in 2020:

The global economy has encountered 14 global recessions since 1870. The COVID-19 recession will be the most profound since 1945, and more than twice as profound as the recession-related with the 2009 global financial crisis, in 2020, the world economy will encounter the awful recession.

Figure 3: The great lockdown 2020



Source: IMF, World Economic Outlook.

Under the assumption that the pandemic and required containment peaks in the second quarter for most countries in the world, and recedes in the second half of this year, in the April World Economic Outlook, we project global growth in 2020 to fall to -3 per cent. This is a downgrade of 6.3 percentage points from January 2020, a significant revision over a short period. This makes the Great Lockdown the worst recession since the Great Depression, and far worse than the Global Financial Crisis.¹⁵

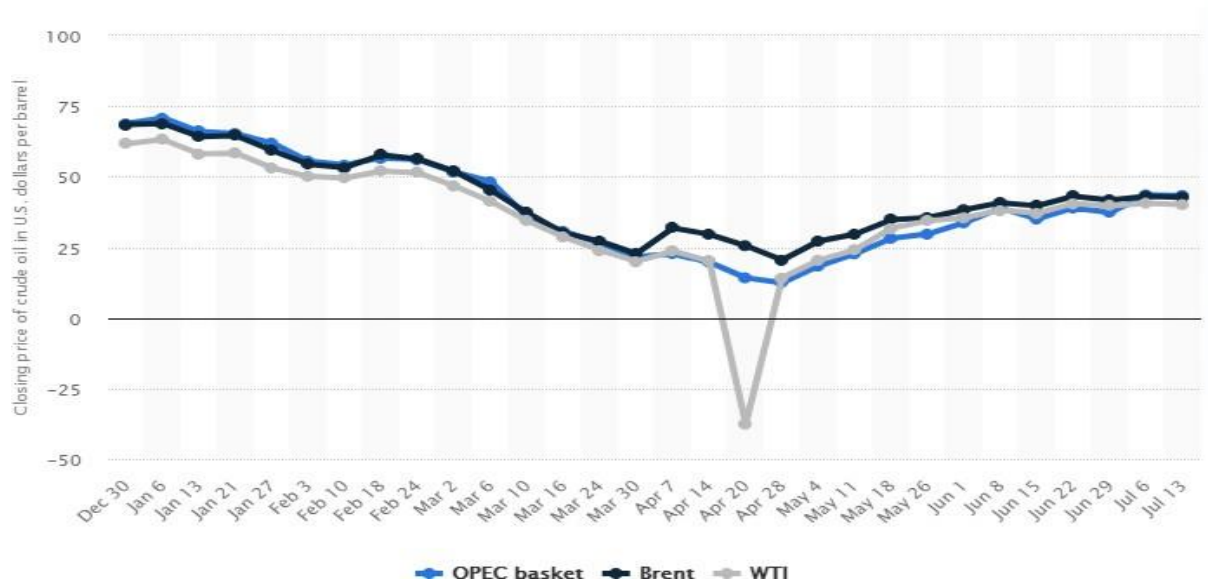
2.3.3 A considerable tumble in commodity prices:

Oil prices lost about 50% of their value dropping from 67 US\$ a barrel to below 30 US\$ a barrel as this following figure shows:

¹⁵ <https://blogs.imf.org/2020/04/14/the-great-lockdown-worst-economic-downturn-since-the-great-depression/> (Published on 14/04/2020 and Consulted 20/05/2021 at 12:58).

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Figure 4: Weekly Brent, OPEC basket, and WTI crude oil prices from December 30, 2019, to July 13, 2020 (in U.S. dollars per barrel)



Source: OECD (2020)

In response to support crude oil prices hit by the pandemic Coronavirus, significant oil producers proposed to lessen production, as individuals devour less and decrease in movement. The Oil exporters' group OPEC consented to cut supply by 1.5 million barrels for every day (BPD) until June, and the plan was for non-OPEC states, including Russia, to follow the trend.

This did not occur as Saudi Arabia on March 08 reported that it would expand production, which raised oil wars as non-OPEC members retaliated, resulting in tumbling oil prices.

The late 2014 drop in crude oil prices contributed to a significant decline in GDP growth for sub-Saharan Africa from 5.1 per cent in 2014 to 1.4 per cent in 2016. During that episode, crude oil prices fell by 56 per cent over seven months. The current decline in crude oil prices has been far more rapid, with some analysts projecting even more severe price declines than in 2014. Already, crude oil prices have fallen by 54 per cent in the last three months since the start of the year, with current prices falling below \$30 per barrel.

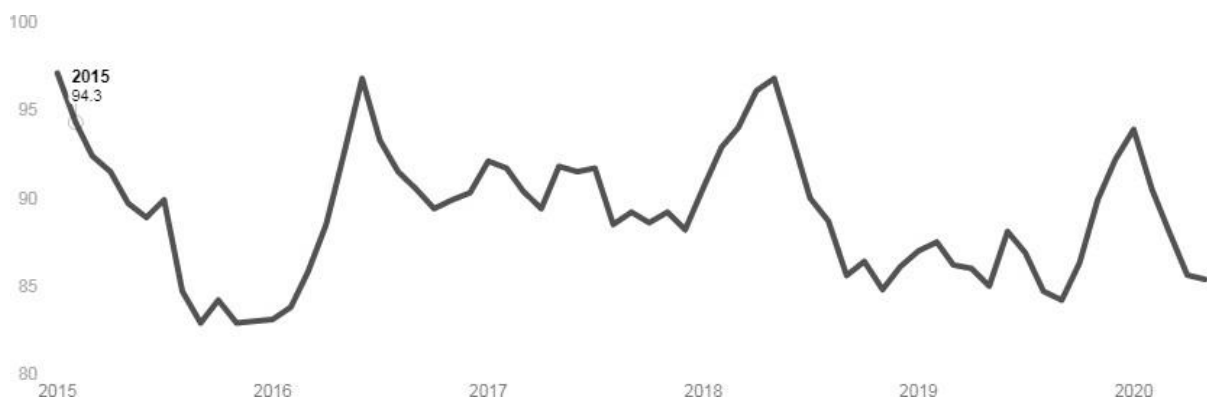
Non-oil commodity prices have likewise declined since January, with natural gas and metal prices dropping by 30 % and 4 %, respectively (Brookings Institution, 2020). Aluminum

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has additionally fallen by 0.49%; copper 0.47% and lead 1.64%. Cocoa has lost 21% of its value in five days.¹⁶

Global prices for essential food commodities, for example, rice and wheat, food were extensively steady in April and May, notwithstanding the spread of the pandemic. The World Bank's Food Price Index is relied upon to stay stable for 2020, trailed by a slight increment in 2021 as it has appeared in the following Figure:

Figure 5: Monthly food price index



Source: Bloomberg; World Bank

2.3.4 Global financial markets are also strongly feeling adverse effects:

The leading stock markets indices witnessed one of the most visibly catastrophic changes in their history in decades, after the Black Monday (March 2009).

In a single day, the Dow Jones dropped approximately 3000 points. To mention just two, the FTSE has dropped by roughly 5%, and misfortunes are valued at about 90 billion US\$.

2.3.5 A rise in global unemployment:

Corona virus shutdowns have forced the suspension of hundreds of millions of jobs over the world. This has been especially evident in nations that have already been affected by the

¹⁶ African Union, *IMPACT OF THE CORONAVIRUS (COVID 19) ON THE AFRICAN ECONOMY*, Report 2020.

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pandemic. According to another estimate by the International Labor Organization (ILO), the COVID-19 pandemic might result in a 25 million increase in worldwide unemployment.

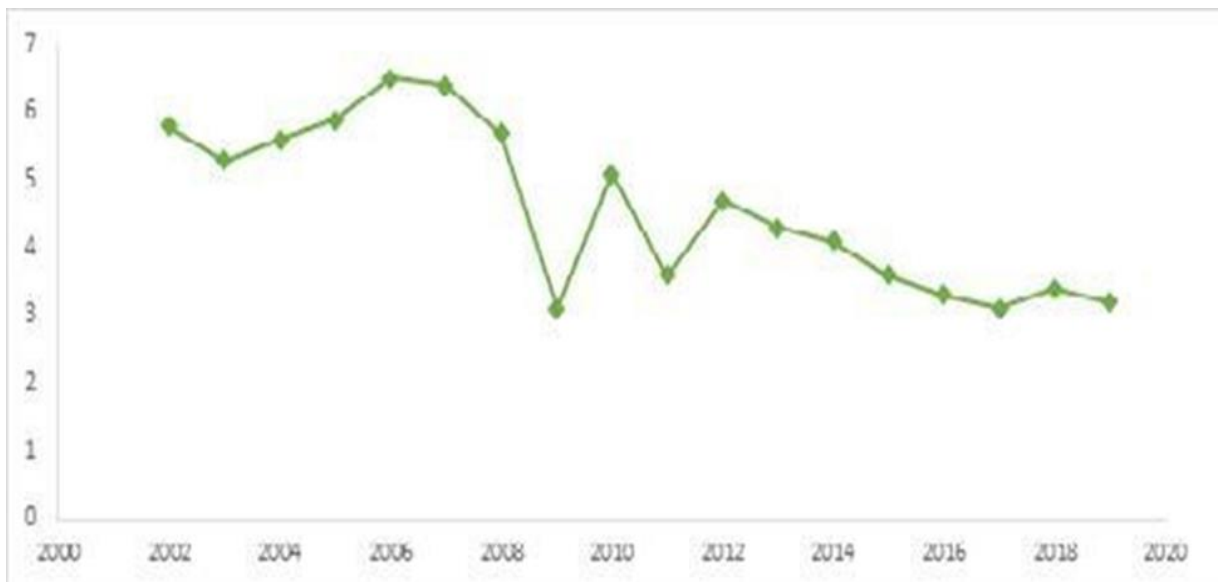
2.4 Analyses of the impact on the African economics:

The Covid-19 influences the whole globe and Africa's economy. The pandemic has already stopped some of the key sectors of the African economy. There are visibly affected the tourism business, air transport and the energy sector. In any event, regardless of the duration of the epidemic, the unseen effects of Covid-19 are predicted in 2021.

2.4.1 African Economic Growth:

African growth has improved significantly over the decade 2000-2010. After this decade of renewed confidence, doubts have risen on Africa's ability to maintain sustainable high growth rates. An essential reason behind this doubt was the persistent dependence of Africa's largest economies on global commodity prices.

Figure 6: Africa's Economic Growth between 2000 and 2019



Source: AUC (2020)

Unlikely, the COVID-19 pandemic has hit practically all African countries and seems ready to intensify significantly. The interruption of the world economy through global value chains, the sudden falls in commodity prices and financial incomes and the authorization of travel and

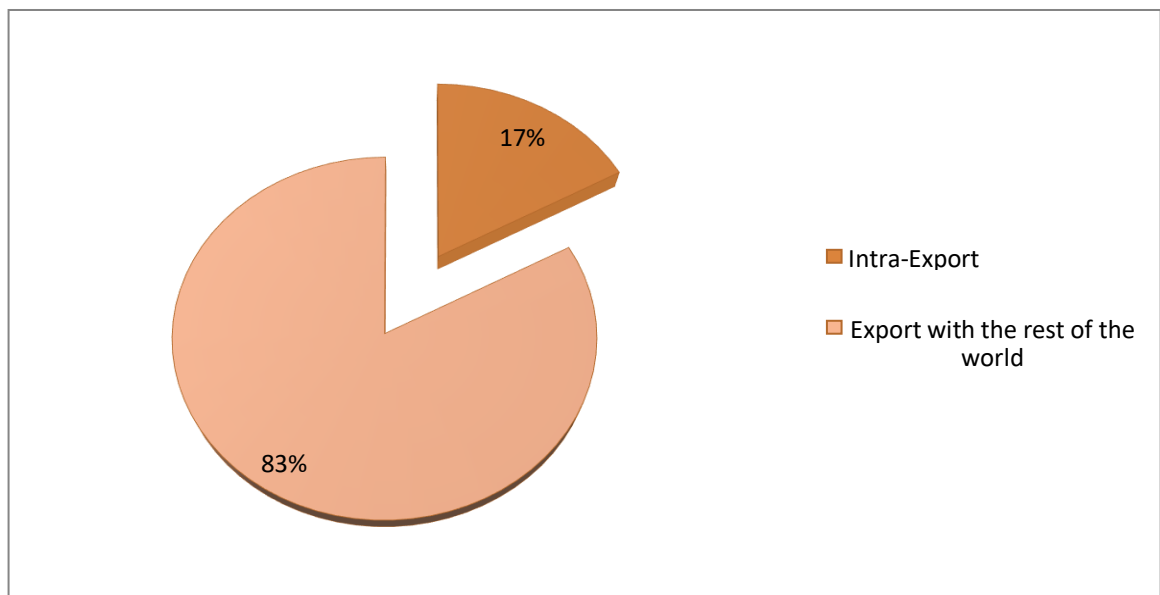
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social restrictions in numerous African countries are the primary sources of the negative growth; we will talk about this incoming effect parts.

2.4.1.1 African Exports:

According to UNTACD, for the period (2015-2019), totals Africa trade average worth was US\$ 760 billion every year, which speaks to 29% of Africa's GDP. Intra-African trade accounts represent just 17% of all trade of African nations. The fall in crude oil prices and demand contraction straightforwardly influence the growth of African countries.

Figure 7: African Exports (%)



Source: By the author based on UNTACAD (2019)

Africa's major trading partners include the European Union, China and the United States. The European Union, through E.U. due to strong historical ties with the African continent, carries out numerous exchanges, which accounts for 34%. Fifty-nine per cent (59%) of North Africa's exports are to Europe, compared to 20.7% for Southern Africa. China, in its industrialization dynamic, has for a decade raised the level of its trade with Africa: 18.5% of Africa's exports are to China. Forty-four per cent (44.3%) of Central Africa's exports are to China, compared to 6.3% for North Africa (AUC/OECD, 2019).

Over a third of African countries derive most of their resources from the export of raw materials. High commodity prices mainly supported the impressive economic growth of

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almost 5% experienced by Africa in the 14 years preceding 2014. For instance, the late 2014 drop in oil prices contributed to a significant decline in GDP growth for sub-Saharan Africa from 5.1 % in 2014 to 1.4 % in 2016.

2.4.1.2 Loss of Activity and Jobs in the African Tourism and Travel Industry:

The travel industry and tourism is an essential sector of economic activity for several countries in Africa. The travel industry added to more than 10 % of GDP of the following countries: Seychelles, Cape Verde, Mauritius, Gambia, Tunisia, Madagascar, Lesotho, Rwanda, Botswana, Egypt, Tanzania, Comoros and Senegal in 2019.

It was projected to increment between 3 % to 5% in 2020. However, with the progressing restrictions, hotels are laying off-workers, travel restrictions, shutting of borders, social distancing and travel agencies are shutting in numerous African countries, and negative growth is probably to be expected.

IATA estimates the economic contribution of the air transport industry in Africa at 55.8 billion dollars, supporting 6.2 million occupations and contributing 2.6% of GDP.

A communique from IATA showed that international bookings in Africa declined about 20% in March and April; local bookings declined about 15% in March and 25% in April. As indicated by the most recent information, Ticket refunds expanded by 75% in 2020 contrasted with a similar period in 2019 (February 01 - March 11).¹⁷

The economic growth is anticipated to drop on average to a value of - 3.3% in 2020 while in countries Seychelles, Cape Verde, Mauritius and the Gambia, the effect will be a lot higher at least - 7% in 2020.

2.4.2 Impact of COVID-19 on the most prominent African economies:

The COVID-19 pandemic showed up at a period when prospects for several, African countries were promising. Toward the start of 2020, Africa was on target to precede with its economic expansion, with growth anticipated to ascend from 2.9 % in 2019 to 3.2 % in 2020,

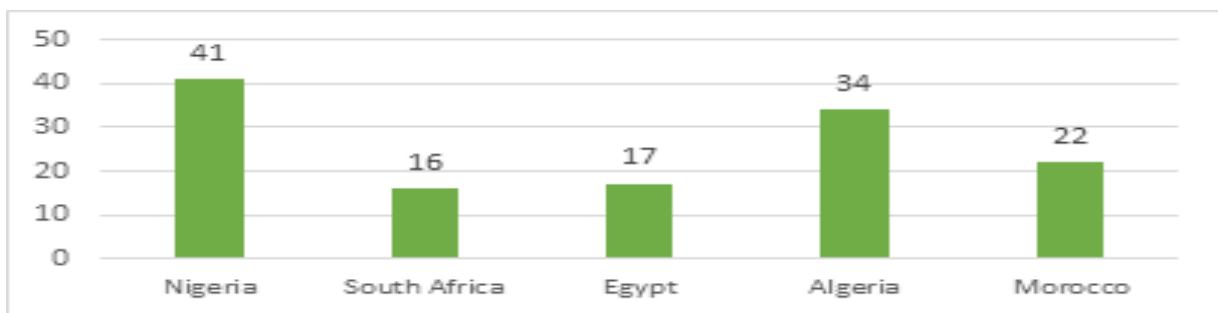
¹⁷ <https://www.iata.org/en/pressroom/pr/2020-03-19-01/> (Published on 19/03/2020, consulted on 21/05/2021 at 15:30).

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and 3.5 % in 2021¹⁸. The effects of Covid-19 on African and other particular sectors are evaluated in this section.

More than 60 percent of Africa's GDP is replicated by the greatest five African economies (Nigeria, South Africa, Egypt, Algeria and Morocco). The amount of impact Covid-19 is indicative for all of the African economy on these five economies. On average a quarter (25%) of the GDP in these nations is the travel sector and the oil industry.

Figure 8: Oil and tourism sectors (in % GDP) for the Big 5 Economies



Source: AUC calculation based on the World Bank data, 2020

Covid19 outbreak has negatively affected these economies, as the vast majority of them have the most significant level of contamination cases. Growth is expected to drop radically in every one of them. The falling of oil prices will prompt a decrease in the prospect of Nigerian and Algerian economies.

The impact of Covid19 on global value chains is influencing Morocco's car industry; representing 6 % GDP over the period 2017-2019. The export of phosphates and remittances, which adds to 4.4% and 6 % of the country's GDP, will likewise be hit.

Egyptian industries that rely on inputs from China and other foreign countries are influenced and incapable of meeting both local and international market needs. The travel industry sector is seeing a decline with the restrictions that will negatively affect local investments and employment in the country. Remittances are one of the Egyptian foreign sources of financing.

¹⁸ United Nations, *Policy brief impact of COVID-19 in Africa*, Report 2020.

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It reached more than 25.5 billion dollars in 2018, compared to 24.7 billion each in Nigeria in 2017, and was transferred by 25.08 billion dollars in 2018, contributing 5.74% of GDP. Both nations account for more than 60% of the inflows of funds from Africa.

Two key sources of income in South Africa threaten Covid19: mining and tourism. The Chinese market interruption would likely reduce South Africa's demand for raw resources, such as iron, manganese and chrome ores (which worth an equivalent of 450 million Euros exports each year). In the last quarter of 2014, the country experienced a recession and the current epidemic will add to the country's severe deterioration in public finances and mass unemployment.

2.4.2.1 Top Oil producers:

The oil countries will have more obscure economic prospects than the entire continent. African oil and gas exporters did not predict such a fiasco, as hydrocarbon incomes are fundamental for their financial plan and to meet their international commitments.

Nigeria (2,000,000 barrels / day), Angola (1,750,000 b / d),

Algeria (1,600,000 b / d), Libya (800,000 b / d),

Egypt (700 000b / d), Congo (350,000b / d),

Equatorial Guinea (280,000b / d), Gabon (200,000b / d),

Ghana (150,000b / d) South Sudan (150,000b / d),

Chad (120,000 b / d) and Cameroon (85,000b / d)

It is confronting the Covid-19 crisis which is probably going to be more serious more than in 2014, during the last oil shock as they have failed to expand their economies.

In 2014, the crude oil price dropped from \$110 to under \$60 per barrel and later dropped to under \$40 per barrel in 2015 (CBN, 2015). This suggests over a 60% decrease in the national income of the net exporting countries. Their budget deficit will be more than twofold. Oil price volatility significantly affects economic development and exchange rate for Nigeria and the indirect effect on inflation through the exchange rate (Akalpler and BukarNuhu, 2018).

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Therefore, oil producers will be in danger of a devaluation of their currencies during this crisis. Specifically, the Central African countries which, during these last years, have been enduring of devaluation will be considerably more tested because of the low level of diversification and less steady based economies with petroleum and hydrocarbons being the essential source of income.

Oil represents the more significant part of tax income and over 70% of the national exports of these countries. With the drop-in hydrocarbon prices and the drop in production because of the closure of individual organizations involved with the value chains, incomes related to Oil and different hydrocarbons could drop by at least 40 to half on the continent.

The economic crisis is probably going to be more severe than that happened in 2014. The IMF estimates that each 10% decline in oil prices will, on average, lower growth in oil exporters by 0.6 % and increase overall fiscal deficits by 0.8 % of GDP. The trade impacts feed through to economies including through current accounts, financial positions, stock markets, inflation and investment. The decline of oil price is expected to diminish development.

2.4.2.2 The petroleum sector:

Represents for the top 10 African oil producers 25% of their general GDP. Oil, alongside with different hydrocarbons, makes up over 20% of the GDP of the top 10 African economies (Nigeria, South Africa, Egypt, Algeria, Morocco, Angola, Kenya, Ethiopia, Ghana and Tanzania).

Nigeria could lose up to 19b\$ as the country could reduce its total exports of crude Oil in 2020 by between U.S. 14 billion\$ and 19billion US\$ (compared to predicted exports without COVID19). The African economies dominated by Oil and Hydrocarbons, it means that the group of major oil-producing countries will be more affected (-3% of GDP growth in 2020) than the global African economy.

2.4.3 Algeria during COVID-19 environment:

“We must start from the painful reality, in order to come up with a vision of what we want to accomplish”. Taboun, Current Algeria president

For the Algerian system, the pandemic comes at the most unfavorable time.

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Shaken by a famous and peaceful movement that has resisted time, divisions, intimidation and a presidential political decision, the country's authority needs trust - however, most importantly, it needs economic and sanitary means to confront the pandemic.

However, the health system has been in an incapable state for quite a long time, with serious deficiencies. Algeria is not ready to react in an organized way to a public health crisis.

The health sector in Algeria ensures free access to all citizens; however, it faces enormous difficulties: weak and inconsistent services, an absence of operational medical equipment, a lack of medication, and feeble planning, organizing and monitoring mechanisms.

At the beginning of the Covid-19 outbreak, despite a low number of diseases, hospitals and medical staff were overpowered and deficient in necessary protective resources.

Simultaneously, the financial consequences of Covid-19 will be terrible for Algeria. The system's budgetary assets are constrained, which will directly affect its capacity to react to the health crisis. An oil cost at US\$ 30/barrel in 2020 would diminish Algeria's total fiscal incomes by 21.2%. The genuine picture will probably be more terrible.

Despite cuts to public investment (- 9.7%) and public consumption (- 1.6%) conceived by the 2020 Finance Law, the fiscal deficiency would increment to 16.3% of GDP. In the meantime, the sharp decrease in exports incomes (- 51%) will lead the import/export imbalance to extend to 18.2% of GDP and the current account deficit to peak at 18.8% of GDP in 2020, regardless of efforts to contain imports and powerless local demand.¹⁹

Algerians are suffering from anguish already. From 2014 to 2019, the depreciation of the dinar had a major effect on its purchasing power. According to a recent study by the NB, consumer prices have increased by 1.3%, and food costs by

¹⁹ <https://www.worldbank.org/en/country/algeria/publication/economic-update-april-2020> (Published on 16/04/2020 and consulted 22/05/2021 at 20:32).

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2.3%, although salary and salaries have typically been steady since 2012. In addition, the coronavirus is unleashing the economy of Algeria.

The oil and natural gas producers were particularly sensitive to the worldwide demand reduction due to their hydrocarbon sales accountable for 93 percent of their export profits and 40 percent of their revenues. The pricing war of last month between Russia and Saudi Arabia, which pushed down the price of oil, has forced Algerian legislators to reduce by 30% the state expenditure plan. The foreign currency reserves of the government fell below 60 billion dollars by the end of March (less than a third of where they stood following the 2014 drop in oil prices).

Though these reserves can conceivably last through the end of 2020, prospects for 2021 are far less specific. On account of its overwhelming dependence on imports, Algeria will probably be fundamentally influenced by disturbances of international supply chains, and Algerians will more likely see domestic deficiencies of products. The April 12 OPEC agreement to cut production was, therefore, welcome news in Algiers, though the continuing dive in prices does not bode well. A hydrocarbons law passed in January reduced the tax burden for international oil companies, and Algeria's state-run oil company, Sonatrach, went on to sign memoranda of understanding with Chevron and Exxon Mobil, in addition to those with Russian and Turkish firms. However, with world demand unlikely to rebound anytime soon, such agreements cannot be expected to yield much in the near term. Meanwhile, the coronavirus has fueled a rise in consumer prices and could exacerbate unemployment in a country where more than a quarter of young adults are out of work.²⁰

2.5 Companies booming during COVID-19:

The Corona virus pandemic has been, no doubt, terrible for business. Widespread layoffs and vacations have provoked about 21% of the U.S. work power to file for joblessness benefits since mid-March, and financial specialists state the United States is likely as of now in a recession. What is more, even as states return, a significant number of the occupations that have been lost may never return.

²⁰ <https://www.washingtoninstitute.org/policy-analysis/corona-casbah-pandemics-destabilizing-impact-algeria> (Published on 22/04/2020 and Consulted on 22/05/2021 at 21:26).

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Nevertheless, during this change, a few organizations have been flourishing a direct result of dramatic shifts in consumer behavior. Many people around the world remain at home to minimize the spread of the virus. That is created new opportunities for many companies.

2.5.1 Slack and Zoom:

Slack and Zoom have become omnipresent communication tools for people who can work remotely.

Slack Technologies stated that between February 1 and March 25, it attracted nine thousand new paying customers, an increase of 80 percent from the previous quarter. They not only add more, but also make people chattier: Slack stated in a press release, "The quantity of messages delivered per user per day is 20% on average worldwide.

The most significant brand to break out was Zoom, a tool for video conferencing. According to CEO Eric Yuan, the firm accommodates 300 million participants a day. Zoom stated in March it had previously passed 200 million attendees in daily meetings. For the year, its holdings are up 120%.

2.5.2 Netflix:

The business has disclosed an additional 15.77 million internationally paying members compared to Wall Street's anticipated 7.2 million. It added that it plans to gain 7.5 million global users in the second quarter, but that "as we are largely surprised by uncertainties with respect to home confinement.

"The current figure of Q2 might fall either below or much beyond that dependent on numerous things, including when individuals in different countries may return to their social life and how many people break from TV following the lockout," says Netflix. "I hope that the governments would release their house prison shortly, progress against the virus. We hope that the sight and growth would reduce when this happens," stated the business.

Chapter one: Covid-19 crisis and its economic impact**2.5.3 Clorox Company and Reckitt Benckiser:**

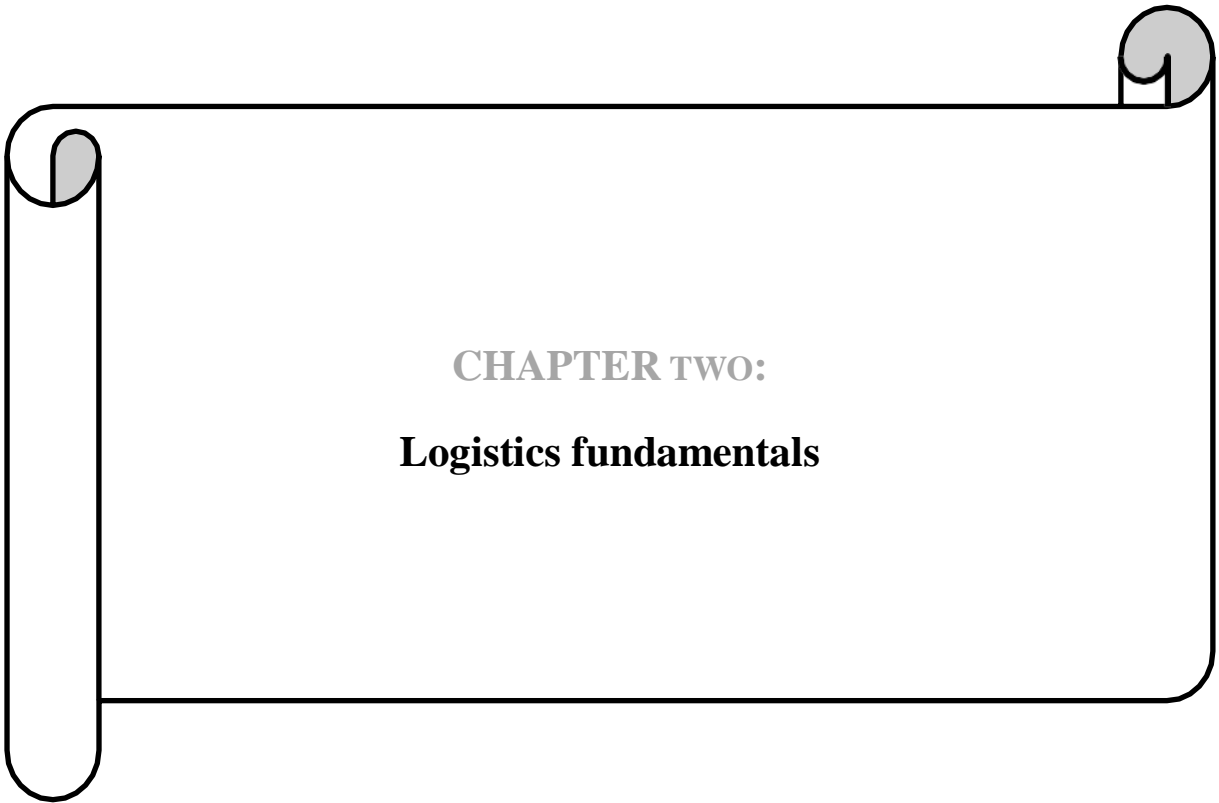
Clorox said last week its overall sales jumped 15% for the first quarter. Sales of Clorox's cleaning segment, which includes its wipes and beaches, jumped 32%. There was also "increased consumer demand" for cat litter and grilling necessities, which fueled a 2% sales increase in its household segment. Reckitt Benckiser, the British company that makes Lysol and Dettol, is also seeing record sales. First-quarter sales rose 13.5% because of "strong consumer demand" for disinfectants. (The company has also found itself in the spotlight for more than just strong demand for its products.) In March and April, the sales of aerosol disinfectants jumped 230.5% and multipurpose cleaners 109.1% from this time last year, according to research firm Nielsen.²¹

Chapter summary:

In this first theoretical chapter we covered the core element of the research, which is COVID-19, the main cause of changing the face of international economics, we reviewed the concept of pandemics and its main features and we stated the world past experiences with infectious diseases, this was followed by nowadays trending virus COVID-19 and its impact on Algeria and African countries.

Now we are sure as humanity that we have to deal with a new challenge which is Covid-19 pandemic and to survive economically in same time.

²¹ <https://www.mercurynews.com/2020/05/07/business-is-booming-for-these-14-companies-during-the-coronavirus-pandemic/> (Published on 07/05/2020 consulted on 23/05/2021 at 23h20).



CHAPTER TWO:
Logistics fundamentals

Introduction:

The term "supply chain management" emerged in the last part of the 1980s and came into far reaching use in the 1990s. Before that time, organizations utilized terms, for example, "logistics" and "operations management" instead.

Today, logistics is an unquestionable activity in any company that wants to gain market share while optimizing its costs. This new type of management is a real tool that aims to improve the coordination of the company's services and mobilize them towards the same objectives, which are customer satisfaction under cost conditions.

In this chapter, we discuss two main sections: The first section introduces the logistics in general, while the second section will focus on distribution politic and the distribution logistics.

Section1: Main logistics concept.

Logistics is the transversal function that enables the management of all the flows of a company, including physical, information and financial flows.

In this first section, we will define the SCM, and the deference between it and the logistics, then we will talk about logistics and its history and evolution as well as its stakes and goals.

1.1 Supply chain:

According to **COURTOIS (A)** and others, the supply chain is defined as: "the global process of customer satisfaction, through the creation of a value chain that optimally integrates all the actors involved in the realization of a product or a family of products."²²

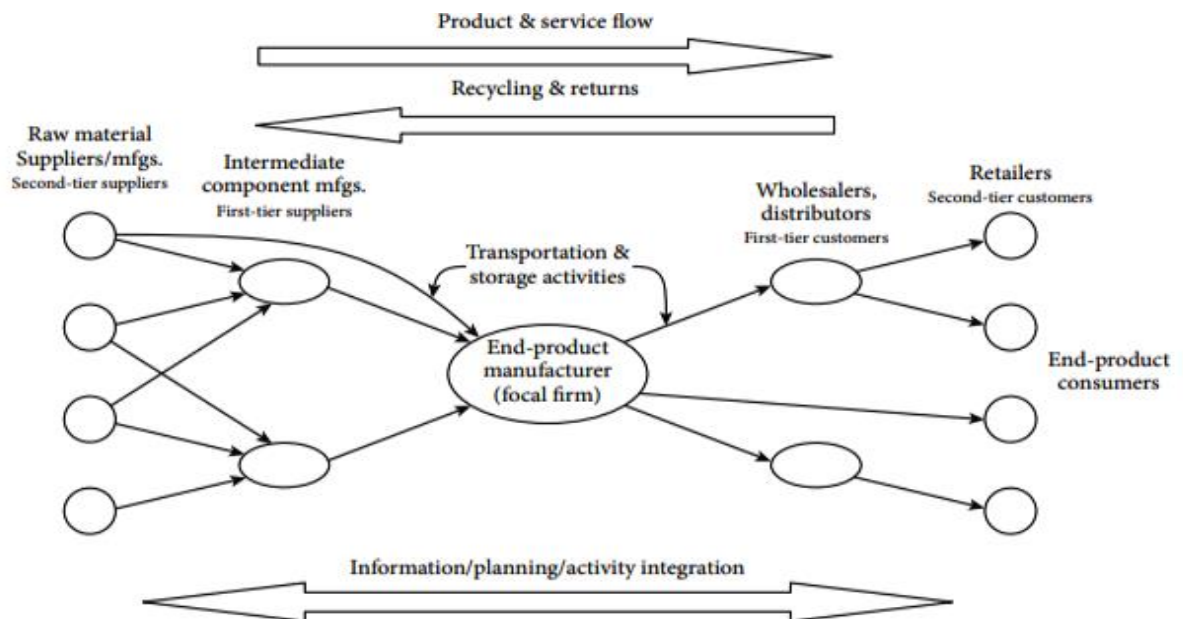
Lambert, Stock, and Ellram in their book *Fundamentals of Logistics Management* 1998, said: "A supply chain is the alignment of firms that bring products or services to market."²³

²² COURTOIS (A), PILLET (M), MARTIN (C) : la gestion de production, édition d'Organisation 4émeédition, Paris 2003, p.381

²³ MICHAEL (Hugos): *ESSENTIALS of Supply Chain Management*, John Wiley & Sons, Canada,2003,P.02.

From these two definitions we understand that the supply chain integrates all the functions of the company, and covers all the physical flows, information and financial flows, it aims at the satisfaction of the customers while being profitable.

Figure 1: Supply Chain Structure



Source: Evaluation of Supply Chain Risk Management for Material Procurement in Libyan Oil Industry thesis.

We can see in this figure a supply chain which starts with firms extracting raw materials such as iron ore, oil and wood and then selling them to suppliers such as lumber companies and steel mills. These firms received specific orders from component manufactures; by actually turning these raw materials to some functional components (materials like sheet steel). The component manufacturers also had some specific orders from their customers who are expecting the intermediary products (electrical wire, fabrics, plumbing items, nuts and bolts, processed foods); we mean here by customers the final product manufacturers. The final product we receive passes by a process where the final product manufacturers (companies as Samsung...) gather finished products and sell them to wholesalers or distributors, they also resell these products to retailers, in the end, the retailers sell these products to us, the end-product consumers, we buy these products hoping that it will satisfy the paramount need,

basing our choice on multiple criteria; quality, cost and even the image of the product plays a role.

1.2 Supply chain management:

Supply chain management, as explained by **Michigan State University professors** in the text *Supply Chain Logistics Management*, involves collaboration between firms to connect suppliers, customers, and other partners as a means of boosting efficiency and producing value for the end consumer. The textbook considers supply chain management activities as strategic decisions, and set up “the operational framework within which logistics is performed.”²⁴

Figure 2: Supply chain management



Source: <https://www.michiganstateuniversityonline.com/resources/supply-chain/is-logistics-the-same-as-supply-chain-management/>

As we see the supply chain management is the efforts of more than one organization, these organizations working together as a supply chain that helps manage the flow of raw materials and ensure the finished goods provide value. Supply chain managers work across multiple functions and companies to ensure that a finished product not only gets to the end consumer but meets all requirements as well. So logistics is just one small part of the larger all encompassing supply chain network.

1.3 Key Differences between SCM and Logistics:

The terms supply chain management and logistics are used sometimes interchangeably, some say there is no difference between the two terms, and that supply chain management is the “new” logistics. In fact It is imperative to recollect that while the terms ought not be

²⁴ <https://www.michiganstateuniversityonline.com/resources/supply-chain/is-logistics-the-same-as-supply-chain-management/> (Last Updated October 30, 2020, consulted on 05/05/2021 at 1:40)

utilized reciprocally, they do enhance one another. One process can't exist without the other. Here are some critical contrasts between the two terms that will help us hold back from obscuring the lines between them::

- ✓ SCM is an approach to interface significant business processes inside and across organizations into a superior plan of action that drives competitive advantage.
- ✓ Logistics alludes to the development, stockpiling, and stream of merchandise, services and information inside and outside the association.
- ✓ The principle focal point of SCM is a competitive advantage, while the primary focal point of logistics is meeting client requirements.
- ✓ Logistics is a term that has been around for quite a while, rising up out of its military roots, while SCM is a generally new term.
- ✓ Logistics is an part or an activity from the Supply chain management.

1.4 Logistics:

1.4.1 A brief history of logistics:

The term logistics comes from the Greek word «LOGISTIKOS» which means the art of reasoning and calculation. It comes from the military environment and is often defined as follows: "The term logistics refers to the art of combining all means of transportation, supply, and housing of troops."²⁵

This term has spread to the industrial environment and then it has two main functions: handling and transporting goods. Until the 70's, logistics had little importance in the management of companies, it was considered as a secondary function, limited to the tasks of execution in warehouses and on shipping docks. Then, logistics was understood as an operational link between the different activities of the company, ensuring the coherence and the reliability of the material flows, with a view to the quality of the service to the customers while allowing the optimization of the resources and cost reduction.

In the mid-1990s, logistics became a globalized function of physical flow management in a complete vision of the customer/supplier chain, and truly constitutes a new discipline of corporate management. "Global logistics" thus represents all the activities, internal or external in the company, which bring added value to the products and services to the customers.

²⁵ Joël SOHIER, la logistique : comprendre la démarche logistique, ses enjeux et ses répercussions sur la question, Vuibert, 3ème édition, Paris, 2002, p.3

1.4.2 Logistics definitions:

Among the multitude of existing logistics definitions, we have chosen the ones that seem to us to be the most important and that mark the evolution of the concept of logistics.

. A first definition was formulated by the Definitions Committee of the American Marketing Association in 1948: "Logistics is about the movement and handling of goods from the point of production to the point of consumption or use."²⁶ During this period, logistics were limited to the physical activities of the distribution phase.

In 1979, Daniel Tixié proposed the following definition: "Logistics is the set of activities, its goal is to put in place, at the lowest cost, a quantity of products, at the place and time where a demand exists. Logistics therefore concerns all the operations that determine the movement of products, such as the location of factories and warehouses, procurement, physical management of work in progress, packaging, storage, inventory management, handling and preparation of orders, transportation and delivery rounds."²⁷

Colin, Mathé and Tixié in 1981 proposed the following definition: "Logistics is the strategic process by which the company organizes and supports its activity. As such, it is possible to determine and manage the related material and information flows, both internal and external, in upstream logistics as in downstream logistics."²⁸

According to the previous definitions, logistics is the set of activities that aims to optimize the management of physical, information and financial flows in order to ensure the quality and quantity required to satisfy the needs of a group of customers at the lowest cost.

Before closing this list of definitions, it is important to note that logistics has two areas of concern in the company: upstream logistics, which deals with the organization of purchasing and production, and downstream logistics, which has the main role of the physical distribution of products.

²⁶ D.Tixier, H. Mathe et J. Colin, la logistique d'entreprise, vers un management plus compétitif, Dunod ,2ème édition, Paris, 1981, p.30.

²⁷ D.Tixier, H. Mathe et J. Colin, La logistique au service de l'entreprise : moyens, mécanismes et enjeux, Dunod, Paris, 1988. p.28.

²⁸ D.Tixier, H. Mathe et J. Colin, la logistique d'entreprise, vers un management plus compétitif, Dunod ,2ème édition, Paris, 1981, p.32.

1.4.3 Logistics types:

Logistics always covers transport, storage and handling functions. Inbound logistics covers the activities concerned with obtaining materials and then handling, storing and transporting them. Outbound logistics covers the activities concerned with the collection, maintenance and distribution to the final customer. Other activities, such as packing and fulfilling orders, warehousing, managing stock and maintaining the equilibrium between supply and demand also factor into logistics. The original military definition is usually mentioned that : "Logistics consists in bringing what is needed, where it is needed and when it is needed", so the objective behind logistics is to be sure that the customer receives the desired product at the right time and the right place with the best quality and price.

However, we can distinguish several different logistics by their purpose and their methods:

- **A Procurement logistics:** That brings the basic products, components and sub-assemblies necessary for production to the factories;
- **A production logistics:** Which consists in bringing to the base of the production lines the materials and components necessary for the production and in planning the production; this logistics tends to absorb the whole production management;
- **A distribution logistics:** That of the distributors, which consists in bringing to the final consumer, either in the large commercial surfaces, or at home by non-store retailing for example, the products which he needs;
- **Military logistics:** That aims to transport forces and everything necessary for their operational implementation and support to the field of operation;
- **Support logistics:** Born in the military but extended to other sectors, aeronautics, energy, industry, etc., this consists in organizing everything necessary to keep a complex system in operation, including through maintenance activities;
- **After sales service logistics:** Very close to the support logistics only that this type is exerted in a commercial framework by the one who sold a good, one uses quite often the expression "management of services" to indicate the piloting of this activity, one will note however that this form of support logistics tends more and more often to be exerted by specialists of support;
- **Reverse logistics:** Or return logistics, consists in recovering products that the customer does not want or seeks to repair, or to treat industrial waste, packaging, harmful products.

Section 2: Distribution politic and distribution logistics:

2.1 Politic of distribution:

2.1.1 Distribution definition:

Kotler and **Dubios** define distribution as follows: "distribution is the set of activities that exercise from the moment the product in its form of use enters the commercial store of the producer or the last processor until the moment the consumer takes possession of it".²⁹ In other words, distribution is a process that ends with the act of buying.

Dubois and **Jolibrt** said that: "The distribution covers all the operations by which a product leaves the production apparatus and is put at the disposal of the consumer or the user".³⁰

YVES CHIROUZE: "defines distribution as "All the logistical, financial, administrative and commercial activities carried out from the moment the products are finished and waiting to be sold until they are in the possession of the final consumer."³¹

So we can see that there are two types of distribution:

- **Commercial distribution:** this consists of transferring ownership of goods and services from the producer to the consumer in exchange for payment.
- **Physical distribution:** This includes all activities implemented to manage the flow of products and goods from their point of origin to their destination in a profitable way.

2.1.2 Distribution functions: Distribution includes all the operations necessary to transport a product from its place of production to its place of final consumption. And for that it calls upon two principal functions to know:

- **The logistics function:** The primary mission of distribution is the availability of the product in the right quantity at the right place, it means that the purpose of

²⁹ P.Kotler et B.Dubois, « Marketing Management », édition PUBLI UNION, Paris, 2001, p524.

³⁰ Dubois et autres : « *Le marketing : fondement et pratique* », Ed. ECONOMIC, Paris, 1989, p.491.

³¹ Y. Chirouze, « Le marketing études et stratégies », 2ème édition, 2007, Ed. ELLIPSES, p628.

distribution is to bridge the distance and time gaps between economic actors. It is characterized by spatial and temporal functions.

➤ **Spatial functions:** They are designed to make the products physically accessible to the customer. They cover :

- **Transport:** this is the delivery of products to the place of consumption. It is obvious and principal.

- **Allocation:** constitution of homogeneous batches having the same destination.

- **Fractionation:** the splitting of the production in reduced size adapted to the needs of the consumers.

➤ **Temporal functions:** They bridge the gap between the time the good is manufactured and the time the consumer uses it. They cover:

- **Storage:** It is the fact of putting goods in a place waiting for their sale. It allows to regulate the production flow and the consumer flow. A good stock management policy allows the distribution to avoid stock shortages, to build customer loyalty and to make speculations.

- **Financing:** the financing of products while waiting for the transfer of the property to the customers.

➤ **Commercial functions:** It's to make the product available to consumers, it integrates all pre- and post-sale activities, and we will mention three main activities:

- **Communication:** is a two-way process:

a-From Upstream to downstream: Distribution plays an important media role with the display of prices, promotional actions, advertising at the point of sale and merchandising.

b-From downstream to upstream: It's the feedback of commercial information to suppliers: sales figures, qualitative assessments of distributors, customer complaints.

- **The transfer of ownership³² :** This involves allowing the consumer to become the owner of the product.

³² J.Sohier et D.Sohier, "Logistique", 7^{ème} Ed, VUIBERT, Paris, 2013, p35-36.

It is necessary to carry out commercial transactions: purchase transaction of the product in view of the sale transaction to the customer. This function includes the notion of commercial risk: from the moment the distributor owns the product it markets, it assumes the risk of unsold products.

- **Negotiation:** this involves seeking out potential customers and taking steps to retain them.

Table 1: The different functions of the distribution

Fonction	Comment
Shipping and handling	<ul style="list-style-type: none"> - Fundamental operation of transporting goods from factories to points of sale. - Operations related to transport and delivery, loading and unloading of products.
Storage	- Adjustment (finding the balance) of the quantities offered to the quantities demanded at all stages of the circuit through the storage of goods
Assortment and allotment	<ul style="list-style-type: none"> - Choice of products adapted to the customers. - Transformation of production batches into sales batches.
Service	<ul style="list-style-type: none"> - Presentation and promotion of products. - Advice on use, delivery, installation, after-sales service.
Funding	- Distributors finance production by buying large quantities from producers without having to wait for all production to be sold to the final consumers.

Source : AUDIGIERE. G, «Marketing et action commerciale », édition GUALINO, Paris, 2001, page 32.

2.1.3 The objectives of the distribution:

Companies producing goods and services generally pursue three main objectives in the development and implementation of their distribution policy.³³

2.1.3.1 Quantitative market coverage:

First, companies must make every effort to have a distribution system that allows them to make their products effectively available to as many potential customers as possible.

2.1.3.2 Qualitative aspects of the distribution system:

The quality of a distribution system can be defined as its ability to facilitate or stimulate the purchase of the company's products by its potential customers. The main qualitative aspects of a distribution system are:

- The compatibility of the distribution channels with the brand image of the company's products.
- The competence and dynamism of the distribution agents.
- The quality of the presentation of the company's products in the points of sale. For this purpose, the companies must have, in the stores, a good location of sale, a sufficient linear, a regular assortment... etc. and the company will have to make sure that the distributors fulfill these conditions and practice a good merchandising.
- The quality of after-sales services offered to customers.
- The final price level: the distribution system of a company has direct consequences on the final price of its products.

2.1.3.3 Minimizing costs:

Any distribution system necessarily involves set-up and management costs, like all other marketing costs, they must be kept to the minimum level compatible with quantitative and qualitative objectives.

³³ BARCZYK(D) et EVRARD(R), « La Distribution », édition Nathan/universel, 2002, p113

2.1.4 The distribution constraints :

The manufacturers must take into account the characteristics of its market and its company to ensure its distribution policy.

2.1.4.1 External constraints:

- **The buyers of the product:** number, localization, purchasing power, needs purchasing behavior of use of the product requirement and expectations.
- **The commercial uses:** traditional circuit of distributor for products of this nature, choice of the competitors.
- **The company's environment:** legal, technical, socio-cultural; etc.

2.1.4.2 Internal constraints:

- **The company:** its policy, its objectives, its notoriety, its positioning, its size, its commercial, technical and financial human means...
- **The gamut:** characteristics and nature of the products, volume and value of sales, particular difficulty of distribution.

2.1.5 The different distribution circuits :

2.1.5.1 The distribution channel: It is the materialization of the path followed by goods of the same nature between the producer and the consumer and which includes possibly the intervention of intermediate traders.

2.1.5.2 The distribution circuit: We call the distribution circuit the set of actors (intermediaries) who take charge of the distribution activities. It means the activities which make pass a product from its state of production to its state of consumption.

Any distribution circuit can be characterized by its length. This means the number of intermediaries that it comprises, corresponding to the different partners between which the product transits. So, we distinguish three circuits of distribution

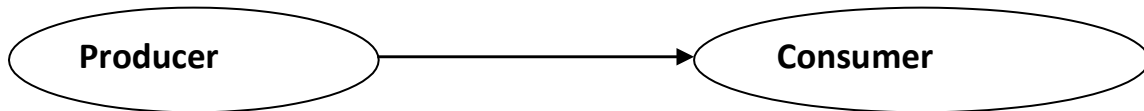
The circuit of distribution is also the whole of the channels of distribution by which a good or a category of goods flows between the producer and the consumer.

2.1.5.3 The distribution network: It is the whole of the natural or legal persons who compete in the sale of a good or a service, from the producer to the final consumer.

- **Types of distribution circuits :**³⁴ There are three types of channels and they are characterized by their length.

-The ultra-short circuit or direct circuit: it corresponds to the absence of any independent intermediary between the producer and the consumer, here we are talking about direct sales.

Figure n°3: the direct circuit



Source : MARIN, S., VEDRINE, J.P., «Marketing les concepts clés », édition, Chihab, 1996, P .119.

Table 2: Advantages and inconveniences of the direct circuit

Advantages	inconveniences
<ul style="list-style-type: none"> -Deep knowledge of the needs of the target clientele. - This circuit facilitates the contact with the consumer and the direct control of the distribution -Quick launch of new products -Partial gain of the margin of the eliminated intermediaries (competitive price) 	<ul style="list-style-type: none"> - The savings in distributor margins are likely to be less than the increase in expenses. - The manufacturer's distribution possibility is limited to its resources. - Very important storage - Very heavy organization and management of vendors - Important financial capacity

Source : Guy AUDIGIER., « marketing et actions commerciale », Dunod, 5ème édit, Paris, 2010, P. 91.

³⁴ BARCZYK(D) et EVRARD(R), Op.cit., p86.

This table presents the advantages of the ultra short circuit (the strategy of distribution set up by the producer answers the objectives traced by him, the competitive price, ...etc.) and the inconveniences (the savings realized on the margin of the distributors are likely to be lower than the increase of the expenses, the possibility of distribution of the manufacturer is limited to its resources, ...etc.).

-The Short Circuit: it includes only one intermediary between the producer and the consumer.

Figure n°4: the short circuit



Source: MARIN, VEDRINE, J.P., op.cit., P .119.

Table 3: Advantages and inconveniences of the short circuit

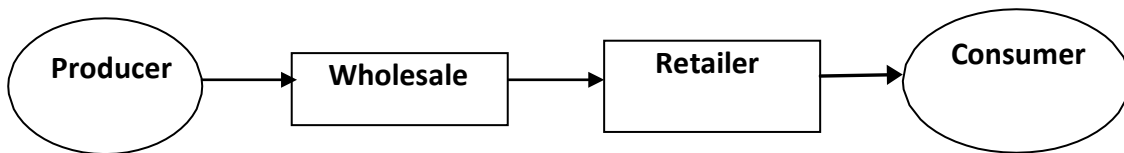
Advantages	inconveniences
<ul style="list-style-type: none"> - Saving of the wholesaler's margin. - Good cooperation between retailers. - Diversification of infidelity risks. - Good after-sales services and personalized products. - Better knowledge of the market. - Guaranteed loyalty in case of franchise. - Distribution is no longer limited to the resources of the producer, who can depend on the financial and human resources of the distributor. 	<ul style="list-style-type: none"> - The intermediary works according to his interest which is not always the same as that of the producer.- Insolvency of small retailers. - Questionable profitability of some intermediaries. - Very important storage. - Need for promotional actions towards the consumer. - Management and technical assistance in case of franchise.

Source : Guy AUDIGIER., « marketing et actions commerciale », Dunod, 5ème édit, Paris, 2010, P .91.

This table presents the advantages of short circuits (distribution is no longer limited to the resources of the producer who can count on the financial and human resources of the distributor, it allows to save the margin of the wholesaler, ... etc.) and the inconveniences (Very important storage, management and technical assistance in case of franchise, the intermediary acts according to his interest which is not always the same as that of the producer, ... etc).

- **The long circuit:** it includes several intermediaries between the producer and the consumer. These intermediaries can be traders, wholesalers or semi-wholesalers.

Figure n°5: The long circuit



Source: MARIN, VEDRINE, op.cit., P .119.

Table 4: Advantages and inconveniences of the long circuit

Advantages	inconveniences
<ul style="list-style-type: none"> - Reduction of its sales team - Regulation of sales through storage of intermediaries - More flexible financing of production - Lower invoicing and transportation costs. -Exploits all markets and benefits from the distributor's expertise. 	<ul style="list-style-type: none"> - Loss of contact with retailers - Infidelity of wholesalers - Dependence on wholesalers. -The number of intermediaries may be difficult to quantify. -The producer may be the victim of an over-cost for a multitude of intermediaries. -The consumer will always have an additional tariff to pay.

Source : Guy AUDIGIER, « marketing et actions commerciale », Dunod, 5ème édit, Paris, 2010, P. 91.

This table presents the advantages of the long circuit (the producer does not need to have a large sales team since the number of customers is limited, exploits all the markets and producers wholesalers retailers consumers, and benefit from the expertise of the distributor) and the disadvantages (the number of intermediaries may be difficult to quantify, the consumer will always have an additional fee to pay, ...).

2.1.6 Distribution strategies:

2.1.6.1 Defining the strategy:

According to Claude DEMEURE, a strategy: is a set of decisions taken in advance by a company for a given period of time, in order to achieve general objectives in a competitive, economic, political and social environment.³⁵

2.1.6.2 Types of distribution strategies:

To choose the most suitable strategy, some constraints must be taken into consideration, such as: The commercial policy of the company which includes geographical, price or product positioning constraints. And the possibility to control the distribution network and the costs generated by it.

➤ The intensive strategy:

This strategy consists of distributing a product in as many points of sale as possible. It is suitable for mass-market products, often in parallel with intensive communication. The main advantage of this strategy is that it allows to generate a significant sales turnover and to make the product known quite quickly. On the other hand, it also entails significant distribution costs, as well as the difficulty of building a coherent brand image (since the product can be found everywhere).³⁶

³⁵ Claude DEMEURE, « Marketing », éd. Dalloz, Paris, 1997, p. 53.

³⁶ DEMEURE, C., « aide -mémoire Marketing » , 6 éme édition, Dunod ,2008,P .211.

Table N°5: Advantages and inconveniences of the intensive strategy

Advantages	inconveniences
-Better distribution of the products.	-high distribution costs.
-Low transport and storage costs.	-Loss of contact with end customers.
-Indispensable for mass consumption products.	-sometimes difficult to build a coherent image.

Source: VANDERC, M., NELLY, J-P., « La distribution », 3^{ème} édition, Ed Deboeck, 2006, P.35.

This table presents the advantages of the intensive strategy (better distribution of products, low transport and storage costs, etc.) and the inconveniences (high distribution costs, loss of contact with final customers, etc.)

➤ **Selective strategy:**

It is used when a supplier supplies only a few merchants, which he must choose according to qualitative criteria (size, competence, services offered to the customers) without unjustified discrimination or quantitative limitation.

Table N°6: Advantages and inconveniences of the selective strategy

Advantages	inconveniences
- Fairly good contact with customers.	-administrative and logistical burdens.
-No wholesaler to pay therefore reduced costs.	-strategy attacked by large-scale distribution.
-to keep the image of prestige of the product.	-Difficulty in recruiting distributors.

Source: Ibid., P .35.

This table presents the advantages of the selective strategy (no wholesaler to pay, therefore reduced costs, keeping the prestige image of the product while having a large number of distributors, etc.) and the disadvantages (high administrative and logistical costs, strategy attacked by mass distribution, difficulty in recruiting distributors, etc.).

➤ **Exclusive strategy:**

"It is a contract by which the licensor agrees, in a given territory, to sell only to its licensee who must, in return, respect certain criteria and refrain from selling products which compete with the licensed products"³⁷ This strategy allows a manufacturer to dominate the distribution of its product and thus strengthen its brand image. There are three types of contracts:

Exclusive supply contract: the producer agrees to deliver all its production to the distributor.

Exclusive provisioning contract: the distributor agrees to purchase exclusively from a given producer.

Reciprocal exclusivity contract: in a specific geographical area, the supplier sells only to a distributor and this distributor markets only the brand the supplier mentioned . This is the case of the concession and the franchise. According to this strategy, the producer prefers the professionalism of distributor.

Exclusive distribution is specifically applicable to products that :

- ✓ Have a certain prestige value;
- ✓ Require a very specialized knowledge for sales and service;
- ✓ Require a high investment from the distributor (sales training, maintenance, repair);
- ✓ Require a long time effort before being sold.

The risks that the distributor faces are :

- ✓ Ensuring monopoly of its geographic area;
- ✓ To commit to not commercializing competitors' products and to hold certain stocks;
- ✓ Investing in the training, the technical services, the repair pieces.

Table N°7: Advantages and inconveniences of the exclusive strategy

Advantages	inconveniences
-Create and reinforce a brand image.	-Important legal constraints.
-Better control.	-Low market coverage.

Source: Ibid., P.35.

³⁷ DEMEURE, op.cit., p. 211.

This table presents the advantages of the exclusive strategy (allows to create and reinforce a brand image, better control) and the disadvantages (important legal constraints, low market coverage).

2.1.7 Distribution methods:

Sales to consumers can be made through a diversity of systems, techniques or methods. These methods can be implemented by the trader belonging to the various forms of organization.³⁸

From traditional in-store sales to vending machines, a whole series of methods have been developed, but self-service is the most important phenomenon of the last twenty years.

2.1.7.1 The traditional sale in store:

This is a fixed point of sale where you can see the merchandise and purchase it after a dialogue with the salesperson. But still, some distributors keep a traditional service such as for fish, butchery...

2.1.7.2 Self-service:

Self-service is defined as a sales method in which the goods are exposed to the sight and reach of the customers; the customers serve themselves, pay the amount of their purchases globally at the cash desk generally located at the exit, and take away themselves the bought products.

This technique requires the pre-packaging of the products, the free access to the articles by the customer without the intervention of the salesman whose role is secondary, as well as the presentation of the products to the sight of the customer with an apparent display of the prices.

2.1.7.3 The Discount:

It is a mode of retail selling in which prices and margins are systematically low, thanks to a general policy of cost reduction, in particular by simplified equipment of the store, a reduced assortment, a fast rotation of stocks and a reduced service offered to the customer.³⁹

³⁸ P. Van VRACEM & B. BOUTON, Les Fondements de Marketing, éd. De Boeck, paris, 1997, p.218

³⁹ M.VANDERCAMMEN et NELLY JOSPIN-PERNET : LA DISTRIBUTION, 2e Edition BERTI, Paris, 2005, p.91

2.1.7.4 Distance selling:

Distance selling is the more recent name for correspondence sales. Distance selling is a commercialization method that offers the consumer the possibility of ordering, either directly (by mail, telephone or order desk) or through an intermediary, goods and/or services presented in a catalog, newspaper, magazine, brochure or any other form of promotion.

2.1.7.5 The automatic sale:

It is a technique of distribution of goods based on the use of automatic sales devices which work through the insertion of coins⁴⁰.

2.1.7.6 Telephone selling:

Telephone selling uses the telephone as the main tool for approaching and taking orders.

2.2 Distribution logistics:

2.2.1 Definition:

SOHIER (J), (D) define the distribution logistics as " The set of material operations necessary to put physically the products at the disposal of the targeted customers ".⁴¹

This definition appeared to us incomplete because the logistics of distribution is not limited to the material operations, and in order to define it well we propose other definitions which are more recent.

KOTLER and DUBOIS define it as "the role which gathers all the activities implemented to manage in a profitable way, the flow of products and goods from their point of origin to the place of their use, according to the needs expressed by the market "⁴²

CLIQUET (G) and others define distribution logistics as "The set of interconnected activities with the mission of physically transferring finished products from the manufacturer to his customers"⁴³

⁴⁰ M. VANDERCAMMEN & N. Jospin - PERNET, op.cit., p.92

⁴¹ SOHIER(J), SOHIER(D), logistique, éditions Vuibert, 7^{ème} édition, paris, p.39.

⁴² KOTLER (P), Dubois (B), marketing management, éditions Pearson Education, 11^{ème} édition, Paris, 2003, p.568.

⁴³ CLIQUET (G), FADY (A), BASST (G), management de la distribution, éditions DUNOD, 2^{ème} édition ;paris, 2006, p.287.

For them, the objective is to ensure that the product desired by the customer is at the right time, at the agreed time, with the expected quantity, at the best cost.

From these definitions we conclude that distribution logistics covers a whole set of operations, implemented to ensure the transmission of products to consumers, taking into account the requirements of the client. But this must be done in the best conditions of cost.

2.2.2 Distribution Logistics Processes:

The distribution process can be summarized in three steps:⁴⁴

2.2.2.1 Planning:

- Distribution Networks
- Planning and scheduling of shipments
- Selection of distribution intermediaries and logistics service providers (warehouses, distribution centers, carriers, etc.)
- Planning of sub-contracted activities

2.2.2.2 Transactional and administrative :

- Processing and follow-up of customer orders (verification, confirmation, invoicing, and payments).
- Preparation and processing of shipping documentation (insurance, taxes).
- Shipment tracking.
- Customer service.
- Guarantees management.
- Returned goods management.

2.2.2.3 Operational :

- Storage of finished products.
- Preparation of orders for shipment (packaging).
- Verification of deliveries
- Loading of deliveries.
- Delivery.
- Quality control.

⁴⁴ TIXIER (D), MATHE (H) et COLLIN (J), « La logistique d'entreprise », Dunod, 1996, p52.

- Transfers between warehouses.
- Maintenance of transport equipment.

2.2.3 Main factors influencing distribution logistics:

Several factors influence it such as:

- ✓ Globalization of markets.
- ✓ Willingness to centralize operations.
- ✓ The large number of acquisitions and mergers.
- ✓ Increasing service levels.
- ✓ Increasingly competitive costs.
- ✓ Evolution of the client segment.
- ✓ Strong pressure to use providers' services.

2.2.4 Distribution Logistics Activities:⁴⁵

Distribution logistics is an important element of the competitiveness of companies. Therefore, each company must control the following activities:

2.2.4.1 The transport:

A major element in the quality of service to the customer, since it is directly linked to delays, errors, losses, breakage, theft, damage, etc. Determining the mode of transport (sea, air, road, rail, and river), distribution networks (scheduling of routes, choice of means of transport, choice of transshipment and storage infrastructures...).

2.2.4.2 Warehousing:

The existence of warehouses in the distribution network is justified by many reasons: the need to protect against unforeseen events (manufacturing stoppages), reduction of delivery time, grouping of products.

In all these cases, the storage function represents an important item in the company's balance sheet. Its performance and costs must be constantly monitored.

⁴⁵ MEDAN (P), GRATACAP (A) : Logistique et Supply Chain Management, 2008, Paris, p.130.

2.2.4.3 Maintenance and handling:

This includes all the handling necessary for loading and unloading vehicles, entering stock, internal handling, leaving warehouses, all operations whose usefulness is recognized as soon as the need to store merchandise is deemed strategically necessary. Especially since, in principle, no added value is brought to the product, and it is therefore by the value added to the service that these operations must be judged.

2.2.5 The challenges of distribution logistics :

2.2.5.1 Multiplicity of participants :

The circulation of information and goods must be well organized (control of document flows, planning of physical operations throughout the distribution network...).

2.2.5.2 Multi-modality of transport operations:

The possibility of using different successive modes of transport for routing requires, depending on the nature and size of the packages, making the right choice of packaging and ITUs (Intermodal Transport Units). and to ensure that adequate handling facilities are available at each transshipment point.

2.2.5.3 Respect of customer specific requirements:

The products must be delivered in the quantity and quality required, within the time frame specified.

It is therefore necessary to adopt good practices (less breakage of loads, advance management of certain administrative formalities, inter modality and acceleration of transshipment times...).

2.2.5.4 Controlling logistics costs :

Reduction of routes (to drive less km, it is necessary to operate a good determination of the routes, to organize the rounds well, to reduce the number of empty returns of trucks by offering them a return freight); good choice of service providers; better combination of resources; better utilization rate of vehicles; use of collaborative logistics strategies (Cross-docking...); optimization of last km costs.

2.2.5.5 Control of risks related to transport:

It is advisable to reduce the number of load breaks during transport, to protect the goods well and to respect the transport conditions for perishable goods. Less handling means fewer risks and lower insurance costs.

2.2.5.6 Return logistics :

Organization of the collection and return of empty packaging.

2.2.6 Objectives of distribution logistics:

2.2.6.1 Customer Service :

- ✓ Improve customer service.
- ✓ Maximize nonconformity prevention efforts for shipments.

2.2.6.2 Cost Reduction:

- ✓ Minimize inventory holding costs.
- ✓ Minimize total inventory value.
- ✓ Minimize distribution costs.
- ✓ Minimize information processing costs.
- ✓ Minimize handling costs.
- ✓ Minimize transportation costs.

2.2.6.3 Quality:

- ✓ Maximize nonconformity detection efforts for shipments.
- ✓ Maximize nonconformity prevention efforts for shipments.

2.2.7 Constraints of distribution logistics:⁴⁶

Distribution logistics has constraints: constraints related to goods, regulatory constraints, geographical constraints and technical constraints.

2.2.7.1 Constraints related to goods:

Depending on the nature of the products, foodstuffs, perishable goods, dangerous goods, it is advisable to take appropriate measures to avoid any form of damage that may result from the properties of the goods themselves (regulatory recommendations, compliance with transport conditions ...).

⁴⁶ KOTLE. (P), « La logistique et le management », 1998, paris, P516.

2.2.7.2 Regulatory constraints :

Documentary obligations related to the nature of the products to be distributed (licenses, certificates of origin, movement certificates...); documentary obligations related to the type of shipment (documents to be produced according to the mode of transport); regulations applicable in case of conflicts.

2.2.7.3 Geographical constraints :

The climate, the socio-cultural environment, and simply the weather can lead to reconsideration of certain choices made by the logistician.

2.2.7.4 Technical constraints:

The lack of infrastructure, the absence of adequate handling equipment at transshipment points and at the final unloading point can modify the choice of routes and logistics means.

Chapter summary:

The distribution logistics is a very important function because it is designed to deliver the right reference, in the right condition, at the right time, at the right place, in the right quantity and necessary, in the right packaging, with the right documents, preceded, accompanied and followed by the right information, all at the least bad economic conditions. The aim of the distribution policy is to satisfy the consumers and meet their needs and requirements. It also contributes to facilitate the task of making the service and the speed of transfer of goods, it also contains systems help to unload the products, and the decisions of the distribution are related with the way of working on the supply and delivery of goods and services in an effective way to the customers (consumers).



CHAPTER THREE:

The performance and distribution logistics performance

Introduction:

Measuring performance is necessary to keep track of the company's evolution and the level of achievement of its goals.

The concept of performance gave rise to numerous writings and the researchers had a lot of difficulties in agreeing about its signification. «It is a construct that overlaps with divergences according to the authors, a catch-all word that has received many meanings. Similar notions coexist (efficiency, effectiveness) and overlap with performance»⁴⁷. Therefore, the definition of performance is not a simple matter. It requires the explanation of the content and functions covered by this concept. So a clear distinction between performance and the terms of effectiveness, efficiency and effectiveness which represent a usual semantic confusion and difficulties in the very representation of the notion of performance.

In this chapter, we will present the theoretic concept of performance and distribution logistics performance measurement, the first section will cover general concepts about overall performance, the second section will be devoted to the performance of distribution logistics.

Section 01: The performance concept.

In this stage of work, we will try to identify the concept of performance through the titles that comes after, we will try to give a clearer view of this concept in general and we will develop exhaustively.

1.1 Definition of performance:

Performance comes from the ancient French “performer” which means “to accomplish or to execute”. The English verb “to perform” appeared in the 15th century with a broader meaning. It reflects at the same time the accomplishment of a process or task, the results obtained as well as the success.⁴⁸

Performance in the company, whatever contributes to improving the value-to-cost ratio, on the contrary, it is not necessarily that performance contributes to reducing the cost or increasing the value.

⁴⁷ LEBAS (M), « oui, il faut définir la performance, in revue française de comptabilité », N°269, 1995, p 66

⁴⁸ JACQUET (Stéphane), Management de la performance : des concepts aux outils, p 02

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Performance is often confused with the terms effectiveness and efficiency, although the terms seem synonymous, in fact they do not have the same meaning. Gilbert's model evoked that effectiveness and efficiency are in fact components of performance.

For **A. KHEMAKHE**:

"The performance of a responsibility center (workshop, department, unit, company, branch...) refers to the efficiency and productivity in which this responsibility center has achieved the objectives which it has accepted"⁴⁹

- The performance reflects two phenomena:
 - The degree of satisfaction (achievement) of the objective (s) set: which is expressed by the term "effectiveness".
 - The way in which this (these) objective (s) is (are) achieved: which is translated by the term "efficiency".
- For their part, **PIERREBESCOS AND CARIA MENDOZA**⁵⁰ summarize the concept of performance in the following two dimensions:
 - Performance in a company is everything which, and only what contributes to improving the value-cost ratio, on the contrary is not necessarily performance which contributes to reducing the cost or increasing the value, in isolation.
 - Performance in the company all that, and only what contributes to the achievement of the strategic objectives.
- This definition is based on the concepts of value, cost and strategic action.
 - Value is the judgment made by society (in particular the market and potential customers) on the usefulness of the services offered by the company as responses to needs. This judgment is reflected in selling prices, quantities sold, market share, revenues, a quality image, a reputation...
 - Cost is the monetary measure of a consumption of resources that usually occurs as part of a process intended to provide a well-defined result.

⁴⁹ KHEMAKHEM (A), « la dynamique de contrôle de gestion », Edition Dunod, 1992, p311.

⁵⁰ BESCOS (P), MENDOZA(C),« le management de la performance », Edition comptable Malesherbes, paris, 1994, p219.

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➤ **Performance is the result of action:**

Performance measurement can be understood as the ex post measurement of results obtained (this meaning is detached from any value judgment). In management, this is the most common and relevant meaning. In the same sense, performance expresses the degree of achievement of the objectives pursued by an organization. Performance is assessed using quantitative or qualitative indicators of results.

The indicators can express a relationship between a result obtained and the means implemented (in this case they measure degrees of efficiency), they can express a relationship between a result obtained and a target objective (in this case they measure a degree of efficiency).

➤ **The performance is success:**

It is then a function of the representations of success which are specific to organizations and actors (this meaning merges with a value judgment, its practical value is then questionable).

➤ **The performance is an action:**

The action that leads to success, it is understood here as a process, an enactment of skills which are only potentialities.

In order to better assimilate these definitions, we invite to make an overview on the different theories which have approached in time the development of the conception specific to the performance as follows:

- **Performance theory:**

- ✓ **The theory of goals:**

EVY LEBOYER defines the goal as the action of fixing the objectives on both the personal and organizational levels.

LOCKE defines goal as the desire to achieve a certain level of performance. Even though the goal itself is not and cannot be achieved.

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This notion is subjective, it is defined by contribution to the estimated probability according to the performances observed in the past.

✓ **The theory of reinforcement:**

This theory states that any behavior, whether positive or negative, can be controlled or even modified depending on the desired result. It is based on the assumption that our behaviors are controlled by their consequences and not by internal phenomena such as needs, attitudes, values, etc.

1.2 Performance measurement:

To measure performance, we use a criterion or index. This serves to express both the objectives and the results of the company. This criterion is a quantifiable expression of objectives and results. It fulfills several functions, among others:

- It serves as a starting point for planning and forecasting in the company;
 - It helps in the formulation of management strategies, methods and practices, with a view to achieving the objectives for which the company was created;
 - It provides a basis for the evaluation of performance (result, production, yield, productivity, ...) of the company and to make an objective judgment on the efficiency and effectiveness with which the company performs its tasks;
 - It makes it possible to verify the validity of decisions taken at company level. With regard to long-term decisions, sometimes it even makes it possible to question the company's project, in other words its strategic choices;
 - It is a regulator of the company's supply: the higher the degree of achievement of the performance index, the higher the bonuses distributed to staff and the greater the possibility for the company to obtain more means. The level of performance is reflected in the amount of the company's development funds;
 - It constitutes a basis for the system of motivation and stimulation of the staff of the company.
- Performance measurement is therefore a control mechanism that serves to draw the attention of company managers to the elements of the situation that have been checked. It is used to mobilize the members of the company in order to achieve the set objectives. The evaluation system thus becomes a factor of performance and motivation for the company and its staff.

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- On this subject A .KHEMAKHEM⁵¹ specifies that "the measurement of the performance makes it possible to appreciate the results of integration of the organizational objectives. It is also intended to associate positive or negative sanctions with this behavior" responsible "of the members of the company ".

In other words, the main goal of a performance measurement is to clarify the responsibilities of each person within the company and between the company and its partners on the one hand, and to ensure the motivation and the mobilization of each one to achieve company goals, on the other hand. It makes it possible to integrate the personnel into the objectives of the company and to ensure their adherence to the company's project.

The performance index is considered a field of reception of events and information. It acts as a link between the company and the partners in its environment, it receives and transmits information.

- **Identification of performance measurement levels:**

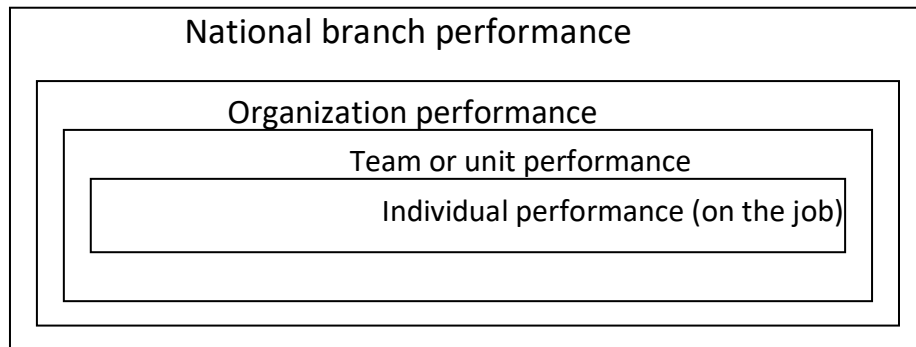
The performance can be assessed at the four levels shown schematically below. The attention of managers will mainly be retained by the first three:

- Individual performance at post level which will form part of the remuneration;
- Performance of the group or unit which serves as a basis for organizational reflections;
- Performance of the company as a whole for strategic choices.

The more macroeconomic levels of analysis can give general indications but away from the problem of social management.

⁵¹ KHEMAKHEM (A), Op.cit. p 343.

Figure 1 : performance measurement levels

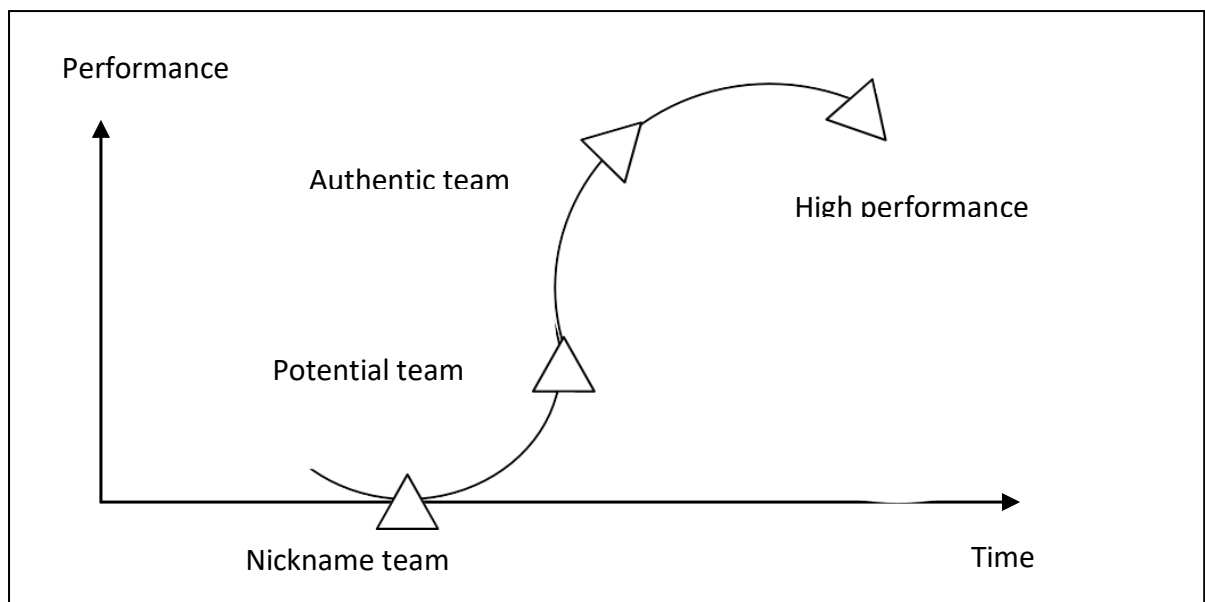


Source : MARTORY (B), CROZET (D), « *gestion des ressources humaines : pilotage social et performances* », Dunod 5^{ème} édition, paris, 2003, p165.

Immediate performance or performance over time:⁵²

The performance of an employee, a team, an organization improves over time: this is the notion of a learning curve.

Figure 2: performance curve over time of a team



Source : KATZENBACH (J), SMITH (D), « *les équipes haute performance* », Dunod, paris, 1994, p84.

⁵² MARTORY (B), CROZET (D), « *gestion des ressources humaines : pilotage social et performances* », Dunod 5^{ème} édition, paris, 2003,, P 169

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- This figure shows five stages of different performance:

- **The working group:**

Group that no obvious need to collectively amplify the impact of each person's work pushes to transform into a team. Its members come together mainly to share information, points of view or the best methods and to make decisions that will help each of its areas of responsibility.

- **The pseudo team:**

This group is undoubtedly faced with the need or the opportunity to collectively amplify the sum of individual efforts, but it does not make the effort to focus on a collective approach.

- **The potential team:**

Group for which there is a real need and recognized to collectively amplify the results of the work of each and trying to improve its impact on performance. In general, its purpose, objectives, collective work products remain too confusing and the group lacks discipline in the development of a common working method.

- **The authentic team:**

A group whose skills are complementary, its members also motivated by a goal, objectives and a method of working they consider themselves mutually responsible.

- **The high performance team:**

Group that meets all the requirements for forming an authentic team and its members are deeply attached to the success and personal development of their teammates.

The choice of a reference period in the assessment of the performance goes beyond a simple technical option. It refers to a fundamental question: Are we looking for immediate efficiency or deferred efficiency?

1.3 Performance characteristics:

Performance is a set of characteristics that can be listed in the following points⁵³:

⁵³ OUACHERINE (H), « *gestion de la force et performance de la fonction commerciale de l'entreprise* », thèse de magistère, INC, 2003, p 37-38

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✓ **Performance is to build support for judgments:**

Performance is built as a support for judgments. It is often defined by criteria consistent with the representation that theorists and practitioners have of performance and its measurement. "It involves a value judgment on the activities, results, products and effects of the organization on its environment. This concept has, as a social construct, as many meanings as there are individuals or groups who use it"⁵⁴.

So performance remains a matter of perception. For a manager, it could be the profitability or the competitiveness of his company; for an employee, it could be the work climate, and for a client, the quality of the services rendered.

✓ **The components of performance change over time:**

The internal evaluation criteria and those defined by the environment always changing. Thus, factors which condition the success of a company during an innovation phase may prove to be incompatible with those required during a development phase.

✓ **Performance as a steering indicator:**

Advocating a global approach to performance, many authors offer managers a framework for reading the company including indicators that complement and shed light on each other and which are linked to multiple objectives.

"Financial criteria alone are no longer sufficient for managers and, in practice, non-financial indicators complement the former, they are the engine of future success, they provide pilots with an essential global vision of performance in several areas simultaneously"⁵⁵.

Subsequently, performance has a retroactive effect on the organization, it acts on the behavior of leaders; if the results are below the objectives, the managers will reconsider the strategic choices.

✓ **The performance is rich in contradictory components:**

It is presented as a set of complementary and sometimes contradictory parameters⁵⁶. This is true when the leader seeks to minimize costs, while ensuring to improve product quality and

⁵⁴ SAULQUIN (J), « *gestion des ressources humaines et performance des services* », revue de gestion des ressources humaines, N°36, juin 2000, p 20.

⁵⁵ SAULQUIN (J), op.cit., p 21.

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maintain employee morale. These criteria therefore impose permanent arbitrations. Not all components are equally important.

From the nature of things, any element of performance is supplemented or influenced by another element internal or external to its acquisition, because the activities of the company are inseparable. For this, the citation of the main factors influencing the performance the following.

If the economic dimension remains dominant, a company can at a particular stage of its development or depending on the personality of its manager, give priority to such dimension (human resources, satisfaction of external groups, etc).

1.4 Performance factors:

The performance factors are considered essential for the company's profitability and each one of them must follow certain condition to allow the achievement of the company's objectives⁵⁷

- Clients: should be fulfilled, and engaged in item improvement.
- Mission and goals: should be clear and conveyed along all the administration levels.
- Products and services: must be of quality, at the lowest cost, available according to the customer's interest and demand.
- Processes: must be effective, and flexible allowing the adaptation to any unexpected changes.
- Information: must be reliable, understandable, useful, and shared by all stakeholders, In deferent levels.
- Information, communication and production technology: must be powerful, integrated and well used.
- Human resources: should be responsible, qualified, motivated, and capable, The employees also need to be adapted to company's culture and they must share the same work values.

⁵⁶ BARRAUX (Jaques), entreprise et performance globale, outil, évaluation, pilotage, Economica Edition, Paris, 1997, P.29.

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- The management style, the management framework (policy, organization chart), the atmosphere and work environment: must foster innovation, collaboration, teamwork and customer orientation.
- Performance indicators: should address quality, time and cost, and be balanced and aligned with the company's goals and objective.

1.5 Types of performance in a company:

1.5.1 Financial performance:

Financial performance is considered as satisfying growth for the company followed by the creation of value for shareholders or we can say that it's the achievement of profitability, It aims to ensure the stability of the company's financing in order to limit to a minimum the resort to bank credits. The company's financial performance depends on the management of the availability of the financial resources. This management conditions the investments profitability and putting into the renewal of the most profitable operations of the company.

1.5.2 Commercial performance:

The commercial performance of the company is presented by the achievement of commercial objectives and goals in relatively to the resources used to achieve them. It is defined as "the capacity of the company to satisfy its customers by offering them goods and services of good quality that answer to their needs and expectations"⁵⁸

Plauchu and Tairou said that the commercial performance is: "the art of being present for the right interlocutor at the right time, with a relevant offer, which allows the establishment of lasting and profitable business relationships for the company in a context of permanent search of service excellence".⁵⁹

1.5.3 Human performance:

The human resources and the organization's attention to its significance can be the basic component to the organization's performance. Undoubtedly, the performance of organization

⁵⁸ OUATTARA (Pecassioh Venance), Diagnostic financier et performance d'une entreprise en Côte d'Ivoire. MBA in company's Finances , Management Superior school of Paris, (2007)

⁵⁹ PLAUCHU (Vincent) and TAIROU (Akim). (2008), Méthodologie du diagnostic d'entreprise. L'Harmattan, Paris, P.133

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execution doesn't just rely upon the presence of numerous representatives, yet additionally on their aggregate capacity to build up the organization's human force capital.

1.5.4 Production performance:

As the title suggests, it is the performance aiming to improve the production of the company. In order to do so, it is necessary to involve to an optimum level the human, financial and material resources for the creation of services and goods. Performance in the area of the company production refers to "the capacity of the company to combine efficiently the factors of production and the means of production"⁶⁰. This implies that the firm is able to generate profits while using as few resources as possible. However, it also implies the capacity of the company of increasing its production volume using the resources at its disposal.

1.5.5 Social performance:

The social performance of the company is defined as "the capacity of the organization to satisfy the needs of the internal and external actors of the organization, meaning its stakeholders: staff, shareholders, customers, suppliers, institutions"⁶¹. The social performance of the organization suggests the thought of morals in the business world. It is identified with the idea of corporate social duty. It can't be restricted to the straightforward connection among manager and representative, however considers, in addition to other things, the climate wherein the organization works. This incorporates the various partners of the company as well as all the obligations and responsibilities of the latter, the economic and social environment, and the legal obligations of the company towards society.

In a socio-economic dimension, increasing the performance of the organization requires the development of its human potential.⁶²

1.5.6 Strategic performance:

In today's society where competitive pressure is exacerbated, the company must develop strategies that enable it of achieving its objectives and developing competitive advantages to

⁶⁰ CORHAY (Albert) and MBANGALA (Mapapa). *Fondements de gestion financière : Manuel et applications*, Editions du CEFAL, 2008, p.265

⁶¹ KHOUATRA (DJamel), *Gouvernance de l'entreprise et création de valeur partenariale*. Acte de la 16ème Conférence de l'AGRH, Paris Dauphine, du 15 au 16 septembre 2005

⁶² BRINGER (Jean) and coll, *Le conseil en organisation : évolution et perspectives*. L'Harmattan, Paris, 2011, p.125

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differentiate itself from its competitors. The company is subsequently led to develop actions that could enable it of achieving its strategic objectives. Strategic performance therefore, is the transformation of the company's strategic objectives into long-term performance⁶³.

1.6 Characteristics of the performance indicators:

Drucker⁶⁴ in 1954 proposed a set of characteristics under the concept of SMART criteria in order to highlight the key elements to be taken into account when defining indicators, according to the author, these must be:

- ✓ Specific: the indicator must be clear, precise and well defined;
- ✓ Measurable: the indicator must be quantified and quantifiable;
- ✓ Achievable: the indicator should indicate whether the objectives set are achievable, for example, within the proposed time frame
- ✓ Realistic: with the resources available, the indicator should demonstrate that the objectives are achievable
- ✓ Temporally defined: the indicator should define the time interval for achieving the set objectives

Supply Chain and Logistics performance measurement and control indicators are fundamentally linked to the objectives that have been assigned to these functions and their organizations. At this level of performance indicators, a number of descriptive indicators are also very useful such as volumes, seasonality, number of delivery points, some of which are useful to monitor as explanatory variables or as cost or inventory levels.

1.7 The main categories of indicators:

- 1.7.1 **Activity indicators:** these are indicators related to volumes processed, physical flows or information flows, which means all actions related to quantities produced, quantities in the process of being manufactured, quantities in stock, volumes transported, number of references managed.

⁶³ OUBYA (Ghozlene), Contribution à l'étude des déterminants de la performance de l'entreprise: Impact de la création de valeur pour le client sur le performance des entreprises hôtelière en Tunisie, doctorate thesis in management sciences, university of CÔTE D'AZUR, Nice, 2016, P. 41

⁶⁴ (Y) ACHHAL : cadre méthodologique pour la conception d'indicateurs de performance de développement durable, mémoire, maîtrise en génie mécanique maître ès science M.SC, Québec Canada 2013, pp ,17-18.

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- 1.7.2 **Productivity indicators:** these are indicators related to the rate of use of means and resources such as manufacturing, transport, processing...
- 1.7.3 **Quality indicators:** quality indicators allow us to evaluate the performance of the level of customer service, percentage of anomalies in deliveries, percentage of customer delivery, percentage of customer complaints...
- 1.7.4 **Cost indicators:** the cost indicators reflect the costs related to manufacturing, manufacturing, distribution, breakage, and storage costs. all costs related to storage, transportation...

1.8 The distinction between performance and related concepts:

- The word performance is often confused with the terms effectiveness, efficiency and efficacy, which are considered to be related concepts despite the differences that exist between them.

1.8.1 The efficacy:

The concept of efficacy has given rise to a large body of literature in management. It is at the center of all approaches concerned with evaluating the performance of an organization, whether it is a market or non-market organization.

The underlying question is whether or not an organization is satisfactorily achieving its objectives (whether quantitative or qualitative). The indicators of efficacy can thus be very diverse and numerous.

More simply, we can define efficacy "as the relationship between the results achieved by a system and the objectives targeted. Therefore, the closer the results will be to characterize the performance of a system"⁶⁵.

The interest of this concept is to go beyond the measurement of performance by profit alone, reserved for market organizations with short-term profitability goals, is to be totally unsuited to the apprehension of long-term performance for these same organizations, as for all those who do not pursue exclusively economic perspectives.

⁶⁵ BOISLANDELLE (H), « Gestion des ressources humaines dans la PME », Edition Economica, 2^e édition, Paris, 1998, p 139.

In a shorter way we can summarize the efficacy in the following formula:

$$\text{Efficacy} = \frac{\text{RESULTS ACHIEVED}}{\text{OBJECTIVES TARGETED}}$$

1.8.2 Efficiency:

When evaluating the performance of a system, whatever its nature (production unit, medical unit, delivery service, etc.) we consider that "Efficiency expresses the relationship between the targeted objectives and the means used to achieve them"⁶⁶

In other words, efficiency is concerned with the quality of the invoices used to achieve the objectives (number of machine hours, number of working hours, costs of intermediate consumption entering into the production, etc).

Certain economic (average cost) and technical (factor productivity) indicators provide a measure of this. As for efficacy, we speak of efficiency in terms of degree.

So we can simplify the efficacy measure into the following formula:

$$\text{Efficiency} = \frac{\text{RESULTS ACHIEVED}}{\text{RESOURCES USED}}$$

1.8.3 The effectiveness:

Effectiveness goes even further in the evaluation process by focusing on the triptych of Objectives / Means / Results. In other words, by going back to the objectives that are at the very origin of the activity whose performance is being assessed.

⁶⁶ BOISLANDELLE (H), op.cit., p 140.

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According to a formulation by Jean LOIUS LEMOIGNE, "it is then a question of verifying whether we are actually doing what we want to do"⁶⁷.

Therefore we can conclude that the concept of effectiveness is strongly linked to the satisfaction with the results obtained. It is therefore easy to summarize it in the following formula.

$$\text{EFFECTIVENESS} = \frac{\text{LEVEL OF SATISFACTION OBTAINED}}{\text{RESULTS OBTAINED}}$$

- Finally, performance is a catch-all term that has been given many meanings. Related notions coexist (efficiency, effectiveness) and overlap with performance.

Section 2: The performance of distribution logistics:

The steering mission of logistics is to satisfy customers by respecting commitments in terms of quality, cost and delivery time. Although the importance of logistics performance within the performance of companies is growing, its measurement is no less delicate. There are several angles to this notion. We propose to define the notion of logistics performance by the degree to which the objectives set by the logistics steering missions are achieved.

2.1 Introduction to logistics performance evaluation:

Analyzing performance implicitly means measuring it. In the context of a global approach with a potentially internal or extended perimeter, the definition of performance indicators or KPIs (Key Processes Indicators)⁶⁸ is not immediate and is the subject of various contributions. As a first approach to the notion of measuring logistics performance, it is interesting to identify two types of measures:

- **Qualitative measures:** represented by the notion of customer service.

⁶⁷ LEMOIGNE (J), « *L'évaluation des systèmes complexes* », Harvard Expansion, 1999, p 203.

⁶⁸ VALLA (A), « *Thèse en Génie Industriel* », Institut National des Sciences Appliquées de Lyon, 2008, p52- 55.

Chapter three: The performance and distribution logistics performance

- **Quantitative measurements:** These correspond to measurements made directly at the flow level. This category includes indicators that measure the concepts of lead time, flexibility or resource utilization. Within this category, financial indicators (costs, sales, etc.) or operational indicators (stock levels, cycle time, etc.) can be separated.

2.2 The supply chain management as a lever for the company's performance:

The current economic context is difficult, so it is essential to have an efficient logistics organization to develop a competitive advantage, reduce costs and control inventory levels. The company can differentiate itself on its market, following different strategies. Depending on the importance of the current strategic objectives, the industrial tool must be adapted to respond in the best possible conditions.

Companies develop and prioritize several basic strategies, such as attractively priced products and fast service, competitive advantages that allow the company to increase its competitiveness and reach new markets, as long as the logistics organization is coherent.

It becomes essential to choose partners according to the size of the company and the particularities of its organization to improve the performance of the supply chain and reduce inventory levels.

In this way, long delivery times (due to a distant supplier for example) considerably inflate storage volumes and therefore the company's Working Capital Requirement (WCR).

The unit price of the products is not the only parameter to consider and frequently affects the financial health of the companies.

Align the objectives of the logistics organization with the company's strategy and ensure performance management.

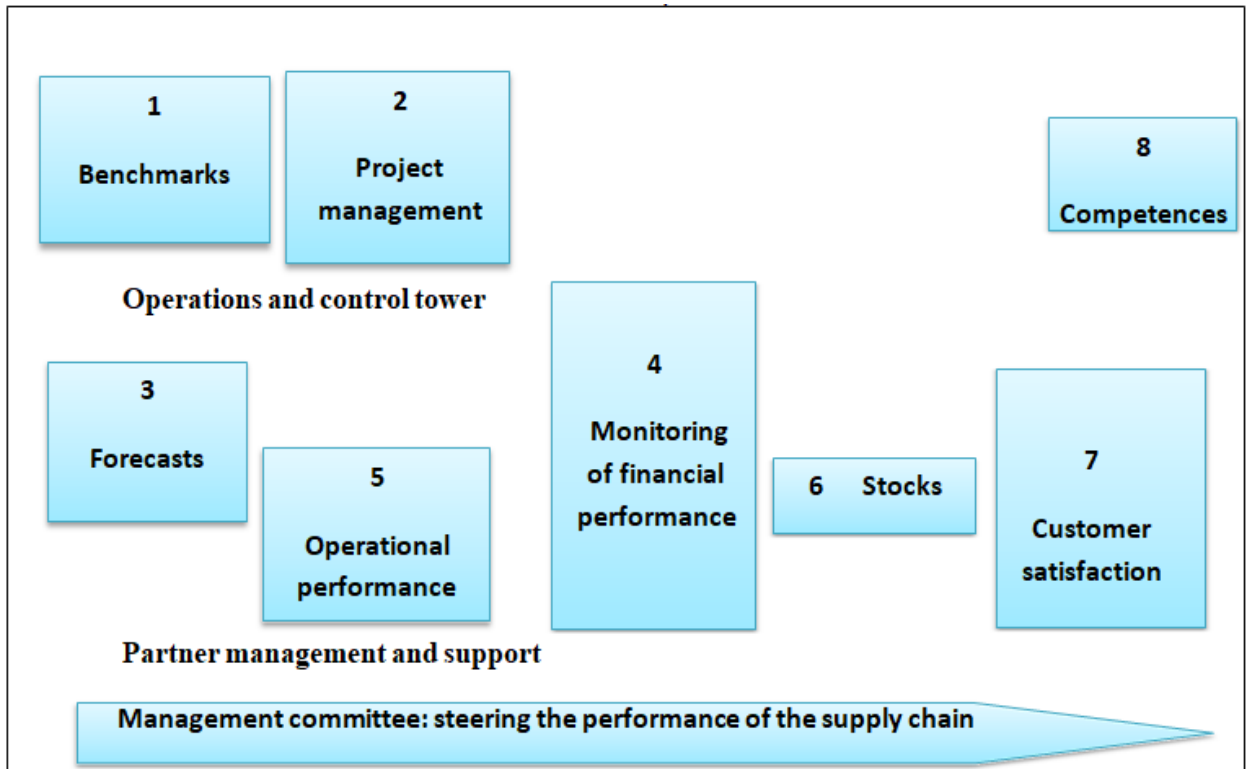
2.3 Supply Chain and logistics performance measurement indicators:

Supply Chain and Logistics performance measurement and control indicators are fundamentally linked to the objectives that have been assigned to these functions and their organizations. At this level of performance indicators, a number of descriptive indicators are also very useful, such as volumes, seasonality, number of delivery points, some of which are useful to monitor as explanatory variables or as cost or stock levels. The diagram in the figure

Chapter three: The performance and distribution logistics performance

shows us the seven families of indicators classified on the cartography of the organization structured around the following key processes:

Figure 3: Performance indicators classified on the organization cartography structured according to key processes



Source : M.FENDER (Y) : logistique supply chain, 6ème édition, Dunod paris, p. 191.

Design of new supply chain solutions, support and partner management:

- ✓ The benchmark is the first element that feeds innovation at the level of the company's sector of activity;
- ✓ The innovation and transformation implementation aims to monitor the performance of logistics and supply chain projects;
- ✓ The quality of the sales forecasts leads to a particular follow-up, it is also the key process of any Supply Chain function;
- ✓ Translating technical indicators into financial indicators is strictly fundamental and is still poorly worked on in many companies at this level. What is important for the general management are undoubtedly the financial indicators that are integrated into the investment plans, budgets and reporting;

Chapter three: The performance and distribution logistics performance

- ✓ Quality control of the operations that drive the financial performance of the supply chain is an essential element;
- ✓ Satisfaction is the result of all of the above and customer service surveys are applied to measure perceived satisfaction and competitive positioning on these key value creation variables;
- ✓ The competences of the Supply Chain management and the decentralized logistic functions complete this device to ensure the good level and the good localization of these competences within these sophisticated organizations and put under tension of results.

2.4 Distribution Logistics Performance Management:

This management is based on elements that must allow for the measurement of process efficiency:

- ✓ Customer service: Delivery performance, service rate, delivery time;
- ✓ Flexibility and responsiveness: Supply chain response time, production flexibility;
- ✓ Costs: Total cost of ownership, after sales service.
- ✓ Holdings: Cycle of liquidity turnover, inventory turnover, capital turnover.

Chapter summary:

From the elements which we discussed in this chapter. We can conclude that the concept of performance is still a complex word which collects different meanings (effectiveness, efficiency and efficacy), nevertheless there is a set of indicators and indices that allow to reduce this complexity.

For the supply chain management and logistics performance we saw that although the importance of logistics performance within the performance of companies is growing, its measurement is no less important for the companies.

Finally, we can say that distribution logistics represents an important antecedent to the performance of firms.



CHAPTER FOUR:

Distribution logistics performance in the age of COVID-19

NAFTAL (O.E.B district)

Introduction:

Although the energy sector is difficult to access, because of the importance of the necessary investments, NAFTAL subsidiary of SONATRACH remains a monopoly in this sector, in terms of product supply NAFTAL has the capacity to cover the demand of the national market and even more.

In this chapter we have three sections. Section one which is a general presentation of the company NAFTAL, and second section which includes performance indicators for distribution logistics, for the third section I 'am going to state the interview of the three executives in the distribution department of the NAFTAL O.E.B district, and the analysis of the data collected, and finally i will give proposals and suggestions.

Section 1: General presentation of the company**1.1 History of the Company :**

NAFTAL is a joint stock company, with a capital equivalent to 15.650.000.000 DA which deals with the distribution and marketing of petroleum products. It is the result of two restructurings.

The first one was in 1980, with the restructuring of "SONATRACH" company by the decree n°80- 101 of 06/04/1980, carrying a capital of 15.650.000.000 DA.

On 06/04/1980 was the creation of the national company of refining and distribution of oil products.

The second carried out by the decree 87-182 of 25/08/1987 on the creation of "NAFTAL" in charge of refining for the first and marketing, distribution of petroleum products and derivatives for the second, including fuels, lubricants, even those intended for marine and aviation, as well as liquefied petroleum gas (LPG), aromatic solvents, kerosenes, bitumens and tires throughout the national territory

Chapter four: Distribution logistics performance in the age of COVID-19 NAFTAL (O.E.B district)

Also within the framework of the laws of the market economy and globalization, "NAFTAL" was obliged to adapt and therefore to change its legal status, by becoming a joint stock company (SPA), a 100% subsidiary of "SONATRACH".

➤ The evolution of the Company :

1967 - 1971:

- ✓ The distribution of petroleum products was provided entirely by foreign companies, based on imports.

1967 - 1971:

- ✓ Acquisition of the British Petroleum Company share in 1966.
- ✓ Nationalization of foreign companies (1967/1968).
- ✓ Nationalization of the hydrocarbon activities.

1982 - 1998:

- ✓ Creation of the company of refining and distribution of petroleum products (1982)
- ✓ Creation of NAFTAL and NAFTEC in 1988
- ✓ Repeal of the state monopoly on foreign trade.
- ✓ Appearance of new private operators in the tire business (1990), lubricants and special products in 1995.
- ✓ Opening to private operators of the "wholesale" market of petroleum products in 1997. Creation of NAFTAL S.P.A, a 100% subsidiary of the SONATRACH group in 1998.
- ✓ NAFTAL became autonomous on January 1, 1998. It thus became a full subsidiary of SONATRACH.

In 2002:

- ✓ It increased its share capital from 6.650 billion DA to 15 billion DA in December 2002 and in 2006 to 15.650.000 DA.

In 2006:

- ✓ NAFTAL has experienced a new organizational scheme of its macrostructure which is based on the following main structures:

The General Management: it is responsible for policy, general guidelines, coordination, overall consistency, steering, management and strategic monitoring.

The Functional Structures: (Executive Departments, Central Departments, Support Departments):

- **The Executive Departments**, each in its own field of activity are responsible for:
 - Anticipating trends.
 - Designing and implementing steering and control tools.
 - Providing strategic management.
 - Assisting the operational structures.
 - Defining the company's general policy and strategy.
- **The Central Divisions** are centers of expertise for research, development, audit, asset protection, industrial safety and the environment, communications and public relations, and sports and cultural activities.
- **The Support Departments** provide administrative management for the company's head office.

The Operational Structures: This includes the business lines, Fuels, Lubricants, Tyres and Bitumen.

1.2 The organization of the Company:

NAFTAL has undergone an update of its macrostructure carried out in 2006, which is based on the main structures listed below:

The General Management: it includes the executive staff

The Functional Structures: it includes the executive directions, the central directions, and the directions of support.

The Operational Structures: it includes the business lines, Fuels, Lubricants, Tyres and Bitumen.

1.2.1 The General Management:

The General Management of the company is provided by the Chairman of the Board of Directors in accordance with Article 17 (1) of the Articles of Association of the company NAFTAL.

The Chairman and CEO is assisted by advisors and project managers and two (02) permanent bodies (Executive committee and Steering committee).

The Executive committee: is a body chaired by the Chairman and CEO, composed of the directors of the branches and major strategic development of the company, particularly in terms of management, partnership, investment, financial engineering and security.

The Steering committee: is a body chaired by the Chairman and CEO,

It is composed of divisional directors, executive directors, central directors, the director of general administration and a representative of the social partner.

This committee assists the Chairman and CEO in the management and control of the company's activities.

1.2.2 Functional Structures:

The company's functional structures are organized into three (3) Executive Divisions, seven (7) Central Divisions and two (2) Support Divisions.

The Executive Directorates, each in its strategic area of activity, are responsible for:

- Defining the company's population and strategy;
- Anticipating trends;
- Designing and implementing steering and control tools;
- Ensuring strategic management;

- Assist the operational structures;
- Ensure coordination and coherence of the whole.

The Central Directorate is a center of expertise for marketing, research and development, audit, asset protection, industrial safety and the environment. The Support Department provides administrative management of the company's headquarters.

1.2.2.1 The Executive Departments:

- a) Strategy/Planning & Economics Executive Department:** It is in charge of setting up and keeping up to date a database of statistical, technical and economic data relating to all the company's activities.
- b) Executive Direction of Finance:** It is in charge of defining, applying and controlling the financial and legal policies of the company.
- c) Human Resources Executive Department:** It is responsible for developing and monitoring the company's human resources policy.

1.2.2.2 The Central Departments:

a) Central Research and Development Department:

It is responsible for studies and development of storage and distribution infrastructures for all NAFTAL products.

b) Central Audit Department:

It is responsible for the control of all structures of the company. It reacts to any problems that arise in management and contributes to the improvement of systems, procedures and standards.

c) Health, Safety, Environment and Quality Department:

It establishes the rules and instructions for industrial safety, particularly in terms of storage and distribution of petroleum products, this structure is also responsible for adapting and defining standards and procedures relating to environmental protection.

d) Central Department for Sports and Cultural Activities:

This department is in charge of managing the company's social activities (vacation camps, spa treatments).

e) Central Communication and Public Relations Department:

This department is responsible for all the company's external relations.

f) Central Direction of Procedure and Management Control:

It is in charge of the follow-up of the management procedures and the management control.

g) Central Direction of Information Systems:

It is in charge of constituting a data bank and collecting information related to all the markets by using statistics and computer science.

1.2.2.3 The Support Departments:**a) Internal Security Department:**

It is in charge of the internal security of the company and the protection of its assets.

b) General Administration Department:

It is responsible for providing the services necessary for the proper functioning of the company's headquarters and for managing the human and material resources of the headquarters unit.

1.2.3 Operational Structures:

The company's operational structures are organized into (04) branches, each of which develops its activities in accordance with the company's general policy, within the limits of its corporate purpose.

The classification of these operational structures as "branches" is subject to criteria of a strategic, economic and financial nature and will be the subject of regulatory decisions.

1.2.3.1 Liquefied Petroleum Gas (LPG) Branch:

The Liquefied Petroleum Gas Branch is in charge of the elaboration and follow-up of the national programs of storage, conditioning, maintenance and bottling, the sale and distribution of butane, propane, LPG/fuel products....

1.2.3.2 Fuel Branch:

It is responsible for defining the company's strategy and overseeing the development of studies and programs for the renovation of storage and pipeline transport infrastructures.

1.2.3.3 International Activities Division:

It is responsible for the company's external (foreign) affairs.

1.2.3.4 Marketing Division:

The marketing division is responsible for defining, monitoring and controlling the supply and marketing policy for petroleum products.

1.3 NAFTAL's business lines:

NAFTAL's activities as a petroleum products distribution and marketing company:

Founded in 1982 and a 100% subsidiary of the Algerian oil company SONATRACH, NAFTAL is responsible for the distribution and marketing of petroleum products and derivatives on the market.

It is also involved in the fields of liquefied petroleum gas and bitumen formulation.

In the era of the market economy, NAFTAL has found it essential to set up a new organization that meets the strict economic requirements of globalization.

NAFTAL supplies more than 9 million tons of petroleum products per year with a turnover of 3 billion US dollars.

Within the framework of environmental protection, NAFTAL is involved in the promotion of LPG fuels and unleaded gasoline and has initiated a broad mobilization for the recovery of used oil.

1.3.1 NAFTAL's field of activity:

Missions and essential objectives of NAFTAL:

- To organize and develop the activity of marketing and distribution of petroleum products and derivatives on the national territory.
- Distribution, storage and marketing of fuels, LPG, lubricants, bitumen, pneumatics, LPG/fuel, special products.
- Develop a brand image.
- To ensure the application of the measures relating to the industrial safety, the safeguard and the protection of the environment in relation with the concerned organizations.
- Develop storage and distribution infrastructures to ensure better coverage of market needs.
- To ensure the maintenance of the equipment and rolling stock of its assets.
- To promote, participate in and ensure the application of standardization and quality control of products within its scope.
- To carry out all the studies of the markets as regards user and consumption of the oil products.
- To distribute by balancing the company and its activities through all the wilayas, thus progressive passage to a model of decentralization.
- To store, transport all petroleum products and marketing on the national territory.
- To define and develop an audit policy, to conceive and implement integrated information systems.
- Ensure the application and respect of the measures related to the internal security of the company, in accordance with the regulations.
- Align the organization with international standards.
- Optimization of costs and reduction of operating expenses.
- A presence on the Maghreb, Sub-Saharan and Mediterranean markets.

- A local partnership with national and/or international companies having specific assets.

1.3.2 Profile of the National Network:

The commercial network includes all the service stations, 1884 service stations, including 684 owned, which distribute fuel, lubricants, tires, LPG, and provides services (Washing - oil change - lubrication - vulcanization) and diversified sales, and 14,000 points of sale of lubricants.

Almost all of these service stations carry the "NAFTAL sign". However, there is great diversity among them. They are identified by:

➤ The types of stations:

- The relay station: Large capacity (+200 M3), located on highways and major roads, ensuring the sale of fuel, services and sales of ancillary products: Cafeteria, Shops, Motel, etc....
- The service station: Of average capacity (100M3) and ensuring a whole of services (emptying, vulcanization...).
- The filling station: Distribution exclusively of fuels and marketing some products on the track.
 - The sale of fuels is the "common dominator" of all service stations.

✓ Operating modes:

The service stations are operated according to one of the following four (04) management modes:

-Direct management or ‘La gérance directe’ (GD): NAFTAL's heritage, managed by its staff, has large storage capacities and covers the entire national territory including the deep south, there are 329 stations in Algeria.

-The free management or ‘La gérance libre’ (GL): Heritage from former oil companies (SHEL, BP, and TOTAL) is allocated in free management. The sales outlets of this network are old infrastructures with low fuel storage capacities and generally located in urban areas. There are 351 such stations in Algeria.

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-Approved sales outlets or ‘Point de vente agréé’ (PVA): The promoter's own investment, with a medium capacity (100M3), providing a wide range of services, linked to the company by a contract of equipment loan either free of charge, or on lease, or by a loyalty contract. There are 1004 stations in Algeria. This is a recent investment, encouraged by the public authorities and NAFATL in order to alleviate the pressure on the existing network.

-The ordinary reseller (RO): Own heritage of the third party, small capacity, high age (40 years) linked to the contract of loyalty to the company. There are 200 stations in Algeria.

1.3.3 Profile of the service station network:

Repair by management mode: the network of sales outlets included at the end of 2005, 202 sales outlets all management mode combined, which are distributed as follows:

Table 1: Distribution of the service stations by management mode

Designation	GD	GL	PVA	RO	TOTAL
Number	25	90	64	23	202
Share in % of total	12,38	44,55	31,68	11,39	100%

Source: internal company document

The network as a whole is constituted by a dominant trend of GL before a participation of 90 GL, which is 44.55% of the overall total of the network, it consists mainly of service stations (44 SS/90 GL).

The PVA network constitutes 31.68% of the district fuel distribution network and consists mainly of service stations (44/SS, 64/PVA).

The GD network is made up of 25 direct operations, or 12.68% of the distribution network, and 14 fill-ups.

The RO network is in the last position with 23 ordinary dealers, i.e. 11.39% of the total, the RO are filling stations.

1.4 The district NAFTAL Oum El Bouaghi :

1.4.1 The district's products:

The district markets three essential products in the LPG range:

- **Commercial butane:** 13 kg cylinder (B13), 03 kg cylinder (B03);
- **Commercial propane:** 35 kg cylinder (T35), bulk propane;
- **The LPG fuel "SIRGHAZ".**

1.4.2 Presentation of the logistics of the distribution linked to the district:

It is included under the term 'distribution' all the activities that will bring the products (equipment, materials, goods) from their original sources to the customers by the operations of supply (Refineries to the distribution centers), refueling or transfer. It integrates several activities:

- Customer services (reception and processing of orders).
- Supply, refuelling, delivery.
- Packaging of LPG.
- Storage of products... etc.

How the distribution logistics process of the district works:

- The head of distribution directs: coordinates, and controls all activities of the center concerning storage and distribution.
- Unloading of products: Depending on the schedule and volume of these activities in the center, one or more teams of two to four people are responsible for unloading the inputs (product reception), handling them until they are stored.
- If the packaging, mixing and small manufacturing are done, one person is in charge of the technical aspect, even the maintenance and repair of the equipment.
- A team is in charge of organizing and controlling the transport, if trucks have been assigned to deliver the product.

- A number of people are in charge of administrative activities (order reception, invoicing, stock follow-up, cashier, mail transmission, etc.)

The district uses the tanker truck as a mode of road transportation to make product deliveries. It is because it has unmatched flexibility compared to other modes. The main disadvantage is the return without a load.

Section 2: Research methodology and data analysis

In this section, we are going to present our research method, first we will explain our research purpose, what methods we have used, and finally we will see the analysis and discussion of the interview, and the results.

2.1 Research method:

As part of the preparation of my thesis for a master's degree in business science at the 'Ecole des Hautes Etudes Commerciales' (EHEC). On the theme of: « *The impact of COVID-19 crisis on the distribution logistics performance* » I prepared this research.

Performance measurement is one of the keys to management, and the distribution logistics function is no exception. There has never been as much effort to implement measurement systems as there is today.

2.1.1 The research objective:

The objective of this research is to review the impact of COVID-19 pandemic on the performance of the distribution logistics function during COVID-19 crisis and to analyze the use of indicators to measure that impact on the distribution logistics of NAFTAL.

In order to realize this research, we need to:

- Collect the missing information to complete the study
- Confirm or reject the proposed hypotheses.

2.1.2 Qualitative study:

Qualitative data refers to all non-numeric data or data that has not been quantified. It could be in the form of a shortlist of answers to open-ended questions to more

complex data such as entire policy documents. Qualitative data collection methods include interviews, observation, focus groups and others.

To get more representative results, we choose to use interviews to carry on with our research.

2.1.3 Interviews:

"The interview is a technique intended to collect, with a view to their analysis, discursive data reflecting in particular the conscious or unconscious mental universe of individuals. It is a question of getting the subjects to overcome or forget the defense mechanisms they put in place with regard to the external view of their behavior or their thoughts "⁶⁹

It is used in a wide variety of situations, the interview allows direct contact between two or more people. In a stronger position, the interviewer directs the interview towards the goals he has set in advance. This allows him/her to complete the information he/she is looking for.

The individual interview is a face-to-face situation between an investigator and a subject. The concept of an interview is based on the practice of questioning the subject with a more or less marked attitude of non-directiveness on the part of the investigator towards the subject (directive questioning does not reveal an interview but a questionnaire).

The principle of non-directiveness is based on "unconditional positive attention" on the part of the investigator: the subject can say anything and each element of its content has a certain value because it refers directly or indirectly to analytical elements of the research object. Non-directiveness also implies "an attitude of empathy" on the part of the investigator, it means that the acceptance of the subject's frame of reference, in terms of emotion or meaning, as if the investigator were in the place of the interviewee.

In most cases, the interviewer must be careful to create a relaxed atmosphere of trust that will allow the interviewee to relax. This will make it easier for the interviewee to answer questions.

The language used should be simple, clear and understandable for the interviewee. Questions should be short, without meandering; care should also be taken with emotional or value judgment questions, which should not be asked until the atmosphere is truly relaxed.

⁶⁹ THIETAR (R), et COLL, « *Méthodes de recherche en management* », Edition DUNOD, 2003, P.235.

It is important to avoid haste and to choose the time of the interview very carefully. Similarly, a place known to the interviewee, such as his or her workplace, is preferable, where he or she will feel more comfortable and will have the material and information needed to illustrate his or her point.⁷⁰

It is one of the most popular techniques where it is used because it enables personal responses. We have adopted a semi-Structured interview type.

2.1.3.1 Semi-structured interviews:

This type of interview, the researcher tries to cover a list of topics and questions. This indicates that a researcher can delete some questions, given the certain organizational setting that is encountered in relation to the subject matter. The arrangement of the questions can differ according to the nature of the conversation. Moreover, additional questions may be needed to examine objectives and questions of the research according to the events in specific organizations.

2.1.3.2 Running the interviews:

The interview guideline is divided into four parts attached to the appendices section of this research work. The questions were previously sent before the interviews to the in order to enable them preparing the right amount of information, yet for reasons of a crowded schedule, they only reviewed the guide moments before the meeting and still have given adequate information concerning the research.

The first interview was with the head of service in the distribution department. It was on May 23th2021, at 10h00.

The second and the third interviewee followed the same procedures. The interviews were held on the same day of the first interview. No information regarding the name of the interviewees in order to maintain full confidentiality.

The criteria used to select the managers to be interviewed were:

- ✓ The position held
- ✓ Experience

⁷⁰ MERCIER, (J) : « *Organisation et management* », Edition des Organisations, 2000, P181.

Executive 1: Responsible of service in the department;

Executive 2 : Market research manager.

Executive 3: Head of the distribution department.

2.1.3.3 Content analysis:

After the collection of the answers we have classified and structured the answers, we have used a word by word analysis, taking in consideration the speaker's voice pitch and tempo variations, in order to detect the unspoken language and put an adequate frame to each expressed idea in terms of certainty and credibility.

2.2 Qualitative study: The Interviews:

2.2.1 The functions and the specifications of the distribution department:

Q1: Can you introduce NAFTAL and its specific position in the energy sector?

Executive 1, 2 and 3: NAFTAL is a subsidiary of SONATRACH, which means that it is the national company for the transport and marketing of hydrocarbons. It is the first Algerian and African company in terms of revenues, NAFTAL has indeed a specific place in the Algerian energy sector. Because it is still the only operator in the field of transport and marketing of oil products.

Q2: What functions does your department perform?

Executive 1: sales, distribution, reception and processing of orders...

Executive 2: processing and updating of customer files, customer visits, creation of new points of sale, follow-up of receivables and collection, invoicing, processing of accounting days

Executive 3: follow-up and control of the points of sales, cell of listening customers, orientation of the retailers distributors, routing of the trucks of delivery of the sold product, follow-up the export of the product butane bulk to Tunisia (STIR)...

Q3: What is your distribution strategy?

Executive 1,2 and 3: The distribution strategies followed by the district are intensive strategy and selective strategy.

Q4: What types of distribution channels are followed in your marketing strategy?

Executive 1, 2 and 3: The types of distribution channels which are followed by the district are : ultra short circuit and short circuit.

2.2.2 The performance indicators in NAFTAL (O.E.B district) during the pandemic:

Q1 : what are the main performance indicators the company used for the performance measurement during the pandemic ?

Executive 1, 2 and 3 : In general the performance indicators we use to measure the performance during the pandemic are:

- ✓ Quantitative indicators: Quantities distributed and sold, revenue, number of resources for transportation (product delivery), market share
- ✓ Qualitative indicators: customer satisfaction, company image.

Q2: What was the most important performance indicator the company did care about the most during the crisis?

Executive 1 and 3: The most important performance indicator the company did care about the most during the crisis is customer satisfaction, that is what we saw from the beginning of the pandemic, in NAFTAL (O.E.B district) we care for our clients because we deal directly with them in most of our products sales, and because we are a national company we put the customer who is a citizen in the end as our first target to satisfy especially in times like this.

Executive 2 : The most important performance indicator the company did care about the most during the crisis is the market share, in the end NAFTAL is a profitable company, we must be

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the leader of our market even in crisis times like we did in the COVID-19 crisis, customer satisfaction is another performance indicator we cared about a lot during this crisis.

Q3 : How the Covid-19 crisis affected the customer satisfaction ?

Executive 1, 2 and 3 : We have a special planning to satisfy our clients during this pandemic, but in the beginning of it we had some problems because of the new situation which we and our clients found our selves suddenly on it. The instructions of the Algerian government about the release of staff to avoid any possible spread of the virus caused labor shortage, and difficult to transport and distribute products, which mean less customer satisfaction.

2.2.3 The performance of distribution logistics within NAFTAL (O.E.B district) in age of COVID-19 crisis:

Q1 : What are the problems faced in the distribution of the products ?

Executive 1 : beside the usual problems like climatic problems where the truck making the delivery finds roads closed due to rain or snow, we faced new problems like labor shortage and delayed transportation of products to distribution points because of the documentation needed for transportation during the confinement.

Executive 2 : Transport problems (truck or tanker breakdown), lack of drivers and conveyors, shortage of stock during the confinement and the late hours of the day.

Executive 3 : Problems of lack of transport or storage materials.

Q2 : What was the new preventive measures the company took?

Executive 1, 2 and 3 : In light of the worrying spread of the coronavirus (COVID 19) in the world and the rapid evolution of confirmed cases in Algeria, the general management, concerned about the preservation of the health of its workers, and in addition to the preventive measures already taken, has decided to reinforce them, through the following actions :

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- Suspending access to all the company's sites to trainees, apprentices, visitors and outsiders until further notice;
- To require the cleaning of the hands with hydro-alcoholic gel and the wearing of protective masks to the missionaries and the cashiers of the service stations at the entrance of the site and this, during the whole period of the visit;
- To restrict to a maximum of five (05) the number of people in the working meetings or other meetings, having a strictly essential character;
- To distribute, as a matter of urgency, the specific protective equipment to the medical and paramedical corps.

Q3 : Which operations related to distribution logistics might be affected by this pandemic?

Executive 1: The distribution logistics is an important part in our company activities, transportation and material handling was the most operations affected by this pandemic beside the direct distribution in the stations which now is taking more time.

Executive 2 : The operations related to distribution logistics affected by this pandemic are transportation and the direct distribution in the stations because of the new preventive measures and the documentation needed to transport during the pandemic.

Executive 3 : The distribution logistics process was severely affected especially in a matter of transportation and the documentation required from several Algerian authorities' structures that were lock due to COVID-19 quarantine, and the handling needed for distributing the products.

Q4 : How the Covid-19 crisis impact on the customer satisfaction can be related to the performance of the distribution logistics ?

Executive 1 : The instructions of the Algerian government about the release of staff to avoid any possible spread of the virus caused less distribution logistics performance. Labor

Chapter four: Distribution logistics performance in the age of COVID-19 NAFTAL (O.E.B district)

shortage, and difficult to transport and distribute products, means less customer satisfaction and especially in the distribution stations.

Executive 2 : Labor shortage, and difficult to transport and distribute products, which are problems related to the distribution logistics process, it means less customer satisfaction and especially in the distribution stations, that what happened at first, but now we kept our clients satisfaction during the pandemic.

Executive 3 : Thanks to its policy of continuous improvement and development of its delivery and distribution services for the satisfaction of its clients NAFTAL (O.E.B district) carried a lot about its clients during the pandemic, and a good distribution logistics performance is our main way to insure the clients satisfaction.

Q5 : For the transportation did you had issues after the new preventive measures which the authorities took like transport costs increase?

Executive 1: For the transportation we had problems like we said before like lack of drivers and conveyors but transport costs increase wasn't one of those problems.

Executive 2 : Yes we had problems, especially the issues related to the documentation necessary for the completion of transportation, but the transport costs did not increased.

Executive 3 : As a petroleum products distribution company we had transport problems during the pandemic but about the transport costs, it did not increased.

2.2.4 Conclusion:

Q1: How you see the impact of COVID-19 crisis on the performance of the distribution logistics?

Executive 1: The impact of COVID-19 crisis on the of was negative, as simple as that, as we said before we had transport problems and labor shortage which affected our distribution logistics performance directly by a negative way.

Executive 2 : Sure, the COVID-19 crisis interferes with the distribution logistics performance negatively.

Executive 3 : It was a negative impact of the COVID-19 on the distribution logistics operations, so yeah this pandemic affected our distribution logistics performance negatively.

Q2 : After more than a year, what are the main lessons learnt? And the directions you would like to take for avoiding the impact of this crisis on the performance of distribution logistics today?

The three executives added : The Corona virus had surprised all of us. The pandemic is not yet over; no one yet knows the consequences, both political and economic. Many governments have declared themselves in a state of war to raise the attention of their peoples, but worse still, this enemy is invisible, and no country was prepared for this pandemic, and there is no secure way that shows our total preparation in Algeria to face such kind of crisis. For NAFTAL, several measures in compliance with healthy prevention to protect human resources are the first concern has been undertaken and being developed, and the plant security will follow automatically. And for our distribution logistics performance, we think that we are doing good in the short term and if the pandemic situation will be stable the company will manage the distribution logistics successfully even in the long term.

2.3 Synthesis:

The analysis is made through interviews with three executives to review the impact of COVID-19 pandemic on the performance of the distribution logistics function and to analyze the use of indicators to measure that impact on the distribution logistics of NAFTAL

The distribution logistics performance is measured using quantitative and qualitative indicators.

NAFTAL gives much more weight to its clients especially during the COVID-19 pandemic.

A good distribution logistics performance means a high clients satisfaction.

The distribution department has some transportation problems at the beginning of the pandemic, but it has a good command of the distribution system, which is why the distribution logistics are well organized even during the pandemic.

For the transportation the company had problems like but transport costs increase wasn't one of those problems, the COVID-19 crisis did not affected the transport costs.

Chapter four: Distribution logistics performance in the age of COVID-19 NAFTAL (O.E.B district)

The distribution of the product remains effective during the pandemic thanks to the company policy to face the COVID-19 crisis.

The three executives agreed that the COVID-19 pandemic impact on the distribution logistics performance was negative, but thanks to the company policy the distribution logistics will perform good even in the long term during the pandemic.

2.4 Recommendations and Suggestions:

2.4.1 Recommendations:

The impact of Covid-19 on NAFTAL Company and its logistics performance is beginning to be felt firmly on ordinary activities. The challenge for NAFTAL will be to make their distribution logistics stronger without debilitating their competitiveness. These following recommendations for NAFTAL **to ensure efficient functioning of their distribution logistics during the COVID-19 pandemic:**

2.4.1.1 Near-term best practices:

- ✓ Examine a range of dangers that could affect the performance of your distribution logistics.
- ✓ Monitor your supply chain. Ensure that you are observing the risks which the COVID-19 crisis can make and prepare special plans for it.
- ✓ Rationalize as much as possible the indicators for measuring the performance of distribution logistics in order to better identify the needs expressed in order to achieve reliable results.

2.4.1.2 Long term best practices:

- ✓ Build policies and emergency plans for the transportation.
- ✓ Test and update your strategy to represent organizational development and ecological change.
- ✓ Hold intermediate inventory.
- ✓ Take advantage of new technologies. Examples include the following: Automation, new distribution technologies.
- ✓ Modernization and rehabilitation of storage infrastructures.
- ✓ Renew your handling equipment.
- ✓ Increase the means of transport and delivery of the product.

2.4.2 Suggesting a pandemic response plan

It is hard to predict the arrival of global crises as the Corona virus outbreak, but firms can diminish their impacts by taking supply chain preparedness to a more significant level.

The objective here is that NAFTAAL will stimulate so that they can adequately act before a disruption occurs and adjust and execute new plans afterwards rather than starting from scratch every time they are plunged into a new crisis.

As a researcher my highlighted areas of concern are in every distribution logistics process that need to be reviewed. The list represents areas that have been raised as concerns in the company. As NAFTAAL, distribute and delivers products that it produces, it must ensure during any crisis or pandemic that they're receiving and delivering products. There are several ways that companies can impact the distribution logistics performance. Here are some practical solutions:

➤ Planning:

- ✓ Amend or promote your crisis management plan so that considerations about a pandemic are immediately made.
- ✓ Define distribution logistics risks that crises might pose.
- ✓ NAFTAAL should prepare in advance for reduced production or service delivery dependent on reductions of the client request, work power, raw material supply or energy resources required for operations.

➤ Transportation:

A crisis will provoke restrictions in the flow of materials and products. Therefore, that emergency plans are set up to provide adequate movement of product to sustain business operations by planning for alternate transportation sources. I propose likewise to NAFTAAL to put resources into their future transportation systems to dodge this issue.

Chapter summary:

This chapter includes the background of NAFTAL, as well as the practical methodology that is applied for this research purpose. It followed by the analysis of the data that were conducted through interviews, and the synthesis, then it summarized the main conclusions of this research and provides recommendations.



General conclusion

General conclusion:

The ambition of this research was to contribute to a better understanding of the effects of this pandemic on logistics performance, more specifically, distribution logistics performance. In more detail, this work reveals four crucial conceptual contributions.

The first focuses on Covid-19 and its impacts. The second is related to the apprehension of logistics concepts. Moreover, a third chapter is about the performance and distribution logistics performance specifically. The fourth chapter harbored the projection of these theoretical earnings on my host company NAFTAL, in which I were able to conduct my practical study.

First, I sought to describe the influence of past pandemics on the world and the current COVID-19 on African countries and Algeria more specifically. Then I wanted to show that the distribution logistics is in the center of every company, and after that I presented the theoretic concept of performance and distribution logistics performance measurement. Finally, my last objective was to understand and clarify how distribution logistics performance of NAFTAL was affected during this outbreak.

Thus, through our thesis, i have tried to highlight my main problem by answering the following question **“How can an international pandemic such as COVID-19 affect the distribution logistics performance?”** And I set three hypotheses.

Throughout our study, we reached the following conclusions:

1. In general the performance indicators the company uses to measure the performance during the pandemic are:
 - ✓ Quantitative indicators: Quantities distributed and sold, revenue, number of ressources for transportation (product delivery), market share
 - ✓ Qualitative indicators: customer satisfaction, company image.

The company cared specifically about its clients satisfaction and its market share during the COVID-19 crisis.

2. I have noticed that the distribution logistics were negatively impacted especially when the pandemic first came.

3. Transportation is one of the sectors critically affected by the current COVID-19 crisis. Although, the unavailability of transport infrastructures the costs stayed stable.

The results obtained through our survey allowed us to test our hypotheses:

H1: COVID-19 crisis affects the customer satisfaction which is the most important indicator to ensure the performance of distribution logistics: The first hypothesis is confirmed.

H2: The Corona virus interferes with distribution logistics process negatively: The second hypothesis is confirmed

H3: The Corona virus results in transportation costs increase: The third hypothesis is rejected.

However, in our study, we detected some negative points, leading us to propose some recommendations such as:

- ✓ Prepare in advance for reduced production or service delivery dependent on reductions of the client request, work power, raw material supply or energy resources required for operations.
- ✓ Take advantage of innovations and technologies.
- ✓ Setting up contingency plans for transportation, and increasing the means of transport and delivery of the product, can counterbalance the risks of distribution logistics disruptions during the crisis.

However, our research has known certain limits. COVID-19 has created a challenging, yet opportunistic environment in which to conduct data and apply research methodology. In particular those due to the sanitary restrictions imposed by the government, I tried to do my best to make the information I collected from the internship useful. As our subject is continuously evolving, I hope that the results I have obtained can be deepened by other operations and develop even more in order to perfect or complete this modest work.

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Appendices

Appendix 01: Interview guideline

Appendix 02: History of pandemics

Appendix 02: BUTANE east region sales by CDS / distribution channels / Wilaya (2019)

Appendix 03: Distribution diagram

Appendix 01: Interview guideline

Dear NAFTAL staff,

In the face of the sudden outbreak of the Corona virus, we are all concerned about the current trade and economy status. We hope that through research and accurate information, we can better realize our scientific research purposes.

The objective of this survey is to evaluate the impact of the current situation on the distribution logistics performance of NAFTAL. So, your contribution is essential. I would be so grateful to arrange a face to face interview with you to discuss important points

Thank you for your support!

1. The functions and the specifications of the distribution department:

Q1: Can you introduce NAFTAL and its specific position in the energy sector?

Q2: What functions does your department perform?

Q3: What is your distribution strategy?

Q4: What types of distribution channels are followed in your marketing strategy?.

2.The performance indicators in NAFTAL (O.E.B district) during the pandemic:

Q1 : what are the main performance indicators the company used for the performance measurement during the pandemic ?

Q2: What was the most important performance indicator the company did care about the most during the crisis?

Q3 : How the Covid-19 crisis affected the customer satisfaction ?

3.The performance of distribution logistics within NAFTAL (O.E.B district) in age of COVID-19 crisis:

Q1 : What are the problems faced in the distribution of the products ?

Q2 : What was the new preventive measures the company took?

Q3 : Which operations related to distribution logistics might be affected by this pandemic?

Q4 : How the Covid-19 crisis impact on the customer satisfaction can be related to the performance of the distribution logistics ?

Q5 : For the transportation did you had issues after the new preventive measures which the authorities took like transport costs increase?

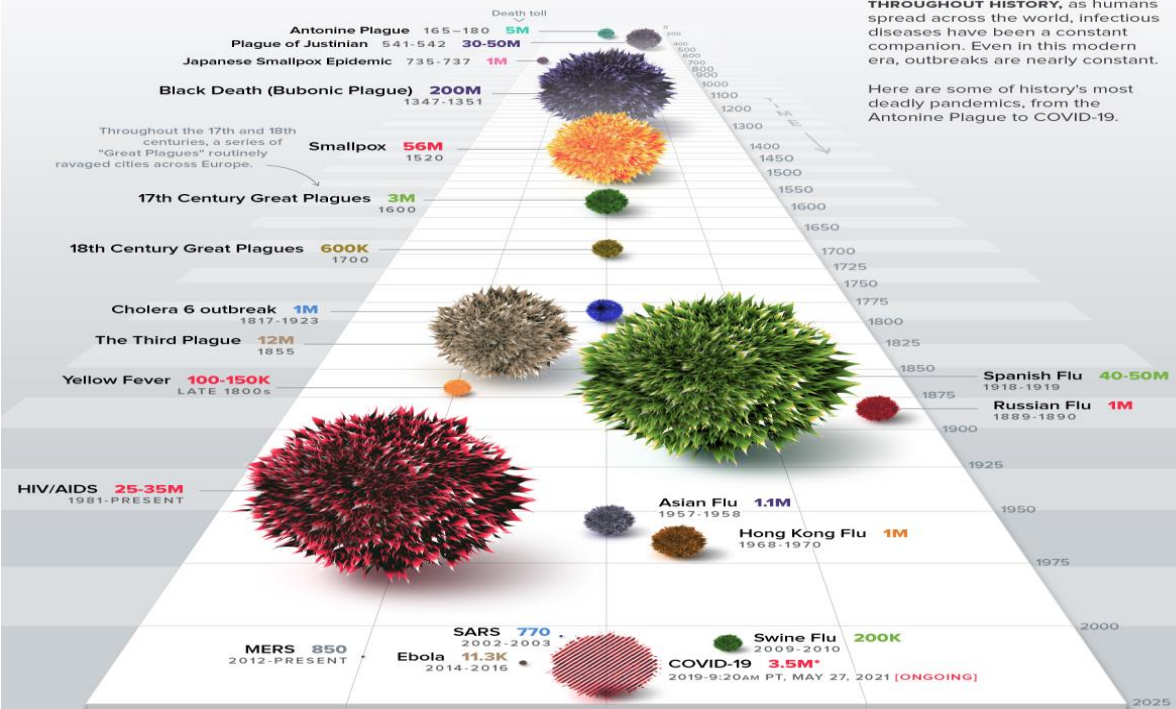
4.Conclusion:

Q1: How you see the impact of COVID-19 crisis on the performance of the distribution logistics?

Q2 : After more than a year, what are the main lessons learnt? And the directions you would like to take for avoiding the impact of this crisis on the performance of distribution logistics today?

HISTORY OF PANDEMICS

PAN-DEM-IC (of a disease) prevalent over a whole country or the world.



THROUGHOUT HISTORY, as humans spread across the world, infectious diseases have been a constant companion. Even in this modern era, outbreaks are nearly constant.

Here are some of history's most deadly pandemics, from the Antonine Plague to COVID-19.

DEATH TOLL [HIGHEST TO LOWEST]



WHO officially declared COVID-19 a pandemic on Mar 11, 2020. It is hard to calculate and forecast the impact of COVID-19 because the disease is new to medicine, and data is still coming in. *Johns Hopkins University estimates

The plague originated in rats and spread to humans via infected fleas.

The outbreak wiped out 30-50% of Europe's population. It took more than 200 years for the continent's population to recover.

Smallpox killed an estimated 90% of Native Americans. In Europe during the 1800s, an estimated 400,000 people were being killed by smallpox annually. The first ever vaccine was created to ward off smallpox.

The death toll of this plague is still under debate as new evidence is uncovered, but many think it may have helped hasten the fall of the Roman Empire.

*Johns Hopkins University estimates

Sources: CDC, WHO, BBC, Wikipedia, Historical records, Encyclopedia Britannica, Johns Hopkins University



Facebook: /visualcapitalist, Twitter: @visualcap, Instagram: @visualcap, Website: visualcapitalist.com

COLLABORATORS RESEARCH + WRITING Nick Lottini, Nick Routley | DESIGN Harrison Schott | ART DIRECTION Harrison Schott

Appendix 02: history of pandemics

Appendix 03: BUTANE east region sales by CDS / distribution channels / Wilaya (2019)

W/CDS	BUTANE					
	Livraisons NAFTAL		Auto Ravitailleurs	Livraisons par Rev. Dist.	Ventes aux Consommateurs	Total Butane
	GD	Autres PV				
CE 041 AIN BEIDA	1242	2011	687	3871	739	8550
DR KHENCHELA	0	0	0	0	0	0
W/O.E.B.	1242	2011	687	3871	739	8550
MCE TEBESSA	2621	4564	2042	3460	150	12837
DR OUENZA	727	2451	219	798	323	4518
DR CHECHAR	380	518	0	0	0	898
DR KHENCHELA	0	253	0	0	0	253
CE 041 AIN BEIDA	0	2	0	9	0	11
W/TEBESSA	3728	7788	2261	4267	473	18517
CE 041 AIN BEIDA	0	0	1552	511	0	2063
W/GUELMA	0	0	1552	511	0	2063
DR KHENCHELA	1 329	3 009	0	2 220	56	6614
DR CHECHAR	555	2 853	0	0	104	3512
W/KHENCHELA	1884	5862	0	2220	160	10126
TOTAL DISTRICT OEB	6854	15661	4500	10869	1372	39256

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