

**Ecole des Hautes Etudes Commerciales  
KOLEA  
EHEC**

**Dissertation in partial fulfillment of the requirement for a**

**Master's degree in Business Sciences**

**Major: Distribution & Supply Chain Management**

**The effect of implementing supply chain risk  
management strategies on supply chains  
performance.**

**The case study: Unilever's SCRM strategies in the  
era of Covid-19.**

**Submitted by:**

Mr. Abdelghafour CHERFI

**Supervised by:**

Dr. Imen HADDAD

Senior lecturer at EHEC

**7<sup>th</sup> promotion**

**September 2020**



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## Dedication

To my family, *Mom, Dad, Sisters* and my addiction to *caffeine*.

To my friends, *Salsabil, Islam, Ines and Aymen*

Who are so lucky to have me as a friend.

And to my beloved *2020* for being kind to us by letting us survive to this moment.

Abdel-Ghafour

## **Acknowledgment**

I would like to start by extending my sincere gratitude to my mentor Dr. Imen Haddad whose support, wise guidance, time, and constructive criticism enabled me to fulfill this work.

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It goes without saying that I'm profoundly grateful to all my teachers that contributed significantly into enriching our knowledge, all the administrative staff as well as the entire faculty of EHEC for accompanying us throughout this journey, and providing us with the best means possible in order to launch us into the professional world with the necessary knowledge.

## **Abstract**

Risk, Supply Chain, Performance, Organizations and Management these jargons are familiar to all those who are in the business field or at least have a minimum knowledge of it. Thousands of books, studies and articles are out there treating up to the finest detail each one of these terms individually or combined with one or two others (Supply chain management, Risk management, Risks in organizations, Supply chain performance, etc.); However, finding the whole package used to be scarce if not unattainable until Covid-19 era.

At the beginning of the year 2020 Corona virus took over China then the whole world in nearly no time and since the nature of Risk is marked with vagueness and abundance in matter of links and relations that have to be separately treated to mitigate it and the speed in which the virus outbreak happened; companies with no SCRM strategies still to this moment unable to catch up with the new market's dimensions, which led to disruptions in supply chains' performance globally.

SCRM is integral to Unilever's strategy, its success as an organization depends on its ability to identify and exploit opportunities regardless to the risk that may occur. Through this work, we will be able to see firsthand the impact of adopting SCRM strategies during the Covid-19 worldwide pandemic on the performance of the SCs.

**Keywords:** Supply chain, Risk, Supply chain risk management, Performance, Covid-19.

## Résumé

Risque, Chaîne logistique, Performance, Organisations et Management; ce jargon qui semble très familier aux gens du domaine du commerce ou qui en ont la moindre une connaissance. On en trouve des milliers de livres, d'études et d'articles traitant les détails de chacun de ces termes comme phénomène simple ou en combinaison avec un ou deux autres (exemple : gestion de la chaîne logistique, gestion des risques, risques dans les organisations, performance de la chaîne d'approvisionnement, etc.) ; Cependant, étudier plusieurs données comme un ensemble était presque inexistant, voire introuvable jusqu'à l'ère Covid-19.

Au début de l'année 2020, le virus Corona a envahi la Chine puis le monde entier en un rien de temps et puisque la nature du risque est marquée par l'imprécision et l'abondance en matière de liens et de relations qui doivent être traités séparément pour l'atténuer et la vitesse dans lequel l'épidémie de virus s'est produite; les entreprises sans stratégie SCRM encore à ce moment incapables de rattraper les dimensions du nouveau marché, ce qui a conduit à des perturbations dans les performances des chaînes logistiques à l'échelle mondial

La SCRM fait partie intégrante de la stratégie d'Unilever, son succès en tant qu'organisation dépend de sa capacité à identifier et à exploiter les opportunités indépendamment du risque qui peut survenir. Grâce à ce travail, nous serons en mesure de voir principalement l'impact de l'adoption de stratégies SCRM pendant la pandémie mondiale Covid-19 sur les performances des SC

**Mots clés:** Chaîne logistique, Risques, Gestion des risques de la chaîne logistique, Performance, Covid-19.

## ملخص

المخاطر، سلسلة التوريد، تقييم كفاءة الأداء، الشركات والإدارة. لا تخفى على القاصي والداني ماهية ما سبق ذكره من مصطلحات؛ يكفينا المبادرة بالبحث عن إحداهما لتتراءى لنا آلاف الكتب، الدراسات والمقالات التي تعالج بأدق التفاصيل كل مُفردة سبق ذكرها مستفردة أو مرفقة بغيرها (إدارة سلسلة التوريد، إدارة المخاطر، المخاطر ضمن نطاق الشركة، أداء سلسلة التوريد... الخ)؛ ومع ذلك في وقت ليس ببعيد كان العثور على الحزمة بأكملها يعد بعيد المنال إن لم يكن مستحيل الوجود حتى عصر جائحة كورونا.

مطلع سنة 2020 سيطر فيروس كورونا على الصين ثم العالم بأسره في وقت قياسي؛ وبما أن ما يميز المخاطر هو اتسامها بالغموض وتعدّد الصلات والعلاقات التي يجب معالجتها بشكل منفصل للتخفيف من حدتها، إلى جانب السرعة التي تفشى فيها الفيروس؛ كل الشركات التيلم تعتمد استراتيجيات إدارة مخاطر سلسلة التوريد SCRM مسبقا هي حتى الآن غير قادرة على مواكبة أبعاد السوق الجديدة؛ مما أدى إلى حدوث اضطرابات في أداء سلاسل التوريد على مستوى العالم.

تعتبر Unilever استراتيجيات إدارة مخاطر سلسلة التوريد جزءاً لا يتجزأ من إستراتيجيتها؛ كون نجاحها يعتمد على قدرتها على تحديد الفرص واستغلالها، بغض النظر عن المخاطر التي قد تطرأ خلال سعيها لأهدافها. لذلك ومن خلال هذا العمل، سوف نتمكن من رؤية تأثير تبني استراتيجيات إدارة مخاطر سلسلة التوريد أثناء جائحة كورونا التي مست العالم على أداء سلاسل التوريد.

**الكلمات المفتاحية:** سلسلة التوريد المخاطر، الإدارة مخاطر سلسلة التوريد تقييم كفاءة الأداء، إفيروس كورونا.

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## List of Abbreviations

<b>Abbreviation</b>	<b>Full expression</b>
<b>CSCMP</b>	The Council of Supply Chain Management Professionals
<b>S&amp;OP</b>	Sales and Operational Planning
<b>CF</b>	Collaborative forecasting
<b>Covid-19</b>	Corona Virus Disease 2019
<b>CRM</b>	Customer Relationship Management
<b>CSR</b>	Supply Chain Risk
<b>ECR</b>	Efficient Consumer Response
<b>IRCG</b>	International Risk Governance Council
<b>LSHW</b>	Law on Safety and Health at Work
<b>NCPD</b>	National Council of Physical Distribution Management
<b>RM</b>	Risk management
<b>RMV</b>	Risk management vocabulary
<b>RSCM</b>	Responsible SCM
<b>RTV</b>	Risk threshold value
<b>SC</b>	Supply chain
<b>SCM</b>	Supply chain management
<b>SCR</b>	Supply chain risk
<b>SCRM</b>	Supply chain risk management
<b>ASLOG</b>	Association of Company Logisticians
<b>WFH</b>	Work from home
<b>WHO</b>	World health organization

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## **General introduction**

### **General introduction:**

The supply chain field represents a crossroad for complex collaborations and coordination between a large number of actors (distributors, suppliers, producers, retailers, logistician, and planners) allied to optimize deferent flows along the chain. Due to these activities different multifaceted risks are automatically generated in the process which makes the supply chains significantly vulnerable. The sensitivity of the latter and the increasing efforts for an efficient deployment of activities (lean culture orientation) come up against a milieu riddled with multifaceted impediments.

Countless numbers of activities are performed and coordinated within a company, and each company is inherently involved in a supply chain in which participate other companies or partners; yet between partnership and competition there is a heavy burden in improving the supply chains' efficiency. The aspiration of obtaining a competitive advantage by seeking low costs and fast movements of flows led to the emergence of new tools and methods designed to satisfy this need; However, these practices doesn't come without a cost; notably they fragile the capacity of problems' anticipation which augments the supply chain's susceptibility to disruptions.

One company's supply chain can never be dragged away from that of other companies, when business affairs are established between two separate groupings, some of their internal activities will be linked and managed between the two legally distinct units. A relationship between two companies is therefore a type of link that can be conceived as a supply chain network. Indeed, the more interveners the higher the performance but with it comes higher dependency on others' performance and higher sensitivity to events that are beyond a company's territory. For example, new taxes on export in a country that exports raw materials can affect manufacturers' internal activities in a different country, which in turn can affect the entire supply chain going through distributor, retailer and finally customers.

According to Dr.Dawei Lu(2011)“*A supply chain is basically a group of independent organizations connected together through the products and service that they separately and/or jointly add value on in order to deliver them to the end consumer*”<sup>1</sup> it is why business issues are no longer seen as singular realities but as the outcome of different interactions between groupings sharing common interests. Due to this it appears an increasingly growing desire to make the supply chain a node of corporate relations for a better creation of value

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<sup>1</sup>LU(D): “*Fundamentals of supply chain management*”, Lu and Vents publishing, 2011, P. 08

with a transversal integrative vision, where competition is no longer done at inter-company level but rather inter-chain competition.

To improve their competitiveness, several companies have embraced supply chain risk management to mitigate disruptions that could come between them and their aims in increasing efficiency and achieving certain organizational goals such as improvement of customer value, and the proper use of resources.

For that, we decided to formulate this research aiming mainly to investigate the performance of a company's SC in before and after the use of SCRM strategies in a general manner and from the perspective of UNILEVER in consumer goods industry in a more thorough way by using qualitative analysis to highlight the importance of implementing risk management strategies to this industry to increase the minimis loses from one side, and obtains a competitive advantage on the other. As a result, the overall question study to which this thesis will answer:

**“How does the use of supply chain risk management strategies impact the performance of a company's SC?”**

For better encircling of the latter, we considered that it would be useful if we break it up into:

**Question 1:** in which way the prevention of the several SC risks through SCRM helps the company?

**Question 2:** can SCRM strategies be considered a competitive advantage?

**Question 3:** what are the consequences of the use of risk management strategies on the performance of supply chains?

These sub-questions have led us into formulating initial research hypotheses, depending on prior personal perception and initial research, we have been able to conceive three main assumptions:

**H1:** The prevention of the several SC risks through SCRM helps the company in:

- Promoting Business Continuity;
- Improving Supply Chain Visibility;
- Bounding Supplier Relationship Management;

**H2:** The use of risk management strategies is a tool for increasing value, efficient operations management, brand image replenishment, talents retention. Thus, competitive advantage.

**H3:** the use of SCRM positive influences the performance of the SC by mitigating Risk that could lead to its disruption.

In addition, we have established a list of objectives that we want to achieve through our research work:

- Understand the SCRM and its related concepts.
- Identify the tools and techniques used in mitigating SC risk.
- Understand the relationship between SCRM and the performance of SCs.
- Reveal the consequences that could be generated due to the absence of SCRM strategies.

To verify the affirmation or the cancellation of the previous assumptions, we will adopt the following methodology:

In-depth documentary research, through the consultation of several books, articles, specific websites as well as academic works related to our subject of study, also internal documents of the company,

Keeping in mind the nature of the study, it seemed convenient to adopt a both descriptive and analytical approach through a qualitative study chosen according to this research's objectives, and that had as a purpose to collect maximum data through interviews held with managers at Unilever Algeria.

And finally, to accomplish our research, we will structure our work in three chapters:

### **The first chapter:**

Is devoted to supply chain risk management, which firstly presents a general presentation of supply chain management, then generalities about Risk and SC risk, and finally we will conclude the chapter by viewing different aspects of Supply Chain Risk Management.

### **The second chapter:**

It tackles down the existing links between the performance and the management of risk in Supply chain throughout three sections respectively: key performance indicators, The Impact of Supply Chain Disruptions on Performance, and finally the relationship between the mechanisms of SCRM and the performance of the SCs.

### **The last chapter:**

It provides an overview of the current state of SCs around the world following the pandemic we are witnessing today, and then highlights the impact of using SCRM strategies on SCs performance; more precisely in the case of Unilever Algeria in the consumer goods sector including the presentation of the company, the methodological approach and the presentation of the results.

Nevertheless, we can only say that the current situation of Covid-19 was a double edge, on one hand the mandatory quarantine that came as a result of the pandemic attenuation protocols inhibited students around the world from join their internship sites which on its turn made the access to needed information more challenging than it already is. But on the other and while preparing the theoretical parts of these dissertation we learnt that in difficult times such as the one we are living today; resilience and fast adaptation is all we need to overcome risk and difficulties, in a matter of a fact we concluded that if challenges were well handled; it is possible to convert their negative affect to a positive one.

To this end we decided to embrace the Risk generated and choose Covid-19 outbreak as an incubator of our case study since the latter affected SCs around the world and emphasized on the need of SCRM strategies, allowing us to see a day to day examples of its effects on SCs' performance when adopted and when not.

**Chapter 01: Conceptual analysis of the management of supply chains and supply chains risk**

### **Introduction of the chapter**

In this first chapter, we will discuss the basic concepts related to SCRM through three sections: the first section is intended to cover all SC and SCM related concepts. In the second section we will discuss Risk in general and supply chain Risk in particular by analyzing its types and inducers. Finally, in the last section, we will focus on SCRM strategies by studying the deferential methods and approaches that are present in the literature and are believed to mitigate risks within the supply chain.

## **Section 01: Fundamentals of Supply Chain Management**

In modern times, a company's level of service reflects its supply chain level of performance. In fact, we do not always wonder about the role that the supply chain function plays in our daily lives, because fortunately we are used to finding the desired product on supermarket shelves, receiving the right order on time and even ordering a customized product if necessary, etc. Furthermore, the term cannot be easily narrowed down as it covers a wide range of interpretations; It can range from a simple transportation operation to an interdisciplinary science combining engineering, micro-economics and organizational theory.

### **1. Logistics concept: History and definition**

The purpose of this subsection is to give a brief presentation of the history of the logistics' concepts and the overtime evolution which allowed it to take a prominent place in the management of companies.

#### **1.1. Historical development of logistics**

The origin of the term logistics comes from the Greek word "logistikos" which means the art of reasoning and calculation<sup>1</sup>. Logistics first appeared in the military context and represents everything that is necessary (physically) to enable strategic and tactical decisions (transport, stocks, manufacturing, procurement, and handling) to be applied in the field<sup>2</sup>. Today, the term is used in a variety of interpretations and fields and its usage is not exclusively limited to the military field.

According to Ezzat (2019) logistics passed through four historical fazes as next:<sup>3</sup>

##### **1.1.1 Logistics 1.0:**

The rise of the term Logistics 1.0 was related to military applications only and moved to commercial organizations during the 1960s. However, it focused solely on optimizing the transportation and movement of goods.

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<sup>1</sup>HOU (H), CHAUDHRY (S), CHEN (Y) et al: "*Physical distribution, logistics, supply chain management, and the material flow theory: a historical perspective*". Inf Technol Manag, N°18, (2017), pp. 107–117.

<sup>2</sup>FOLTIN (P)et al: "*Discrete Event Simulation in Future Military Logistics Applications and Aspects*". In: Modelling and Simulation for Autonomous Systems, édité par Mazal (J), vol. 10756, Springer International Publishing, 2018, P.412.

<sup>3</sup>EZZAT (M), KASSEM (S), ABD ELKADER (M): "*Logistics 4.0: Definition and Historical Background*". In: Novel Intelligent and Leading Emerging Sciences Conference (NILES), Giza, Egypt, 2019, pp. 46-49,

### 1.1.2 **Logistics 2.0:**

Industry 2.0 in the 1960s recognized the importance of mass production, which required the automation of goods handling, considered a development in the field of logistics and called "Logistics 2.0".

### 1.1.3 **Logistics 3.0:**

In 1968, the third industrial revolution began with the manufacture of the first industrial robot. It was also at this time that numerically controlled (NC) machines were introduced into the industry. On the logistics side, the third logistical revolution occurred with the so-called "logistics management systems".

### 1.1.4 **Logistics 4.0:**

It is seen as a strategic technology direction that incorporates different types of technologies to increase both the effectiveness and efficiency of the supply chain, moving the focus of organizations towards value chains, maximizing the value provided to consumers as well as to customers by increasing levels of competitiveness. This is achieved by augmenting levels of transparency and decentralization between the different parties through digitization.

Furthermore, logistics is constantly growing and undergoing various upheavals due to the integration of new aspects such as sustainable development, green logistics, globalization of actors, and globalization of activities, etc. With this globalization, supply chains can cross seas and continents from the places where raw materials are extracted to the final consumer and back to the producers to be recycled (Reverse logistics). As a counterpart to this globalization, the instability of supply and the multiplicity of types of ruptures throughout the supply chain have increased. This requires specific measures to estimate, solve and cope with these different challenges.

## **1.2. Definition of logistics**

The fundamentals of the logistics concept have remained the same; however, evolution is unquestionable and necessary as society is constantly evolving. The stakes have changed over the years, economic changes and changes in daily life are numerous and have been followed by several changes to which companies must adapt and become reactive to.

In short, logistics can be defined as a management method that encompasses all the physical operations of a given company. As early as 1948, the American Marketing Association committee defined logistics as the movement and handling of goods from the

point of production to the point of consumption or use<sup>1</sup>. This logistics approach only takes into account the transport and distribution part.

In 1962 the NCPDM (National Council of Physical Distribution Management) proposed this definition for logistics: *"A term used in industry and commerce to describe the wide range of activities necessary to achieve the efficient movement of finished products from the point of sale in production lines to the consumer, which in some cases includes the movement of raw materials from their suppliers to the beginning of production lines. These activities include the transportation of goods, warehousing, handling, packaging and inventory control, plant and warehouse location, order processing, market forecasting and customer service"*<sup>2</sup>.

Compared to the previous definition, in addition to the extension of physical tasks, it includes market forecasting, customer service and the choice of plant and warehouse location which is a strategic decision.

The Association of Company Logisticians (ASLOG) has defined logistics as *"All activities aimed at setting up, at the lowest cost, a quantity of product, at the place and at the time where a demand exists. Logistics therefore concerns all operations determining the movement of products such as: location of factories, warehouse, supply, physical management of semi-finished product (work in progress), packaging, storage and inventory management, handling and preparation of orders, transport and delivery rounds"*<sup>3</sup>. This definition resembles the definition in NCPDM (1962), but it does not cover after-sales service and product recycling.

In summary, we can say that logistics corresponds to the management of financial, informational and physical flows that the company will encounter. Logistics is essential for the firm because it is the latter that will allow the optimization of resources and reduction of costs.

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<sup>1</sup>TIXIER (D), HERVÉ (M) and COLIN (J) :« *la logistique d'entreprise; vers un management plus compétitif, 2ème édition enrichie et mise à jour* », Dunod, Paris, 1998,p:09.

<sup>2</sup><https://www.clicours.com/definitions-et-enjeux-de-la-logistique/>consulted on 10/02/2020 15:34

<sup>3</sup>Ibid,p:09.

### 1.3. The different types of logistics

We can distinguish several different logistics by their object and their methods<sup>1</sup>:

**Supply logistics:** Which makes it possible to bring to the factories the basic products, components and assemblies required for production.

**Manufacturing logistics:** This consists of bringing the materials and components needed for production to the production lines and planning the production.

**Military logistics:** aimed at transporting forces and all that is necessary for their operational implementation and the support of a theatre of operation.

**After-sales service:** similar to support logistics, but carried out in a commercial context by the person who sold a good.

**A general supply logistics:** Which makes it possible to bring to service companies or administrations the various products they need for their activity

**Distribution logistics:** that of the distributor, which consists in bringing to the final consumer.

**Support logistics:** consists of organizing everything necessary to keep a complex system in operation, including maintenance activities.

**Reverse logistics:** also known as "retro-logistics" or "return logistics."

We can clearly tell that there was a lot of different logistics until the concept of Supply Chain came to bring some unity in this area.

A convenient distinction is often made between flow, production and distribution logistics on the one hand, and support logistics on the other. These two categories of logistics have very different characteristics, the first being more related to production management, marketing and sales techniques, the second being more related to methods of maintenance and spare parts management, particularly developed in the military field or in the maintenance of technical equipment<sup>2</sup>.

To this end, we can say that logistics is the efficient management of a company's physical and information flows in order to satisfy the customer. Consequently, logistics in the broadest sense aims at regulating and optimizing the physical flows from suppliers to customers. This globalization of logistics brings us to the concept of supply chain management which is logistics as we know it today.

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<sup>1</sup> <https://bizfluent.com/13658757/the-supply-chain-management-process-and-its-main-components> consulted on 11/02/2020 15:45

<sup>2</sup> <https://www.thefreedictionary.com/logistic+support> consulted on 11/02/2020 16:00

## **2. The Supply Chain**

An early study conducted by Ross (2015) where he stated that the structuring of today's companies in the form of supply chains is justified by the incessant search for strategic orientations in order to remain competitive, tending to focus on the core business (real know-how) and to subcontract other tasks (product design, manufacturing, marketing, distribution, etc.) to competent partners (suppliers, subcontractors)<sup>1</sup>.

The supply chain is commonly defined as “*A network between a company and its suppliers to produce and distribute a specific product to the final buyer. This network includes different activities, people, entities, information, and resources. The supply chain also represents the steps it takes to get the product or service from its original state to the customer.*”<sup>2</sup> To better understand this definition we decided to discuss the main foundations of a supply chain, starting by considering the different definitions of supply chains from deferent authors and researchers points of view and finally stating our own definitions of supply chain.

### **2.1. Structure of a Supply Chain**

Because the chain can vary considerably between deferent industries and companies, its structure can be designed from a very simple connection that includes the raw materials obtained from the supplier, transformed into finished goods in specific stages and then distributed to the customer<sup>3</sup> (Fig n°1.1). However, in real situations supply chains have many end products with common components, facilities, and capacities. The flow of materials is not always in the shape of an arbore cent because variety of transportations mode (land (road, rail, and pipelines), water (shipping), and air.) can be incorporated.

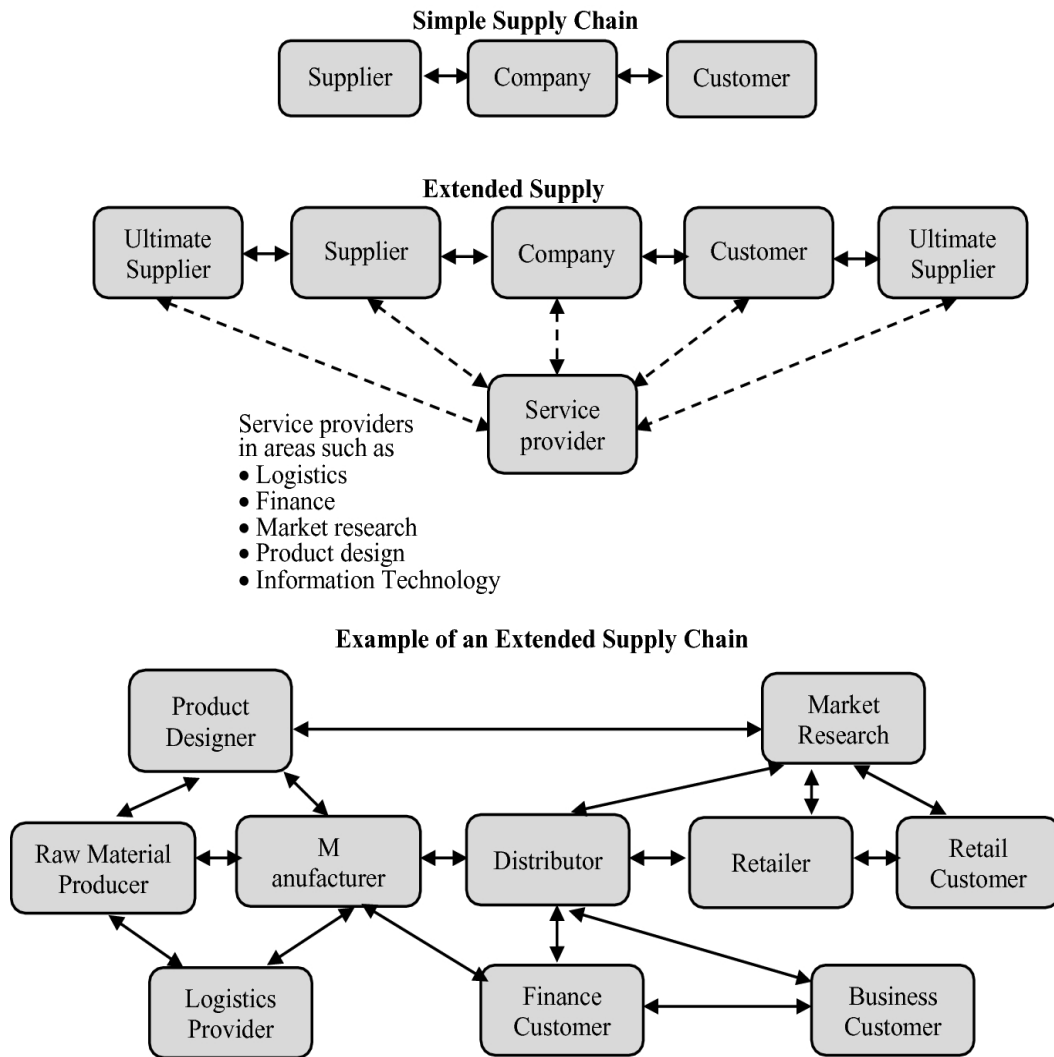
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<sup>1</sup> ROSS (D): “*Managing in the Era of Supply Chain Management*”, Publisher Springer, US, 2015, P.29

<sup>2</sup><https://www.investopedia.com/terms/s/supplychain.asp> consulted on 11/02/2020 20:00

<sup>3</sup>MAT (R), SAIDON (M), AB GHANI (N): “*Japanese Food Company Supply Chain in Malaysia: Its Structure and Risk Management Strategies.*” In: SAIDON (I), SAID (R): *Ethics, Governance and Risk Management in Organizations. Accounting, Finance, Sustainability, Governance & Fraud: Theory and Application.* Publisher Springer, Singapore, 2020, P. 154

**Figure n°1.1: Supply chain structure and its components**



Source: Mat Radzi R., Saidon I.M., Ab Ghani N. (2020)<sup>1</sup>

## 2.2. Supply Chain Management

Many researchers are studying the supply chain but each one of them observes it from a single angle. In other words, they propose a definition according to the discipline from which it comes and the objectives that guides its analysis. We propose to group together in a single table (Table n°1.1) few definitions from the literature in order to compare the main points of view of the authors and to extract the essential characteristics of a supply chain<sup>2</sup>:

<sup>1</sup> Ibid, P.155

<sup>2</sup> FELEA (M), ALBĂSTROIU (I): “Defining the Concept of Supply Chain Management and its Relevance to Romanian Academics and Practitioners”, in: Amfiteatru Economic Journal, Bucharest, N°15, 2013, pp. 74-88 p:80

**Table N°1.1:** Some definitions of the supply chain

<i>Authors</i>	<i>Definition of the Logistics Chain</i>
<i>Oliver (1982).</i>	SCM is the process of planning, implementing, and controlling the operations of the supply chain with the purpose to satisfy customer requirements as efficiently as possible.
<i>Tan (1998)</i>	SCM encompasses materials management from the supply of basic raw materials to final product. It focuses on how firms utilize their suppliers' processes, technology and capability to enhance competitive advantage.
<i>Bowersox (2002)</i>	SCM consists of firms collaborating to leverage strategic positioning and to improve operating efficiency. For each firm involved, the supply chain relationship reflects strategic choice.
<i>Sweeney (2007)</i>	SCM is the systemic, strategic coordination of the traditional business function and tactics across these business functions within a particular company and across business within the supply chain, for the purpose of improving the long-term performance of the individual companies and the supply chain as a whole.
<i>Krajewski, (2007)</i>	SCM consists of developing a strategy to organize, control and motivate the resources involved in the flow of services and materials within the supply chain.
<i>Bozarth (2008)</i>	SCM is the active management of supply chain activities and relationships in order to maximize customer value and achieve a sustainable competitive advantage.
<i>Simchi (2008)</i>	SCM is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantity, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements.
<i>Wisner, (2012)</i>	SCM is the integration of trading partners' key business processes from initial raw material extraction to the final or end customer, including all intermediate processing, transportation and storage activities and final sale to the end product customer.

Source: FELEA (M), ALBĂSTROIU (I), (2013)

A review of the SCM literature reveals that there are many perspectives on supply chain management, but academic textbooks and researchers in the field of logistics and supply chain

management generally adopt the definition of the Council of Supply Chain Management Professionals (CSCMP) as follows:

*“Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, and all logistics management activities. It also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers.”<sup>1</sup>*

### **2.3. Supply chain flows**

The activities carried out within a supply chain are very diverse. They can be structured according to the nature of the flow to which they relate (Figure n°1.2). Thus, we distinguish five different flows:<sup>2</sup>

#### **2.3.1 The production flows:**

The product flow involves the movement of goods from supplier to consumer (internal and external), as well as the processing of customer service requirements such as raw materials or consumables or services such as household. The product flow also includes returns/rejects (reverse flow).

#### **2.3.2 The financial flows:**

The financial and economic aspects of SCM are examined from two perspectives, first, from a cost and investment perspective and second, from a financial flow perspective.

#### **2.3.3 The information flows:**

Supply chain management involves a large amount of diverse information: bills of material, products data, descriptions and prices, inventory levels, customer and order information, delivery schedules, supplier and distributor information, delivery status, sales documents, title of goods, current cash flow and financial information, and so on.

#### **2.3.4 The value flows:**

A supply chain entails a series of value creation processes running along the entire chain in order to deliver added value to the final consumer. At each stage, there are physical flows related to production, distribution; while at each stage, there is some addition of value to the products or services.

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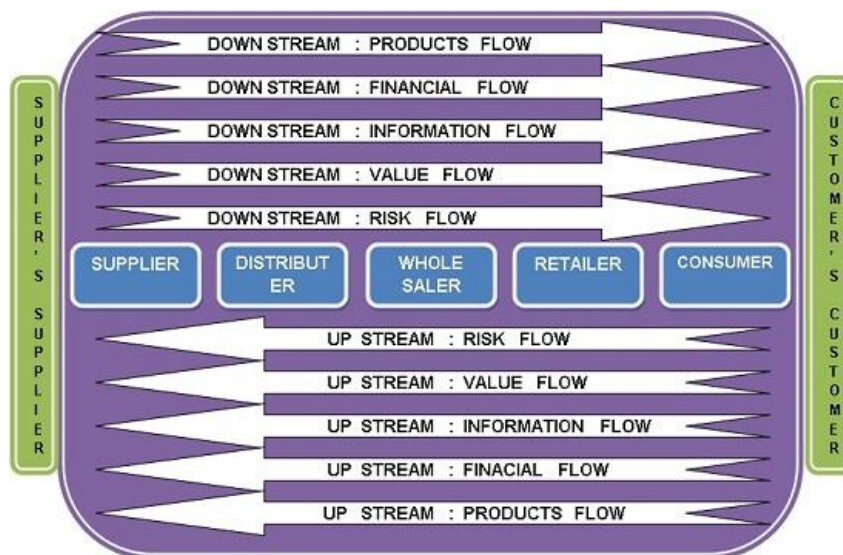
<sup>1</sup>[https://cscmp.org/CSCMP/Educate/SCM\\_Definitions\\_and\\_Glossary\\_of\\_Terms.aspx](https://cscmp.org/CSCMP/Educate/SCM_Definitions_and_Glossary_of_Terms.aspx) consulted on 13/02/2020 17:27

<sup>2</sup><https://brandalyzer.blog/2016/03/23/the-five-major-flows-in-supply-chain/> consulted on 13/02/2020 17:54

2.3.5 The flows of risk:

Risks in the supply chain are driven by a wide range of uncertain elements largely covered by demand, supply, price, lead times, etc. Risks can therefore take the form of any kind of disruption, price volatility and the perception of poor product or service quality, process or internal quality failures, deficiencies in physical infrastructure, natural disasters or any event that damages the company's reputation. Risk factors also include cash flow constraints, inventory financing and delays in cash payments. Risks may be external or internal and may change in either direction depending on product, financial, information or value flows.

Figure N°1.2: Supply chain and associated flows



Source: [brandalyzer.blog](http://brandalyzer.blog)

These flows also depend on the function of the partners (suppliers, producers, distributors, retailers and customers.) carrying them out seeks to meet common objectives (minimizing overall costs, improving customer service level) defined at the network level while maximizing local profit.

In the light of these last elements, we suggest the following definition:

*The supply chain can be considered as a set of networked activities, including different partners, coordinated by exchanged material and information flows, aimed at best satisfying customers' needs.*

### **Conclusion**

During the preparation of this first section, it was noted that logistics is one of the major elements of the supply chain, or global supply chain. This includes all the functions involved in satisfying consumer demand, and given the complexity of supply chains. Supply chain management ensures the organization of all activities that have a direct and considerable influence on the company's performance and ensures close collaboration with the various logistics players. This makes it an essential element in the strategy of organizations.

## Section 02: The notion of risk and risk in supply chain

The notion of risk occupies an important place in the supply chain. Risk management is made up of a set of concepts, approaches and tools intended to identify, assess, control and monitor risk throughout the supply chain. This section aims to present the problem of risk in the context of the supply chain. Where we will be defining the basic concepts of risk and the different types of risk in the supply chain.

### 1. Definitions and types of risks

#### 1.1. Risk - an overview

A large range of definitions have been proposed to define the concept of risk in general so in this section we decided to select the most appropriate among them.

"*Resecum*" is the Latin origin of the term risk which meant in that era "what cuts" as a sign of a danger<sup>1</sup>. In the 14<sup>th</sup> century the word was somehow exclusively used in the field of maritime insurance, as for today, this notion has been applied in several areas, particularly those affecting the activities of companies such as: economic risks, ecological, technological, health, and natural risks, etc.

Among the listed definitions of risk, we quote that of ISO / IEC Reference Guide which defined risk as "*combination of the probability of occurrence of harm and the severity of that harm*"<sup>2</sup>. Therefore, risk is the combination of several factors such as the likelihood of the risk occurrence, its occurrence and its resulting. It is always dealt with risk in a negative sense, although this notion has two faces: One pessimistic, assuming risk as a cause of loss and waste, and another rather optimistic, considering risk as exposure to danger in the hope of gaining an advantage and applying the dare-to-win principle.<sup>3</sup>

Within a project, risk is theoretically considered to be any possible deviation from the goal and purpose of the operations. Typically, risk is associated with other words such as "unfamiliar", "unforeseeable" and "unsure". Our everyday life is full of unpredictable circumstances, some with positive or negative effects. Likewise, any project operation, such

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<sup>1</sup> DROESBEKE (J), SAPORTA(G) :« *Approches statistiques du risque* », Ed° Technip, Paris, 2014, P. 3

<sup>2</sup> IEC Guide 116:2010, 3.13, modified

<sup>3</sup> BS ISO 31000:2018, Risk management — Guidelines, The British Standards Institution 2018 Published by BSI Standards Limited 2018 P:1

as the transfer of materials or persons, entails uncertainty and risks. However, a number of academics have attempted to define risk more specifically:

**Table n°1.2:** Risk definition according to different authors

Author	Risk definition
<b>Lawrence 1976</b>	Risk is the measure of probability and the weight of undesired consequences
<b>Kaplan 1981</b>	Risk equals the triplet (si, pi, ci), where si is the set of scenarios, pi is the likelihood of that scenario, and ci is the consequence of the scenario, i = 1, 2, ..., N
<b>Wilson 1982</b>	Risk equals the product of probability and severity
<b>Rosa 1998</b>	Risk is a situation or event where something of human value (including humans themselves) has been put at stake and where the outcome is uncertain.
<b>MIL-STD- 882D 2000</b>	Risk is the expression of influence and possibility of an accident in the sense of the severity of the potential accident and the probability of the event
<b>RMV ISO 2002</b>	Risk is a combination of the probability and scope of the consequences
<b>IRGC 2005</b>	Risk is an uncertain consequence of an event or activity related to something of human value
<b>Campbell 2005</b>	Risk equals expected damage
<b>LSHW 2005</b>	Risk is the likelihood of an injury, disease or damage to the health of employees due to hazards
<b>Aven 2009</b>	Risk refers to uncertainty about and severity of the events and consequences (or outcomes) of an activity with respect to something that human's value
<b>RM ISO 2009</b>	Risk is the effect of uncertainty on objectives

Adopted from: Sotic, A., Pavlovic. D., Ivetic. M., (2015).<sup>1</sup>

Description of the analysis of the meanings mentioned above. Two main risk factors can be outlined; these are the "likelihood of the case" and the "consequences of the incident". Therefore, from these findings the suitable concept of risk for our research is that risk is the probability that an unknown adverse event will occur with disagreeable outcomes.

<sup>1</sup> SOTIC (A), PAVLOVIC (D), IVETIC (M): "Application of the method of shared more targeted risk in extreme events.", In Proceedings of International Conference Contemporary achievements in construction, Subotica, Serbia, (2015), pp. 527-534.

## **1.2. Understanding the impact of risk on business**

It is critical to make a distinction between risk and the potential impact of risk events. Reputational damage and business interruptions are often seen as risks when in reality they are consequences arising from risk events. Boards of directors, senior management, and internal audit may spend considerable time and resources dealing with and attempting to respond to and manage these consequences, but they may never understand or address the underlying risk, or the root cause, that led to the event.<sup>1</sup>

There are a variety of risk events that can lead to reputational damage and business disruption. For example, a cyber-attack for ransom, where hackers block access to vital information, can cripple systems until a ransom is paid. If the attack is not handled properly, the organization's reputation will probably be harmed, due to events related to cyber security, business continuity and crisis response risks.

When talking about business disruption that can result from a number of sources, the risk is not the disruption itself, but the organization's ability to move away from traditional manual practices and leverage data and new technologies to remain competitive in an increasingly complex and technology-driven environment.

With that being said, boards of directors, senior management and internal auditors ought to be alert to the potential impacts of business interruption and reputational damage. These potential impacts should be integrated into risk analyses. Particular attention should be paid to how these potential effects may vary depending on the industry and the environment in which the organization is operating

## **2. Supply chain risk**

### **2.1. Definition of supply chain risk**

A close look into the use of the term risk in general and supply chain risk in particular reveals that its meaning is far from clear. The Global Risks Report 2019 among others has recently identified that more time and effort have to be invested not only in conceptual or methodical work but first of all in the creation of a common definition and understanding of supply chain risk.<sup>2</sup>

Among the first authors to establish a supply chain risk definition were March and Shapira (1987) they define supply chain risk as the “*variation in the distribution of possible*

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<sup>1</sup><https://www.theiia.org/centers/aec/Pages/aec-podcast-onrisk-2020.aspx> consulted on 16/02/2020 17:01

<sup>2</sup>[http://www3.weforum.org/docs/WEF\\_Global\\_Risks\\_Report\\_2019.pdf](http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf) consulted on 16/02/2020 19:20

supply chain outcomes, their likelihood, and their subjective values”<sup>1</sup>. Heckmann (2014) on its turn assert that the definition of supply chain risk should reflect the potential non-achievement of business objectives due to inefficient or ineffective supply chain processes.<sup>2</sup>

According to Ho (2015) several researchers provided different definitions for supply risk, and supply chain risk as summarized in (Table n° 1.3). Although these definitions have applicability in specific fields, such as supply risk, information flow risk, material flow risk, and product flow risk, they focus on a specific function or a part of a supply chain, and do not span across the entire chain. The reason for which this author decided to define supply chain risk as: *“the likelihood and impact of unexpected macro and/or micro level events or conditions that adversely influence any part of a supply chain leading to operational, tactical, or strategic level failures or irregularities”*<sup>3</sup>

**Table n° 1.3:** Supply chain risk definition according to different authors

Authors	Definitions of supply chain risk	Scopes
Zsidisin2003	“The probability of an incident associated with inbound supply from individual supplier failures or the supply market occurring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life and safety.”	Supply risk only
Jüttner et al. 2003	“Any risks for the information, material and product flows from original suppliers to the delivery of the final product for the end user.”	Information, material, and product flow risks
Wagner and Bode2006	“The negative deviation from the expected value of a certain performance measure, resulting in negative consequences for the focal firm.”	General risks
Bogataj and Bogataj 2007	“The potential variation of outcomes that influence the decrease of value added at any activity cell in a chain.”	General risks
Ellis et al. 2010	“An individual’s perception of the total potential loss associated with the disruption of supply of a particular purchased item from a particular supplier.”	Supply risk only

Table Adopted from Ho (2015).

<sup>1</sup> MARCH (J), SHAPIRA (Z): “Managerial perspectives on risk and risk taking”. Management science, 33(11), 1987, pp.1404–1418.

<sup>2</sup>HECKMANN (I), COMES (T), & NICKEL (S): “A Critical Review on Supply Chain Risk – Definition, Measure and Modeling”, Omega, 52,2014,pp. 119–132.

<sup>3</sup>HO (W), ZHENG (T), and YILDIZ (H): “Supply Chain Risk Management: A Literature Review”. International Journal of Production Research ,53(16), (2015), 5031–5069.

The noticeable about the above definition is that deferent authors see risk within the economic field from a deferent perspective; however, risk itself within the context of the supply chain may be categorized in a number of dimensions<sup>1</sup>:

### 2.1.1 SCR Dimensions

- **Goods or services supply's disruption** or failure to providing the requested quality at right time, resulting in downtime and therefore failure to meet customer requirements in a timely manner.
- **Price instability** which can have consequences in terms of lost profits or clients.
- **Poor quality products or services**, whether upstream or downstream, can have an impact on the level of customer satisfaction, with consequences on future revenues and possibly more immediate demands for financial compensation.
- **Corporate reputation**, often generated by issues not directly related to the supply chain itself, can generate risk. For example; unanticipated comments from senior management or lack of approval of certain protocols can damage the organization's image.

From the above, we can clearly see that SCRs are sets barriers to actions taken in connection with the movement of products from their place of production or extraction (raw materials) to the final consumer. They can therefore be considered as “external, internal or environmental **uncertainty** variables which can reduce the predictability of results”<sup>2</sup>.

### 2.1.2 SCR and Uncertainty

When talking about uncertainty, Sato (2018) believes that there are three possible sources that can negatively impact the SC<sup>3</sup>: demand, quality and logistics uncertainties.

- **Supplier (logistics) uncertainty**: stands for a suppliers' poor delivery performance due to its machine breakdowns, late shipments, or bad weather conditions that delay a delivery.
- **Quality uncertainty**: The uncertainty can cause a cascading effect through a supply network until issues reach the final consumer.
- **Demand uncertainty**: irregular purchases or orders by customers. The more variable the customer orders are the more stock is required in order to meet customer demand.

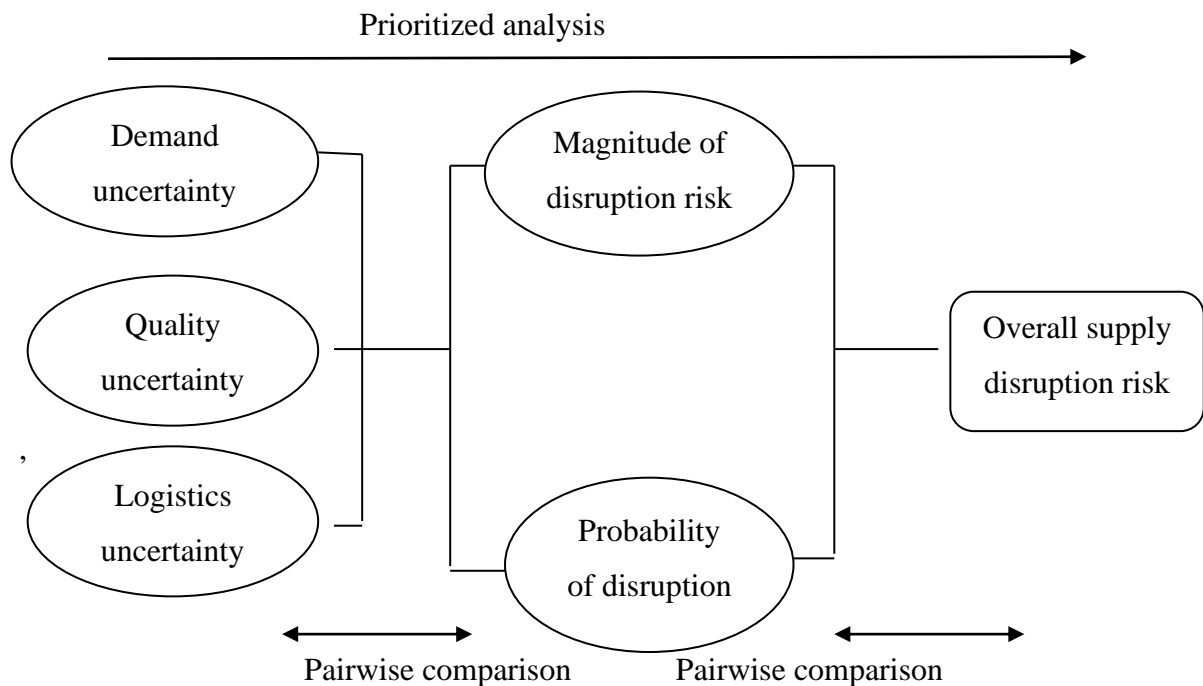
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<sup>1</sup>ZSIDISIN (A), RITCHIE (B): “*Supply Chain Risk. International Series in Operations Research & Management Science*”, by Springer US, 2009, P.56

<sup>2</sup>JÜTTNER (U), PECK (H), CHRISTOPHER (M): “*Supply Chain Risk Management: Outlining an Agenda for Future Research.*”, International Journal of Logistics : Research & Applications.6,(2003), pp.197-210.

<sup>3</sup>SATO (Y): “*Risk perception of uncertainties in supply chain.*”, in International Symposium on the Analytic Hierarchy Process conference , Hong Kong, HK. July 13 – July 15, 2018.

**Figure n° 1.3:** Refined model of supply disruption risk.



Source: Sato Yuji (2018).

**2.2. The different types and sources of supply chain risks**

Trkman, P., & McCormack, K. (2017) highlight the importance of determining the origin of risks that may be either within a chain or from the external environment<sup>1</sup>. The following tables are samples of this type of risk:

**Table n°04:** External risks of supply

Main risk	Reason analysis
<b>Natural environment risk</b>	A node enterprise in the area of disaster, leading to the normal operation of the supply chain, received impact, and even interrupt the risk
<b>Economic environment risk</b>	Macroeconomic environment may lead to the supply chain cannot operate smoothly
<b>Social environment risk</b>	The Ministry of political stability, emergencies, war and terrorist incidents
<b>Market environment risk</b>	Supply, demand change, market competition in upstream and downstream markets
<b>Legal risk</b>	Risks associated with laws and regulations, supply chain not functioning properly
<b>Policy risk</b>	The change in national policy risks the loss of all participants in the supply chain or the entire supply chain

Source: Trkman, P., & McCormack, K. (2017)

<sup>1</sup> TRKMAN (P), MCCORMACK (K): “Supply Chain Risk in Turbulent Environments—A Conceptual Model for Managing Supply Chain Network Risk.”, In International Journal of Production Economics, 2017, pp. 247-258.

**Table n°05: Internal risks of supply chain**

<b>Risk</b>	<b>Factor</b>	<b>Measures</b>
<b>Information risk</b>	Inaccurate information or misinformation transmission	Timely and accurate information transfer is the guarantee of efficient communication among node enterprises
<b>Moral risk</b>	Upstream and downstream enterprises, due to moral dishonesty	On the basis of good faith and contract as the guarantee, moral restriction is carried out
<b>Corporate culture difference risk</b>	Upstream and downstream enterprises due to cultural differences	Deal with the corporate culture and business philosophy, the same goal, deal with the impact of hidden cultural risks
<b>Partner capacity risk</b>	Supply chain, production, sale and logistics service capability	Select the right supplier as a partner, improve the ability of partners
<b>Interest distribution risk (double marginalization)</b>	The pursuit of self-interest (profit) maximization will lead to a decrease in the profits of other enterprises and a decrease in the total profits	Simulate a fair and equitable distribution of benefits, mobilize the enthusiasm of all parties, and achieve the win-win goal of maximizing the value of the supply chain
<b>Human resource risk</b>	Leadership structure and quality of staff and their instability	Strengthen training, improve staff quality, establish effective incentive mechanism to reduce employee mobility
<b>Financial risk</b>	Some core enterprises may take up a lot of money from the upstream and downstream enterprises, and if their financial instability occurs, the master will cause the capital chain to break	Strengthen financial management, transparent financial, efficient recovery of payments, guarantee supply chain liquidity
<b>Bullwhip effect risk</b>	The supply and marketing forecast, order quantity, price fluctuation, short game, inventory liability imbalances and cope with environmental variation and game in demand, increase the supplier production, supply, inventory management and marketing instability	Strengthen warehousing management, reasonably share inventory responsibility, shorten the lead time, implement outsourcing services, avoid the game in the shortage situation; refer to historical data, reduce the amount of correction, send in batches, and advance the payment period

**Source:** Trkman, P., & McCormack, K. (2017)

As mentioned above, risk in SCM is a multi-dimensional construct, and risk source is one of these dimensions. According to Jüttner (2005) supply chain risk source is “Any variables which cannot be predicted with certainty and from which disruptions can emerge.”<sup>1</sup> It is possible to find many classifications of risk types in the literature, such as the one of Talluri (2015) where he considered that risk types are limited within these factors: supply, demand, manufacturing, logistic, information, environmental risk and financial<sup>2</sup>.

Supply chain risks and risk sources can't be alike in every existing company; generally, they are identified through involving all the stakeholders of the supply chain. For example, a risk that we call “R” it can be drastic for one company and can also be preserved for another as a daily issue that doesn't need much efforts and planning to deal with. The reason for which each company is supposed to create its own list of potential risk that may disrupts supply chain and affect its functionality and with every potential risk the company is supposed to find an efficient plan to mitigate the damage that may result from this risk.

## **Conclusion**

Considering the information above, it is possible to conclude that the chains is more complex than it looks like, and the events that could affect the supply or the demand side are not anymore caused just by seasonal or capacity disruptions. The environment, along this time, is not anymore understood just as something external to the supply chain like an economic, political or social event. This risk is now also caused by natural calamities and terrorist attacks.

The global reach of trade and the sophistication of today's SC made the mastery of this last beyond the boundaries of a single company or industry. Each action generates a snowball effect, which increases and spreads more and more rapidly, a small break in a single supplier, can have consequences for the global economic system and shack the business of companies.

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<sup>1</sup> JÜTTNER (U): “*Supply chain risk management.*”, Int. J. Logist. Manag. 16(1), (2005), 120–141.

<sup>2</sup> HO (W), ZHENG, (T), YILDIZ (H): “*Supply chain risk management: a literature review.*” Int. J. Prod. Res. 53(16), (2015), pp.5031–5069.

### **Section 03: The supply chain risk management: identification, evaluation, analysis and treatment**

The previous section helped to define the concepts of risk and supply chain risk. Following this logic, this section questions the concept of risk management in supply chain by focusing on its definition, its evaluation but especially the analysis of the contours of its multiple facets within organizations.

#### **1. Supply Chain Risk Management (SCRM): theoretical foundations**

Although Supply chains involve many opportunities to gain the benefits from, but they also involve various uncertainties and risks that managers face in supply chains. The environment of production and supply chain transactions has changed greatly in recent years. This change is due to increased complexity driven by globalization, delocalization, high transportation charges, poor infrastructure, weather-related disasters, and terrorist threats.<sup>1</sup> Thus, managing a supply chain with a view to gaining a competitive advantage has become even more challenging and complex.

SCRM is a fairly new research area which has caused many researchers interest since it can improve the performance of supply chain as a whole according to previous researchers in the field. It aims at developing approaches to identify, to assess and analyze the areas of vulnerability and risk in supply chains related to different industries.<sup>2</sup> A structured and integrated risk management process has become a central part of the daily business of organizations in various sectors. Hence, several standards and frameworks have been formulated, for example, ISO 31000 (2009), ISO/IEC 27005 (2011), NIST SP800–30, COBIT 5 for Risk, etc. these standards provide methodologies and guidelines for businesses to implement such a risk management process.<sup>3</sup>

For Jüttner (2005), the SCRM is the identification and management of supply chain risks through a coordinated approach between its members in order to reduce the overall vulnerability of the supply chain<sup>4</sup>. Delesse (2010) characterizes the SCRM as "a systematic approach used to determine the best path to take in the event of uncertainty, by identifying,

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<sup>1</sup> HAMDY (F), GHORBEL (A), MASMOUDI (F) et al: "Optimization of a supply portfolio in the context of supply chain risk management: literature review", J Intell Manuf 29,(2018), pp.763–788.

<sup>2</sup> FAZLI (S), KIANI (R), VOSOOGHIDIZAJI (M): "Crude oil supply chain risk management with DEMATEL–ANP." Oper Res Int J 15, (2015), pp. 453–480.

<sup>3</sup> SCHAUER (S), POLEMI (N) & MOURATIDIS (H): "MITIGATE: a dynamic supply chain cyber risk assessment methodology." J Transp Secur 12, (2019), pp. 1–35.

<sup>4</sup> JÜTTNER (U): "Supply chain risk management: Understanding the business requirements from a practitioner perspective". The International Journal of Logistics Management, 16(1), (2005), pp.120-141.

assessing, understanding and communicating the questions related to risks and taking action against them."<sup>1</sup> This can be materialized by the adoption of contingent planning and an agile and resilient supply chain. Managing risks would therefore amount to initiating a serene framework within which managers will develop skills capable of anticipating unpredictable events also known as resilience.

DuHadway (2019) believes that "*The ability to recover from an intentional disruptions based on a firm's ability to restructure its supply chain, while the ability to recover from an inadvertent disruption is based on a firm's ability to return to the previous state of a supply chain, often termed resilience within the supply chain literature*".<sup>2</sup> The acquisition of these skills necessarily requires the adoption of emergency planning which offers the company the possibility of reacting to uncertain situations.

From the above, the definition of Tang (2006a) adopted by Musa (2012) according to which the SCRM is perceived as "*the management of supply chain risks through coordination or collaboration among the supply chain partners so as to ensure profitability and continuity.*"<sup>3</sup>, seems more relevant in the context of this research work.

## **2. Identification and assessment of supply chain risks: diverging approaches**

According to Ruel (2011), companies adopt two types of strategies in front of crisis: they could first respond in the short run by implementing solutions that allow them to quickly solve the problems. Or manage their organizations, practices and systems through a learning process that will allow them to adapt more easily to other critical situations<sup>4</sup>.

Rangel (2015) proposed 5 stages to manage risk in Supply chain: risk identification, risk assessment, risk management, risk monitoring, organizational and personal learning including knowledge transfer. While the most recent proposition was by Elock Son (2018) where he proposed to manage risk within the supply chain under six stages, reporting that the authors are unanimous on risk identification as preliminary to any process of its management.

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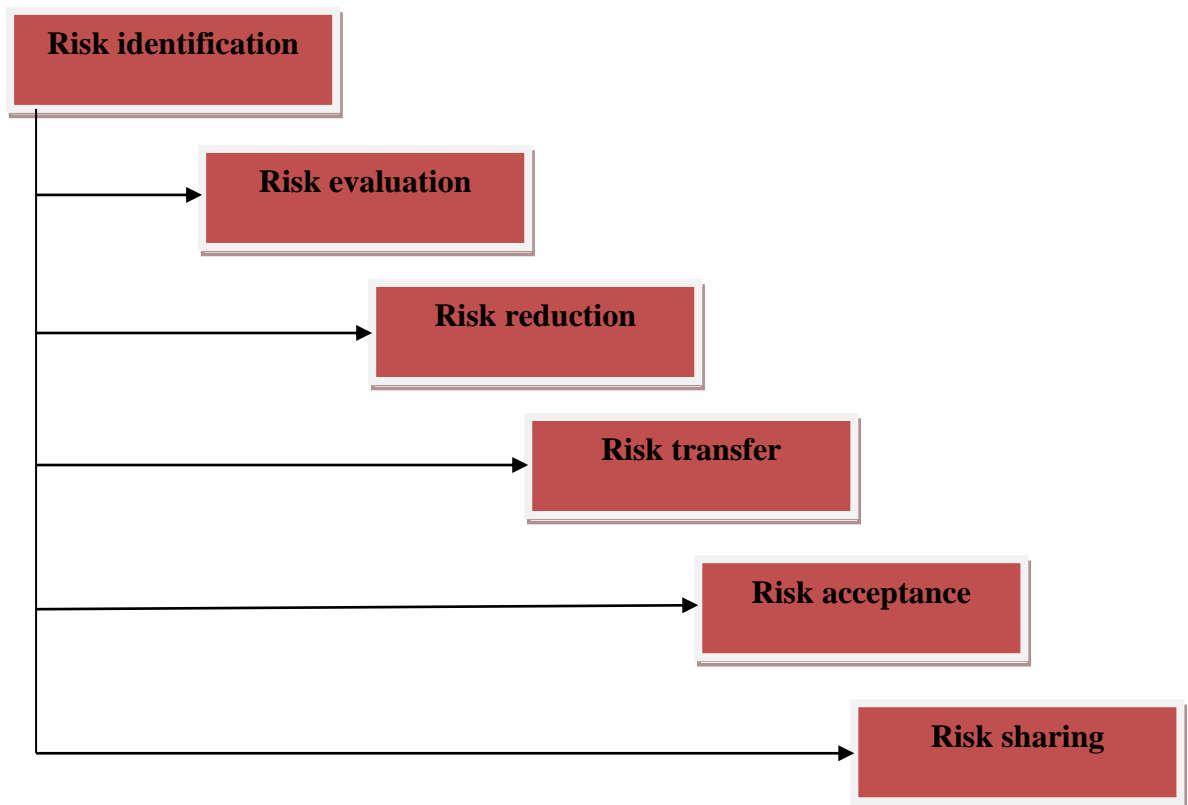
<sup>1</sup> DELESSE (C): « *Sécurisation de la supply chain : renseignement et intelligence globale* » in the 8th international conference on logistics and SCM, RIRL 2010 Bordeaux September 30 th & October 1st, 2010.

<sup>2</sup> DUHADWAY (S) et al: "*Understanding risk management for intentional supply chain disruptions: risk detection, risk mitigation, and risk recovery.*" Ann Oper Res 283(1), (2019), pp.179–198.

<sup>3</sup> TANG (O), MUSA (N) & LI (J): "*Dynamic pricing in the newsvendor problem with yield risks.*" In: International Journal of Production Economics Vol. 139, no 1, (2012)p. 127-134.

<sup>4</sup> RUEL (S) AND SPALANZANI (A) :« *Systèmes d'information et résilience des chaînes logistiques globales: Proposition d'un écosystème informationnel.* », Unité Mixte de Recherche CNRS / Université Pierre Mendès France Grenoble 2, halshs-00659359f, (2011), P.11

**Figure n°4:** Risk management process



Source: Elock Son, C. (2018)<sup>1</sup>

### 2.1. Identifying supply chain risks

Supply chain risk identification is an important process for the SCRM, because the first step of the risk management affects the quality of subsequent processes. Therefore, in the case of poor supply chain risk identification the ultimate output of the supply chain risk management process will be inferior.<sup>2</sup> Fan, Y., & Stevenson, M. (2018a) define Supply chain risk identification as “*The process of discovering, understanding, defining and categorizing supply chain risks as their early warning indicators by using appropriate methods*”<sup>3</sup>. The aim behind this process is to establish a list of all potential risks that might put the SC into danger.

<sup>1</sup> ELOCK (C): “*Supply Chain Risk Management: A Review of Thirteen Years of Research.*” American Journal of Industrial and Business Management, 8, (2018), pp. 2294-2320

<sup>2</sup> LOUIS (M), PAGELL (M): “*Categorizing Supply Chain Risks: Review, Integrated Typology and Future Research.*” In: ZSIDISIN (G), HENKE (M) (eds) Revisiting Supply Chain Risk. Springer Series in Supply Chain Management, vol 7. Springer, Cham, (2019) p:330

<sup>3</sup> FAN (Y) & STEVENSON (M): “*A review of supply chain risk management: Definition, theory, and research agenda.*” International Journal of Physical Distribution & Logistics Management, 48(3), (2018a), pp.205–230.

## 2.2. Supply chain risk assessment (evaluation)

Jaberidoost (2015) defines Risk assessment as “*A systematic process of organizing information to support a risky decision to be made within a risk management process. It consists of the identification of hazards and the analysis and evaluation of risks associated with exposure to those hazards.*”<sup>1</sup> Risk assessment, evaluation or even analyses are to determine the risk level on the basis of risk identification. It mainly solves the following problems:<sup>2</sup>

- How high is the probability of risk events? Or how likely is a risk event to occur?
- How big or serious is the consequence and loss of the risk event? How to measure? And what can we do to reduce the negative consequences?

There for, risk evaluation is a process the aim of which is to provide a framework for comparing risks and distinguishing between those which will have to be treated and those which will not, on the basis of criteria defined during the establishment of the context. In this case, the authors propose the use of a risk matrix which would make it possible to highlight the consequences and the likelihood on these two dimensions. This matrix facilitates the classification and visualization of risk categories.

## 2.3. Risk reduction

Supply chains often comprise a huge number of products or commodities that are sourced, manufactured or stored in multiple locations, thus resulting in complexity. Complexity can mean reduced efficiency as managers struggle with the day-to-day risks of delays and fluctuations, and it can lead to increased risk of disruption, in which dependencies between products can bring everything to a halt. Controlling the amount of complexity can therefore lead to higher cost efficiency and reduced risk, which is a win-win.<sup>3</sup>

Transport risks are simple risks that arise in connection with the physical movement of goods<sup>4</sup>. The choice of a mode or means of transport takes into account certain aspects related to the specifics of the goods transported. Thus, this choice can be motivated by the viability,

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<sup>1</sup> JABERIDOOST (M), OLFAT (L), HOSSEINI (A) et AL: “*Pharmaceutical supply chain risk assessment in Iran using analytic hierarchy process (AHP) and simple additive weighting (SAW) methods.*” *J of Pharm Policy and Pract* 8, 9 (2015), pp 1-10.

<sup>2</sup> LIU (M), CHEN (H): “*Research on Supply Chain Risk Assessment Based on FMEA.*” In: *Li X., Xu X. (eds) Proceedings of the Fifth International Forum on Decision Sciences. Uncertainty and Operations Research.* Springer, Singapore (2018), p:80

<sup>3</sup> SODHI (M): “*Reducing the Risk of Supply Chain Disruptions.*” *MIT Sloan Management Review.* Spring. (2014), pp73-81.

<sup>4</sup> BIETHAHN (N), WERNER (J), KOLKE(R): “*Mobility in a Globalised World 2012*”, University of Bamberg Press, 27 mars 2014, p:82

flexibility and operability of the chosen means. Likewise, certain security aspects must be taken into account, especially in politically unstable and unsecured areas. In this perspective, convoy or escort techniques reduce the risk. Another way to reduce the risk would be to break up parcels of goods so as to use several transport channels to transport them. The advantage here would be that of reducing losses in the event of an incident on one of the lots, but the magnitude of the transport costs constitutes a brake for the adoption of such a solution.

Other techniques such as the use of specialized containers capable of withstanding bad weather or certain harsh climatic conditions limit the risks of deterioration of the goods transported. In this same logic, the fluidity of information sharing and trust between actors in the supply chain considerably reduce the risk<sup>1</sup>. The establishment of a transparent information system helps to link physical flows of goods to information flows. This favors the timely management of transport and handling operations, and also reduces the risk of transmission of erroneous information<sup>2</sup>.

When Chopra and Sodhi (2004) described different risk mitigation strategies, they depicted how it would be possible to reduce some risks and increase others. For example, a company could add inventory and that would have a small reduction of risk in disruptions, a greater reduction in delay risk, a small reduction in procurement risk and capacity risk, but would increase inventory risk. This is an excellent example of the correlation of risk events in a supply chain. Risks cannot be considered in isolation, and supply chain managers must understand the related nature of the risks, or they may inadvertently cause a disruption while trying to mitigate the risk of a disruption in another area.<sup>3</sup>

Ackermann and al. (2007) notes that it is the interaction of risks that can cause the most damage, therefore, the managers must consider more than just individual risks. In fact, one risk can reinforce the likelihood of another risk occurring. The managers should be continually looking for and understanding these interactions by employing the functional expertise of many within the company. In other words, managing the ripple effect in the supply chain should span beyond functional boundaries.

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<sup>1</sup> ÖZER (Ö), ZHENG (Y): “*Establishing Trust and Trustworthiness for Supply Chain Information Sharing.*” In: HA (A), TANG (C) (eds), *Handbook of Information Exchange in Supply Chain Management*. Springer Series in Supply Chain Management, vol 5. Springer, Cham, 2017, P. 290

<sup>2</sup> STOPFORD (M): “*E-commerce-implications, opportunities and threats for the shipping business.*” International Journal of Transport Management, 1(1), 2002, pp. 55-67.

<sup>3</sup> SCHEIBE (K.), BLACKHURST (J): “*Systemic Risk and the Ripple Effect in the Supply Chain.*” In: Ivanov (D), DOLGUI (A), SOKOLOV (B) (eds): *Handbook of Ripple Effects in the Supply Chain*. International Series in Operations Research & Management Science, vol 276. Springer, Cham, 2019, P.87

To this end Ritchie, R & Brindley (2007) proposes five ways to reduce risks<sup>1</sup>:

- 1) Reducing the distances between supply chain partners appears to be a reliable measure for reducing damage. The installation of client industries near the key supplier of the sector, or the installation of the supplier near its target markets, facilitates trade;
- 2) The establishment of in-house partnership, where the supplier settles in the customer's premises not only reduces the risk but avoids it;
- 3) Improvement of know-how through cooperation and collaboration in buyer-seller relationships. Managing relationships with suppliers and coordinating supply activities within the supply chain requires better knowledge of the characteristics of the equipment in terms of transportability and storage;
- 4) Improving product designs in terms of transportability and storage reduces the risk of deterioration. They assert for this purpose that packaging with plastic is safer than packaging with glass. Beyond the means such as the standardization of the processes put in place to limit the risks, the management of the always large assortments of the products drowns the efforts. The trick often lies in reducing the storage times of products with short life cycles;
- 5) Spreading the risk, this is based on the implementation of a good level of flexibility or the creation of new options to absorb the risk. Flexibility is acquired by several modes, in particular the use of software associated with highly qualified employees who facilitate the fast and safe shipment of goods, the integration of external resources in high added value chains are also sources of operational flexibility.

If the risk persists beyond these various mechanisms, its transfer to a third party can help to cushion its effects on the activity of the company.

#### **2.4. Risk transfer**

Risk sharing or transfer move some of the risks from one organization in the supply chain to another (typically more able or willing to handle it)<sup>2</sup> via outsourcing, off shoring, or contracting. Risk could for example be transferred to insurance companies or supply chain partners by moving inventory liability, changing delivery times of suppliers (just-in-time

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<sup>1</sup> RITCHIE, (R) & BRINDLEY (C): "*Supply chain risk management and performance: A Guiding framework for future development.*" International Journal of Operations & Production Management. Vol. 27, No. 3, (2007), pp. 303-322.

<sup>2</sup> WATERS (D) (2011): "Supply chain risk management: vulnerability and resilience in logistics." Kogan Page, London, 2011, P.155.

deliveries), dealing with customer uncertainty (make-to-order manufacturing), or by deciding to move a part of the production to an outside party<sup>1</sup>. However, sharing or transferring risk neither eliminates nor reduces the probability or impact of a possible risk event. So, while insurance can cover the costs of disruption, the disruption nonetheless can occur<sup>2</sup>.

In the event of an incident, the insurer partially or fully covers the resulting financial damage. However, the concern stems from the vagueness of logistics contracts, given the related services which accompany the offer of transport, handling or warehousing concerning the provisions and the assurance of the evolution of the underlying risks<sup>3</sup>

In the supply chain, the evidence of the risks that arise during the transportation and storage of goods as well as the financial losses that result from it is unquestionable; it is easy to assess them<sup>4</sup>. Losses of goods caused by acts such as terrorism, theft and accidents cause additional costs to suppliers. These are the costs relating to the transport and the process of replacing goods, but also the penalties which suppliers and customers have to face. As a direct result of these shortcomings, the detour of customers to other suppliers to meet their demand and avoid breakages. Indirectly, in the event of a breakdown, the supplier's image is tarnished, which can seriously hamper the latter's action.

If the costs of transferring risk are considered high by the company, the need to manage it internally leads risk managers to accept it.

## **2.5. Accepting the risk**

To accept risk is to admit it as an event to be managed by the company. This acceptance supposes that the company develops global strategies to face the risks. This is a complete process spread over several stages which complement each other. Their arrangement depends on the type of risk that managers face. Helferich, (2019) propose the following risk management steps:

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<sup>1</sup>MANUJ (I), MENTZER (T): "Global supply chain risk management." *Bus Logist* 29(1), (2008a), pp. 133–155

<sup>2</sup>SCHOLTEN (K), FYNES (B): "Risk and Uncertainty Management for Sustainable Supply Chains." In: Bouchery (Y), Corbett (C): "Sustainable Supply Chains." Springer Series in Supply Chain Management, vol 4. Springer, Cham, (2017), p:423

<sup>3</sup> KUMMER (S), SCHRAMM (H), SUDY (I): "*Internationals Transport- and Logistics management*", Springer-Verlag Berlin, Germany, (2010), P. 189

<sup>4</sup> Ibid, P.190

Table n°6: stages of risk acceptance

Stages	Signification
<b>Planning</b>	<ol style="list-style-type: none"> <li>1. Establish a planning team</li> <li>2. Analyze capabilities and hazards</li> <li>3. Develop the plan</li> <li>4. Implement the plan</li> </ol>
<b>Mitigation</b>	<ol style="list-style-type: none"> <li>1. Define mitigation opportunity</li> <li>2. Develop mitigation plan</li> <li>3. Initiate development plan</li> <li>4. Continuous improvement program</li> </ol>
<b>Detection</b>	<ol style="list-style-type: none"> <li>1. Develop detection plan</li> <li>2. Acknowledge warnings</li> <li>3. Evaluate and act on observations</li> <li>4. Decide on need for further action</li> <li>5. Continuous improvement</li> </ol>
<b>Response</b>	<ol style="list-style-type: none"> <li>1. Implement response plan</li> <li>2. Evaluate direction and control</li> <li>3. Evaluate communications</li> <li>4. Evaluate life safety</li> <li>5. Evaluate property protection</li> <li>6. Evaluate public services</li> <li>7. Evaluate community outreach</li> </ol>
<b>Recovery</b>	<ol style="list-style-type: none"> <li>1. Review and implement recovery plans</li> <li>2. Ensure continuity of management</li> <li>3. Maintain employee support</li> <li>4. Resume operations</li> </ol>

Source: Helferich (O), Cook (L): <sup>1</sup>

## 2.6. Risk sharing

Beyond simple supplier-customer relationships or vice versa, the links between firms are managed today within more complex networks where the sharing of responsibilities is the rule. Several mechanisms are however developed to make them fluid and beneficial for all members of the network.

For Brulhart (2002), the partnership between firms is fueled by satisfaction, trust, commitment, communication, inter-organizational integration of information systems and equity between stakeholders. In the absence of these elements, the chain is seized<sup>2</sup>. The choice to join a network is therefore dependent on the absence of any suspicion that could negatively impact the activity.

<sup>1</sup> HELFERICH (O), COOK (L): "Securing the Supply Chain." In journal of Council of Supply Chain Management Professionals, Vol. 21, No. 4, 2019, pp.134-149.

<sup>2</sup> BRULHART (F) :« Le rôle de la confiance dans le succès des partenariats verticaux logistiques : le cas des coopérations entre industriels agro-alimentaires et prestataires logistiques. », Finance Contrôle Stratégie, 5(4), (2002), 51-77.

The reliability of a supply or logistics network is largely dependent on the quality of the communication system, which is generally the source of several risks within the chain. Thus, by reducing the uncertainty associated with the relationship, the fluidity of communication positively impacts the efficiency of the relationship, stimulates trust and encourages engagement<sup>1</sup>. The continuity of the information flow, like that of the physical flows, must not be compromised in order to reduce uncertainty, minimize the risk of confusion or conflict and ensure the efficiency of the process<sup>2</sup>. Thus, communication is the essential link for the success of logistics partnerships.

In short, the sharing of risks within the supply chain joins the general principles of integrated networks within which the exchange of everything is essential as a rule. Each member invests in the perspective of getting the most gains by taking into account those of others. Likewise, in the event of difficulties, everyone's responsibility is engaged.

**Conclusion:**

The different risk management models proposed in the literature tend to follow an approach composed of three phases: Risk identification; starting from an appreciation of the context, its purpose is to determine all the risks that are likely to occur. Risk analysis ; its purpose is to understand and estimate the probability of occurrence and the impact of the most significant risks; And finally, risk treatment; its purpose is to decide the most appropriate action to take for each risk (or combination of risks) and the most appropriate part to manage each of the risks identified.

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<sup>1</sup> MOORE (K): "*Trust and relationship commitment in logistics alliances: a buyer perspective*". Journal of Supply Chain Management, 34(4), (1998), 24-37.

<sup>2</sup> SINK (H) et al: "*A managerial framework for the acquisition of third-party logistics services*". Journal of Business Logistics, 18(2), (1997). 163-189.

## **Conclusion of the chapter**

The purpose of this chapter was to define risk in all its aspects. Its apprehension within the supply chain allowed discovering a very deep content of this notion. It is thus established that the consideration of risk within the supply chain inspires the authors whose divergent approaches augur well for the flowering of the definitions encountered. Some see risk as a phenomenon to be avoided either by transferring it to a third party or by sharing it with its partners, while others accept it and give themselves the means to manage it, i.e. to reduce and mitigate it so that the effects of its impact can be less unfortunate for the chain as a whole.

Whatever the attitude adopted; it is clear that managers are aware of the existence of risk within the entities they manage. Its spill-over effects lead to a more global approach, i.e. for all the links forged with the stakeholders in the context of bilateral partnerships as well as in networks involving several stakeholders. The sharing of experiences, the fluidity of information and the fairness of exchanges cushion the shock in the event of an unforeseen event.

The next chapter will explain in details the reasons for which all participants in the SC are supposed to work hand by hand to minimize disruption in the latter to achieve maximum performance.

**Chapter 02: The common nodes between Supply Chain Risk  
Management and Performance**

## **Introduction**

The concept of performance has never been separated from the concept of prosperity and continuity, what makes a project, a company, or a supply chain (as in our case) to be judged efficient, successful or preferment is a combination of many factors that differs from a sector of activity to another, but in general it is always agreed that mitigating Risks and removing obstacles isn't a bad strategy to achieve performance.

To this end, In the next sections we will tackle down the existing links between the performance and the management of risk in Supply chain throughout three sections respectively: key performance indicators, The Impact of Supply Chain Disruptions on Performance, and finally the relationship between the mechanisms of SCRM and the performance of the SCs.

### **Section 01: Key Performance indicators**

Supply chain performance conditions the success of the undertaken strategies. Either a company is looking to gain new market share, retain customers, or improve the profitability of each customer, or all three at the same time, the supply chain plays an essential role and measuring supply chain performance therefore deserves special care.

Thus, in this section we'll be discussing a set of performance indicators and their contribution to the supply chain.

#### **1. Concepts related to Key Performance indicator:**

The concept of performance is difficult to grasp because it can be measured by a large number of indicators and be interpreted from different angles. All business creators keep in mind to monitor, maintain or improve the performance of their business: turnover, stock status, order book, new markets, and new products<sup>1</sup>, etc. there for; to effectively measure the performance of business, companies must set indicators.

##### **1.1. Definition of KPIs**

- **Oxford's Dictionary definition of KPI:** A quantifiable measure used to evaluate the success of an organization, employee, etc. in meeting objectives for performance.<sup>2</sup>
- **Investopedia's definition of KPI:** A set of quantifiable measures that a company uses to

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<sup>1</sup> VELIMIROVIĆ (D) et al: "*Role and importance of key performance indicators measurement*". Serbian Journal of Management, Vol 6, N°1, (2011), pp. 63-72.

<sup>2</sup>[https://www.lexico.com/definition/key\\_performance\\_indicator](https://www.lexico.com/definition/key_performance_indicator) consulted on 01/03/2020 17:50

gauge its performance over time.<sup>1</sup>

- **Macmillan's Dictionary definition of KPI:** A way of measuring the effectiveness of an organization and its progress towards achieving its goals.<sup>2</sup>

According to Velimirovic (2011) "*Key performance indicators are financial and non-financial indicators that organizations use in order to estimate and fortify how successful they are, aiming previously established long-lasting goals*"<sup>3</sup>. Regardless to the various definition that could be found in the literature KPI sounds like a must instrument when talking about performance.

## 1.2. Service cost and Service rate

For a long time, performance measurement was intended solely for control and to reduce costs. Today; performance is also measured in terms of customer service. Thus, for quality of service objectives determined according to the objectives of the company, performance will be judged according to the best cost of service / service ratio.<sup>4</sup>

**Service cost:** means all the elements and all the operations contributing to obtaining a determined service rate:

- The costs linked to the possession of the stock;
- The costs linked to the transport and handling of the goods;
- The costs of administration and management of distribution and transport;

**Service rate** means all the elements which allow a commodity to arrive:

- At the desired time;
- In the desired quantities;
- In the desired state;
- At the agreed price;

It is therefore both the components making up the "cost of service" and those making up the "service rate" that must be monitored. The objectives of using performance measures will be:

- To detect and correct errors,
- To prevent them.

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<sup>1</sup><https://www.investopedia.com/terms/k/kpi.asp> Consulted on 01/03/18:00

<sup>2</sup><https://www.macmillandictionary.com/dictionary/british/key-performance-indicator> Consulted on 01/03/ 18:10

<sup>3</sup>Ibid, pp. 63-72.

<sup>4</sup> LAURENTIE (J), BERTHELEMY (F) and GREGOIRE (L) :« *processus et méthodes logistique* », 2nd edition, AFNOR 2013, pp. 234-235

## 2. Supply chain performance:

According to Mentzer et al. (2011) “*The concept of supply chain management is the systemic and strategic coordination between the internal or external functions of one or more companies. The aim of this approach is to improve the long-term performance of each member of the supply chain, and thus of the supply chain as a whole*”<sup>1</sup>. We find in the literature that “performance improvement” is a term that involves two distinct concepts, namely “**performance measurement**” and “**performance evaluation**”. Before going further, we first propose a definition of “logistics performance”.

### 2.1. Definition of SC performance

To Bottani, (2014) logistics performance is generally represented by the rate of service to the customer: the number of times the right product is delivered in the desired quantity; within the required time; at the expected time; at the expected place; in the required packaging; in good condition and with the right documents; preceded, accompanied and followed by the right information; all this, under the best economic conditions<sup>2</sup>. Kyeremeh (2018) complete this vision by distinguishing between collective performance (overall optimization of supply chain operations) and individual performance (maximizing an entity's profit)<sup>3</sup>.

### 2.2. SC Performance measurement and evaluation

Measurement retains an important role, but is limited to effects. The evaluation is more general in scope: it tries to go back to the causes, and it also comments on the objectives and their implementation. In other words, performance measurement is an indispensable means of evaluating performance. Performance measures must reflect the complexity of the supply chain and encompass the operations of all players, from the first suppliers to the final customers<sup>4</sup>. Beamon (1998) classifies performance measures into two categories: qualitative (customer satisfaction, flexibility, integration of physical and information flow, financial risk management, etc.) and quantitative (delivery delays, customer response time, etc.)

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<sup>1</sup> MENTZER (J) et al: “*Defining supply chain management*”. Journal of business logistics Management, vol. 22, n°2, 2001, pp. 1-25.

<sup>2</sup> BIGLIARDI (B), ET BOTTANI (E): « *Supply chain performance measurement: a literature review and pilot study among Italian manufacturing companies* ». International Journal of Engineering, Science and Technology, vol. 6, no 3, avril 2014, p. 1.

<sup>3</sup> KYEREMEH (E), ET MAWUKO (D): « *Supply Chain Management and Organization Performance: A Value Creation Perspective* ». Archives of Business Research, vol. 6, no 10, October 2018. Pp 1-13.

<sup>4</sup> Francella, K., Doherty, K., « *Supply Chain Solutions: Linking the Chains* ». Supplement to Food Logistics, vol. 2, n°2, Mars 1998. pp. 1-14.

performance measures<sup>1</sup>. Performance evaluation is used to achieve two goals, which would be "a priori and posteriori approaches"<sup>2</sup>:

- **A priori performance evaluation:** The objective is to design a new system (or modify an existing system). This is based on ex-ante performance indicators. An ex ante indicator is *"information that should help an individual or collective actor to steer the course of action towards the achievement of an objective or enable him to evaluate a result"*<sup>3</sup>. This indicator is not necessarily a figure, but a piece of knowledge that contributes to decision-making.
- **Post-evaluation of performance:** The objective is the piloting of an existing system. This approach is based on ex-post performance indicators. This indicator can be defined as a *"quantified data that measures the efficiency of all or part of a process or system in relation to a standard, plan or objective determined within the framework of a corporate strategy"*<sup>4</sup>. The indicator is therefore seen as a figure that provides information on a state relating to a known context. It is an evaluation of the quantity of past decisions.

Performance indicators are impacted by collaborative practices. Indeed, the proper implementation of cooperative approaches can contribute to the performance of an enterprise or organization.

### 2.3. Supply chain performance indicators:

Since companies' objectives are numerous, a significant number of indicators are required. These indicators are interrelated and it is the consideration and simultaneous analysis of all of these indicators which makes it possible to assess the consistency and performance of a supply chain.<sup>5</sup> The most commonly cited link is that of subordination when the performance measured by an indicator at a given level contributes to that of the higher level.

We propose a diagram of mostly used indicators to measure Supply Chain performance:

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<sup>1</sup> BEAMON, (B): « *Supply chain design and analysis: Models and methods* ». International Journal of Production Economics, 55, 1998, pp. 281-294.

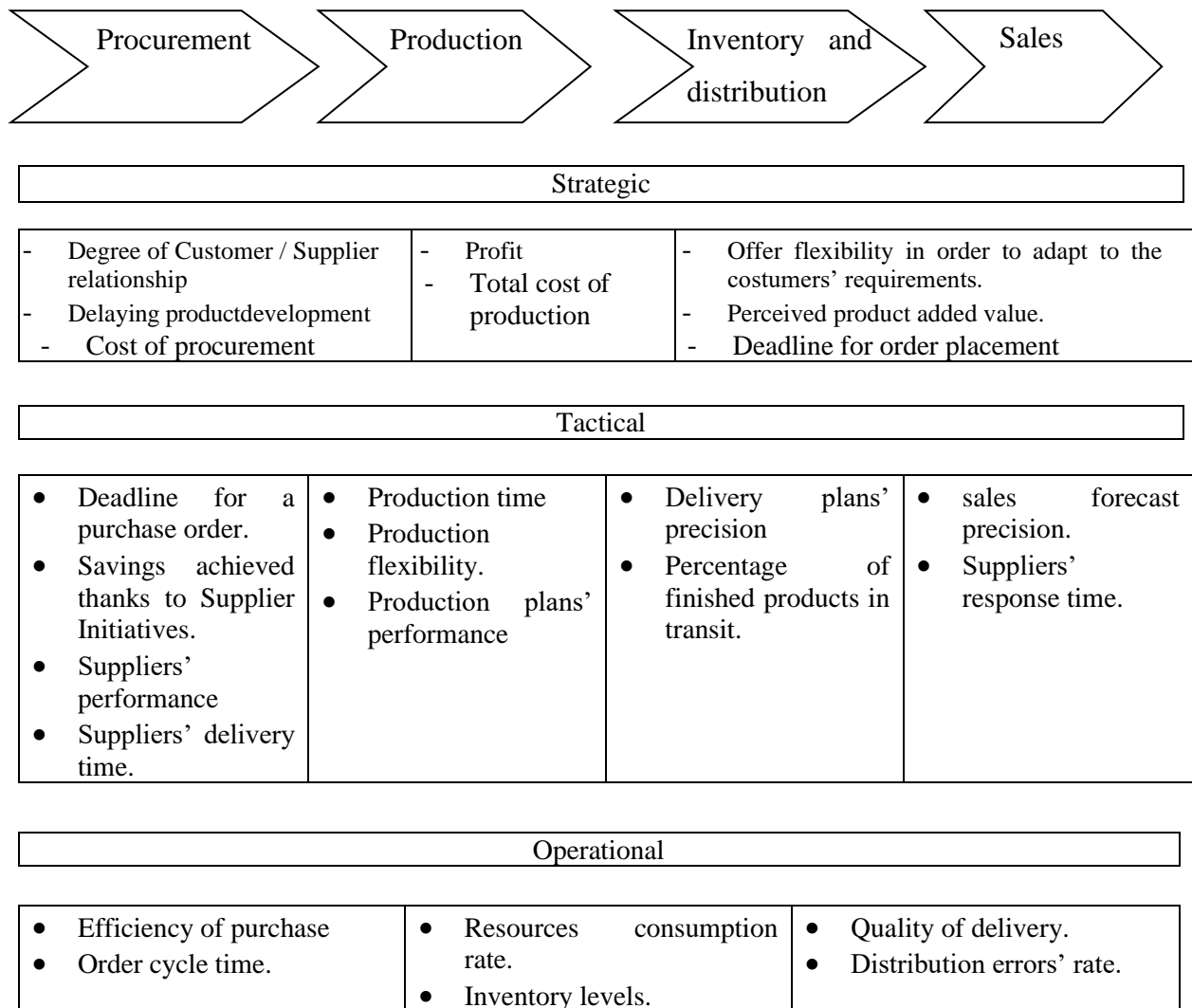
<sup>2</sup> AL (M) et al: « *Supply Chain Performance Evaluation: A Comprehensive Evaluation System* ». International Journal of Business Performance and Supply Chain Modeling, vol. 3, no 2, 2011, p. 141.

<sup>3</sup> <https://www.investopedia.com/terms/e/exante.asp#:~:text=Ex%2Dante%20analysis%20in%20financial,shocks%20that%20affect%20all%20stocks>. Consulted on 05/03/2020 23:39

<sup>4</sup> CHRISTENSEN (P), FELTHAM (G): "Ex Post Performance Measures." Springer Series in Accounting Scholarship, vol 2. Springer, Boston, MA, (2005), p96

<sup>5</sup> GOUIZA (F): « *référentiel d'évaluation de la performance d'une chaîne logistique* », thèse pour l'obtention de garde de docteur en génie informatique, l'institut national des sciences appliquées de Lyon 2007, p39.

Figure n°2.1: Mostly used SC performance indicators



Source: Gouiza (F) :(2007)

Figure n°2.1 represents the most used performance indicators in a supply chain classified within three dimensions (operational, tactical and strategic), and in every stage of the chain, starting with procurement until sales.

It contains aligned and interconnected indicators with the purpose of analyzing and measuring the performance of every function within the supply chain.

#### 2.4. Characteristics of effective key performance indicators:

ToZURIDA (2019) there are many characteristics linked to performance indicators, often authors use the SMART rule as means of identifying the characteristics:<sup>1</sup>

<sup>1</sup>Ibid, p.40

- Specific: the indicator must be clear, précis, well defined and focused toward a performance target or business purpose.
- Measurable: the indicator must be quantifiable and measurable.
- Achievable: the indicator must be reasonable and shows if the targeted objectives can be attained.
- Relevant: the indicator must be directly pertinent to the work done on the project.
- Time-based: the indicator must set a specific time lapse for the objectives to be attained so it would be measurable on a specific time period.

The Supply Chain and logistics performance measurement and control indicators are fundamentally linked to the objectives that have been assigned by organizations. However, there are also a certain number of descriptive indicators that are considered functional such the number of delivery points, level of inventory, etc. where some are considered useful to measure.

### **2.5. Performance indicators families**

Based on the model SCOR, performance indicators are classified within two major categories<sup>1</sup>: customer-oriented values and internal values:

➤ **Customer oriented value:** this family is based on many elements which are as follows:

- Quality of transport, quality of production, breakdown rate of machines and supplier service;
- Perfect order rate (qualities of information in databases, etc.)
- Responsiveness to changes in demand (frozen planning horizon, level of safety stocks);
- Flexibility, i.e. the number of different generic solutions offered to customers (tool change time, batch sizes, etc.);
- Rate of quality of deliveries (rate of delivery with products damaged);

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<sup>1</sup> FENDER (M) et PIMOR (Y): « *logistique Supply Chain* », édition Dunod, Paris, 6ème édition, 2016 p. 193.

- **Internal value:** it is composed of two categories of major indicators: technical and financial:

**Table n°2.1: internalvalue Performance indicators**

Internal value		
Technical	<ul style="list-style-type: none"> <li>• Reliability of stocks in the sense of quality of information in databases versus physical data</li> <li>• Number of references in stock shortage (quality of forecasts, quality of inventory location planning in the different distribution centers)</li> <li>• Quality of key data (information entered into systems)</li> <li>• Reliability of forecasts (level of collaboration between marketing, sales and logistics functions, level of integration and automation of information systems to trace sales data.</li> <li>• Unscheduled machine shutdown rate (maintenance)</li> <li>• Productivity of operations per person (motivation, training and skills of people, level of activity, quality of management ...)</li> <li>• Flexibility of the production (tool change time ...etc.)</li> <li>• Size of production and delivery supply batches (level of flexibility of equipment used, etc.)</li> </ul>	
Financial	Active indicators	<ul style="list-style-type: none"> <li>• Inventory values (inventory levels)</li> <li>• Stock rotation</li> <li>• Return on investment of the concerned assets</li> </ul>
	Cost indicators	<ul style="list-style-type: none"> <li>• Supply Chain cost (quality of service required; choice of solutions mobilized to manage the activity's fluctuation...)</li> <li>• Cost of each primary operation (productivity and unit cost)</li> <li>• Cost of sales</li> </ul>

Source: adopted from (M) FENDER et (Y) PIMOR <sup>1</sup>

### 2.6. Performance indicators categories:

There are four major categories based upon which performance indicators are classed:<sup>2</sup>

- **Activity indicators:** that represent indicators measuring processed volumes, physical and information flow: production, stock level, volumes transported, number of receptions, number of shipments, number of inventory movements, number of references managed ...
- **Productivity indicators:** These are the indicators linked to machine use and resources consumption rate (manufacturing, transport, processing, and labor in general).
- **Quality indicators:** They allow the evaluation of services: level of customer service, percentage of late delivery, percentage of non-conformities in the deliveries, percentage of customer complaints, etc.
- **Cost indicators:** that represents costs associated with manufacturing, storage, distribution, transportation, treatment, etc.

<sup>1</sup> FENDER (Michel) and PIMOR (Yves): logistique Supply Chain, Dunod edition, Paris, 7th edition, 2016 .p217, 218.

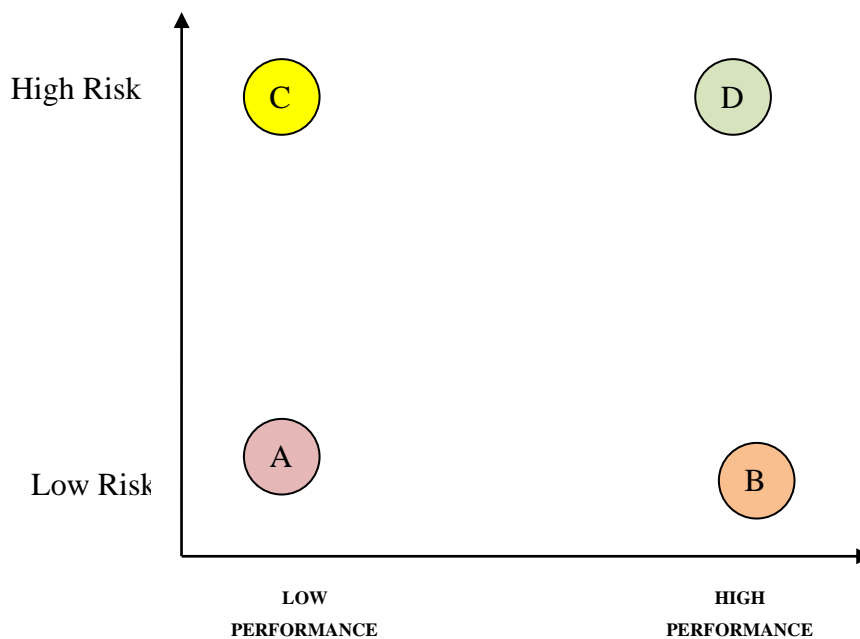
<sup>2</sup> LAURENTIE (Jean), BERTHELEMY (François) and GREGOIRE (Laurent), processus et méthodes logistique, 2nd edition, AFNOR 2013, pp. 336.

## Section 02: The Impact of Supply Chain Disruptions on Performance

### 1. Risk and Performance

It has been acknowledged conventionally in the sense of financial decisions that risk and performance are explicitly and usually favorably linked to each other. The larger the risk assumed then the greater the probability for future bonuses or financial gains will be. Figure n°2.2 outlines potential consequences between the Perceived risk, and performance expected.<sup>1</sup>

**Figure n° 2.2:** correlation between risk and performance



**Source:** George A. Zsidisin Bob Ritchie (2019)

- Cell A demonstrates the relationship between low risk perception and the expectation of low returns in terms of performance.
- Cell D, on the other hand correlates potentially high rewards/performance with higher levels of perceived risk.
- The remaining cells suggest that either low risk situations may potentially generate high performance outcomes (Cell B) or alternatively, high risks may often only produce modest or low levels of performance (Cell C).

Only four out of the infinite set of potential risk-performance outcomes are illustrated as exemplars.

<sup>1</sup>ZSIDISIN (G), ET RITCHIE (B): “*Supply Chain Risk: A Handbook of Assessment, Management, and Performance.*” Springer US, 2009, p. 251

## 2. Supply chain Risk and Performance

The supply chain is defined as a chain connecting each aspect of the consumer and the manufacturer through production and services, so that the distribution of goods, money and knowledge can be efficiently controlled to satisfy the market requirements.<sup>1</sup> The effect of supply chain disturbances on corporate efficiency can be linked to rising supply chain volatility and uncertainty of global supply chains. Any significant negative economic effects of supply chain instability on the output of the company have been widely reported in literature.<sup>2</sup> There for the capability of a company to react to external risks and minimize instability through the supply chain is also closely linked to the firm's short-term and long-term results.

Supply chain performance has to be evaluated across organizations in order to achieve international efficiency through supply chain networks.<sup>3</sup> Today, most businesses understand that supply chain management has to be evaluated on its efficiency in order to build an effective supply chain.<sup>4</sup> Revilla and Saenz (2017) indicated that best-performing companies would follow an integrated SCRM approach that goes beyond organizational processes and expands the firm's partnership with customers and suppliers.<sup>5</sup> In addition, Ritchie and Brindley (2007) indicated that performance and risk are interlinked and involve the deliberate and rigorous application of supply management resources and controls to optimize output while managing consequential risks.<sup>6</sup> Furthermore, Hendricks and Singhal (2003) provided a series of operational metrics relevant to supply chain efficiency in areas such as predicting and preparation precision, manufacturer output, production performance, lead time, inventory, capacity and price.

Although the choice and importance of operational measures will vary across firms, the performance of a firm on its chosen operational metrics will determine the efficiency, reliability, and responsiveness of its supply chains.

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<sup>1</sup> STEVENS (G): "Integrating the supply chain." *International Journal of Physical Distribution and Materials Management*, vol 19, n°1, (1989) PP. 3–8.

<sup>2</sup> NYAMAH (Y), JIANG (Y), ENCHILL (E): "Agri-food supply chain performance: An empirical impact of risk." *Management Decision*, 55(5), (2017), pp.872–891.

<sup>3</sup> SUNDRAM (P), CHANDRAN (V): "Supply chain practices and performance: The indirect effects of supply chain integration." *Benchmarking: An International Journal*, 23(6), (2016), pp.1445–1471.

<sup>4</sup> THUN(T), & HOENIG (D): "An empirical analysis of supply chain risk management in the German automotive industry." *International Journal of Production Economics*, Vol 131, n°1, (2011), pp. 242–249.

<sup>5</sup> REVILLA (E), & SAENZ (J): "The impact of risk management on the frequency of supply chain disruptions: A configurational approach." *International Journal of Operations & Production Management*, 37(5), (2017), pp. 557–576.

<sup>6</sup> RITCHIE (B), & BRINDLEY (C): "Supply chain risk management and performance: A guiding framework for future development." *International Journal of Operations & Production Management*, 27(3), (2007), pp 303–322.

### 2.1. The Effect of Demand Disruption Risk on Supply Chain Performance

Chopra and Sodhi (2014) claimed that the instability of the supply chain seriously affects the financial performance of the companies. They introduced two approaches to reduce the fragility of the supply chain by control while at the same time enhancing financial performance:<sup>1</sup>

- Segmenting the supply chain
- Regionalizing the supply chain. In addition, high demand uncertainty also requires centralizing to achieve reasonable levels of performance.

### 2.2. The Effect of Supply Disruption Risk on Supply Chain Performance

Schoenherr (2010) studied the interaction between purchasing risk and purchasing performance in an outsourcing framework. The results showed that the correlation between purchasing risk and performance was not statistically important.<sup>2</sup> Consequently, the amount of risk in an outsourcing partnership may not seem to have an impact on performance.

Given the results of the empiric research by Zsidisin and Ellram (2003), a reduction in the likelihood of occurrence of supply risk may lead to improved performance of the supplier<sup>3</sup>. For example, as suppliers implement the newest technical developments in their processes and meet with established quality requirements, the cost of doing business with that manufacturer is substantially reduced. The overall costs of suppliers related to delays in production, testing expenses, inventory refunds and warranties are greatly decreased. Transaction costs decrease in return, leading to an overall increase in the efficiency of the supply chain between purchasing firms and suppliers.

Zsidisin et al. (2004) propose that supplier risk evaluations require a systematic strategy for purchasing organizations to consider the effect and probability that harmful incidents may have on inbound supplies.<sup>4</sup> This offers companies insight on how best to handle risk. In addition, they observed that supply risk evaluation may also be a secondary advantage to the introduction of effective stock management methods, in particular those that concentrate on

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<sup>1</sup> CHOPRA (S), & SODHI (S): "Reducing the risk of supply chain disruptions." MIT Sloan Management Review, 55(3), (2014), pp.73-81

<sup>2</sup> SCHOENHERR (T): "Outsourcing decisions in global supply chains: An exploratory multi-country survey." International Journal of Production Research, 48(2), (2010), 343-378.

<sup>3</sup> ZSIDISIN (G), & ELLRAM (L): "An agency theory investigation of supply risk management." Journal of Supply Chain Management, 39(2), (2003), pp 15-27.

<sup>4</sup> ZSIDISIN (G), ELLRAM (L), CARTER (R): "An analysis of supply risk assessment techniques." International Journal of Physical Distribution & Logistics Management, 34(5), (2004), 397-413.

resolving product quality problems, enhancing product performance and avoiding supply disruptions.

### **2.3. The Effect of Control Disruption Risk on Supply Chain Performance**

In volatile environment, it is important for supply chain partners to work together to improve supply chain performance. Using data gathered from 350 manufacturing companies in China, Li et al ( 2015) suggested that the efficacy of risk knowledge exchange and risk-sharing processes in enhancing financial performance can be improved through reciprocal partnership characteristics such as partnership longevity, supplier confidence, and mutual supply chain risk management awareness.<sup>1</sup>The findings revealed that both information-sharing and risk-sharing structures boost financial performance.

In fact, managers can use the supply chain management approach to handle supply chain threats and pay attention to collaborating with supply chain suppliers and work together and reduce supply chain risks. Furthermore, they promoted the implementation of collaborative risk control activities in the supply chain, risk knowledge exchange and risk-sharing processes to strengthen cooperation with suppliers.

Risk knowledge exchange is a crucial factor in support of supply chain risk management information systems that handle sensitive, confidential risk-related details throughout the supply chain. Without these systems, it will not be necessary to incorporate several conventional risk control activities in the supply chain.

In addition, they give instructions showing that these two specific SCRM behaviors are especially successful where such characteristics of the partnership occur. Specifically, risk knowledge exchange is highly effective when there is a high level of long-term focus or confidence among suppliers, whereas risk-sharing frameworks are especially effective when there is a high level of mutual awareness of supply chain risk management between companies. Such policy activities allow companies to determine if their supply chain arrangements are conducive to the application of certain rising risk control strategies in the supply chain.

### **2.4. The effect of supply chain disruptions on companies share price volatility**

Supply chain disturbances can cause confusion about the potential prospects of an organization and may pose questions about its management capabilities, as disturbances suggest management's failure to handle and monitor key business processes. Disruptions can

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<sup>1</sup> LI(G), FAN(H),& CHEN(T): “*Joint supply chain risk management: An agency and collaboration perspective.*” International Journal of Production Economics, 164(1), (2015), pp 83–94.

often contribute to doubts and complaints regarding the company's corporate plan. Disruptions may also increase the company's total risk. Understanding how disruptions can affect the risk of a company is important for a number of reasons:<sup>1</sup>

- Risk is a critical factor used by investors to value a firm's securities. Risk influences the return that investors demand for holding securities and hence directly affects the pricing of securities.
- The discount rate used in capital budgeting is directly related to the risk of the firm. Furthermore, the cost of capital when raising capital via equity and/or debt is influenced by the risk of the firm. The higher the risk, the higher is the cost of capital.
- Increased risk can make the firm's shares a less attractive currency for acquisitions as potential targets may be less willing to do deals that depends on volatile share prices.

### **3. Comparing the Effect of Different Sources of Risks on Supply Chain Performance**

Quang and Hara (2017) have suggested a conceptual model reflecting interactions between risks and performance in the supply chain Figure<sup>o</sup> 2.2. There are three main risks relating to the product flow at the center of the model:

- Operational risk
- Supply risk, and
- Demand risk.

All three risks directly affect the efficiency of the supply chain, which is calculated by five key metrics including supplier performance, internal business, innovation and learning, customer service, and finance. Based on the structural equation model findings, the risk of operations, supply and demand has a detrimental effect on the performance of the supply chain compared to the competitive model. Since the push effect of certain threats makes them more severe, thus increasing the efficiency of the supply chain.

In addition, the proposed risk will explain 73 percent variation in supply chain performance relative to 55 percent of the competitive model via the push effect, as supply chain performance is affected not just by supply chain risks but also by other factors, e.g., innovation and supply chain management practices.<sup>2</sup>

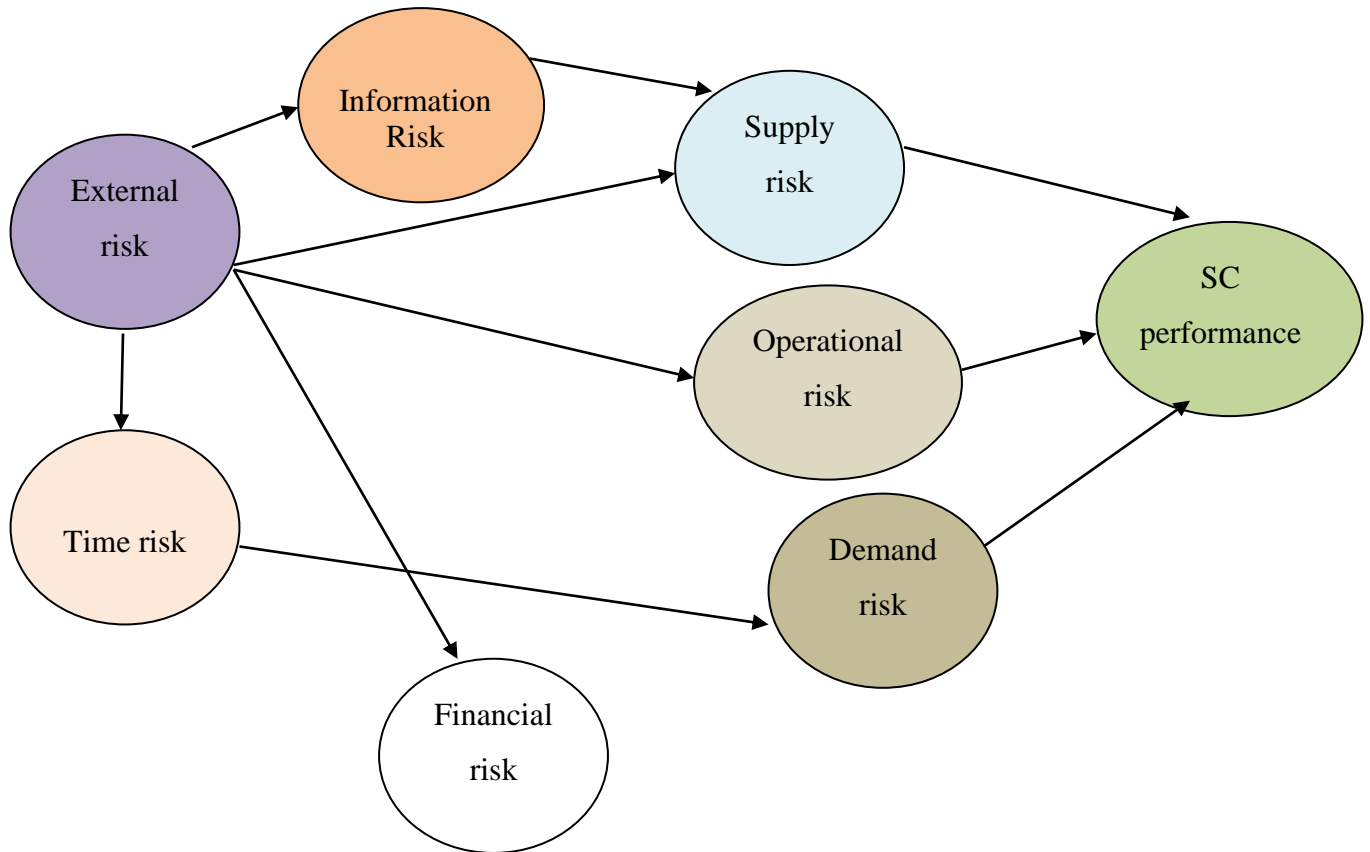
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<sup>1</sup> HENDRICKS (K)& SINGHAL (V): « *The Effect of Supply Chain Disruptions on Shareholder Value* ». Total Quality Management & Business Excellence, vol. 19, no 7-8, August 2008, p. 777-91.

<sup>2</sup> QUANG (T), & HARA(Y): "*Risks and performance in supply chain: The push effect.*" International Journal of Production Research, 56(4), (2017), pp 1369–1388.

Therefore, if a company can handle the push effect process, they can minimize the effect of the interruption threats on the performance of the supply chain.

Figure n°2.3: Relationship among disruption risks and supply chain performance



Source: (Quang and Hara 2017)

#### 4. Impact of Supply Chain Disruptions on Organizational Performance

According to Viswanadham (N) (2018) Environmental risks were frequently listed in the literature as a significant factor which has a negative effect on supply chain performance. He found that studies highlighted different forms of risk for their adverse effect on supply chain performance: 42% of the studies emphasized supply risk, 25% emphasized environmental risk, 17% emphasized demand risk, 8% emphasized control risk, and 8% emphasized process risk.<sup>1</sup>

Wagner and Bode (2008) found that disturbances in the supply side and demand side are more critical than disturbances in the market for achieving good supply chain performance

<sup>1</sup> VISWANADHAM(N): “Performance analysis and design of competitive business models.” International Journal of Production Research, 56(1–2), (2018), pp. 983–999.

by German companies. Using data gathered from 350 manufacturing companies in China, Li et al (2015) noticed that the efficacy of risk knowledge exchange and risk-sharing processes in enhancing financial efficiency can be improved through reciprocal partnership features such as relationship length, customer confidence and mutual awareness of the SCRM.<sup>1</sup>

Blackman et al. (2013) suggested that the efficiency of supply chains is assessed through a number of methods and various mechanisms, taking into consideration financial and non-financial metrics, organizational success, strategic performance, and high-level indicators of overall business performance such as productivity<sup>2</sup>. These metrics are also critical for evaluating the efficiency of the supply chain during disruptions: production period, breakdown rate, process change rate, stock level, internal disruption rate, expense, versatility level, bullwhip effect rate and external disruption rate<sup>3</sup>. Nonetheless, there are other important performance metrics such as service rates, lead times, efficiency controls, return on investments and growth in revenue.

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<sup>1</sup> LI (G), FAN(H),& CHEN(T):“*Joint supply chain risk management: An agency and collaboration perspective.*” International Journal of Production Economics, 164(1), (2015), pp 83–94.

<sup>2</sup> BLACKMAN (I), HOLLAND(C)& WESTCOTT (T): “*Motorola’s global financial supply chain strategy.*” Supply Chain Management: An International Journal, 18(2), (2013) 132–147.

<sup>3</sup> THUN (T), & HOENIG (D): “*An empirical analysis of supply chain risk management in the German automotive industry.*” International Journal of Production Economics, 131, (2011), pp.242–249.

### **Section 03: The relationship between the mechanisms of SCRM and the performance of the supply chain**

Performance is generated by more than one factor within the supply chain. For example, it can be the result of partnership, the combination of organizational effectiveness and efficiency, customer loyalty, and other variables that explain a given level. To understand this level of performance in the dynamic logic of supply chain actions, it is necessary for the players to combine both their accumulated know-how and all the logistical, financial and technical means at their disposal. However, in companies where supply chains are becoming more and more global and complex, the risk factor must be taken into account.

The occurrence of risk requires managers to initiate and develop specific behaviors to deal with the possible consequences. These consequences can impact the functioning of the company in the long, medium and/or short term. The efficient chains would thus be those that are resilient to the occurrence of risk.

#### **1. The influence of customer relationship management on the performance of companies' supply chains**

Supply chain management seeks to improve performance by making good use of internal and external capacities with a view to creating a seamless coordination of the supply chain, thus promoting the transition from inter-firm to inter-supply chain competition. Consequently, in the context of SCM, performance is not only affected by the occurrence of risks within an individual firm. In addition, the performance of all members contributes to the performance of the entire supply chain<sup>1</sup>. It therefore becomes imperative for chain companies to take initiatives that foster superior relationships and produce mutual benefits.

Developments in customer relationship management models in recent years indicate the importance of customer satisfaction in organizational processes. Customer satisfaction is the result of the combination of internal and external resources, both physical and intellectual, to provide a superior service, which is the source of the company's financial and relational performance. Insight gained as a result of building strong customer relationships can also be

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<sup>1</sup> CHEN (I)& PAULRAJ (A): « Towards a Theory of Supply Chain Management: The Constructs and Measurements ». *Journal of Operations Management*, vol. 22, no 2, April 2004, pp. 119-50.

used to increase operational effectiveness and cost efficiency. When firms reach this level of intimacy with their customers, it gradually becomes difficult for competitors to intervene<sup>1</sup>.

Thus, we can say that customer relations have a positive influence on supply chain performance

However, the large number of these risks fuels the divergent impacts that their management can have on performance. Thus, the following paragraphs establish the theoretical links between the different types of risks and the management of supply operations.

## **2. Operational risk management and customer relations in the supply chain**

The links considered here relate the risks of procedures, divergence of objectives between departments, uncertainty of demand, uncertainty of the supply system and practices aimed at optimizing customer relations.

### **2.1. Procedural risk and compliance with client market requirements**

How does supply chain operational risk management influences the company's customer relationship?

The speed of today's economic changes makes it necessary to change the practice of isolating actions between departments, but encourages a reorganization of corporate management and closer links between operations and finance, for example, in companies. The maintenance of these relationships promotes effective and efficient processing of ordering procedures, customer requests, information and improves forecasting capacity<sup>2</sup>. At the same time, it promotes the efficient two-way flow of information within the company. In the end, the removal of barriers between action and decision centers can be a source of innovation or even a factor in the successful implementation of a new production process that is free of all forms of duplication and waste.

In this logic, it can be postulated that the simplification of procedures through a good integration of stakeholders both internal and external to the organization can not only mitigate the risk of procedures but also lead to an improvement of the relations between the company and its customers and constitute an excellent lever of competitiveness of the latter.

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<sup>1</sup> SABARA (Z) ET AL: « *The effects of an integrative supply chain strategy on customer service and firm performance: an analysis of direct versus indirect relationships* ». *Uncertain Supply Chain Management*, 2019, pp. 517-28.

<sup>2</sup> NAKANO (M): « *Collaborative Forecasting and Planning in Supply Chains: The Impact on Performance in Japanese Manufacturers* ». *International Journal of Physical Distribution & Logistics Management*, vol. 39, no 2, March 2009, p. 84-105.

## **2.2. Link between uncertainties in demand, the supply system, divergence of objectives between departments and performance**

The delays and the defects of quality of the products which one can observe in the delivery can partly undergo errors orchestrated by the no control of the forecasts of the standards of quality and quantity of order. These in turn are the result of market disruptions due to volatile demand, economic conditions and technological changes. To solve this problem, some authors propose to adopt the "lean" strategy that allows designing predictable flows of goods<sup>1</sup>. However, it is necessary to think globally and systematically use agile strategies. Agile strategies are well suited to unpredictable environments characterized by a wide variety of demand. Others rely on collaboration between chain members to control the phenomenon. These forecasting errors impact the chain activity at several levels:

Firstly, at the supplier level, the receipt of orders triggers the mobilization of resources for production, and the occurrence of an error can render all efforts useless and trigger additional readjustment costs. Secondly, at the customer level, these errors will lead to delays in the receipt of orders. Thirdly, at the level of the anchor company, which will have at least two levels of difficulty to overcome: firstly, stock management (overstocking in the case of over-forecasting and shortages in the case of under-forecasting of demand), and secondly, confidence, both upstream (reliability of orders to suppliers) and downstream (customer dissatisfaction). The supply chain is a form of partnership based on satisfaction, trust, commitment, stakeholder communication, inter-organizational integration of information systems and equity<sup>2</sup>.

## **3. Endogenous strategic risks and customer relations**

These risks are inherent in the distortion of information, double marginalization, loss of flexibility and control in case of outsourcing of one or more activities. Their management is based on transaction and agency cost theories.

### **3.1. The effects of information distortion on supply chain operations**

The reasons for strategic purchasing for the buyer are to capitalize on discounts offered over short periods of time, while the difficulty for the producer is irregular production schedules, unnecessary storage costs and distortion of demand information. In order to

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<sup>1</sup>SONY (M): "Lean Supply Chain Management and Sustainability". IGI Global, vol. 16, no 3-4, 2019. p. 25-36.

<sup>2</sup>BRULHART(F):« *Le rôle de la confiance dans le succès des partenariats verticaux logistiques : le cas des coopérations entre industriels agro-alimentaires et prestataires logistiques* ».Finance Contrôle Stratégie, 5(4), (2002), pp 51-77.

overcome this imbalance, the supplier and the buyer can sign a purchase contract which stipulates that the buyer must buy large quantities of goods at a discount and these goods are delivered for multiple, even separate, periods of time. In these circumstances, the producer can easily plan production, the buyer can take advantage of its strategic purchasing practice, and both can save in terms of storage costs<sup>1</sup>.

In the presence of the "bullwhip effect", the producer must invest to acquire a large production capacity to meet demand in flood situations, but should also have a large rationing capacity in times of scarcity. In the same vein, the company should be in a position to reduce its capacity to a lower level, i.e. slightly above average, or to hold large stocks so as not to suffer shortages in times of flooding. Another option would be to adjust capacity over time but at the cost of doing so. All these options imply either operational inefficiency (high costs) or lack of responsiveness (poor customer service leading to loss of customers). Empirically, the "bullwhip effect" is estimated to inflate the operational costs of the supply chain by about 12.5 to 25%<sup>2</sup>.

**Table n° 2.2:** The bullwhip effect, causes and remedies

Cause	Solution
Demand signal processing models	<ul style="list-style-type: none"> <li>• Information on sales to the final consumer</li> <li>• Centralized Replenishment Planning</li> <li>• Reduction of the supply lead time</li> </ul>
Rationing and the resulting strategic maneuvers	<ul style="list-style-type: none"> <li>• Breakdown of rationed products based on past sales</li> <li>• Limitation of accepted variations in orders</li> <li>• Sharing of information on capacity and supplies</li> </ul>
The grouping of various orders into single batches	<ul style="list-style-type: none"> <li>• Reduction in the cost of orders</li> <li>• Deliveries according to a stable and regular schedule</li> <li>• Use of logistics service providers (3PLs) that group together various products with different destinations in the same trucks, frequently visiting each of the partners.</li> </ul>
Price variations	<ul style="list-style-type: none"> <li>• Forward commitments, EDLP (Every Day Low Price)</li> </ul>

**Source:** Véronneau et al (2008)<sup>3</sup>

<sup>1</sup> NENGMIN (W) et al: "The impact of consumer price forecasting behaviour on the bullwhip effect". International Journal of Production Research 52(22), (2014) pages 6642-6663.

<sup>2</sup> KURNIA (S), AND JOHNSTON (R): "Adoption of efficient consumer response: the issue of mutuality", Supply Chain Management, Vol. 6 No. 5, 2002, pp. 230-241.

<sup>3</sup> VERONNEAU (S), PASIN(F), & ROY (J) : « L'information dans la chaîne logistique. Revue française de gestion », vol 2 n° (6), (2008), pp 149-161.

### **3.2. The influence of outsourcing risk management on the supply chain customer relationship: between "doing" or "getting done".**

Competitive outsourcing requires a high standard of supplier management to avoid the pitfalls of handing over critical functionality, or the risk of becoming highly dependent on one supplier or distributor for the day-to-day performance of vital business functions. In addition, outsourcing can generate new risks, such as the loss of critical skills, the development of false skills, the loss of cross-functional skills and the loss of control over suppliers or distributors<sup>1</sup>. The use of subcontracting or vertical integration generates irrevocable fixed costs that can only be amortized by the most efficient firms<sup>2</sup>.

From another point of view, another source of reluctance is the coordination of actions within the supply chain between principal and subcontractor. In this regard, Novak and Eppinger, (2001) argue that coordination problems arise from the specific relationship that an investment may be less rigorous if the transaction is internalized<sup>3</sup>. Also, the firm is distinct from the market entity to the extent that disputes within the firm can be resolved without legal action or external control. Moreover, according to the theory of transaction costs, innovations are produced more efficiently within firms than through other contractual arrangements such as subcontracting.

Novak and Eppinger (2001) find, however, that there is a benefit to concentrating on producing complex systems in-house and outsourcing simple systems, efficiency arguments suggest that the profit maximizing firm should operate in this way. In this wake, the selection of activities to be outsourced would be another level of arbitrage for supply chain managers.

### **4. CRM orientation: mediating between risk management and downstream supply chain performance**

In search of competitive advantages, members of the supply chain can create alliances to guarantee a quality service to the end customer. This explains the rise of networks where strategic alliances are being formed. Examples include vertical partnerships between producers and transporters<sup>4</sup> or horizontal partnerships between transporters or even between producers, which can allow the smooth flow of physical and information flows. It is a system

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<sup>1</sup>KASEMSAP (K): *"The Role of Strategic Outsourcing in Global Business"*. IGI Global, Vol. 17 No 5. 2020. pp.236-268

<sup>2</sup>BEASLEY (M), BRADFORD (M) & PAGACH (D): *"Outsourcing at your own risk"*. Strategic Finance. Vol 86 n°1. 2004, pp 22-29.

<sup>3</sup>NOVAK (S, & EPPINGER (D): *"Sourcing by design: Product complexity and the supply chain"*. Management science, 47(1), (2001), pp189-204.

<sup>4</sup>POMPONI (F), FRATOCCHI (L) & ROSSI (T): *"Horizontal Collaboration in Logistics: A Comprehensive Framework"*. Research in Logistics & Production. vol3 n°1. (2013), pp 243-254.

of complementarities aimed at overcoming its logistical or technical shortcomings in order to satisfy the end customer. Analytically, a typical supply chain is a network of processing material links, information and services with the characteristics of supply, processing and demand<sup>1</sup>.

Several techniques are considered by the authors. Production to order, collaborative forecasting through CF (Collaborative forecasting), customer loyalty through ECR (Efficient Consumer Response) programs, CRM (Customer Relationship Management), etc. All of these techniques combined with organizational learning can help to forge the cultural competitiveness of the supply chain<sup>2</sup>. The table below provides information on the content of the ECR as initiated by Salomon (1993):<sup>3</sup>

**Table n°2.3:** Efficient Consumer Response (ECR)

The ECR process	Scope
Efficient Store Assortments (ESA)	Provide complete product assortments that are easy to purchase and wanted by consumers
Efficient Replenishment ER	Maintain a high level of stock of the required assortment
Efficient Promotion, EP	Harmonize promotional activities between producers and retailers by communicating benefits and value
Efficient Product Introduction, EPI	To develop and introduce new products that consumers really want, taking into account their ultimate needs.

**Source:** Adapted from Salmon (1993)

Collaboration between actors from different departments is necessary. This can help to avoid bottlenecks in the company’s activities. In the distribution chain, the processes of destocking of goods are an example of this. The procedures related to the operations of removal of goods require the intervention of the commercial department that initiates the need, of the accounting and/or finance department that evaluates the benefits of the transaction, of the production that makes the stocks available and of the logistics that brings

<sup>1</sup> CHEN (J) & PAULRAJ (A): “Towards a theory of supply chain management: the constructs and measurements”. Journal of operations management, 22(2), (2004), pp 119-150.

<sup>2</sup> HULT (T) et al: “An examination of cultural competitiveness and order fulfillment cycle time within supply chains”. Academy of management Journal, 45(3), (2002), pp.577-586.

<sup>3</sup> REYES (P) ET KHURRUM (B): « Efficient Consumer Response: Literature Review ». International Journal of Integrated Supply Management, vol. 1, no 4, 2005, p. 346.-386.

the product to the customer. In the presence of a high level of bureaucracy, the interweaving of these different interventions can be an enormous source of procedural risk.

It therefore seems obvious that the link between the occurrence of risks and performance can be made through customer relationship management within the supply chain. The quality of customer service promotes knowledge of customer needs, helps to control orders and increases the performance of the company.

### **5. Social commitment, environmental risk prevention and supply chain performance**

Given the changing and diverging expectations and demands of stakeholders, responsible behavior is gradually emerging as an important tool for improving reputation, not only to mitigate risk exposure, but also to build a strong reputation. Hoejmose et al (2014) establish that RSCM (Responsible SCM) can enhance reputation and confer a competitive advantage due to the reputation benefit of RSCM. More specifically, it helps to "rebuild" the institutional brand by increasing brand affiliation. For example, through a good RSCM policy, the company can send positive signals to both internal and external stakeholders, and in turn attract and retain staff, suppliers and investors<sup>1</sup>. This potentially means that RSCM creates financial and non-financial benefits such as customer loyalty and brand equity. Gradually, RSCM can be used as a means of differentiation, specifically in contexts where prices and quality are equal to those of competitors.

Industrial marketers need to recognize that maintaining institutional reputation can attract new investors and more innovative suppliers, and ultimately win contracts that can provide them with competitive advantages in the marketplace. It is clear, however, that maintaining an institutional reputation is easier than building one<sup>2</sup>, and managers who have achieved this level would benefit from maintaining it.

### **6. The influence of the information system on risk management, supply chain and customer relations**

SCM can improve the financial performance of companies through marketing forecasts, regular updating of the production schedule and logistics, this through the availability of

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<sup>1</sup> HOEJMOSE (S), ROEHRICH (J), & GROSVOLD (J): "Is doing more doing better? The relationship between responsible supply chain management and corporate reputation". *Industrial Marketing Management*, 43(1), (2014), pp77-90.

<sup>2</sup> Zaichkowsky (L): « *Consumer Involvement* ». Wiley International Encyclopedia of Marketing, , publisher John Wiley & Sons, US, NY, 2010, p. 401

increased information support for operations planning and control resulting from the reduced level of work procedures and high capacity utilization<sup>1</sup>.

Thus, the processes of distribution, delivery, marketing, sales and service are included among the so-called output processes. They represent the output of internal strategic adjustment mechanisms. The IT-based SCM system increases the efficiency of these processes in several ways: production schedules are used to plan advertising and promotional activities; market demand forecasts are used to ensure that the right goods are available to meet current demand (and, in addition, to reduce the storage of finished products); and finally, the issuance of orders and timely and accurate information is used to provide an appropriate level of capacity and expertise with respect to customer service/support processes<sup>2</sup>.

## **7. Supply chain risk management and performance**

In short, performance can be measured by the resilience of an individual organization or the resilience of an entire network of supply chain partners. It must be sustainable. The performance is said to be "sustainable" if it can be maintained over time, i.e. if its level can be reached without hindering the capacity of the partners to reproduce this performance once again. Thus, the relationships to be explored here are as follows:

-The realization of a high turnover can make it possible to release profits which will be able to make it possible to invest in the acquisition of the powerful information systems which will be able in their turn to decrease the "bullwhip effect" <sup>3</sup>and to decrease the crisis of confidence between the partners of the supply chain.

- Obtaining high market shares can lead to the need to increase the capacity of the company, which currently has two options. To invest in new equipment, this mobilizes significant fixed costs that are difficult to amortize in the event of a drop in activity, or subcontracting capacity or outsourcing, which will require intensified quality control and compliance with deadlines.<sup>4</sup> In the first case, the risk associated with quality control is reduced because the processes are under control. In the second case, costs may be lower

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<sup>1</sup> GUNASEKARAN (A) & NGAI (W): "Information systems in supply chain integration and management". European Journal of Operational Research, 159(2), (2004), pp 269-295.

<sup>2</sup> BRUCE (D), VERNON (J). RICHARDSON: "The financial performance effects of IT-based supply chain management systems in manufacturing firms", Journal of Operations Management 25(1),2007, pp. 806-824

<sup>3</sup>JOSIP (J) ET AL:« Towards exploring bullwhip effects in natural gas supply chain ». Logforum, vol. 15, no 4, décembre 2019, p. 557-69

<sup>4</sup>TREAPĂT (L): "Managing the Market Risk in Banks". Conference: Strategica International Conference, At Bucharest, 2016 (October 20-21)

because the subcontractor benefits from economies of scale: it is his job, but the risk of coordination increases.

- Customer satisfaction can lead to regular order quantities at fixed times. In this context, the risk of demand instability will be reduced and companies will be able to make objective forecasts.

- The acquisition of a good image can make the supply chain's offers reliable and thus reduce the perverse effects of the environment.

All these assumptions predict that: supply chain risk management influences the performance of SCs.

### **Conclusion of the chapter**

This chapter aimed to define the notion of performance and its key indicators within organizations in general and within supply chains in particular. It also identified some measures commonly used by managers. All of these insights show that the concept of performance remains by far one of the most controversial concepts in the management literature.

We also took an insight to the links between risk and performance and how they affect each other respectively to uncover why risk mitigation in particular is an essential element in performance obtainment.

The last section was devoted for SCRM strategies and the way they positively influence SC performance in particular and the company in general.

In short, we concluded that, the occurrence of social, economic, political and natural crises can influence the operations and strategies of the company and the upstream or downstream supply chain. However, the way in which these risks are managed can lead to different levels of performance.

**Chapter 03:   SCRM strategies effect on Unilever’s SC performance during the Covid-19 era.**

## **Introduction of the chapter**

If the concept of risk is well known to financiers and insurers, risk management in the Supply Chain is a discipline that is not widely implemented in companies (only 20 to 30%). However, all companies are concerned, whatever their size or activity, it is estimated that each of them faces on average one disruption per month and in the decade that has just passed ("September 11", hurricane Katrina, Tsunamis, Wars, Earthquakes, pirates, explosion of counterfeiting ...) and more recently after the Fukushima disaster, more than 80% of companies have suffered a major crisis in their Supply Chain.

Today's companies apply the best practices of Supply Chain Management, became more mature, responsive, agile and Lean but paradoxically, due to globalization and the tension of flows, their level of risk has increased significantly at the level of the Supply Chain.

The concept of risk is ambiguous because it is of a probabilistic nature and in relation to human perception. Companies will have to better manage and distribute their risks, equip themselves with suitable solutions and implement more proactive and concerted prevention approaches. To do this, they should be able to draw inspiration from and learn from successful approaches and effective solutions in various sectors, an example of that is the ongoing SCRM strategy taken by Unilever during the 2020 world wide pandemic after the outbreak of Covid-19.

And therefore, in this chapter we will discuss the impact that SCRM strategies have on the performance of Unilever's SC in particular and on the company in general through three sections respectively:

In the first section, we will provide an overview of the state of organizations globally during the pandemic, the second section is intended to present the multinational giant Unilever and its subsidiary in Algeria, while the last section is dedicated for the research methodology and interviews conducted with managers at Unilever in order to further comprehend the SCRM related practices used within the company and their outcome face to the pandemic.

## **Section 01: The Impacts of the epidemic outbreaks on supply chains Globally**

Between February and March 2020, the world economy entered uncharted territory. Never before has an economy as interlinked as the present system been subject to shocks as large as the lockdowns in the wake of COVID-19. Already in March with the lockdown of China alone, companies around the world began to struggle as they procure more than 70% of active ingredients from sellers located within the geographical boundaries of China<sup>1</sup>.

In a recent survey conducted by the US based Institute for Supply Management, nearly three quarters of the respondents said they had experienced supply chain disruptions<sup>2</sup>. Similarly, Hassan et al. (2020) in a study of the earning calls of more than 12,000 publicly listed companies based in more than 70 countries find that supply chain disruption has become one of the primary concerns of firms around the world. Interestingly enough the stock markets have responded more to COVID-19 than to the Spanish Flu which killed rough 2% of the world population<sup>3</sup>. So, we can say that the world is not facing a health crisis only, but a crisis that has affected all aspects of business, including supply chains.

### **1. The outbreak of the pandemic**

The COVID-19 was first reported in Wuhan, Hubei province, China, in the late 2019, the number of confirmed cases reported around the world have been steadily growing, reaching 18.44 million with 701,278 deaths on August 2020. In view of this exponential growth, the COVID-19 was declared a world pandemic by the World Health Organization on March 11.<sup>4</sup>

In a report published on 21<sup>st</sup> February 2020, indicated that 94% of the companies listed in the Fortune 1000 list were facing SC disruptions due to the COVID-19.<sup>5</sup>SCs worldwide have experienced an unprecedented series of shocks caused by the virus outbreak and global

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<sup>1</sup>CHATTERJEE (P): “*Indian pharma threatened by COVID-19 shutdowns in China*”. The Lancet World Report, VOLUME 396, (2020),P301-30

<sup>2</sup>ZEIGER (D): “*Supply management’s role in curtailing the coronavirus impact: The pandemic has impacted already-strained global supply chains, demand strategic responses from executives and procurement professionals*”. Institute for Supply Management White Paper(2020).

<sup>3</sup>HASSAN (A) et al: “A Firm-level exposure to epidemic diseases: COVID-19, SARS, and H1N1”. Working Paper, 1 April, (2020).

<sup>4</sup>World Health Organization—WHO. (2020). WHO Director-General’s opening remarks at the media briefing on COVID-19—11 August 2020.

<sup>5</sup><https://fortune.com/2020/02/21/fortune-1000-coronavirus-china-supply-chain-impact/> consulted on 27/07/2020 19:23

pandemic, a new instigator of SC disruptions quite unlike any seen in recent times. The COVID-19 outbreak and global pandemic have immensely affected all areas of the economy and society raising a series of completely novel decision-making settings for SC researchers and practitioners:<sup>1</sup>

- Have the established SC resilience measures (e.g., anticipatory and coping mechanisms such as risk mitigation inventories, subcontracting capacities, backup supply and transportation infrastructures, omni-channel and data-driven, real-time monitoring and visibility systems) helped the companies to survive and recover through the pandemic?
- Could the SCs quickly adapt and serve to secure the minimal survival needs of society and economies?
- How can digital technologies help mitigate the effects of severe risks during globally propagating disruptions such as epidemic outbreaks (e.g., COVID-19) disrupting global SCs?

## **2. COVID-19 pandemic lockdowns**

China, where the epidemic originated, was the first country to impose quarantines and lockdown entire cities and provinces at a later time, starting at the end of January. (Although these measures are a very old tool for fighting epidemics, their use on a large city scale like Wuhan or on a larger provincial scale was controversial among experts at the time).

By mid-April, nearly 300 million people, or about 90 percent of the population, were under some form of lockdown in the United States, about 100 million in the Philippines, about 59 million in South Africa, and 1.3 billion were under lockdown in India. By the end of April, about 300 million people were under lockdown in various countries of Europe, including Italy, Spain, France and the United Kingdom; About 200 million people were under lockdown in Latin America.<sup>2</sup>

Almost all countries and territories affected by COVID-19 have introduced and imposed some form of lockdown and while quarantine negatively affected many types of business, especially those that provide in-person services (including retail stores, restaurants and hotels, entertainment venues and museums, medical offices, and beauty salons and spas), government orders are not the only misfortune to those businesses. In the US people changed their

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<sup>1</sup>IVANOV (D): “*Viable supply chain model: integrating agility, resilience and sustainability perspectives—lessons from and thinking beyond the COVID-19 pandemic*”. *Ann Oper Res* (2020).

<sup>2</sup> Appendix n° 3.1

purchasing behavior many days before government declared lockdowns, an example of that is the demand variation on toilet paper, the same thing happened in Algeria with Semolina.

### **3. Demand fluctuations during the pandemic**

For some SCs, demand has drastically increased and supply was not able to cope with that situation (e.g., face masks, hand sanitizer, disinfecting spray). For other SCs, demand and supply have drastically dropped resulting in production stops (e.g., automotive industry), the danger of bankruptcies, and the necessity of governmental supports. Here the questions of SC survivability again arose.<sup>1</sup>

Following are Covid-19 impacts on some sectors of business:<sup>2</sup>

**Automotive industry:**COVID-19 had a rapid and severe impact on the globally automotive industry. We mention disruption of Chinese parts exports, large-scale manufacturing disruptions across Europe and the closure of assembly plants in the United States. This is putting intense pressure on a sector already facing a slowdown in global demand and is likely to lead to increased merger and acquisition activity.

**Tourism:**In the first half of 2020, the tourism sector suffered a significant setback and is expected to face continuing hardship in the short to medium term because of a series of physical distancing measures and travel regulations. International demand with the exception of some travel in the first quarter of the year came to a near complete halt while domestic demand went into hibernation along with large components of the economy over much of April and May.

**Consumer Products:**Food & beverage consumer goods firms face dramatically decreased demand as well as fragmented supply chains. At-home consumption has increased, but out-of-home consumption has almost come to a standstill which historically generates the highest margin. There may be long-term changes in customer behavior and demand.

**Transportation:** In this corona virus pandemic, stresses on organizations have changed from moving people to maintaining a core transportation network running with a skeleton workforce to ensure that freight and key critical staff can start moving. A secondary effect of

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<sup>1</sup> BALLEER, A, et al: “Demand or supply? Price adjustment during the Covid-19 pandemic”, Covid Economics 31, 23 June, (2020).

<sup>2</sup> <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/covid-19--impact> consulted on 08/08/2020 22:00

this shift is the sudden shift in revenue sources for transportation operators with many experiencing an unexpected financial shortfall. Organizations will need to prepare ahead to ensure that when the corona virus pandemic lockout steps are removed the transportation network is ready for a return to normal operations.

#### **4. Health crisis reveals flaws in the supply chain**

The health emergency caused by Covid-19 has highlighted several points of alert:

- Dependence on seasonal staff exposes a risk of shortage. In fact, raw material operations have to contend with a drop in labor force while production must continue at sustained levels.
- Just in time management is becoming a reality today. The situation reveals the need to have a complete view of the inventory available from suppliers in order to be able to meet customer demand.
- The dependence of certain industries on major import players is problematic for industries.

#### **5. Solutions to guarantee supply**

In the context of the crisis, companies must manage over-capacity conditions, which force them to process ever-increasing volumes, or even to open overflow warehouses. The Supply Chain must be agile, adaptable, and equip itself with all the essential visibility tools. This implies another sizeable challenge: being able to manage the supply systems as well as possible and being able to carry out rapid deployments<sup>1</sup>.

Today, it is also estimated that around 80% of the active ingredients are largely manufactured in China and India. Thirty years ago, this proportion was only 20%. The cause is a massive relocation of entire sections of the sector's productive apparatus to Asia<sup>2</sup>.

The issue of relocation should therefore become crucial in the short term to mitigate the risks to supply. Multi-sourcing is one of the solutions considered.

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<sup>1</sup>BAQAEE (D): “*Supply and Demand in Disaggregated Keynesian Economies with and Application to the Covid-19 Crisis*”, CEPR Discussion Paper 14743.(2020)

<sup>2</sup>CAI (M), LUO (J): “*Influence of COVID-19 on Manufacturing Industry and Corresponding Countermeasures from Supply Chain Perspective*”. J. Shanghai Jiaotong Univ. (Sci.) 25, 409–416 (2020).

### **5.1. How can organizations respond to the immediate change?**

As the COVID-19 threat spreads, Deloitte present measures that companies can take to protect their supply chain operations:<sup>1</sup>

- For companies that operate or have business relationships in China and other impacted countries, steps may include:
  - Educate employees on COVID-19 symptoms and prevention
  - Reinforce screening protocols
  - Prepare for increased absenteeism
  - Restrict non-essential travel and promote flexible working arrangements
  - Align IT systems and support to evolving work requirements
  - Prepare succession plans for key executive positions
  - Focus on cash flow
  
- For companies that produce, distribute, or source from suppliers in China and other impacted countries, steps may include:
  - Enhance focus on workforce/labor planning
  - Focus on Tier 1 supplier risk
  - Illuminate the extended supply network
  - Understand and activate alternate sources of supply
  - Update inventory policy and planning parameters
  - Enhance inbound materials visibility
  - Prepare for plant closures
  - Focus on production scheduling agility
  - Evaluate alternative outbound logistics options and secure capacity
  - Conduct global scenario planning
  
- For companies that sell products or commodities to China and other impacted countries, steps may include:
  - Understand the demand impact specific to your business
  - Confirm short-term demand-supply synchronization strategy
  - Prepare for potential channel shifts

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<sup>1</sup> <https://www2.deloitte.com/global/en/pages/risk/articles/covid-19-managing-supply-chain-risk-and-disruption.html> consulted on 05/08/2020 15:43

- Evaluate alternative inbound logistics options
- Enhance allocated available to promise capability
- Open channels of communication with key customers
- Prepare for the rebound
- Conduct global scenario planning

## **6. Types of companies during the pandemic**

Ivanov (d)2020 classifies companies during the Covid-19 era into three types:<sup>1</sup>

### **A. companies are better prepared than others to mitigate the impact:**

These companies have developed and implemented strategies for managing supply chain risks and business continuity. They have also diversified their supply chain geographically to reduce supply side risks arising from a single country or region. They source from multiple sources of critical commodities or strategic components to reduce their dependence on a single supplier, and have considered an inventory management strategy to guard against supply chain disruptions.

### **B. companies are better prepared than others to respond to this event:**

These companies have established strong relationships with key suppliers and have systems in place to gain visibility across the extended supply network, so that they can better understand risks and take specific actions based on their priorities. They have built agility into their production and distribution networks so that they can quickly redefine and maintain supply based on global demand, and have invested in supply chain planning and tower solutions control to better identify and address, even predict, supply chain issues.

### **C. companies that have a long way to go**

These companies are overly dependent on a region or a single supplier for key products. They do not have sufficient visibility of the extended supply network to perceive the risks facing them. They do not have the systems to understand inventory status, predict direct material stock-outs and optimize production, or predict finished product stock-outs to optimize customer assignments; nor do they have sufficiently flexible logistics networks to ensure the movement of goods in a profitable manner.

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<sup>1</sup>IVANOV (D): “Predicting the impacts of epidemic outbreaks on global supply chains: A simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case”. *Transportation Research Part E*, 2020, 136: 101922.

## **7. Companies that have filed for bankruptcy since the coronavirus pandemic hit**

In an article published by NBC News updated on Aug. 3, 2020; 27 companies were in the list of big names that have filed for bankruptcy since the Covid-19 pandemic. As the article mentioned *“from iconic department stores to entertainment giants, the Coronavirus has seemingly spared no one”*; according to the same article, the reason for the dramatic events facing businesses around the world is declining consumer demand, cutting entertainment spending and home orders forcing some businesses to stay closed continue to wreak havoc on a retail industry that has struggled since years as consumers pivot to online shopping.

Here’s a little sample of companies to have filed for bankruptcy so far since the start of corona virus:<sup>1</sup>

- **Dean & DeLuca:** The New York City-based gourmet foods retailer filed for bankruptcy on March 31;
- **Apex Parks:** which owns and operates 14 family entertainment and water parks in New Jersey, California, and Florida, filed for Chapter 11 bankruptcy on April 8;
- **Food First:** filed for Chapter 11 bankruptcy on April 10.
- **True Religion:** a clothing brand known for its jeans, filed for Chapter 11 bankruptcy on April 13.
- **CMX Cinemas:** a chain of movie theaters with dine-in options, filed for Chapter 11 bankruptcy on April 25.
- **Rubie’s:** which manufactures costumes, wigs, and other festive gear, filed for Chapter 11 bankruptcy on April 30;
- **Gold’s Gym:** which owns and operates over 700 gyms in the U.S. and internationally, filed for Chapter 11 bankruptcy on May 4.

Unfortunately, the list keeps updating day after another, and if bankruptcy to this companies doesn’t necessarily means that these companies will go out of business; it can be the case for smaller companies today, and maybe bigger one tomorrow if organizations didn’t learn how to mitigate SC Risk.

Not to mention that other companies such as Netflix, Facebook, Amazon, etc. knew how turn this crisis to a cash generator.

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<sup>1</sup> <https://www.nbcnews.com/business/consumer/which-major-retail-companies-have-filed-bankruptcy-coronavirus-pandemic-hit-n1207866>

## **Section 02: The company presentation –Unilever-**

### **1. Unilever**

Unilever is a British and Dutch transnational consumer goods company with headquarters in London (United Kingdom) and Rotterdam (Netherlands), a presence in more than 100 countries and products sold in more than 190 countries with a turnover of more than EUR 51 billion in 2019. Unilever was ranked as the leading producer of ice cream and tea with no less than 300 production sites; it was considered to be the fourth largest fast-moving consumer goods (FMCG) company in the world, slightly behind Nestlé, PepsiCo and Coca-Cola.

The company classifies its products within 4 categories:

- Beverages and ice cream: Ben & Jerry's, Miko (Magnum, Carte d'Or, Max Adventures, Viennetta, Cornetto), Lipton, etc.
- Food: Amora, Calvé, Knorr, Maille, Maizena, etc.
- Personal-care: Axe, Brut, Dove, Monsavon, Rexona, Signal, Timotei, Williams, etc.
- Homecare: Buhler, Cajoline, Cif, Domestos, Omo, Skip, Persil, Sun, etc.

The multinational is a world leader in food industry when it comes to the categories in which it operates: broths, condiments, teas and ice creams, etc. Unilever is also occupying a decent place in skin care products and deodorants in addition to maintaining a strong position in other categories of home care and personal care products.

One of the company's goals is to meet the everyday needs of consumers around the world; its Food and Home & Personal Care products offer and deliver a promise of quality, which is why every day 2.5 billion people use Unilever products to feel good, look good and enjoy life more, providing the company with a unique opportunity to build a better future.<sup>1</sup>

#### **1.1. Unilever’s history:**

On January 1<sup>st</sup>, 1930 the company was founded as a result of the merger between the Dutch margarine company Margarine Unie (created by the LEVERD family) and the British manufacturing company Lever Brothers (founded by William Hesketh Lever), forming one of

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<sup>1</sup><https://www.unilever.com/>, official Unilever website, consulted on 12/04/2020 17:00

the first multinational consumer goods companies; in order to help import large quantities of common raw materials.

For over a century, Unilever has been able to adapt to changes and developments occurring in the industry and the world, and since the end of the 19<sup>th</sup> century which marked a simple beginning of a company touched by history (wars, progress of science, economic progress, etc.). In a record time Unilever has been able to mark its presence and take a place among its rivals. Following are some of the company’s mile stones:

## **1.2. Unilever’s vision**

The company's vision of building a set of strong relationships in emerging markets to provide a solid foundation for growth is planned by combining their diverse and multinational knowledge and expertise with their already existing roots in different and multiple cultures to maintain their business of providing a rich range of products.<sup>1</sup>

As well as the company's goal to make a big difference in the world by leveraging their global reach and encouraging people to take small, everyday actions.

The company’s vision has set the foundation for multiple priorities and principles defining their commitment and way of running their activity. Amongst which we have:

- Establishing a better future for children by:
  - Launching initiatives that promote the necessity of making the future better for generations to come such as the Child Vitality initiative to bring our expertise in nutrition to children in some of the world’s poorest countries by partnering up with the World Food Program.
- Providing a healthier future by:
  - Vaseline has launched the Vaseline healing project, providing research into skin conditions and support for people affected by skin diseases.
- Promoting a more confident future by:
  - For example, the Dove’s Campaign for Real Beauty uses real women instead of models in its advertising campaigns. The brand has also launched the Dove Self Esteem Fund which educates and inspires millions of young women.
- Providing a better future for the planet by:
  - Aiming to grow the business while reducing their environmental footprint and

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<sup>1</sup><https://www.unilever.com/about/who-we-are/our-vision/>, consulted on 18/04/2020 23:22

working across the supply chain for every brand to do so (the laundry brands, such as Surf, OMO, Persil and Comfort, have launched the Cleaner Planet Plan together, encouraging consumers to change their laundry habits to reduce water and energy consumption).

Providing a better future for farmers and farming by: Using ethically and sustainably sourced ingredients that are independently certified.

### **1.3. Research and development**

Innovation enables the company to respond to the needs and aspirations of individuals in the most up-to-date and modern way possible, enabling it to make small but effective improvements as well as big ideas that meet the needs of consumers. Innovation is therefore at the heart of Unilever's ambition for sustainable development. Science, technology and product development are at the heart of their plans to continue to provide consumers with great brands that improve their lives while having a positive impact on the environment and society.

The company focuses on R&D (research and development), combining its scientific expertise acquired over the years with consumer knowledge to produce attractive and exciting technologies.

Unilever is equipped with 6 major R&D laboratories around the world: two in the UK (Colworth House and Port Sunlight), one in the Netherlands (Vlaardingen), one in the USA (Trumbull), one in China (Shanghai) and one in India (Bangalore). More than 6,000 scientists, engineers, chefs and technicians work around the world to invent new products and improve existing ones to delight consumers around the world.<sup>1</sup>

### **1.4. Unilever’s Customer Relationships Management**

Unilever is continually developing its knowledge of the links between the supply of food to consumers and their wellbeing by researching and developing its food production methods that have a positive impact on health and thus improve hygiene and increase consumer satisfaction.

With leading brands, the Group provides quality food, home and personal care products to 2.5 billion consumers around the world every day.<sup>2</sup> And it mobilizes all its energy to adapt to new trends and technologies and to meet the different and emerging needs of consumers. It's all about creating value in order to continue growing the business while

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<sup>1</sup><https://www.unilever.com/about/innovation/>, consulted on 19/04/2020 20:20

<sup>2</sup><https://www.unilever.com/about/who-we-are/about-Unilever/>, consulted on 19/04/2020 23:05

improving customer satisfaction. At Unilever, health, nutrition and pleasure guide and set the standards as the company is seen as a leader in its markets with famous brands and a reputation to uphold.

Due to the constant and changing demands of consumers for food and products used in everyday life, Unilever is always looking for ways to meet these demands through the innovation and creativity of its employees.

#### **1.4.1 Food category**

Unilever has one of the largest portfolios of food brands. The popularity of its brands is the result of a daily and continuous analysis of consumers' feedback and respect for their desires.

We can notice that the Group has ranges of products that make it possible to find all tastes on all occasions, from the most every day to the most festive. Thanks to its research center, « the Unilever Health Institute » that sets up numerous research programs that constantly improve the nutritional qualities of its products.<sup>1</sup>

#### **1.4.2 Home care and personal care categories**

Its personal care brands are used on five continents. And brands like Ax, Dove, Signal, Lux, Lifebuoy and Rexona have a goal of exceeding the expectations associated to them being merely hygiene products, and reach an objective of enabling the user to better enjoy life.

Unilever possesses 15 major historical brands of home care and personal care. Continually evolving, these brands bring consumers the latest innovations in practicality, efficiency and wellbeing.<sup>2</sup>

#### **1.4.3 Values and principles**

The company's Purpose states that to succeed requires "the highest standards of corporate behavior towards everyone they work with, the communities they touch, and the environment on which they have an impact."

Their values define how they do business and interact with other colleagues, partners, customers and consumers. Their four core values are integrity, responsibility, respect and pioneering. As Unilever expands into new markets, recruits new talent and faces new

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<sup>1</sup><https://www.unilever.com/brands/?category=408118>, consulted on 21/04/2020 15:03

<sup>2</sup><https://www.unilever.com/brands/?category=408126>, consulted on 19/04/2020 19:36

challenges, these values guide them in decision making and, in the actions, they take every day. Therefore, the organization seeks to have a positive impact through: its brands, its activities, its commercial relations, its voluntary contributions as well as any other means.

The company is committed to working with suppliers, agents, distributors and other business partners who share similar values and uphold the same standards as they do. Their Responsible Sourcing Policy and Responsible Business Partner Policy, aligned to Unilever’s Code of Business Principles<sup>1</sup>, seek to uphold twelve fundamental principles covering business integrity including specific responsibilities relating to employees, consumers and the environment.<sup>2</sup>

## **2. Unilever Algeria**

Unilever Global is subdivided into three geographical regions; and Algeria is part of Unilever Maghreb, which in turn is part of the MENA region (Middle East & North Africa), the only representative of the North African subsidiary.

Unilever Maghreb holds production sites in the three countries: Morocco, Algeria and Tunisia

The investment in Algeria started in 1954, starting with the most famous and trusted brand in the region -powder soap OMO- and this investment was a result of a partnership with a local distributor, since then, OMO has become the reference brand of this type of soap in the country.

Unilever decided to officially enter the country in 2002 with a production site located in Oran in the Hassi Bounif industrial zone.

The site started by providing customers mainly with detergents: OMO (hand and machine) and Surf, but the since then their activity has expanded.

All activities related to Marketing, Supply and Demand planning for locally processed products, as well as imported ones, in based in Algiers (ABC tour, Pins Maritimes Mohammadia).<sup>3</sup>

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<sup>1</sup> Appendix n°3.2.

<sup>2</sup><https://www.unilever.com/about/who-we-are/our-values-and-principles/>, consulted on 21/04/2020 13:02

<sup>3</sup> Unilever Algeria’s internal Data obtained from Human Resources Department.

The products distributed in Algeria by the group:

**Table n°3.1: List of products distributed in Algeria**

Categories	Sub-Categories	Type	Brand
Home care	Detergent	Laundry detergent	OMO
		Multi use	JIF Surf
Personal care	Hair care	Shampoo	Dove
		Conditioner	Clear Sunsilk
	Skin cleansing	Soap shower Gel	LUX, Dove
		Deodorant	Rexona Axe Dove
	Stick	Rexona Dove	
	Oral	Tooth paste Toothbrush	Signal
Food			Knorr
	Refreshments		Lipton

**Source:** fulfilled based on data obtained from Marketing department

**2.1. Unilever’s expansion plan in Algeria:**

Unilever's expansion plan in Algeria came into being in September 2018, coinciding with import restrictions and laws because of the country's economic situation which has somehow limited and impacted significantly the course of business.

On one side, by limiting the importation of products already registered in the list of imports and on the other side, there was the obstacle of the prohibition of adding new materials or unregistered products.

Not to mention the serious devaluation of the value of the Algerian dinar.

Despite these serious obstacles, Unilever Algeria’s activity on national territory has remarkably evolved as a result of installation of new lines –mainly in the “Personal Care” category- which are operational since September 2018 namely:

- A production line of shampoo and conditioner for the brands Sunsilk, Clear and Dove as well as the LUX and Dove shower gel.
- Another line that produces SIGNAL toothpaste.
- And a new line for the production of liquid detergent.

Currently only LUX and DOVE brand soaps are imported.

The sales process within the subsidiary prioritizes certain activities over others and in order to achieve the objectives defined by the responsible teams; certain measures are taken, some of which we mention:

- **Growth through Core of the Core**: concentrate on selling and making the best of products that provide high unit profit margin.
- **Safety stocks**: ensure products availability in order to cover current demand.
- **Accelerate distribution**: focus on all the ways that can accelerate distribution to ensure that goals set are being achieved.
- **BB Awareness**: present and go through all possible scenarios to be able to cover the gaps. Therefore, a continuous need for creativity.<sup>1</sup>

## **2.2. The organizational structure of Unilever Algeria:**

Unilever in Algeria is subdivided into 5 major departments directly dependent on the parent subsidiary Unilever Maghreb.<sup>2</sup>

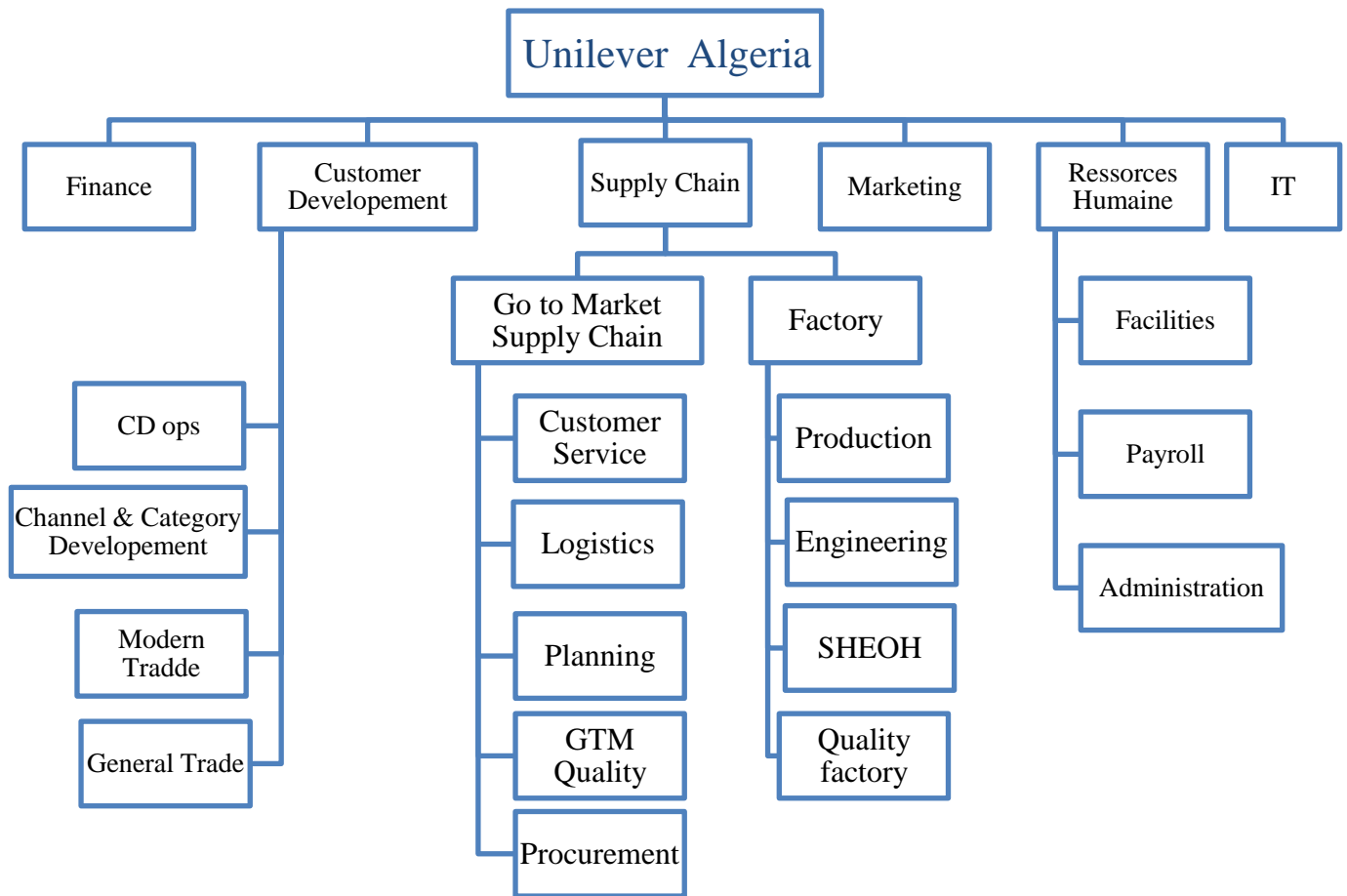
The figure below presents in detail the organizational chart in Algeria:

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<sup>1</sup>Unilever Algeria’s internal Data obtained from Human Resources Department.

<sup>2</sup>Unilever Algeria’s internal Data obtained from Human Resources Department.

Figure n°3.1: The organizational chart of Unilever Algeria



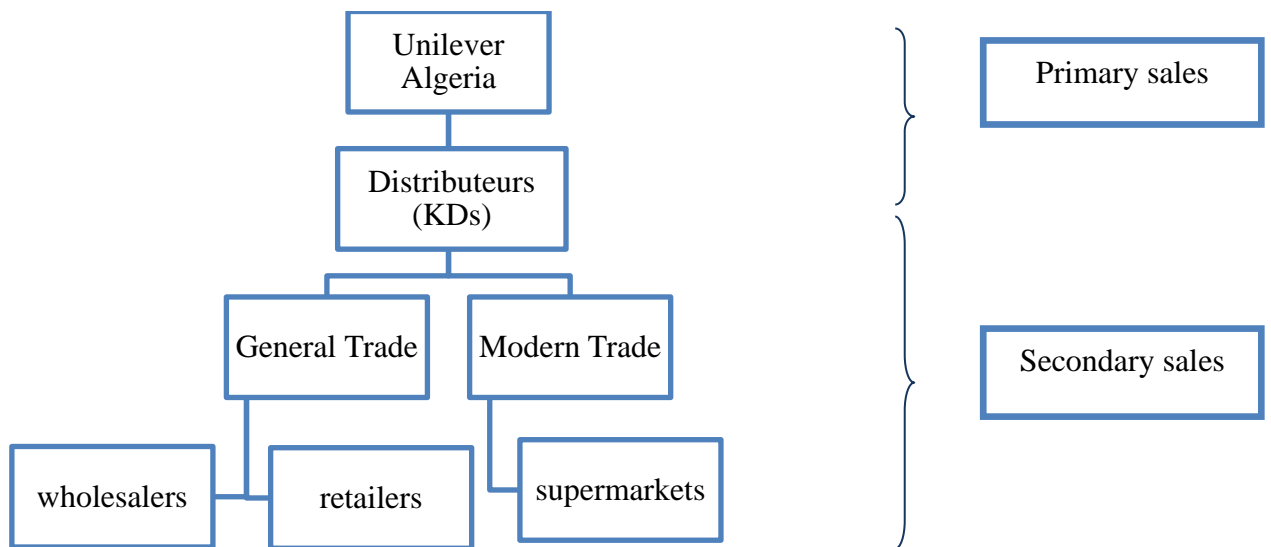
**Source:** company’s internal DATA acquired from Human Resources department

**2.3. Distribution Channel at Unilever Algeria :**

Unilever's current distribution strategy is all about selection, at this phase, choosing the best distributors with the ability to cover most of the country geographically to ensure maximum coverage on one side.

On the other side, dealing with the most efficient and stable distributors to obtain the targeted brand image and by doing so the company get to position itself strategically in the market.

**Figure n°3.2: Unilever Algeria’s distribution channel**



**Source:** fulfilled by me based on data acquired from supply chain process control department

The circuit is divided into two:

### 2.3.1 Primary sales:

The current number of distributors is approximately 27 located and organized according to major Algerian geographical regions (West, West Center, East Center, East, Far East), which are in turn divided into zones and then into sectors and geographical areas.

### 2.3.2 Secondary sales:

- General Trade (Traditional Trade): Represents 97% of Unilever's turnover, it includes distribution to wholesalers, semi-wholesalers and retailers.

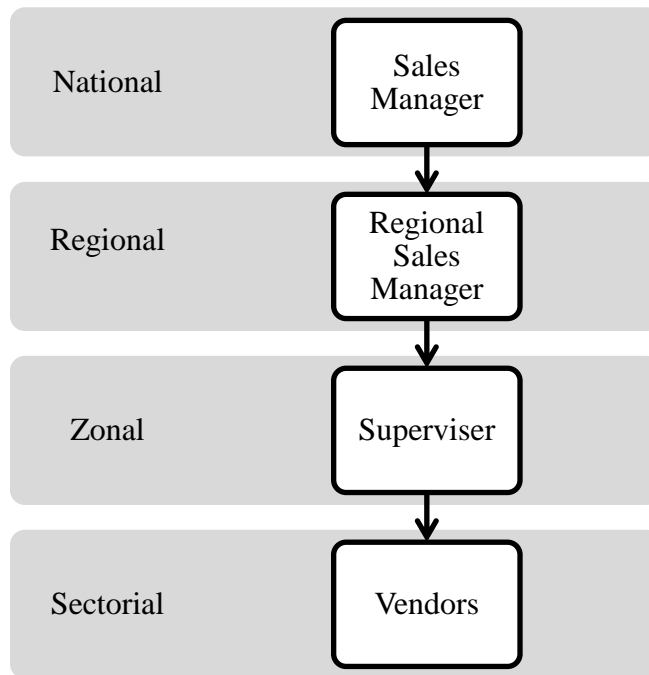
For further details, 72% represents the contribution of wholesalers, which is clearly the majority compared to retailers with 25%.

- Modern Trade: Includes distribution to supermarkets (Ardis, Uno, Family Shop ... etc.). This channel accounts for almost 3% of Unilever's turnover, which compared to other channels of distribution is extremely poor, this situation is a result of existing Algerian consumer culture and the current state of the Algerian market.

Distributors, wholesalers and retailers together form Unilever’s customer portfolio, which is handled by Customer Development Department, with the purpose of optimizing sales and distribution at both primary and secondary levels.<sup>1</sup>

This department is organized as follow:

**Figure n°3.3: Organizational chart of CDD**



Source: fulfilled by me based on data acquired from supply chain department.

#### **2.4. Different departments and their functions**

The manufacturing site in Oran is divided into four (04) large departments.<sup>2</sup>

##### **2.4.1 IT Department**

Concerns all the technologies and especially those of the offices, this department manages the computers necessary for the work, network management as well as repairing any breakdowns.

##### **2.4.2 HR Department**

This department contains two separate parts, the first one handles human resources, And the second part, it is the Workplace & Travel service.

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<sup>1</sup> Internal DATA obtained from supply chain department.

<sup>2</sup> Internal DATA obtained from Human Resources Department.

### 2.4.3 Finance Department

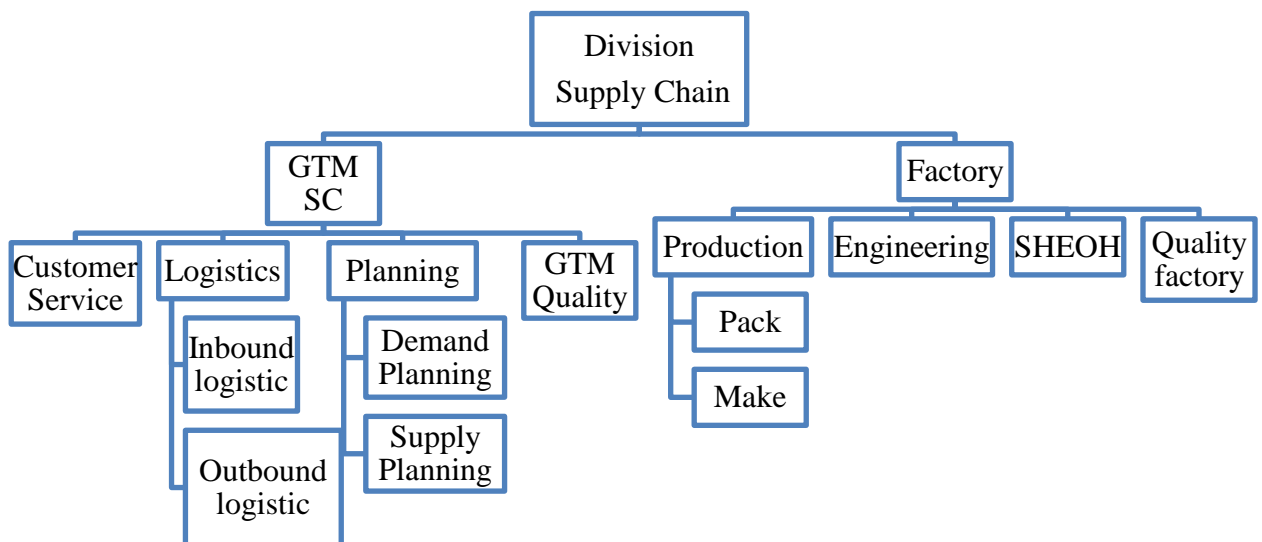
Finance has some of the company’s vital missions, including which there are:

- Accounting.
- Taxes and reporting.
- Treasury.
- Budget management.
- Taxation.
- Sales.

### 2.4.4 Supply Chain Department

Unilever owns one of the most efficient logistics chains in its sector (FMCG) which focuses on efficiency and eco-production in steering these processes.

**Figure n°3.4: SC Division’s organizational chart**



**Source:** company's internal data obtained from supply chain department.

The Supply Chain division is managed by a Supply Chain Manager and includes two departments, which are Factory and GTM (Go to Market) Supply Chain, whose job is to ensure both the production and the good distribution of the products.

This department is considered the largest in terms of number of services and employees, the two departments of the division perform critical functions that affect significantly the course of business, it groups together the functions:<sup>1</sup>

<sup>1</sup>Internal DATA obtained from supply chain Department.

#### **2.4.4.1 GTM Supply Chain:**

This department ensures the management of information and physical flows ensuring in the process the proper functioning of the entire logistics chain and optimizing its efficiency and effectiveness.

It groups together the following services:

- Customer Service:

It is considered to be the service that handles customer relationship processing (KDs) and therefore the processing of the sales order. In addition, they monitor primary sales, from order taking to delivery to KD.

They also check the availability of requested products, process customer complaints and track payments.

The Customer Service also ensures primary customers’ satisfaction by handling and verifying the proper completion of the order in terms of quantity and delivery time.

- Logistics:

This department is grouped in 2 parts:

- **Inbound logistics:** this service is in charge of the flow of inputs and thus of the transportation of raw material to factories and the products imported to the various local warehouses, it also takes care of the procedures and formalities with the Algerian customs and the bank (Customs clearance, payment method, etc.).
- **Outbound logistics:** This service handles Unilever's finished product, and therefore the output flow transportation to distributors.

The company has three warehouses of finished products (C201) including two main warehouses: one in Oran (C001) where raw material is stored and another in Algiers (C002). Transportation and Ware House Management activities are outsourced to local stakeholders; this decision was taken to allow Unilever to focus on its core business of production and sales.

- Planning:

This service is grouped into 2 parts:

- Demand planning: handled by the supply chain manager of Unilever Algeria, the demand planner is primarily responsible for forecasting sales over a 2-year horizon and secondly for organizing and regulating order

flows, forecasting sales and participation in the development of the monthly production plan.

One of the principal missions of the demand planner is to set up production and sales schedules and to carry out monitoring, for the purpose of optimizing the deadlines, maximizing the use of means of production, and cutting costs.

The demand planner has other missions critical for business activity; among which:

- Scheduling and adjusting in coordination with other services and departments.
- Deadlines management.
- Participation in the optimization of production processes.
- Monitoring essential material supply to guarantee a smooth course of production.

These entire tasks allow the Demand Planning Manager to have a more or less optimal vision of the future activity of the company.

Therefore, there are certain characteristics that the Demand Planner needs to have in order to perform his job at best, as a result, the Manger is required to:

- Be organized and attentive to the work environment.
- Possess quick decisions making abilities in case of problems.
- Have the ability to k manage delays.
- Have a good sense of communication.
  - Supply planning: This service ensures the availability of finished products to meet demand, and also calculates raw material needs and the launch and follow-up of orders.

- GTM Quality:

The main mission of the GTM quality manager is to ensure that Unilever products reach the final consumer in good quality by verifying its compliance with quality procedures, Unilever’s quality requirements, all process documentation and updates, the service consumer, but also the quality controls on the site.

#### **2.4.4.2 SC Factory:**

This department brings together all the functions ensuring production at the Oran plant level. It is divided into four sub-departments, which are:

- Production: this service ensures the processing and transformation of raw materials into finished products; it is divided into two teams:

- **Making:** Includes all the production lines, it is planned according to a PIC (Industrial and Commercial Plan) drawn up to achieve the goals set by Unilever World for each region where it operates.
- **Packing:** Includes packaging, bottling, crating and palletizing.

- Quality factory: Includes activities that ensure compliance with Unilever's general standards and quality standards within the plant, including the company's QMS, quality control and quality audit.

- SHEOH: responsible for the company's security policy and ensures that it's applied and monitored. It concerns the workforce, equipment, working conditions, respect for the environment, and prevents the risk of accidents and diseases.

Safety, Hygiene and Environment, these three services ensure that the company operates under the required standards. It includes employee safety, monitoring, but also the control of disposals, water and energy consumption as well as the carbon footprint of the company.

- Engineering: this service groups maintenance activities within the plant.

### **Section 03: The impact of SCRM strategies on the performance of the SC at Unilever Algeria**

The assessment of the overall impact of SCRM related practices on the SC at Unilever has presented many challenges; the difficulty lies in the fact that the access to information was an enormous obstacle because of the current ongoing situation of Covid-19. Thus, the choice of the analysis tool seemed extremely limited.

#### **1. Methodology of the Study:**

In order to maximize the use of the information available and answer the main research question, as we recall, “**How does the use of supply chain risk management strategies impact the performance of a company’s SC?**” We have seen it best fitting to conduct a qualitative study through interviews with the managers concerned.

It is only appropriate to mention that due to quarantine and the social distancing rules, the interviews were through a video call using Zoom.

At first hand, it is suitable to start with presenting the methodology followed within this research, then a summary of the results gathered with a detailed analysis of each response, and finally a general summary followed by a conclusion.

#### **1.1. Choice of research methodology**

Considering the evolving nature of this research in a volatile circumstances that changes and keep changing up to this moment, keeping an open eye on day to day news was primordial, and in order to enrich the research it seemed proper to use a Qualitative Study that requires intensive analysis, allowing us in the process to gather the necessary information based on answers provided by managers at Unilever Algeria containing their opinions and point of views.

This study aims essentially to highlight the SCRM strategies that are largely used within the company and therefore to provide some insight on the impact of such strategies.

#### **1.2. Tools used to collect information**

There are multiple techniques used within the qualitative study in order to collect the information required for a research, amongst which the mostly used techniques are:

Individual interviews, group interviews, projective techniques, creative techniques and observation techniques.

Based on the objective set in accordance with this research and the position held by the interviewees within Unilever Algeria, it seemed more fitting to carry out individual interviews.

This specific technique has three main types: the non-directive interview, the semi-directive interview and the directive interview.

As the research required versatile information, we opted for the semi-directive interviews, as a result of the resilience and controlled freedom it offers to the interviewees, and thus allows to deepen the field of answers.<sup>1</sup>

**Table n°3.2:** Interviewees’ presentation

<b>Name</b>	<b>Job description</b>	<b>Interview duration</b>
Mr. Hamind Boumesbah	Country Director	52 Minutes
Mr. Youcef ALI	Demand planner and S&OP	48 Minutes
Mrs. Fatma Hakima KOUBA	Supply Chain process Control, claims & pallets management specialist	50 Minutes

The questions asked during the interview are intended to gather as much information as possible. We specifically wanted to reach a conclusion containing a real estimation of the impact that SCRM has on SC performance of Unilever.

Therefore, we will start with analyzing the most relevant replies giving by the interviewees in response for the questions asked.

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<sup>1</sup> VERNETTE (Éric) :« *Techniques d'études de marché* », Vuibert, 4th Edition, 2018, pp 31,38.

## **2. Framework of the study case**

*«If you cannot measure it, you cannot control it. If you cannot control it, you cannot manage it. If you cannot manage it, you cannot improve it. » (Harrington, 1991, p. 164)*

Due to the outbreak of the Covid-19 the time’s map took new dimensions, the market environment in which companies are present today split into two eras; **the before and the after covid-19.**

And as a result of this drastic changes; worldwide transportation and distribution operations are getting increasingly complex, lead times are longer, prices are rising and customer service aren’t at their best, hence the escalating risk threatening SCs and companies’ performances all over the world.

To this end, we found it more appropriate to classify our analysis to three parts as showing next:

## **3. Presentation and analysis of the interview's results**

### **3.1. SCRM before the covid-19 era**

#### **1. What is your perception and understanding of risk, and what risks are more susceptible to harm Unilever’s activity?**

*“Risk is related to events that may harm Unilever’s financial flow and reputation. Stock-outs and failures in following the CSR code are examples of such risks, respectively.”<sup>1</sup>*

*“Our business is subject to a set of risks and uncertainties such as Supply chain risk that can be on its turn triggered by other risks apart from the SC itself like Economic and political instability, Climate change, Reputational, Cultural, Transportation, and Financial risks, etc.”<sup>2</sup>*

Because risk is unavoidable, risk management is an inherent part of Unilever's strategy. Its success as an organization relies on its ability to recognize and exploit opportunities, whatever the risks that may arise. By embracing this approach, Unilever places the assessment

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<sup>1</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020.

<sup>2</sup> KOUBA (F. Hakima), supply chain process control, claims and pallets management specialist at Unilever Algeria, June 14th, 2020.

of risks and opportunities at the heart of the management team's agenda. which is where Unilever believes should be.

To be prepared for any possible scenarios; Unilever has identified the risks that it regards as the most relevant to its business. These are the 14 risks that are seen as most material to Unilever’s business and performance on 2019.

**Table n°3.3: Unilever’s principal risks**

N°	Main Risk	Type of Risk	Signification
1	Treasury and Tax	Financial	<ul style="list-style-type: none"> <li>• Because Unilever consolidates its financial statements in Euros, it is subject to exchange risks associated with the translation of the underlying net assets and earnings of its foreign subsidiaries.</li> <li>• Tax is a complex and evolving area where laws and their interpretation are changing regularly, leading to the risk of unexpected tax exposures.</li> </ul>
2	Brand Preference	Operational	Consumer tastes, preferences and behaviors are constantly changing and Unilever’s ability to anticipate and respond to these changes and to continue to differentiate its brands and products is vital to its business.
3	Climate change	Externality	Climate change and governmental actions to reduce such changes may disrupt Unilever’s operations and/or reduce consumer demand for its products.
4	Legal and Regulatory	Externality	Failure to comply with laws and regulations could expose Unilever to civil and/or criminal actions leading to damages, fines and criminal sanctions against the company and/or its employees with possible consequences for its corporate reputation. Changes to laws and regulations could have a material impact on the cost of doing business.
5	Plastic packaging	Operational	Not only is there a risk around finding appropriate replacement materials, due to high demand the cost of recycled plastic or other alternative packaging materials

			could significantly increase in the foreseeable future and this could impact the business performance.
6	Talent and People	Operational Risk	With the rapidly changing nature of work and skills, there is a risk that Unilever’s workforce is not equipped with the skills required for the new environment.
7	Systems and Information	Operational	The cyber-attacks could inhibit the company’s business operations in a number of ways, including disruption to sales, production and cash flows, ultimately impacting its results.
8	Economic and political instability	Externality	Unilever has more than half its turnover in emerging markets which can offer greater growth opportunities but also expose Unilever to related economic and political volatility.
9	Portfolio management	strategic	Unilever’s growth and profitability are determined by its portfolio of divisions, geographies and channels and how these evolve over time. If Unilever does not make optimal strategic investment decisions, then opportunities for growth and improved margin could be missed.
10	Customer	Externality	The strength of Unilever’s customer relationships also affects its ability to obtain pricing and competitive trade terms. Failure to maintain strong relationships with customers could negatively impact its terms of business with affected customers and reduce the availability of products to consumers.
11	Safe and high-quality products	Operational	The risk that raw materials are accidentally or maliciously contaminated throughout the supply chain or that other product defects occur due to human error, equipment failure or other factors cannot be excluded. Labeling errors can have potentially serious consequences for both consumer safety and brand reputation.

12	Business transformation	strategic	Unilever has an extensive program of transformation projects. Failure to execute such initiatives successfully could result in under-delivery of the expected benefits and there could be a significant impact on the value of the business.
13	Ethical	internally and externally	Acting in an ethical manner, consistent with the expectations of customers, consumers and other stakeholders, is essential for the protection of the reputation of Unilever and its brands. Failure to meet these expectations could result in damage to Unilever’s corporate reputation and business results.
14	Supply Chain	Operational	<p>The company’s supply chain network is exposed to potentially adverse events such as physical disruptions, environmental and industrial accidents or bankruptcy of a key supplier which could impact its ability to deliver orders to our customers.</p> <p>The cost of the multinational products can be significantly affected by the cost of the underlying commodities and materials from which they are made. Fluctuations in these costs cannot always be passed on to the consumer through pricing.</p> <p>Giving the nature of the SC any of the 13 previous risks can disrupt its functionality.</p>

**Source:** Unilever’s 2019 Annual Report

If the circumstances in these risks occur or are not successfully mitigated, the company’s cash flow, operating results, financial position, business and reputation could be materially adversely affected. In addition, risks and uncertainties could cause actual results to vary from those described, which may include forward-looking statements, or could impact on its ability to meet its targets or be detrimental to Unilever’s profitability or reputation.

**2. How do you qualify Unilever’s SCR in regard of its numerous partners’ portfolio? And how do you describe the relationship with your SC partners?**

**a) First part of the question:**

*“Our supply chain is subjected to both national and international threats. The more complicated the supply chain, the less linear the risk’s prediction and the effect of disruption. In other terms, SCR level is significantly greater in Unilever’s case”<sup>1</sup>*

Regardless to the significant threats that complex SCs such as Unilever’s face, this last is no rookie when it comes to its SCRM strategies.

Unilever's assessment of SC risk is a first ex-post assessment; the company conducts regular and consistent analysis of its partners' performance and their ability to supply the desired and required service/product. These analyses focus on the quality of the partnership, more precisely, at what level did the partners actually deliver the right amount of material/service, whether this delivery was made on time and what was the quality of the service/material delivered; whenever a critical issue arises, the partner is responsible for correcting the non-compliance.

Moreover, Unilever carries out a supplier rating analysis (Vendor Rating analysis) on a yearly basis, in which they evaluate the suppliers' engagements with the focal firm primarily in terms of the overall quality of the service provided. As part of this evaluation, the firm creates reports ranking the yearly performance of each supplier, varying from "unacceptable supplier" to "excellent supplier". Excellent suppliers" will be praised; instead, "unacceptable suppliers" must either present a solid plan to correct the non-compliance or the partnerships will be cancelled.<sup>2</sup>

Unilever Algeria's SCRM approach is to recognize the potential risks at first then come up with plans to mitigate them. In other words, the company’s general approach is to minimize the likelihood of odd events. i.e. reducing the uncertainty and exposure to risk, and consequently reducing the firm’s vulnerability.

To achieve this, the company invests heavily upstream, collaborating with its partners and demanding the maximum standards of quality and social responsibility in order to attenuate risks. Unilever believes that its ongoing investment and upstream focus will automatically minimize risks along the SC over time. Table n° 3.4 sets out the strategies

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<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

<sup>2</sup> <https://www.unilever.com/about/suppliers-centre/unilever-supplier-qualification-system/> consulted on 29/06/2020

applied both upstream, as part of positive assurance thinking, and downstream, to address potential limitations that cannot be mitigated by massive upstream investments.

**Table 3.4:** Unilever Algeria’s General Procedures for Reducing SC Risk

Upstream	Downstream
Shared principles with partners	
Information sharing	
Collaborative Planning and Acting	
Sales and Operational Planning (S&OP)	
Requirement of strict technical specifications for suppliers’ raw materials and inputs	Strict specifications for storing and transporting
Constant supplier quality auditing	<sup>2</sup> / <sub>3</sub> Rule
Packaging suppliers’ geographical location	Safety Stocks
Close relationship with critical inputs suppliers	

**Source:** Internal information from SC department.

The aforementioned procedures are considered complementary by Unilever. Upstream and downstream actions take into account the relatively low complexity and agility and flexibility associated with SC, as well as the company's CSR principles and code.

**b) Second part of the question:**

*“Not only us, but all of our SC partners must strictly share and adhere to the same philosophy as ours (people and environment respect, etc.) so that if one of the partners doesn't adhere to these principles, the entire partnership will collapse”<sup>1</sup>*

Unilever insists that upstream and downstream partners must follow very strict technical specifications for input quality, storage and transport in order to establish and maintain partnerships. Upstream, these requirements are set according to the risk classification of the raw materials or inputs used, i.e. on the basis of the danger that a given input may pose to the health of consumers, considering mainly the likelihood of the input contaminating the output

<sup>1</sup> KOUBA (F. Hakima), supply chain process control, claims and pallets management specialist at Unilever Algeria, June 14th, 2020.

product; in consequence, an input that is more likely to harm the health of consumers has a relatively higher risk classification and thus stricter technical specifications.

For example, the choice of some of Unilever's suppliers, such as in packaging is determined by a combination of adherence to Unilever's principles and increased flexibility and agility due to the uncertainty in the consumer market. As finished packaging inputs are not stocked by Unilever and when a customer places a last-minute order, packaging materials are immediately required to complete the production process<sup>1</sup>.

This strategy accounts for a cost savings on inbound transport, due to the fact that the nature of packaging materials tends to take up space rather than weight, i.e. packaging materials are not heavy, yet they take up space during storage and transport, which would result in more trucks with inactive capacity handling the same volume of any other raw material, e.g. ice cream powder.

**3. Considering the relatively high number of Unilever’s supplier, do you believe that the latter could negatively impact the company’s SC?**

*“With a total of 59800 suppliers in around 161 countries supply chain risk is at its spike and identifying Critical suppliers becomes an inevitable obligation”<sup>2</sup>*

**Table n° 3.5:** Unilever’s Suppliers by geography

<b>Suppliers by geography</b>	
<b>Total number of suppliers</b>	59800 suppliers in 161 countries
<b>Logistics &amp; Operations suppliers</b>	In 123 countries
<b>Marketing &amp; Business Services suppliers</b>	In 155 countries
<b>Third Party Manufacturers</b>	in 79 countries
<b>Raw Materials suppliers</b>	In 96 countries
<b>Packaging suppliers</b>	In 83 countries

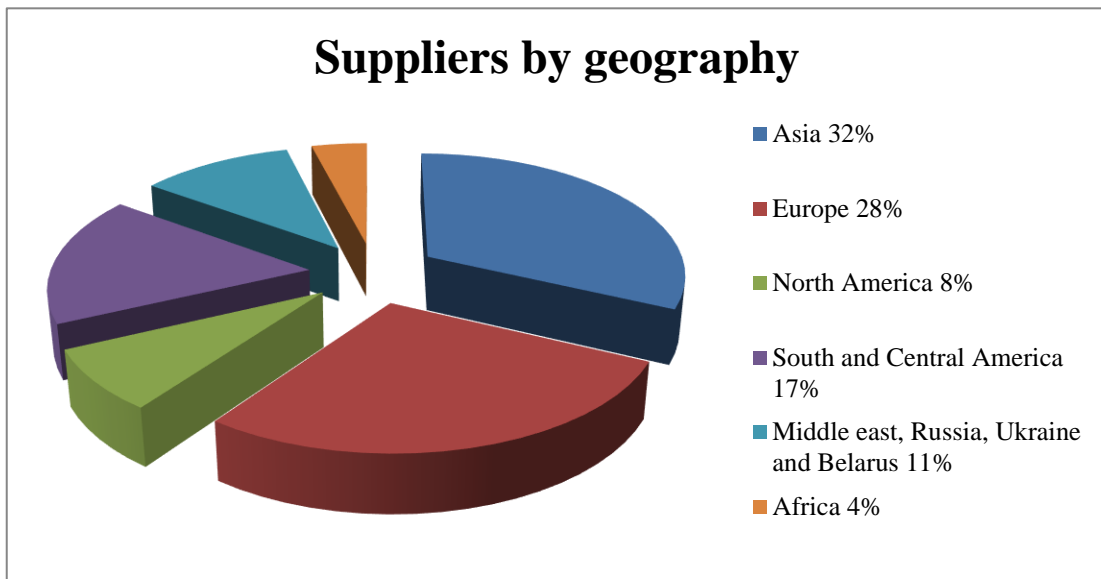
Source: Internal information from SC department.

60% of the company’s suppliers are located in Europe and Asia (28% in Europe and 32% in Asia) while the rest is estimated by: 8% North America, 17% south and central America, 11% divided between middle east, Russia, Ukraine and Belarus, and finally the lowest number of suppliers is located in Africa representing 4% of the total number.

<sup>1</sup>unilever-paper-and-board-packaging-policy

<sup>2</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

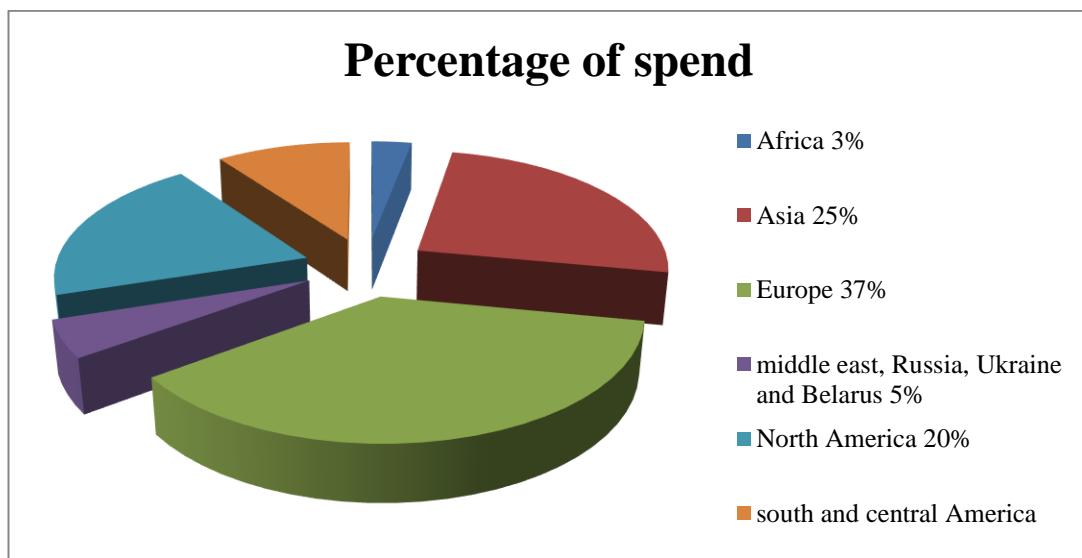
**Figure n°3.5:** Unilever’s suppliers by geography



Source: Unilever Supply Chain Overview & Spend Analysis, May 2020

Unilever spends a total of €33.7 billion on its supplier, regardless to the slightly lower number of its European suppliers compared to Asian; the company’s spending rate is 37% in Europe against 25% in Asia, the two together cost the company more than €20 billion.

**Figure n°3.6:** Unilever’s Suppliers spend rate



Source: Unilever Supply Chain Overview & Spend Analysis, May 2020

The noticeable is the unequal geographic distribution of Unilever’s suppliers which could lead to a serious disruption in the SC in case of “Force majeure” in a one of the regions where the percentage of spend over suppliers is high. Although it is known that companies

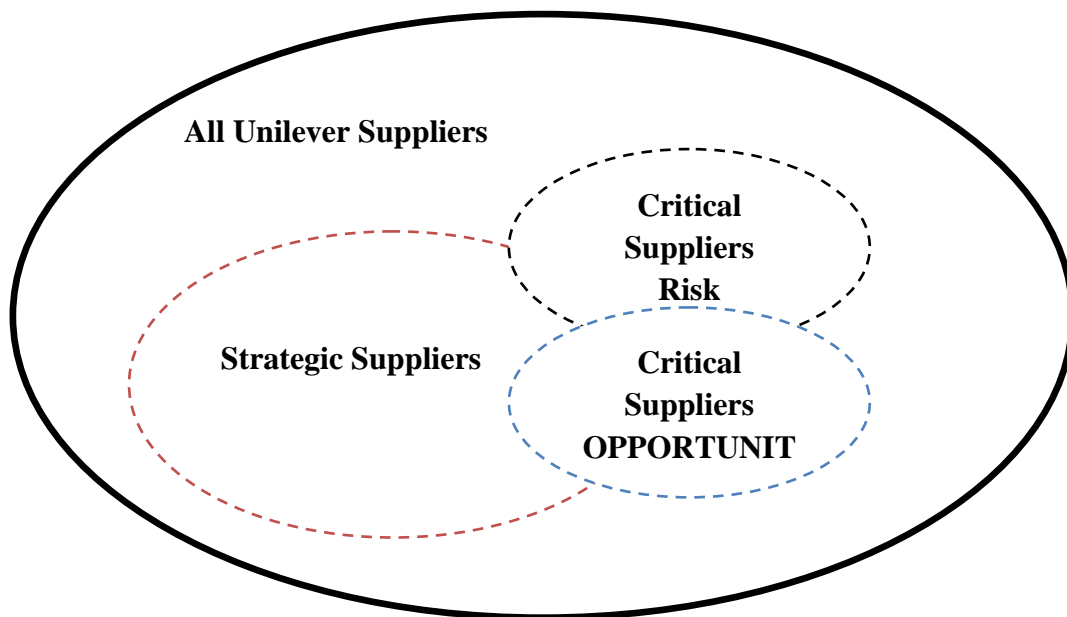
never rely on one supplier when it comes to the same input, but in some cases those suppliers belong to the same tree branches which eventually lead to one big supplier.

To this end, Unilever splits its suppliers into two categories:

- **Strategic Suppliers:** those that represent a significant proportion of its spend or volume.
- **Critical Suppliers** are identified in two categories:
  - Those that represent **RISK**.
  - Those that represent an **OPPORTUNITY**.

Neither type of supplier is mutually exclusive i.e. a supplier can be both a critical supplier (risk) and critical supplier (opportunity)<sup>1</sup>.

**Figure n°3.7:** Unilever suppliers’ categories.



**Source:** created based on internal information

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<sup>1</sup>Critical suppliers – OPPORTUNITY are part of Unilever’s **Partner to Win** approach which was Launched in 2011 to drive closer collaboration with our most strategic suppliers, focusing on five core areas: Quality and Service, Capacity and Capability, Responsible and Sustainable Living, Innovation, Value

#### **4. How to define and identify a critical supplier Risk?**

*“critical suppliers are suppliers with spend over a defined threshold value, where there is a unique dependency, where the supplier cannot be easily replaced and they represent a high risk on external indices”<sup>1</sup>*

This type of suppliers can be identified through three criteria:

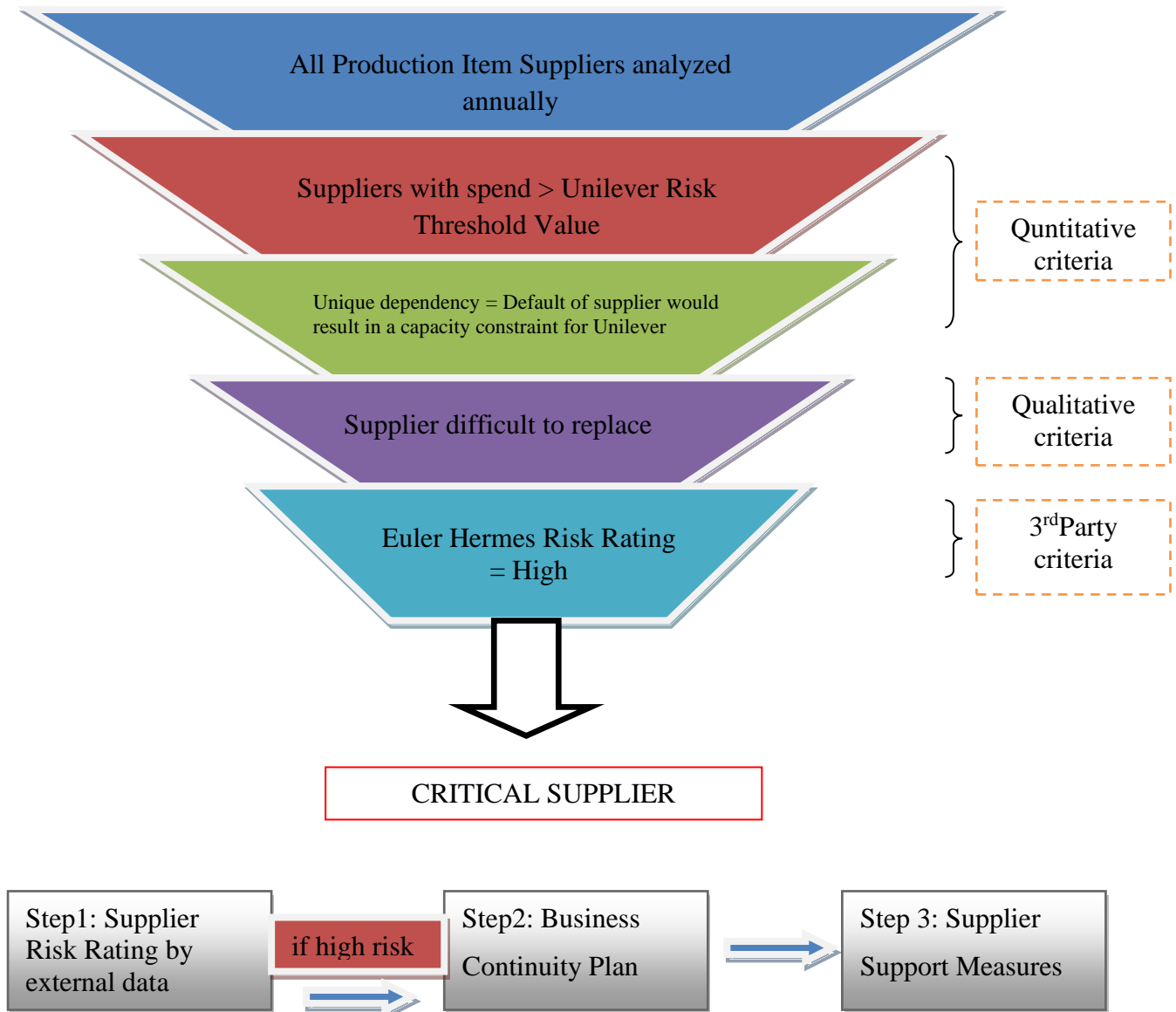
- **Quantitative criteria:**
  - Suppliers with spend that exceeds Unilever’s RTV (risk threshold value)
  - When one or many of Unilever’s activities rely on the input of supplier that can’t be substituted
- **Qualitative criteria:** supplier hard to replace, for example in case of competitive prices
- **3<sup>rd</sup> party criteria:** relying on Supplier Risk Rating by an external data provider

If the supplier showed a high rate of risk the company executes a Critical Supplier Risk Management Process as shown in the figure below:

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<sup>1</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020.

**Figure n°3.8:** Critical Supplier Risk Management Process



- **Source:** Internal DATA obtained from supply chain department.

According to Mr. Hamind Boumesbah

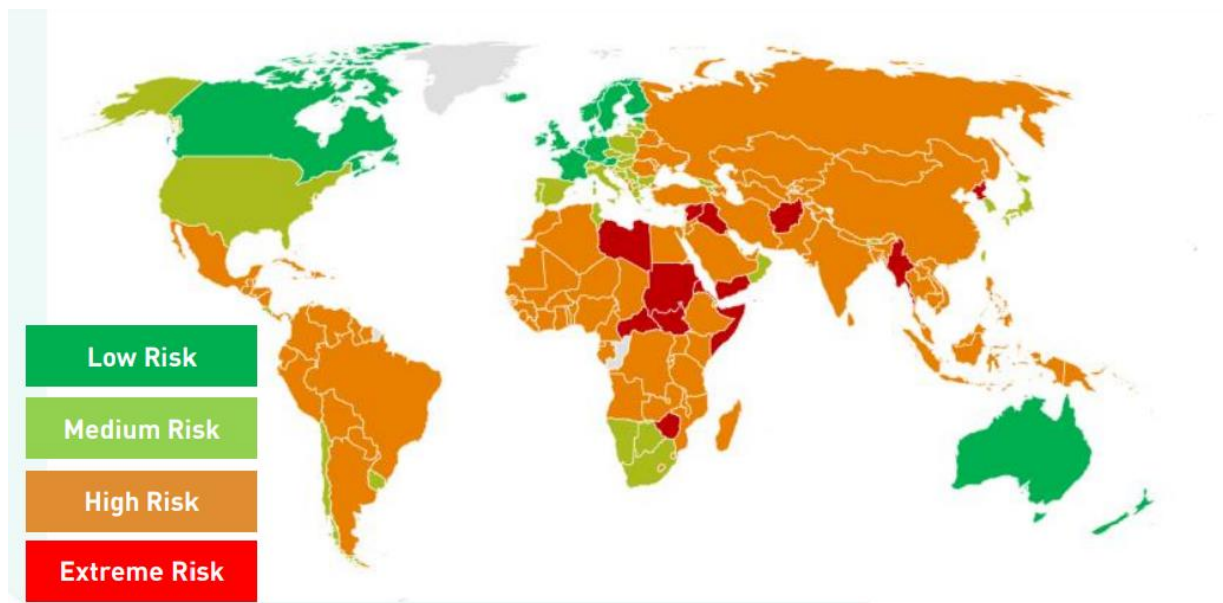
*“Unilever is focused on effectively and positively improving the conditions for workers in the supply chain, not simply identifying the issues, and this is why we continue to work with our suppliers to address the more difficult issues through identifying and tackling root causes.”<sup>1</sup>*

<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

Unilever uses a risk-based approach to determine which supplier sites need to undergo additional due diligence, which can include 3<sup>rd</sup>party audits and/or certification through fully benchmarked standards. The risk-based approach uses country risk as one element of the risk assessment.

Non-conformances found in the audits require an action plan by the supplier to be implemented and verified in a follow-up audit to confirm and verify that the identified issues have been effectively remediated.

**Figure n°3.9: Country Risk Assessment map**



**Table n°3.6: Suppliers risk assessed in numbers**

<b>Total number of supplier’s risk assessed to date 56,848</b>	
<b>Number of suppliers classified as High Risk</b>	11,808
<b>Total Responsible Sourcing audits to date</b>	12,995
<b>Total audits of high-risk supplier sites in last 3 years</b>	6,942
<b>Total audits at Production Item (PI) Suppliers in last 3 years</b>	5,585
<b>Number of PI supplier sites with identified issues in last 3 years</b>	3,200
<b>Number of PI supplier sites with verified corrective action plans in last 3 years</b>	1.693

**Source:** Internal DATA obtained from supply chain department.

### **3.2. SCRM within the covid-19 era**

In spite of the wrecking effect, a crisis is sometimes necessary to highlight strength and weaknesses in the supply chain. The Harvard Business Review recently highlighted the fact that companies have already faced significant business disruptions in this decade, following the earthquake and tsunami that hit Japan in 2011. According to the article, *"Almost nine years later, it seems the lessons of Fukushima must be learned anew as many companies worldwide scramble to identify which of their “invisible” lower-tier suppliers — those with whom they don’t directly deal — are based in the affected regions of China.”*<sup>1</sup>

In the 2019 Annual Report, Unilever states that for the 14 principal risks, worst case possible scenarios have been performed, a global pandemic has not been part of those such worst-case scenario, therefore the questions are:

#### **5. Should Unilever elaborate on scenarios and stress tests that have recently been performed as a result of the outbreak of the Covid-19 pandemic?**

*“It is true that the worst-case scenarios in our risk matrix do not specifically involve a global health pandemic, but it includes risks that could be resulted in a significant reduction in sales due to changes in consumer habits, and we also considered significant disruption in our supply chains.”*

*“Covid-19 is having a multitude of impacts on all parts of the business, and so we are continually planning for the future as this situation evolves.”*<sup>2</sup>

The composition of the SC is a double edge; the interconnected nodes which contribute positively to the manufacture of the chain are the same which could cause a complete deterioration of the latter. A small error or a threat can generate a domino effect which can lead to thousands if not millions of dollars collapses.

In fact, the complexity of managing the SC is incarnated in unpredictable and inevitable events which would occur regardless to the way we manage business, examples of this events are: Hurricanes, Storms, earthquakes and worldwide epidemics such as the one we are witnessing today due to the outbreak of the Covid-19. In such cases establishing a response scenario is unattainable due to the multiple variations and unpredictable elements that generate a potential risk.

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<sup>1</sup><https://hbr.org/2020/03/coronavirus-is-proving-that-we-need-more-resilient-supply-chains>13/07/2020 23:56

<sup>2</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

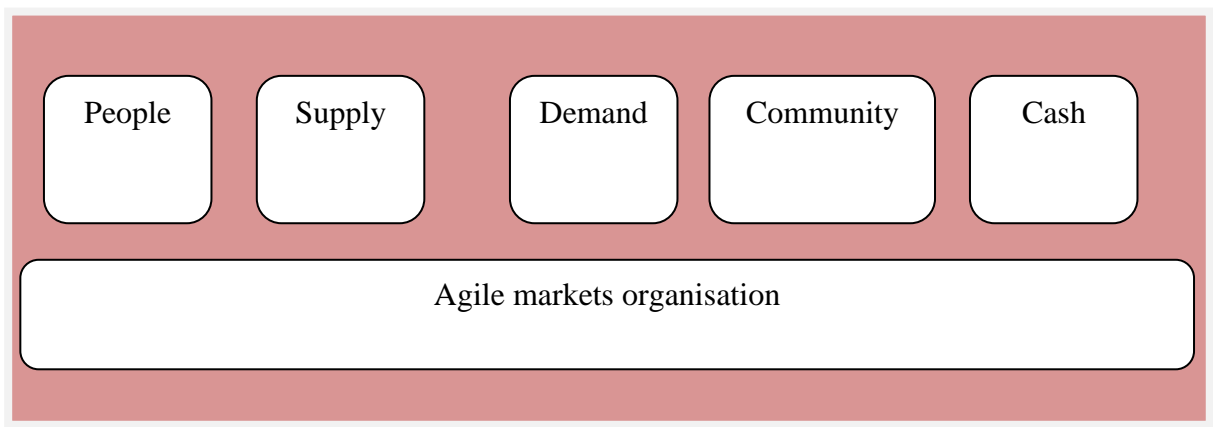
**6. Giving the current situation; companies around the world are elaborating new strategies to mitigate SC Risk and minimize its effect. Thus, what measures are taken by Unilever face to this crisis?**

*“...Our response to this crisis, I believe, will be seen to have been swift and decisive. We have moved to quickly structure our response around five critical areas: People, community, supply, cash and demand.”<sup>1</sup>*

The pandemic does not fundamentally change the purpose or nature of Unilever's business. In fact, the main risks remain the same. However, the severity and likelihood of some risks have increased over the past two months. And at times like this, the principle the company is working on is one of agility and responsiveness, which are more important than the ability to predict and lock in to a single scenario.

In no time, Unilever adapted risk management processes to the complexity of today's global supply chains, the company structured its response to the pandemic around five critical areas: **People, community, supply, cash and demand.**

**Figure n°3.10: Managing through Covid-19; five work streams**



Source:Unilever Q1 2020 report

**3.2.1 People:**

Whose safety and welfare have been Unilever’s first and highest priority. The multinational was one of the first companies, for example, to announce a global, indefinite, mandatory work from home policy for its entire office staff and moved quickly to put in place new protective procedures for its factories and field sales operations. Within days, the company guaranteed jobs and incomes for its entire workforce for a minimum of three

<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria,June 17th, 2020.

months, including extending that commitment to those not directly on its payroll, but who are important parts of its operation, such as much valued facilities workers.



**7. Mandatory quarantine inhibited people from leaving their homes to join their work places and Unilever’s employees aren’t excluded, how do you guaranty same functionality in such circumstances?**

*“Not only for our own staff but to everyone aiming to WFH, we present 8 simple hacks that staff can use to avoid the bad side and boost the good side of Working from Home to ensure business continuously.”<sup>1</sup>*

**Table n°3.7: Unilever’s Work from Home in a COVID-19 environment Tips & Tricks**

	<b>Do</b>	<b>avoid</b>
1. Set up a proper office	First off, create an office which is not in your bedroom. Your office space should have a good quality chair, lighting and should be customized to your requirements. Ideas would be to set up a second monitor or a laptop stand if that makes things more comfortable. You can even use a stack of books to elevate your laptop.	Working in your bed – keep it for sleeping!
2. Dress professionally	As a rule of thumb, wear professional clothes. Dress like you would if you were going to a ‘real’ office – it	Wearing your pajamas – keep them

<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

	will put you in the right state of mind.	for sleeping in!
3. Get out of the house and ‘walk to work’	Many home-based freelancers make a ritual of ‘walking to work’ every day – even if it’s just a five-minute stroll round the block. The simple act of getting up, putting on your clothes and getting out there to face the day will make you feel as if your working day has begun.	Rolling out of bed and starting work straight away
4. Stick to normal office hours	Aim to stick to your regular office hours, ensuring you are available during office hours but also limiting how long you work for each day.	Resist the temptation to work all hours – this will exhaust you.
5. Organize your day	Sometimes it’s difficult to stay focused when your manager isn’t close by. Write a to-do list and set yourself the goal to finish everything. Prioritize the hard tasks.	Losing focus and spending too little time on tasks you don’t like. Work on those that are essential.
6. Take regular breaks throughout the day and eat healthily	You should try to get at least some exercise each day and keep your kitchen stocked with healthy foods. Also, take regular breaks like you would in a normal office. An idea is to have your “coffee-machine chats” virtually by calling a colleague and having a short chat to check-in on each other. During these check-ins, do not be afraid to make a joke. Humor is important especially in these times.	Sitting for hours at a desk and eating junk food.
7. Avoid distractions	You should allocate yourself some time each day to read the news and check social media – just like when you were a regular employee. But, set yourself time limits for this procrastination.	Having social media, the radio or even the TV on in the background.
8. Feeling overwhelmed? Ask for help	If you’re feeling overwhelmed or are finding it challenging to cope, please remember that you can get support through the Employee Assistance Program. Visit the Wellbeing Hub and click on the Local Wellbeing tab to find resources available to you.	

**Source:** fulfilled based on information from HR department

### 3.2.2 **Community action:**

In addition to making €100 million of hygiene and other products available to help combat Covid-19, the company has also partnered with the UK Department for International Development to launch hand washing campaigns in some of the poorest parts of the world, building on Unilever's unparalleled knowledge of hand washing and how to bring about positive behavior change. Significantly, as part of its broader effort, Unilever has also made available €500 million in short-term aid to support livelihoods along its extended value chain. This support is primarily targeted at its most vulnerable small and medium sized suppliers.<sup>1</sup>

### 3.2.3 **Supply:**

*“On supply, our focus has been on maintaining the supply and distribution of our essential hygiene and food products. And here our teams have done an incredible job keeping our factories running.”*<sup>2</sup>

There have been times when some of Unilever's plants have had to close, but only a few, and none for more than a few days. To avoid the reoccurrence of such disruptions, Unilever provided a 26-page document outlining the work plan in its factories during the pandemic.

### 3.2.4 **Cash:**

Although Unilever entered the crisis with a strong balance sheet and strong liquidity, it nevertheless took the opportunity to ensure that it manages its sources and uses of liquidity in the most disciplined manner possible. In particular, it entered the bond market at the beginning of the year and, interestingly, its offering was significantly oversubscribed, a sign of what an attractive repository Unilever is in these difficult times.

### 3.2.5 **Demand**

**8. The pandemic triggered new consumption habits such as product stocking which can lead to shortage (Toilet paper in USA, wheat in Algeria, etc.), demand volatility, and a bull wipe effect. How is Unilever responding to changing in demand patterns for its products?**

*“All around the world we have seen consumers reacting in very different ways. While there has been enormous panic buying in the United States and in parts of Europe, including the UK, we have not seen the equivalent behavior in the developing world.”*

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<sup>1</sup>Unilever.com

<sup>2</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

*“In responding to changing demand patterns, our teams have equally done a good job and demonstrated a level of speed and responsiveness that we hope will remain a hallmark of Unilever going forward.”<sup>1</sup>*

*“The efforts of our people have included opening up new capacity where it's needed most”<sup>2</sup>*

Prior to the corona virus outbreak, hand sanitizer was a small part of Unilever's portfolio. Yet over the last months Unilever have opened more than 60 new production lines to produce hand sanitizers. IN Home & Hygiene, for example, the company accelerated the launch of a new brand, Botanical Hygiene, in China, which combines *“advanced technology with the wisdom of nature to give reassurance on killing germs»* as Unilever describes.

In Italy and Algeria, created and launched a new Professional cleaning range, under the lifeboy brand, especially targeted for professional channels, including medical facilities. In Brazil Unilever teamed up with Heineken, who were able to provide the necessary alcohol as a by-product from their alcohol-free beer, to produce a special Cif hand sanitizer, which was distributed in throughout Sao Paulo,

Many of its categories and brands have moved quickly to re-plan their innovation, adjust to consumers buying different channels and rework their brand communication to make sure that it remains relevant for today's changed circumstances.

**9. Although the impact of corona virus has varied considerably across the world, depending on how far it has spread and the differing approaches of Governments, some Governments have moved faster than others. Some of them have imposed severe restrictions at the outset. Others have taken a more gradual approach. What’s Unilever’s position in the middle of this?**

*“The current impact of the crisis across our Supply Chain has been limited; we must continue to take action and work together to address any potential risks and restrictions by sharing similar messages with the relevant authorities.”<sup>3</sup>*

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<sup>1</sup> KOUBA (F. Hakima), supply chain process control, claims and pallets management specialist at Unilever Algeria, June 14th, 2020.

<sup>2</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

<sup>3</sup> KOUBA (F. Hakima), supply chain process control, claims and pallets management specialist at Unilever Algeria, June 14th, 2020.

While Unilever is trying to increase its production of essential products to respond to consumer demand across the globe, the company could face some challenges if restrictive measures are taken in the context of the crisis.

Across the world, Unilever have asked relevant authorities to adopt a common position that all Unilever products, whether in its Food, Beauty & Personal Care or Home Care divisions, are essential.

Below is an example of the key advocacy asks that have been directed to countries where Unilever is present:<sup>1</sup>

- a) Recognize the company’s activities and those of its suppliers as ‘essential’ to ensure continuity by:
  - **Guaranteeing access of Unilever’s manufacturing inputs:** Having products, ingredients and packaging recognized as ‘essential’ would prevent any potential issue at borders.
  - **Ensuring that workers can continue their professional activity:** safely through special dispensations and privileges. This notably includes some priority access to personal protection equipment, cross boarder movement of vital labor and pay protection/support for all workers.
  - **Providing extra assurance that factories can remain open:** Unilever’s factories and those of its suppliers are dependent on the availability of production materials and on the provision of essential services. A recognition of the company’s supply chain as essential would likely ensure priority access to critical materials and services.
- b) Ensure freight moves smoothly across borders by opening priority for trucks transporting the company’s products and those of its key suppliers
- c) Provide regulatory flexibility to prevent shortage of essential products and accelerate permitting or lifting import/export bans

Shortage of supply of materials can lead to changes in product composition which would slow down production if the labeling artwork needs to be adapted. Unilever asked for temporary provisions to allow labeling deviations, which could take the form of a tracking list to be maintained by business operators of any of such deviations while always guaranteeing safety.

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<sup>1</sup> Unilever business continuity, protocol, 30 April 2020

**3.3. Performance overview during Covid-19**

**10. Within a performance context, how do you describe Unilever’s sales growth during the first quarter of 2020?**

*“Now the very varied nature of the way in which the pandemic is hitting, both across the world and across our categories, we saw that in our first quarter results for 2020, which we announced last week. Overall, flat underlying sales growth for the quarter, which I think represents a solid performance in such uniquely challenging circumstances.”<sup>1</sup>*

Unilever entered the crisis with a strong balance sheet and cash position. The company is systematically reviewing all areas of cash generation and usage and re-evaluating all costs in the light of the current circumstances, so that it can continue to invest in its brands and reallocate funds towards the best opportunities.

The company is still adapting throughout this crisis, however, the unknown severity and duration of the pandemic, as well as the containment measures that may be adopted in each country, is significant that it cannot reliably assess the impact across its markets and business.

**Table 3.8: Unilever overall performance**

Underlying performance		GAAP measures		
	Vs 2019			Vc2019
Underlying sales growth	0.0%	Turnover	£12.4bn	0.2%
Quarterly dividend payable in June 2020 £0.4101 per share				

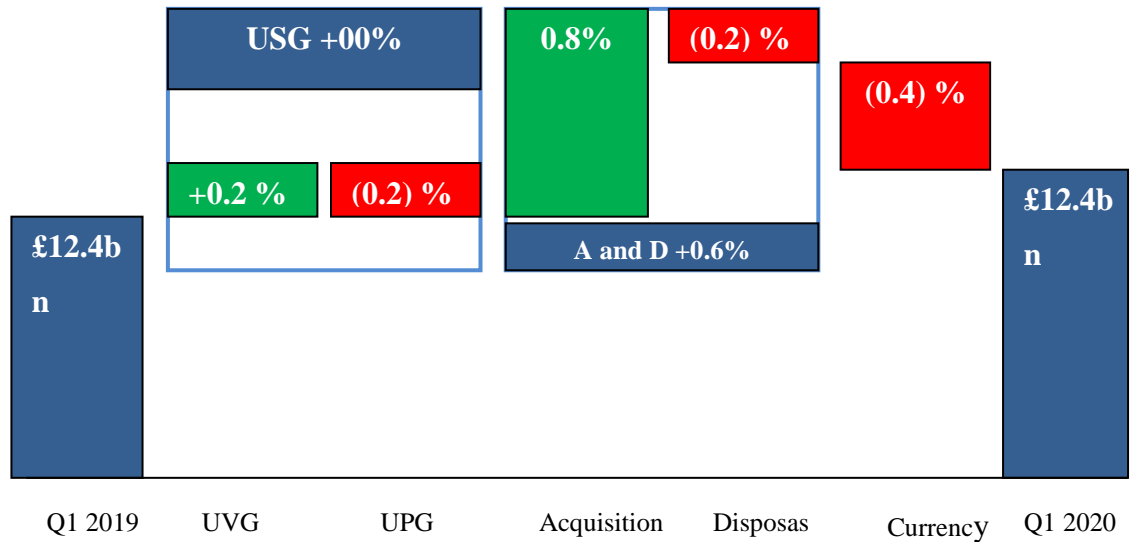
**Source: internal information, finance department**

Underlying sales were flat with volume growth of 0.2% and negative price of 0.2%

- Developed markets underlying sales growth was 2.8% and emerging markets declined 1.8%
- Turnover increased 0.2% including a positive impact of 0.6% from acquisitions net of disposals and negative impact of 0.4% from currency
- Quarterly dividend maintained at €0.4104 per share

<sup>1</sup>ALI (Youcef), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

Figure 3.11: first quarter turnover analyses



Source: internal information, finance department

3.3.1 Remapping Unilever’s markets:

11. What effect is being caused by the crises on Unilever’s high performing Markets map?

“The spread of Covid-19 has led to extensive changes in the operating environment in markets. The lock-downs and restrictions that have been implemented in many countries have varied in severity, but all have had some impact on consumer demand patterns and many have also had a significant impact on the supply of goods.”<sup>1</sup>

At an individual market level, most lock-downs have required closures in Unilever’s of home channels, resulting in little out of home consumption of ice cream and food. Initial household stocking of both hygiene and food products has led to increased volume in some markets. Most major markets, outside China, saw normal sales patterns in January and February with Covid-19 impacting in March. The Chinese market slowed significantly during the lock-down period, which began in January, whilst Europe and North America, saw a positive impact of household stocking in March. The Indian market had slowed even before the strict lock-down began at the end of March. Conditions in Latin America remain challenging, as they were before Covid-19.<sup>2</sup>

<sup>1</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

<sup>2</sup> <https://www.unilever.com/news/press-releases/2020/half-year-results-performance-reflects-agility-and-resilience-of-the-business.html> consulted on 04/07/2020 15:35

3.3.2 First quarter operational review: Divisions

Table n°3.9: Turnover per category

	First Quarter 2020			
	Turnover	USG	UVG	UPG
	£bn	%	%	%
<b>Unilever</b>	<b>12.4</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.2)</b>
Beauty & personal care	5.3	0.3	0.7	(0.5)
Home care	2.7	2.1	2.6	(0.2)
Food & Refreshment	4.4	(1.7)	(1.8)	0.1

Source: internal information, finance department












3.3.2.1 Beauty & Personal Care

12. With people being lock down and with the decreasing need of some “beauty and Personal care” products, how is your category doing?

“Indeed, we are studying this shift in usage behavior as the situation evolves; the good news is the existence of compensations between products within the same category, on one hand less shampoo usage during the pandemic but on the other higher usage of skin cleansing”<sup>1</sup>

Beauty & Personal Care underlying sales grew 0.3%, with volume growth of 0.7% and negative pricing of 0.5%. Growth in key categories was driven by both consumption and household stocking.

Table n°3.10: Beauty and personal category performance

	Annual size of business	Household Stocking	Consumer usage	Channel
Hair Deodorants Skin care 	~€14bn			Travel restrictions impacting Carver skin
Skin cleansing 	~€5bn			
Oral Care 	~€1.5bn			
Prestige (incl. in hair & skin above) 	~€0.6bn			Closure/some switching 

Source: internal information, finance department

<sup>1</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

Skin cleansing saw mid-single digit volume-led growth as Unilever responded to the critical need for hygiene products to prevent the spread of Covid-19. Through its Lifebuoy hygiene brand, the company continued to raise hand washing awareness, introducing lifebuoy products to 43 new markets including Algeria, as well as working quickly across brands to expand its range of formats to support the pandemic response.






Skin care declined, as travel restrictions impacted the Carver portfolio and India was impacted by lock-down conditions. Vaseline continued to perform well, with mid-single digit growth, and the company launched anti-bacterial hand cream in the UK as well as a new Pro Derma Clinical range in China.

The Prestige portfolio was impacted by health and beauty channel closures in many markets. Whilst hair grew in the USA, the lock-down impacted the portfolio in China and in India. Deodorants grew mid-single digit, with strong performances from Rexona Clinical range and Dove deodorants. Oral care grew, with growth from natural toothpastes and bamboo toothbrushes. Negative pricing was primarily driven by India following price reductions in the previous quarter.

**3.3.2.2 Home Care**

Home Care underlying sales grew 2.4%, with 2.6% from volume and negative price of 0.2%.

**Table n°3.11: Home care category performance**

	Annual size of business	Household Stocking	Consumer usage
Laundry 	~€8bn		
Home & Hygiene 	~€2bn		

**Source:**internal information, finance department

Home and hygiene brands, including Cif surface cleaners and Domestos bleach, benefitted from increased demand for household cleaning products, with double digit underlying sales growth. In China, Unilever accelerated the launch of the new germ-killing Botanical Hygiene range, addressing demand for natural cleaning supported by advanced and effective technology. Format premiumisation continues to be a driver of volume-led growth in fabric solutions, with liquids and capsules both growing double digits. Clean and green home care brand Seventh Generation also saw double digit growth.










3.3.2.3 Foods & Refreshment

13. According to WHO predictions Covid-19 isn’t going to disappear any sooner, and know as we are days away of summer season where refreshments consumption is at its pike in normal conditions, how do you describe this category’s performance giving the exceptional circumstances?

“our food and refreshment category was partially negatively affected, The largest volume decline was in ice cream, as the seasonal sell-in for out of home consumption in key markets such as Europe, Turkey and Latin America were heavily impacted by lock-down measures and the reluctance of distributors to commit to buying ice cream stock with an uncertain holiday and tourism season.”<sup>1</sup>

Foods & Refreshment underlying sales declined 1.7%, with volumes down 1.8% and positive pricing of 0.1%.

Figure n°3.12: food and refreshment category performance

	Annual size of business	Household Stocking	Consumer usage	Channel
Savory, dressings & tea 	~€11bn			
In home ice cream 	~€4bn			Some switching
Out of home ice cream 	~€3bn			Channels mostly closed
Food Service  (incl. in savory, dressings & tea above)	~€2.5bn			Channels mostly closed

Source: internal information, finance department

<sup>1</sup>ALI (Youcef ), Demand planner and S&OP manager at Unilever Algeria, June 17th, 2020

There was also a sharp decline in food service, as restaurants in China and elsewhere closed due to Covid-19 mitigation measures. This was offset by increased in-home consumption and household stocking in some markets, particularly the USA and Europe, leading to volume-led growth in savory and dressings. Knorr saw low single digit growth, while Hellmann’s grew double digits as Unilever’s brands helped to feed the many families at home. Tea declined low-single digit, impacted by India and out of home channel closures. The strategic review of the company’s tea business is ongoing.

### 3.3.3 First quarter operational review: Geographical area

#### 14. Geographically speaking, have you seen any performance dissimilarity? And if yes how do you explain it?

*“During the first quarter we witnessed drastic performance volatility from a region to another, we explain this variation by many variables among them the chronological spread of covid-19, the first countries to be affected by the virus are the first to get over it, while the latest where those benefiting from Risk management strategies accumulated since few month earlier”<sup>1</sup>*

**Table n°3.13: Turnover per region**

	First Quarter 2020			
	Turnover	USG	UVG	UPG
	€bn	%	%	%
<b>Unilever</b>	<b>12.4</b>	<b>0.0</b>	<b>0.2</b>	<b>(0.2)</b>
Asia/AMET/RUB	5.7	(3.7)	(3.4)	(0.3)
The Americas	4.0	4.8	3.9	0.9
Europe	2.7	1.4	3.1	(1.7)
Developed markets	5.1	2.8	3.9	(1.1)
Emerging markets	7.3	(1.8)	(2.2)	0.4
North America	2.4	4.8	5.6	(0.7)
Latin America	1.6	4.9	1.7	3.1

**Source:** internal information, finance department

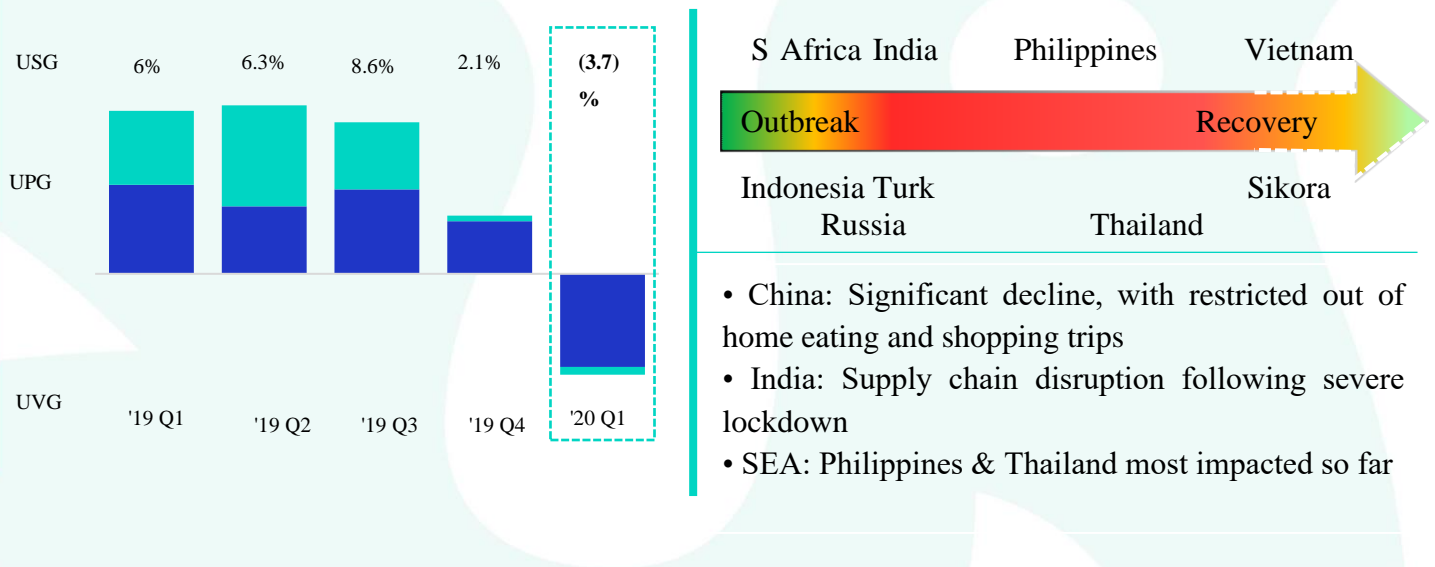
#### 3.3.3.1 Asia/AMET/RUB

Underlying sales declined 3.7% led by volume decline of 3.4% and price decline of 0.3%. China suffered a significant decline as the lock-down measures restricted out of home eating and shopping trips across much of the quarter. Lock-down measures in India commenced from mid-March, followed by a strict national lock-down, severely limiting the flow of goods and leading to a decline in South Asia. Indonesia and Vietnam performed

<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

strongly although the Philippines declined across divisions as restrictive social measures were put in place.

**Figure n°3.12: The Company’s performance Asia AMET RUB**

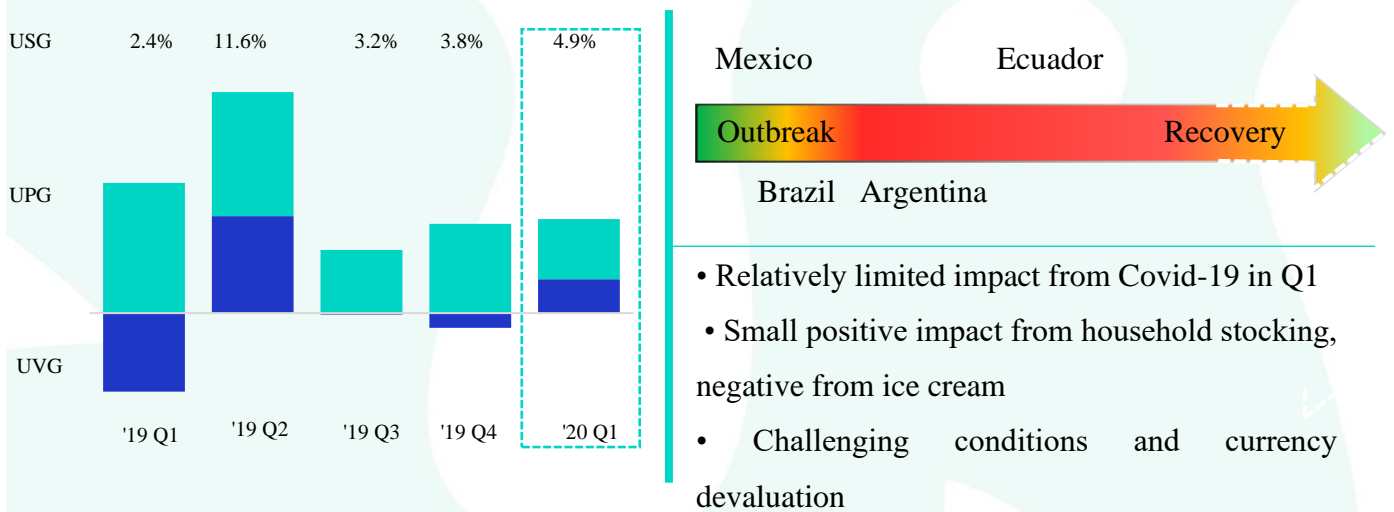


**Source:**Unilever Q1 2020 report

**3.3.3.2 North and Latin America an**

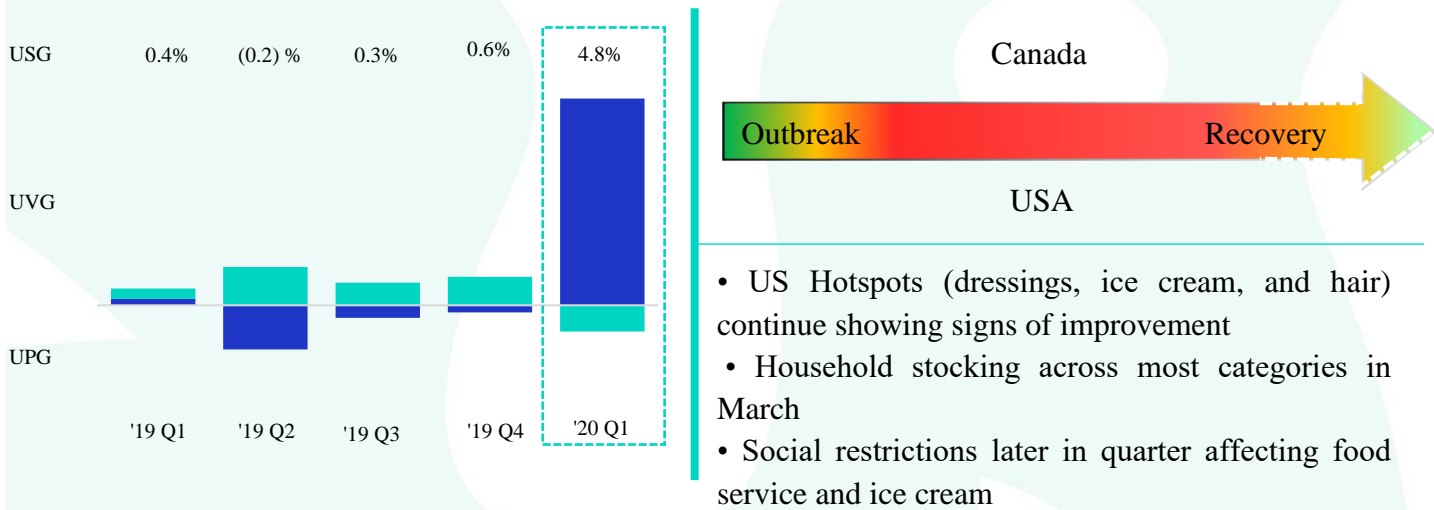
Underlying sales growth in North America was 4.8% with 5.6% from volume and a decline of 0.7% from price. Unilever’s mainstream retail business grew by 7.2%, helped by household stocking in March. Food service, ice cream and the company’s Prestige portfolio are negatively impacted by the social restriction measures. Latin America grew 4.9% with 3.1% from price and 1.7% from volume. Across the region, there was relatively limited impact in the quarter from Covid-19, with a small positive impact from household stocking in late March and a negative impact from out of home ice cream. Growth in Brazil was helped by continued strength in deodorants and fabric solutions.

Figure n°3.13: The Company’s performance in Latin America



Source:Unilever Q1 2020 report

Figure n°3.14: The Company’s performance in N America



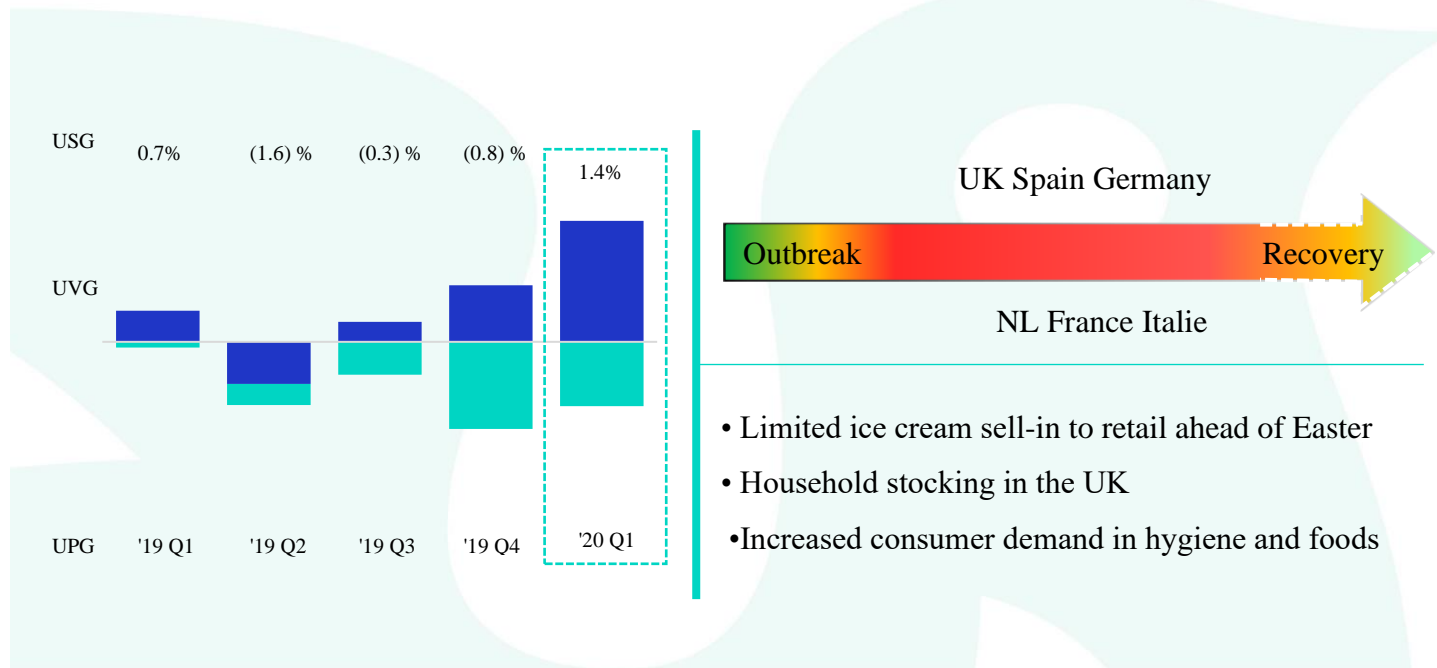
Source:Unilever Q1 2020 report

### 3.3.3.3 Europe

Underlying sales grew 1.4% with volume growth of 3.1% and price down 1.7%. Sales across hygiene products and foods benefited from household stocking, particularly in the UK and Germany. Central and Eastern Europe had a strong quarter led by volume. Italy declined following a prolonged lock-down impacting out of home consumption. Across Europe, ice

cream sales declined without the normal retail sell-in ahead of the Easter holiday, which normally marks the beginning of the ice cream season. Many out of home ice cream outlets were closed during March in Europe.

**Figure n°3.15:** The Company’s performance in Europe regions



Source: Unilever Q1 2020 report

On one hand Unilever was badly impacted by a decline in the Global Foods solutions business as restaurants, cafeterias and cafes closed worldwide. A steep decline was remarked in out of home consumption ice cream as many leisure locations and tourist destinations were also closed. The significantly slowdown in the Chinese market during Q1 and the complete lockdown in India at the end of March which stopped production and shipping for a number of days also impacted the business.

### 3.3.4 E-commerce

According to Alan Jape- Chief Executive Officer of Unilever since January 2019

*“Unilever is seeing significant channel shifts toward online shopping as consumers’ behavior changes as a result of COVID-19... Online shopping is here to stay even after social restrictions are no longer in place.”<sup>1</sup>*

Although this step is not yet introduced in Algeria by Unilever due to the weakness of the e-commerce infrastructure which is not yet developed, but in other countries where consumers are already familiar with online shopping and where traditional on-site shopping is

<sup>1</sup>Alan Jope - Chief Executive Officer of Unilever

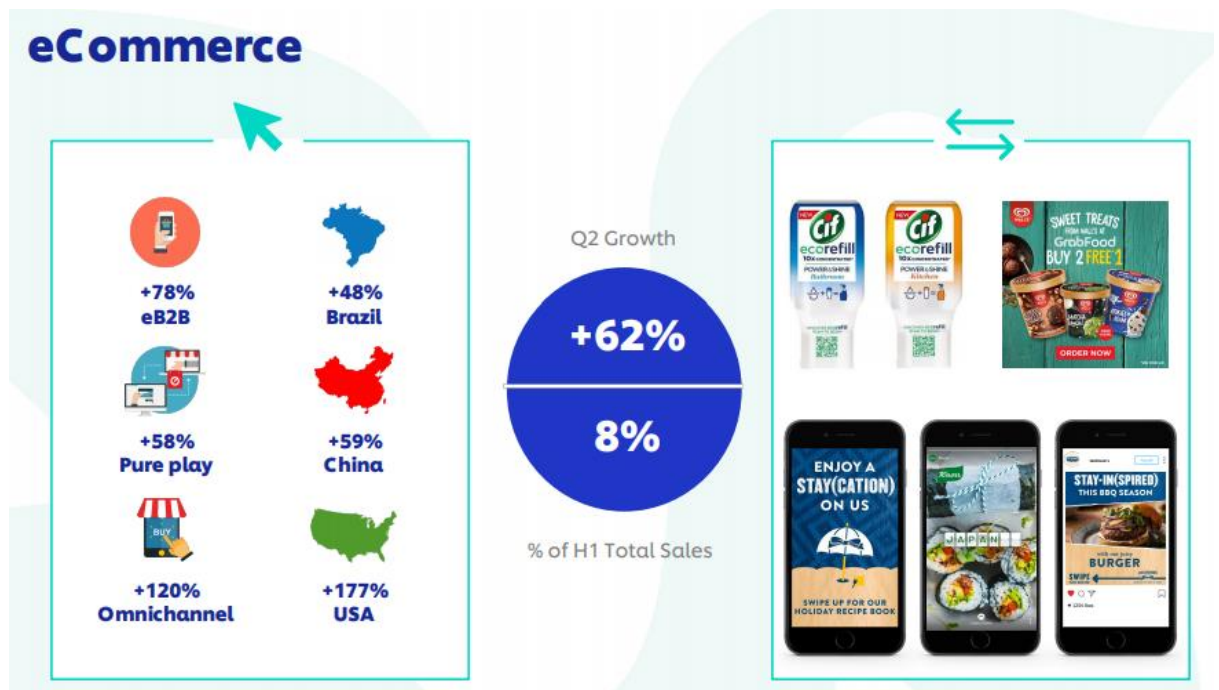
demolishing day after day, channel shifts toward online shopping is paying its fruits as people are confined.

According to Unilever PLC (UL) Q2 2020 Earnings Call, E-commerce represented over 8% of the business in the first half and that's up from 6% in 2019. Sales on e-commerce grew by 49% in the half, 62% in the second quarter and that includes the drag on growth from food service e-commerce.

The company has seen strong growth across all e-commerce channels with acceleration coming in the second quarter. for example, the Compra Agora business in Brazil grew by 78% in Q2. Pure play e-commerce grew by 58% and Omnichannel grew by a remarkable 120%. Through a geography lens, e-commerce grew strongly in all of the key markets, particularly in the second quarter, up 48% in Brazil, 59% in China and 177% in North America.

E-commerce now represents 12% of North American sales in the first half and that doubled from 6% in just 2018. In line with the five growth fundamentals that we mentioned earlier, Unilever is ensuring that its innovation and marketing activity are well-designed for e-commerce.

**Figure n° 3.16:** Unilever’s E-commerce during Covid-19



**Source:**Unilever Half Year 2020 Results

**15. To sum up, to what extent Unilever is confident about its performance and how well prepared it is for what’s coming?**

*“As we look ahead to the remainder of the year and beyond, the only thing that seems certain right now is how uncertain the world will remain. We are not fazed by that; we are well prepared.”<sup>1</sup>*

**Table n°3.14:2020 outlook withdrawn**

2020 unknowns	2020 knowns
• Progression of the virus	• Ongoing challenges for out of home
• Duration of crisis – varies by country	ice cream and food service
• Scale and impact of government containment measures	• Short term impact on consumption habits
• Long term effect on consumer trends	• Importance of agility
	• Strong cash and liquidity position

Source: fulfilled based on interviews declarations

**Synthesis of the study:**

a) **Part one** (before the covid-19 era)

In this part we looked into Risk management strategies that were already established before the pandemic, the managers emphasized on the important place given to Risk attenuation approaches that were already adopted by Unilever.

We also learnt that the company deals with its potential risks through pre-established scenarios to ensure quick and efficient respond; since the longer it is to deal with risk the grater the damage.

According to our interviewees Unilever’s SC risk was the most common to occur for a set of reasons; we mention the direct correlation between all potential risks and their negative effect on the supply chain, in addition to the risk generated from its 59800supplierswho are present in 161 countries which represents 82% of total countriesaround the world.

When it comes to suppliers it was notable that 60% of the company’s suppliers are located in Europe and Asia with a total spends of €20 billion.

This two continent where the most affected by covid-19 and as we know higher corona cases equals higher death rates; equals more governmental restrictions including, mandatory quarantine and movement and transportations restriction which negatively affect the

<sup>1</sup>BOUMESNBAH (Hamind), Country Director at Unilever Algeria, June 17th, 2020.

company’s sales and it’s supply chain which threat the Business Continuity, Reduce the Supply Chain Visibility; increase Suppliers risk.

b) **Part two** (SCRM within the covid-19 era)

Unilever is no rookie when it comes to its SCRM strategies, but within possible risk scenarios a global pandemic has not been addressed, so how did Unilever respond in a situation where resilience is a must due to the ongoing spread of the disease and the constant markets’ unpredictable changes?

In no time the company structured its response around five critical areas: People, community, supply, cash and demand.

While many businesses around the world were struggling just to survive the first few months of the epidemic; Unilever and thanks to its SCRM succeed not only to minimize damage but also to conquer new markets.

c) **Part three** (Performance over view during Covid-19)

The conclusion that we deduced from this part is that when risk is at its spike; being preferment doesn’t necessarily mean reaching higher levels of preferment, minimizing damage and coming with plans to mitigate this last to ensure proper functionality and less SCs disruptions is being preferment. All these benefits come as a result of the proper use of SCRM strategies.

**Research results:**

It has been evident that Unilever keeps its SC constantly being rigorously tracked and closely assessed. Besides all that previously expressed; the company supports continuous improvement thinking throughout itself and its SC.

Risk management is integral to Unilever’s strategy and to the achievement of Unilever’s long-term goals. Its success as an organization depends on its ability to identify and exploit the opportunities generated by its business and the markets in which it operates. In doing this the company take an embedded approach to risk management which puts risk and opportunity assessment at the core of the leadership team agenda.

Unilever operates a wide range of processes and activities across all its operations covering strategy, planning, and execution and performance management. Risk management is integrated into every stage of this business cycle. These procedures are formalized and documented and are increasingly being centralized and automated into transactional and other information technology systems.

### **Conclusion of the chapter**

In conclusion, we can now say with certainty that Unilever's SCRM approach has provided the needed resilience and robustness to overcome SC chain risks and disruptions.

During these tough times Unilever not only succeed to mitigating the risk threatening its supply chain but also knew how to take advantage of the new markets that emerged during the Covid-19 era because of demand fluctuation and consumers behavior change.

It is also faire to mention that Unilever's enormous products range is considered as a competitive advantage which lessened the impact of the pandemic on its operations since loses in some ranges of products were covered by higher sales rate in other ranges.

At the end, if there is a lesson to learn from Unilever, it is that during calamities that escalate in no time, achieving new levels of performance or at least remaining as preferment as in normal situations where disruption and risk aren't present requires high resilience of supply chain that could only be achieved by adapting sturdySCRM strategies.

## **General Conclusion**

## General Conclusion

Since the emergence of the concept of risk management many disciplines have taken it on board and approach it from more or less similar angles: resilience to the occurrence of an unforeseen event. As previously mentioned, SCRM is defined as the firm's ability to understand and manage its economic, environmental and social risks within the supply chain which can be materialized by the adoption of contingency planning and an agile and resilient supply chain. Managers therefore manage risks by initiating a serene framework within which they can develop skills to anticipate unpredictable market events. SCRM is there for seen as the supply chain risk management through coordination or collaboration between chain partners to ensure profitability and continuity. In addition, SCRM can also be seen as the way managers collaborate within the company to ensure better coordination with partners to guarantee better performance of assets.

Regardless to the importance that SCRM already had within entities, the ongoing event that the world is witnessing since the last quarter of the year 2019 emphasized the need for more researches in this field. When it comes to SCRM; today's companies learnt their lessons the hard way after the unpredictable and the quick outbreak of Covid-19 which collapsed Supply chains, companies, and countries' economical systems in no time. All these drastic events worked as an incubator which allowed us to answer our initial research question, which is, we recall: **“How does the use of supply chain risk management strategies impact the performance of a company's SC?”**

We chose "Unilever" to be our study case due to the company's approaches toward supply chain risk and its mitigation strategies.

The results of our research led to confirm the initial assumptions. As a result, we can say with certainty that:

- The prevention of the several SC risks through SCRM helps the company in:
  - Promoting Business Continuity;
  - Improving Supply Chain Visibility;
  - Bounding Supplier Relationship Management;
- The use of risk management strategies is a tool for increasing value, efficient operations management, brand image replenishment, talents retention. Thus, competitive advantage.
- The use of SCRM positively influences the performance of the SC by mitigating Risk that could lead to its disruption.

Through this research we have been able to see that implementing SCRM practices doesn't only reduce the negative direct effect of risk in supply chain but also improves both SC performance and offers a competitive advantage.

It was also notable that in spite of the positive effect that SCRM has on performance; being efficient and preferment as an entity isn't the only thing that encourages adopting risk management approaches. In a matter of fact what urge the implementation of these strategies are the negative and the devastating effects that can be produced when not being implemented.

The complex nature of the SC never been easy to manage never the less listing the factors that could endanger it never been unattainable, the year 2020 proved that this last can be prolonged to involve some new Supply chain risk factors that can generate the occurrence of not only one but all the possible risks within the chain at once.

At the end, companies all over the world are now divided to several categories, companies without SCRM strategies facing bankrupting, companies familiar to the SCRM practices but facing hard time to adapt them to the new situation, and finally resilient companies like Unilever creating day-to-day scenarios that help them not only minimize the loses but generate new profits in emerging markets due to demand fluctuations.

### **Research perspectives**

Some perspectives are possible for the rest of this research. As risk management issues involve several entities within the same network, future research could focus on the relational aspect of subcontracting contracts in distribution chains. This is to define the types of contracts beneficial to the company.

Other research may be interested in integrating, alongside SCRM, the aspects of trust, competitive advantage and product quality in the model to obtain a better measure of their impact on performance. They can also reinforce aspects of subjective performance through the company's brand image.

Others may attempt a more objective measure of performance based on turnover, market shares, commercial costs generated over a reference period and the extent of the distribution network or adopt a subjective mixed measurement approach and objective. Finally, other research may focus on the feedback effect of performance on supply chain risk management.

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- Unilever Algeria's internal Data obtained from Finance Department.
- Unilever-paper-and-board-packaging-policy
- Unilever Supply Chain Overview & Spend Analysis
- Unilever business continuity protocol

## List of appendices

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<b>3.5</b>	List of Unilever's products distributed in Algeria
<b>3.6</b>	Interview questions

### Appendix n°3.1: COVID-19 pandemic lockdown

COVID-19 pandemic lockdowns				
Countries and territories	Place	Start date	End date	Level
 <a href="#">Albania</a>		2020-03-13 <sup>[3]</sup>	2020-06-01 <sup>[4]</sup>	National
 <a href="#">Algeria</a>	<a href="#">Algiers</a>	2020-03-23 <sup>[5]</sup>	2020-05-14 <sup>[6]</sup>	City
	<a href="#">Bida</a>			
 <a href="#">Argentina</a>		2020-03-19 <sup>[7]</sup>	2020-06-28 <sup>[8]</sup>	National
 <a href="#">Armenia</a>		2020-03-24 <sup>[9]</sup>	2020-05-04 <sup>[10]</sup>	
 <a href="#">Australia</a>	<a href="#">Melbourne</a>	2020-07-08 <sup>[11][12]</sup>	2020-09-13 <sup>[12]</sup>	Metropolitan area
	<a href="#">Regional Victoria<sup>[b]</sup></a>	2020-08-06 <sup>[12]</sup>		State
	<a href="#">Rest of the country<sup>[c]</sup></a>	2020-03-23 <sup>[13]</sup>		
 <a href="#">Austria</a>		2020-03-16 <sup>[14]</sup>	2020-04-13 <sup>[15]</sup>	
 <a href="#">Azerbaijan</a>		2020-03-31 <sup>[16]</sup>	2020-08-30 <sup>[16]</sup>	
 <a href="#">Bangladesh</a>		2020-03-26 <sup>[17]</sup>	2020-05-16 <sup>[18]</sup>	
 <a href="#">Barbados</a>		2020-03-28 <sup>[19]</sup>	2020-05-03 <sup>[19]</sup>	National
 <a href="#">Belgium</a>		2020-03-18 <sup>[20]</sup>	2020-05-04 <sup>[21]</sup>	
 <a href="#">Bermuda</a>		2020-04-04 <sup>[22]</sup>	2020-05-02 <sup>[23]</sup>	
 <a href="#">Bolivia</a>		2020-03-22 <sup>[24]</sup>	2020-07-31 <sup>[25]</sup>	
 <a href="#">Botswana</a>		2020-04-02 <sup>[26]</sup>	2020-04-30 <sup>[26]</sup>	
 <a href="#">Brazil</a>	<a href="#">Santa Catarina</a>	2020-03-17 <sup>[27]</sup>	2020-04-07 <sup>[27]</sup>	State
	<a href="#">São Paulo</a>	2020-03-24 <sup>[28]</sup>	2020-05-10 <sup>[29]</sup>	
 <a href="#">Colombia</a>		2020-03-25 <sup>[30]</sup>	2020-06-30 <sup>[31]</sup>	
 <a href="#">Republic of the Congo</a>		2020-03-31 <sup>[32]</sup>	2020-04-20 <sup>[32]</sup>	
 <a href="#">Costa Rica</a>		2020-03-23 <sup>[33]</sup>		
 <a href="#">Croatia</a>		2020-03-18 <sup>[34]</sup>	2020-04-19 <sup>[35]</sup>	National
 <a href="#">Czech Republic</a>		2020-03-16 <sup>[14]</sup>	2020-04-12 <sup>[36]</sup>	
 <a href="#">Ecuador</a>		2020-03-16 <sup>[37]</sup>	2020-03-31 <sup>[37]</sup>	
 <a href="#">El Salvador</a>		2020-03-12 <sup>[38]</sup>	2020-04-02 <sup>[39]</sup>	

In the table pandemic lockdowns are defined as the shutdown of parts of the economy,<sup>[1,76]</sup> due to non-pharmaceutical anti-pandemic measures and are enforceable by law like:

- [Closing of schools and kindergartens](#)
- [Closing of non-essential shops \(shops and stores apart from food, doctors and drug stores\)](#)
- [Closing of non-essential production](#)
- [Cancellation of recreational venues and closing of public places](#)
- [Curfews](#)
- [Stay-at-home orders and total movement control](#)

These measures are considered to have caused the [coronavirus recession](#) in 2020.<sup>[1,77]</sup> The table does not contain:

- [Measures with smaller economic impacts like:](#)
  - [border closures](#)
  - [social distancing measures and social movement restrictions](#)
  - [travel restrictions.](#)

## Appendix n°3.2: The USLP


 **Improving health and well-being for more than 1 billion**

By 2020 we will help more than a billion people take action to improve their health and well-being.

> [Explore our big goal](#)

Health & hygiene >  
Improving nutrition >


 We are taking action on the UN Sustainable Development Goals


 **Reducing environmental impact by half**

By 2030 our goal is to halve the environmental footprint of the making and use of our products as we grow our business.\*

> [Explore our big goal](#)

Greenhouse gases >  
Water use >  
Waste & packaging >  
Sustainable sourcing >


 We are taking action on the UN Sustainable Development Goals

 **Enhancing livelihoods for millions**

By 2020 we will enhance the livelihoods of millions of people as we grow our business.

> [Explore our big goal](#)

Fairness in the workplace >  
Opportunities for women >  
Inclusive business >

 We are taking action on the UN Sustainable Development Goals

## Appendix n°3.3: Unilever's code of business



### THE CODE OF BUSINESS PRINCIPLES (1 of 2)

#### Standard of Conduct

We conduct our operations with honesty, integrity and openness, and with respect for the human rights and interests of our employees.

We shall similarly respect the legitimate interests of those with whom we have relationships.

#### Obeying the Law

Unilever companies and employees are required to comply with the laws and regulations of the countries in which we operate.

#### Employees

Unilever is committed to a working environment that promotes diversity and equal opportunity and where there is mutual trust, respect for human rights and no discrimination.

We will recruit, employ and promote employees on the sole basis of the qualifications and abilities needed for the work to be performed.

We are committed to safe and healthy working conditions for all employees.

We will provide employees with a total remuneration package that meets or exceeds the legal minimum standards or appropriate prevailing industry standards.

We will not use any form of forced, compulsory, trafficked or child labour.

We are committed to working with employees to develop and enhance each individual's skills and capabilities.

We respect the dignity of the individual and the right of employees to freedom of association and collective bargaining.

We will maintain good communications with employees through company-based information and consultation procedures.

We will ensure transparent, fair and confidential procedures for employees to raise concerns.

#### Consumers

Unilever is committed to providing branded products and services which consistently offer value in terms of price and quality, and which are safe for their intended use. Products and services will be accurately and properly labelled, advertised and communicated.

#### Shareholders

Unilever will conduct its operations in accordance with internationally accepted principles of good corporate governance.

We will provide timely, regular and reliable information on our activities, structure, financial situation and performance to all shareholders.

#### Business Partners

Unilever is committed to establishing mutually beneficial relations with our suppliers, customers and business partners. In our business dealings we expect our partners to adhere to business principles consistent with our own.

#### Community Involvement

Unilever strives to be a trusted corporate citizen and, as an integral part of society, to fulfil our responsibilities to the societies and communities in which we operate.

#### Public Activities

Unilever companies are encouraged to promote and defend their legitimate business interests.

Unilever will co-operate with governments and other organisations, both directly and through bodies such as trade associations, in the development of proposed legislation and other regulations which may affect legitimate business interests.

Unilever neither supports political parties nor contributes to the funds of groups whose activities are calculated to promote party interests.



## Appendix n°3.4: Unilever's code of business



### THE CODE OF BUSINESS PRINCIPLES (2 of 2)



#### The Environment

Unilever is committed to making continuous improvements in the management of our environmental impact and to the longer-term goal of developing a sustainable business.

Unilever will work in partnership with others to promote environmental care, increase understanding of environmental issues and disseminate good practice.

#### Innovation

In our scientific innovation to meet consumer needs we will respect the concerns of our consumers and of society.

We will work on the basis of sound science, applying rigorous standards of product safety.

#### Competition

Unilever believes in vigorous yet fair competition and supports the development of appropriate competition laws. Unilever companies and employees will conduct their operations in accordance with the principles of fair competition and all applicable regulations.

#### Bribery & Corruption

Unilever does not give or receive, whether directly or indirectly, bribes or other improper advantages for business or financial gain. No employee may offer, give or receive any gift or payment which is, or may be construed as being, a bribe. Any demand for, or offer of, a bribe must be rejected immediately and reported to management.

Unilever accounting records and supporting documents must accurately describe and reflect the nature of the underlying transactions. No undisclosed or unrecorded account, fund or asset will be established or maintained.

#### Conflicts of Interests

All employees and others working for Unilever are expected to avoid personal activities and financial interests which could conflict with their responsibilities to the company.

Employees must not seek gain for themselves or others through misuse of their positions.

#### Compliance – Monitoring – Reporting

Compliance with these principles is an essential element in our business success. The Unilever Board is responsible for ensuring these principles are applied throughout Unilever.













The Chief Executive Officer is responsible for implementing these principles and is supported in this by the Global Code and Policy Committee which is chaired by the Chief Legal Officer.

Day-to-day responsibility is delegated to all senior management of the geographies, categories, functions and operating companies. They are responsible for implementing these principles, supported by local Business Integrity Committees. Assurance of compliance is given and monitored each year. Compliance is subject to review by the Board supported by the Corporate Responsibility Committee and for financial and accounting issues the Audit Committee.

Any breaches of the Code must be reported. The Board of Unilever will not criticise management for any loss of business resulting from adherence to these principles and other mandatory policies. Provision has been made for employees to be able to report in confidence and no employee will suffer as a consequence of doing so.

Note  
In this Code the expressions 'Unilever' and 'Unilever companies' are used for convenience and mean the Unilever Group of companies comprising Unilever N.V., Unilever PLC and their respective subsidiary companies. The Board of Unilever means the Directors of Unilever N.V. and Unilever PLC.

## Appendix n°3.5: List of Unilever's products distributed in Algeria

Categories	Brand	Picture
Home care	OMO JIF Surf	  
Personal care	Dove Clear Sunsilk LUX Rexona Axe Signal	      
Food	Knorr Lipton	 

### **Appendix n°3.5: The interview's questions**

1. What is your perception and understanding of risk, and what risks are more susceptible to harm Unilever's activity?
2. How do you qualify Unilever's SCR in regard of its numerous partners portfolio? And how do you describe the relationship with your SC partners.
3. Considering the relatively high number of Unilever's supplier, do you believe that the latter could negatively impact the company's SC?
4. How to define and identify a critical supplier Risk?
5. Should Unilever elaborate on scenarios and stress tests that have recently been performed as a result of the outbreak of the Covid-19 pandemic?
6. Giving the current situation; companies around the world are elaborating new strategies to mitigate SC Risk and minimize its effect. Thus, what measures are taken by Unilever face to this crisis?
7. Mandatory quarantine inhibited people from leaving their homes to join their work places and Unilever's employees aren't excluded, how do you guaranty same functionality in such circumstances?
8. The pandemic triggered new consumption habits such as product stocking which can lead to shortage (Toilet paper in USA, wheat in Algeria, etc.), demand volatility, and a bull wipe effect. How is Unilever responding to changing in demand patterns for its products?
9. Although the impact of corona virus has varied considerably across the world, depending on how far it has spread and the differing approaches of Governments, some Governments have moved faster than others. Some of them have imposed severe restrictions at the outset. Others have taken a more gradual approach. What's Unilever's position in the middle of this?
10. Within a performance context, how do you describe Unilever's *sales growth during the first quarter of 2020*?
11. What effect is being caused by the crises on Unilever's high performing Markets map?
12. With people being lock down and with the decreasing need of some "beauty and

Personal care” products, how is your category doing?

13. According to predictions Covid-19 isn't going to disappear any sooner, and know as we are days away of summer season where refreshments consumption is at its pike in normal conditions, how do you describe this category's performance giving the exceptional circumstances
14. Geographically speaking, have you seen any performance dissimilarity? And if yes how do you explain it?
15. To sum up, to what extend Unilever is confident about its performance and how well prepared it is for what's coming?

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