



SUSTAINABILITY IN LUXURY.

THE RAW MATERIALS SOURCING STRATEGIES TO FACE SUSTAINABILITY ISSUES : COMPETITIVE OR COLLABORATIVE STRATEGIES?

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Abstract

Purpose: Luxury is, by definition, sustainable. It is a timeless industry which benefits from the very highest craftsmanship and uses the best raw materials. As these materials give birth to the most desirable products, they are the success factors of luxury brands. However, these resources, as any resources, are not infinite and are sensitive to climate change as well as to ethical polemics. Thus, whereas rarity was the biggest asset of luxury industry, it is becoming a threat. Besides, even if luxury as a whole is not the most polluting industry, it is spotted by international NGOs which reveal uncover processes of the industry. The opacity of its different supply chains is criticized and denounced to the public. While it is assumed that luxury, by its nature, is respectful of the people and of planet, we heard about several scandals related to the raw materials sourcing. Today, luxury brands are working on becoming examples in addressing climate change, corruption and protection of the environment and the people working for them.

As we are noticing more and more communication about sustainability from the luxury groups, we notice as well that, in France, Kering is making sustainability its motto, LVMH sponsored the COP21 and Richemont is still quite quiet about its actions. For few years now, the news articles about luxury are mainly focusing on two topics which are the future of retail and the sustainability; so I started to wonder to what extent the sustainability field could become a new field of competition for the luxury industry in its willingness “*to do business for good*”. Besides, numerous papers have been written about the different types of supply chains in the luxury industry, about the role of the innovation in the supply chain or about the sincerity of the luxury brands in “going green” but nothing really about the opportunities underlying the sustainability challenges. Thus the purpose of this paper is to explore the kind of actions taken by luxury brands in order to bring transparency along their supply chain and to observe if they are using different strategies to differentiate from each others.

Approach: The topic I have chosen is currently studied by consulting companies and luxury brands. So far, it is not a phenomenon that we can really quantify so I have decided to use a qualitative approach to explore the questions of the competitiveness and the collaboration underlying my research. As primary data and as I could not have access to many strategical and technical aspects toward one specific sector of the luxury industry, I interviewed experts in sustainability, in innovation and in purchase related to luxury. Their answers allowed me to paint a broad picture of the luxury industry. Furthermore, because the notion of strategy echoes to confidentiality, I also decided, to make complementary observations, to use secondary data provided by public reports and studies published by the luxury groups as well as by consulting companies and international organizations that set standards for the luxury industry.

Findings: The result of my analysis confirm the hypothesis of the sustainability field becoming a competitive field, however, the phenomenon is nascent. Luxury brands are still in the process of innovating and improving their supply chain in order to fully control them. As long as transparency and traceability are not fully implemented, luxury brands can not really use sustainability as their new competitive advantages.

Key Words: Sustainability, raw materials, sourcing, scarcity, innovation, transparency, traceability, collaboration, competition, regulation, certification, vegetal , animal, mineral.

Declaration of Originality

I declare that this research paper is my own work and that it has been supervised by my tutor M. Jonas Hoffmann.

The content of this report has only been submitted to SKEMA Business School. I certify that this work is personal and exempt from plagiarism, and that all quotations from sources used are enclosed in quotations marks.

Signed : Chloé CASTEL.

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We never stop learning.

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SECTION I :

Introduction

1.1 Executive Summary

Objectives: The objective of this paper is to explore the burning issue of the sustainability within the luxury industry in focusing on brands which are implementing strategies at the levels of their supply chain to face the climate change and the increasing scarcity of the natural resources. The topic of the luxury going green started to be studied few years ago and the topic of innovation in the supply chain is not new but, so far, studies observing the mutation of the raw materials strategies, to face sustainability issues, within the luxury industry from a competitive point of view are very few. So this dissertation aims to observe if luxury brands are taking the sustainability issues as a new challenging opportunity to increase their competitiveness thanks to innovation and collaboration.

Introduction: The last technological innovations in term of production, design and internet have allowed luxury brands to compete on product in developing more affordable collections, that led to what is called a “democratic” luxury (Dubois et al, 2005). This trendy strategy’s main goal was to improve benefice thanks to a growing luxury mass consumption; however it appears that this trend is limited on the long-term, because of its volatile nature. In fact, according to Flint (2007), focusing on the Supply Chain Innovation would be a much more relevant strategy thanks to its direct impact on the processes and thus on the costs in a sustainable way (Caniato et al, 2013). Furthermore, an innovative Supply Chain Management is responsible for updating the “critical factor of success” of luxury and fashion brands (Brun et al, 2008). When I see the decline of the products’ quality due to speed of the production and to the demand for “accessible luxury”, I wonder how it is possible to keep on performing without neglecting the quality and the excellence, which are two competitive assets for this industry. The supply chain, needs to be perceived, as a “value chain” that allows innovation and performance (Caniato et al, 2013).

The idea of introducing sustainability in luxury, and more particularly in the supply chain is not new; however, it has always been oriented in term of profit and not necessarily in term of “environmental, social and ethical standards” (Gardetti et al, 2014) - This observation led me to wonder if being ethically and environmentally sustainable could also be profitable. Moreover, this concept is a quite hot topic given that it is currently studied and discussed.

The definition of “sustainability” is very broad and has been discussed during many years. Miguel Angel Gardetti, the creator of the First Luxury Award (2010), which gave birth to the IE Awards for sustainability in the Premium and Luxury Sectors (2014), evokes three

different main definitions. The one that caught the most my attention was Brundtland report's. The document talked about "three pillars [...] people, profit and planet." (N.B: Instead of "profit" the report mentioned "prosperity" during the World Summit on Sustainable Development, in Johannesburg). Thus the main idea of this research, from a managerial point of view, is to understand how profit and sustainability can go hand in hand with each other and make luxury brands even more competitive in term of image and reputation, price and quality. Besides, when the luxury industry has to deal with "more price consumer-buyer" (Luzzini et al, 2010), which one of the elitist luxury or the democratic luxury is more sensitive and ready to experiment new operational processes? For my dissertation, I have decided to focus my research on the elitist one but this question could lead to another dissertation.

Four years ago, the Luxury Institute of New York found out that the customers who care the most about CSR activities are the younger and more affluent ones. In 2009, the Cone Consumer Environment in USA published some data: "35% of Americans had great expectations from the company that were ecologically responsible and 35% observed that they had higher interest in environment that they had earlier." (Doval et al,2013). Little by little, and thanks to a work of the marketing, the "Green Buzz" has been introduced to the general public and the "green products" and "green technologies" were mentioned. However, this awareness is very different from a country to another one. Here, according to my knowledge of the luxury industry and to my location, I decided to considered the European luxury brands, and especially the luxury groups which are Kering, LVMH and Richemont.

The speed and the nature of the global demand added to the increasing number of competitors in the luxury industry have as consequence to add complexity to the already very complex supply chains networks. The adequation of the demand and the offer becomes a real challenge for the supply network (Luzzini et al, 2010). Thus the multiplicity and the complexity of the offer leads to the concern of the resources sourcing. Luxury is luxury because it offers desirable products coming from desirable raw materials which are wanted for their limited availability. So if demand is growing, how to manage the factor of scarcity, that is according to Brun and Castelli (2013), a Critical Factor of Success, to face the issue of sustainability?

Methodology: As this topic requires specific data about luxury brands strategies I decided to get primary data thanks to several interviews with 8 people coming from different sectors within the industry in order to have complementary point of views. I choose as well, on purpose, to do not ask the same questions to all of them but to personalize my questionnaires according to their speciality while keeping in mind the notions of raw materials sourcing, sustainability, innovation, collaboration and competition. However, given that the strategic part underlying my topic has been a limit to my research, because of its confidential nature, I decided to use public reports from Kering, LVMH and Richemont to get secondary data about their innovation and their performance. In addition, I used reports from international organizations which collaborate

with luxury brands to implement new process in their supply chain in order to bring benefit to people, to the planet and to their profit.

Results and Discuss: The findings show that becoming sustainable for the luxury brands, from an environmental and ethical points of view, is a real challenge that needs to be overcome thanks to innovation but also to collaborative business models in the supply chain. However, each challenge presents its own opportunities. Facing climate change, increasing scarcity and ethical scandals is the chance for luxury brands to succeed in making their sourcing strategy transparent and responsible. In caring about local communities and in securitizing their rare and desirable raw materials resources, luxury brands are entering, little by little, in a new era of control of their sourcing. This control is source of benefits for the people, for the planet, but also for the business. Marketing is not powerful enough anymore to offer a sustainable image to a luxury brand. The competition is tough and, at the same time, everything look alike. Brands need to find a new area where to compete. So far, improvements are done but the complexity of their supply chain and the image of the brands make the innovation quite slow. It is not everyone who can be Stella McCartney. She has her own brand with a very strong identity. The challenge for each luxury brand is to build an identity as strong as her, but different, in adequation with their values, while being sustainable too.

Today, luxury brands, from the fragrance and cosmetics sectors, the liquor and wine sectors, the fashion sector as well as the jewelry and watch sectors, are the most exposed to scandals. NGOs are watching them, becoming a significant driver for change, in addition to the fear of scarcity. These brands are partnering with universities as well as with local and international organizations to find solutions to preserve their fragile vegetal, animal and mineral resources. Three main types of innovation are identified :

- Innovation in the production facilities to keep on producing the same natural raw materials, for example in developing greenhouse to protect wild orchids.
- Innovation in the production making process to keep on producing the raw materials but differently (new techniques, new sources), for example in producing diamonds thanks to a plasma laser.
- Innovation in the raw material itself, when the brands decided to change its nature and to invest in another material to replace it. Example the grown lab leather.

Brands are orienting their strategy toward two options : using man-made raw materials, that I called here “artificial” or protecting, no matter what, the natural resources. After observations and interviews, brands need both at the end of the day. They have to find their balance to do not betray their nature though.

Finally, we can also talk about the “race” to the certifications. Getting accredited and working closely with a certification company help to enhance the image of luxury brands. A virtuous circle is thus implemented: luxury brands are innovating in their supply chain for the good of the local communities and for their environment, so they set up new standards and new

norms. To reward them, international organizations “offer” them certification making the luxury brands their clients. This award will have a positive impact on the brand and on the industry because competitors will be willing to get accredited too. At the end of the day, certification will become competitive advantages and brands will keep working on or improving their processes or maintaining the same level of requirements.

Conclusion and Implications: The supply chains optimization that is happening in every sectors of the luxury industry, focusing on the animal, vegetal and mineral raw materials sourcing has an impact on people, planet and profit, as expected. Even if luxury brands are still innovating and looking for solutions to become sustainable for good, on the long run, they are already in a position to create additional value to their SC and, at the end, to their products. Rethinking the supply chain leads to increase their competitive advantages. With an increasing phenomenon of collaboration, the development of new standards and the attribution of certifications, luxury brands have more and more tools to securitize their resources and to protect their image. LVMH and Kering, in their reports, are already talking about being the best in their sustainable actions, having the best partnerships and the best tools. Once luxury brands will be able to fully implement traceability and transparency along their supply chain, with a complete control of the sourcing activity, we can imagine that they will be able to go further in the “Made In” effect, in creating a “Made with”/ “Made by” label that will allow them to become real leader on the new competitive field that is the sustainability one.

SECTION II :

Literature Review

The literature review is separated in three main topics which led to my problematic. As experts in luxury observed that sustainability is part of the luxury industry, the first point I make is about the relationship between luxury and sustainability and it aims to prove that luxury needs sustainability to keep going. Then, as the activity of sourcing is part of the supply chain, I focused on reading several literatures about the luxury' supply chain, which, according to Kim B. (2013), represent a set of activities that have to perform to create value. In consequence, the strategies of sourcing need to be innovative and performing in order to make the brand more competitive in the context of the climate change and increasing scarcity. Finally, I chose to write a last, but not least, point about the sourcing activity itself, in order to better identify its challenges and opportunities.

2.1. The relationship between luxury and sustainability.

2.1.1. Sustainability within the luxury industry.

These last years the word “luxury” became a brand marker used by premium or mass companies to win market shares. However this auto proclamation do not make them real luxury players. In this dissertation, when I talk about luxury, it is about the brands whose the core values relies on “*the savoir-faire of choosing fine materials, authenticity, elegance, quality and value over time, creating the bridge that links the world of luxury with that of sustainability*” Pavione, E. (2016). However, the industry can be question when we look closer at the manufacturing processes or even at the raw materials sourcing (Kapferer, J. N., & Michaut-Denizeau, A., 2014). The use of oil due to the exports and imports, the animal testing in cosmetics, the animal used for their skin, their fur or even their bones (I am thinking about corals, given that elephant and rhino ivory are illegal), the use of water, the precious gemstones, the cotton, the silk, the wood, etc. Thus, the word “sustainability” addresses, as well, directly the issues of climate change and scarcity. In order to be fully sustainable, luxury brands have to turn this value into a strategy, so into something tangible, from the sourcing to the craftsmen's work and beyond the experience of buying. As a consequence, more and more brands are experiencing for some years now, competitive strategies in the global luxury industry in the perspective of sustainable development

and sustainability appears as a huge opportunity to develop new business models. François-Henri Pinault said that *“sustainable development is a business opportunity and leadership”* and it is explained by the fact that a sustainable company *“has the ability to adapt to changes, to innovate, to anticipate risks and to identify on an ongoing opportunities business”*. (Quoted by Pavione, E., 2016)

Raw materials are the reason to be of the Luxury brands that put craftsmanship and excellence at their core. The ability to generate a source of raw material and to control it in a sustainable way will not add something to the perceived value; however it would create an “exclusive property”. Pavione considers sustainability as a business imperative and brings up some alternatives:

- *“production of collections without the use of PVC”*
- *“ use only gold and diamonds originating from subsidiaries that do not have a negative impact on local communities, fauna and ecosystem”*
- *“ only use leather and fine leather goods business subsidiaries so that ecosystems are not turned into pastures or indiscriminate in farmland for feeding livestock”*
- *“use only paper and packaging from certified forests and products with at least 50% recycled paper.”*

In *Sustainable Luxury, Managing social and environmental performance in iconic brands*, Miguel Angel Gardetti and Ana Laura Torres present several scenarios for sustainable luxury fashion. I choose to consider two of them:

<p>“Scenario 2: Innovative Luxury Fashion.”</p>	<p>“Scenario 3: Upgrading luxury fashion through regulation.”</p>
<p>In order to keep the creativity and the short-term cycle of creation that make the fashion “fashion”, making the process sustainable would require three kind of actions: “First, use materials that have a lower impact on the environment, such as organic fabric. Second, reduce waste at each step of the production process. Third, increase recycling of discarded clothes.”</p> <p>By Frederic Godart and Sorah Seong (Insead, Fontainebleau, France).</p>	<p>“[T]he Sustainable Apparel Coalition has created the Higg Index 1.0 to coordinate and help industry actors measure the social and environmental performance of their products across various stage of the supply chain.”</p>

2.1.2. The democratization of luxury and its implication : the quest for quality.

Luxury brands are competing worldwide to meet the growing customer's demand, in term of image, but what is the image without the quality? Today the growth of the luxury brands and their diversification threaten their ability to remain sustainable. Many players are struggling to offer the expected quality to the demand for luxury products.

The concept of *Masstige* has been created by Cornell (2002) (Granot, E. et al, 2013) and describes the skyrocketing appetite for luxury goods around the world due to the development of middle class, especially in Asia. Because of this huge phenomenon many old luxury brands, mainly in the fashion sector, developed new more affordable collections, like Louis Vuitton. Such increasing has impact on the raw materials sourcing and on its price due to an oversupply and an overcapacity. Before the phenomenon of democratization, when the demand was much higher than the offer, luxury brands had a greater control on the raw materials supplied, which were limited quantities, and they could control a certain level of quality. Today, the situation presents a huge opportunity of profit but customers experience and general feeling of disappointment in front of the poor quality of the luxury products:

“[T]he luxury industry [...] has sacrificed its integrity, undermined its products, stained its history and deceived its customers.” Dana Thomas (2007: 13), *Deluxe: How Luxury Lost its Luster*.

“Today, 90 percent [of the affluent consumers] are inclined to say that luxury holds a different meaning to each individual, while 47 percent note that the quality of luxury goods has declined”, “authenticity is crucial. A number of brands have been found to be bending truth for their story, such as Shinola's claims its watches were made in the U.S., when they were merely assembled there.” Notes and references to a Daily Luxury NL : Tradition and heritage trump hip and new for luxury brand appeal: Ipsos, December 7, 2016. (quoted by Gardetti, M. A., & Torres, A. L. (Eds.), 2014).

In *How luxury brands can grow yet remain rare* , Kapferer talks about "abundant rarity" strategy from luxury brands that are willing to offer volumes able to satisfy the huge demand which is addressed to them but which, as a result, will make them lose their status of niche brands. Indeed, in order to gain value from a customer point of view and to keep making them dream about the brand, luxury companies, such as Ferrari, must be able to regulate their offer for very specific customers. However, it is important to not confuse *Masstige* and "Abundant rarity

model". The authors explain that this last one respects luxury codes and does not sacrifice the quality either the price of their goods.

Kapferer mentions also the factor of "qualitative rarity" - to talk about the scarcity that adds value and makes the products even more desirable- and to "virtual rarity", which is used to create limited edition within their long production chain with the purpose to increase the brand desirability. So brands must also be careful in their new strategies of sourcing. As desirability is one of the important key features of Luxury, sustainability is a double-edged sword. It can become boring to customers if the rare product is not noble and doesn't echo to anything in their mind. However, in this paper, I would like to consider both natural (leather, cotton, silk, flowers, wood ...) and artificial raw materials, given that Stella McCartney is a great example of appealing brands while it uses alternative materials such as the one who replaces leather. Both strategies are worth to be studied.

To conclude, we know that the growing demand goes hand in hand with a growing disappointment about the quality of luxury products. The customer quest for quality is an opportunity for luxury brands to rethink their sourcing and production strategies to offer better products and to gain, once again, in competitiveness. Implementing sustainable strategies that respect "people, planet and profit", could be the answer.

2.1.3 The customer's opinion evolution: an opportunity for the luxury industry.

"Environmental and social concerns have become pivotal in driving consumers' product choices and have important repercussions on supplier selection decisions" (from Cleveland et al. 2005, Shen et al. 2012, by Macchion, L., Danese, P., & Vinelli, A. (2015).

The concern of luxury customers about sustainability is not manichean. Thanks to 966 surveys conducted, in 2014, Kapferer, J. N., & Michaut-Denizeau, A., enlightened the fact that most of the interviewees considered luxury and sustainability as two non-compatible entities because of the social and fair dimensions of this topic, while luxury embodies inequalities. However, in *How luxury brands can grow yet remain rare*, published in 2015, Kapferer explains that luxury industry, due to the prestige associated to it, is perceived as a sector respectful of the environment and of its workers.

Customers of extreme luxury are very concerned about the "Made In" effect and the sustainability issue (Pamela K, Linda H, 2016). They are looking for "more responsible luxury" (Pavione, E., 2016). However, it is relevant to precise that there is a gap between surveys result

and purchasing behaviors. If customers can think about what is behind the product when they buy a daily goods, most of them definitely ignore this side when they are buying a luxury goods because it is supposed to be an exceptional moment (Kapferer, J. N., & Michaut-Denizeau, A, 2015). Here is an extract of some results of their survey over 966 interviewees:

- “1/3 of the respondents said they care about sustainability when they purchase a luxury item”, 52,8% think that sustainability should not be a priority, 33,8% think that luxury and sustainability are contradictory but 36,1% think it's not.
- Table 1, page 10, "Shocking news about luxury brands misbehavior", rated from 1 to 10:

In average, respondents are more shocked by:			
“Animals killed.”	“The Made In which is not french or Italian when it should be.”	“The working conditions in developing countries.”	“The gas use for big sport cars and yachts.”

- Table 4, "Customers' opinion about luxury", rated from 1 (fully agree) to 5 (strongly disagree) :

- The highest average from 4 and above, show that a majority of respondents disagree with these statements :

"I appreciate the extreme quality of luxury goods" (4,05)

"Luxury goods should be exemplary in term of sustainability" (4,00).

- The lowest average ranges, from 2,72 to 2,98, show that most of the respondents agree with these statements :

"Sustainability will kill the creativity of luxury" (2,72)

"Luxury and sustainability are contradictory" (2,96)

"Luxury has no future in a world driven by sustainability" (2,88)

"When I buy a luxury products, I don't care about sustainability" (2,91).

- Between, we have results that confirm the ambivalence of the general opinion:

"I feel a little bit guilty when I buy a luxury good" (2,81)

"Luxury is not ethical" (3,24).

As a results, for the majority of interviewees, sustainability is not a decision making criteria and sustainability and ethic are different. Craftsmanship and local production seem to be the most important and we observe again the quest for the quality.

However, a report written by the Bearingpoint Agency in 2016, enlightens that sustainability concerns is a matter of customer's generation. Millennials are the more demanding about the supply chain transparency. They are highly influential and their awareness is one of the incentive for brands to do better: *"More than 90% of people under 35 we surveyed were aware of environmental issues, compared to 72% of those aged between 35 and 57."*

(Source: Damien Palacci, Sebastien Maltaverne, 2016, The Bearingpoint Institute: A deeper shade of Green, The luxury industry and the environment.)

So there is definitely an ambivalent attitude toward the Luxury aligning its strategy on a more sustainable perspective. This situation could explain the relatively slow path of changes in luxury brands strategies of sourcing but also in their choice to communicate about it or not.

2.1.4 The Green trend.

As Kapferer, J. N. (2015) mentioned it in *How luxury brands can grow yet remain rare and in Is luxury compatible with sustainability?* (Kapferer, J. N., & Michaut-Denizeau, A., 2015), there're many industries much more harmful for the environment than the niche market of luxury; however it is one of the most visible. NGOs and watch groups have their eyes on this specific industry because of its opacity. Nowadays, luxury brands have to set the example since their brand reputation is at stake.

The Green Buzz, as it is described and studied by Doval J. et al. (2013) has become a new concern for all brands as it is a new way to create additional value due to the growing customers' awareness about sustainability issues. The study cites Hawken (1993) to explain that the luxury business *"has three issues to face, what it takes, what it makes and what it wastes"* and evokes as well the importance of keeping high prices. They will enhance the exceptionality of the products and will be very good indicators of a specific status related to the purchasing act. In their research paper, the two authors identified several green practices set up along the entire supply chain. From a manufacturing perspective, Gucci, Louis Vuitton and Alexander McQueen started to introduce in 2013 organic clothing collection. Sergio Rossi, at this time owned by Kering (previously PPR), created an 'eco-friendly stilettos' made from 'recyclable and biodegradable material- liquid wood and vegetable-tanned leather (from Wesselhoft, 2009). Dior, dedicated its handbags manufacturing to an "Italian bio farm leather" and banned silicon from its products. Besides, the research paper makes a list of the main international organizations that are involved in improving the sourcing raw materials strategies of the luxury brands:

- The Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES)
- The Business For Social Responsibility (BSR)
- The United Nations Conference on Trade and Development
- The Forest Stewardship Council (FSC)
- The Program for the Endorsement of Forest Certification
- The Kimberly Process Certification Scheme

Among the three luxury groups that we know in France, LVMH collaborates with all of them to rethink its sourcing strategy mainly for the packaging and its merchandising but as well for the fashion/ leather goods manufacturing purpose. Besides, in 2013 PPR (now Kering) put in its agenda the development of a new tool by 2018, the Environmental Profit & Loss Account that will enable to focus on the most polluting part of the business, including the raw materials sourcing. We are in 2017, and it is operational.

From a specific packaging point of view, the study of Doval J. et al. (2013) mentions the example of Estée Lauder whose suppliers are mainly involved in materials and energy recycling : *“100% PCR plastic contents are used in promotional bottles and Clinic uses 80% recycled aluminium in their skincare caps”*. From the Operations, the main objective for the manufactures is to be able to renew all the used energy and to become auto sufficient. From the Corporate Social Responsibility, some brands launched their websites but others like Chanel, Hermes, Prada, Labelux and Tod’s did not – and still do not having a specific CSR page on their website.

So, about brands that adopted a sustainable strategy, I am wondering what makes the difference between them? We know that this new strategy adds value to each brand, but in which measure? At which level does the new competitive advantages take place?

In its report, the BearingPoint Institute let us guess that a real snowball effect is occurring. The competition is so high that if one brand adopt new standards and new measures, competitors have no choice than to get aligned. The best option, in this context, is to be leader in the sustainability strategies: *“ If a luxury brand is a pioneer in sustainable development, its competitors will be forced to align to it”*, Patrick Le Quément, former senior vice president of corporate design at Renault. (Source : Damien Palacci, Sebastien Maltaverne, 2016, The Bearingpoint Institute: A deeper shade of Green, The luxury industry and the environment.)

2.2 The luxury industry' supply chain : a set of activities that have to perform to create value (Kim B. 2013).

2.2.1 Different type of Supply Chain Models (SCM) for different level of luxury.

Lee stated, for the first time in 1995, the triple A for a successful Supply Chain (SC): “Agile , Adaptive, and Aligned”, however it is complicated to accomplish the three at the same time (Kim B, 2013). Besides, the strategy depend on the nature of the luxury. In their document, Castelli, C. M., & Sianesi, A. (2015) consider companies that represent the three segments of this specific industry (classification proposed by Altagamma):

- Absolute
- Aspirational
- Accessible (closer to a mass-market approach)

For my paper research I choose to focus mainly on the Absolute and Aspirational ones. The first type drives the market and is characterized by “elitism, heritage and uniqueness” and is embodied by Hermes and Harry Winston, for example. This kind of extreme luxury works on a SC able to provide materials and processes that have a superior quality thanks to unique resources. The second type is about status, “being recognizable and distinctive”, such as Gucci and Louis Vuitton who focus more on brand aspects. The main finding of this study is the alignments of SC strategy with Critical Success Factors (CSF) objectives.

2.2.2 The Critical Success Factors.

The CSF are very different from a company to another one, they depend on priorities which are subjective to each brand (Kim B, 2013; Castelli, C. M., & Sianesi, A.,2015), but Ward et al. (1998) described four basics ones, including three that can be applied to luxury :

- Quality
- Delivery Time
- Flexibility

Then, Garvin (1998) stated that each capability is supported by several dimensions. The quality is defined by “*performance, features reliability, conformance, durability, serviceability, aesthetics and perceived quality*”; the flexibility is defined by “*mix, changeover, modification, volume routing, material and responsiveness*”. It exists a strong relationship between the competitive priorities and the corporate strategy; they influence each other through the intermediary of the target market. Besides, more the capabilities are valuable and difficult to imitate because they imply very high skill and know-how, more it needs to be insourced or reshored (Pamela K and Linda H, 2016), and this works for sourcing strategies. The others can be outsourced (Kim B, 2013). Thus, if luxury brands target a market which cares about sustainability issues, their CSF would be very specific to answer the market demand and the corporate strategy would be rethought like what happened specifically with the group Kering (Elisa N. et al, 2015).

2.2.3 The specificity of the “extreme luxury”: everything is about quality.

For the extreme luxury company, quality relies on “*durability, details, sophistication, craftsmanship and tradition*” (Garvin (1998). These capabilities are the competitive priorities of the company and concern the raw materials as well. In a case study written about Louis Vuitton, by Garvin, we learn that the House uses a vertical integration strategy that allows them to keep in-house their knowhow, to have access to any information in real time and, finally, to be able to control the price. Their relationship with their supplier is very close and they make sure to keep a leadership position in it. Another case study about Chanel enlightens its specific competitive priorities which are durability, thanks to an “*extremely high quality of raw materials*”, and design excellence. Like Louis Vuitton, the company has a tight control on its in-house supply chain (Kim B, 2013).

Castelli, C. M., & Sianesi, A. (2015), in their research paper, emphasize the role of the quality as the main competition asset at each step of the SC’s processes. The companies that are able to develop the highest quality possible with new technologies are the leader and set the new quality standards of the market. At this point, defects are not allowed. The race for the highest quality possible goes hand in hand with the research and the preservation of uniqueness, another big challenge for the SC which role is also to control scarcity. This scarcity is a double edged sword because it is where most of the value of the extreme luxury relies. The SC must not source and produce too much but, at the same time, it has to offer enough to match the global demand. In addition, climate changes bring complexity to the different sourcing strategies. Besides, the exclusivity of each product is guaranteed by the ability of the SC to provide a strong traceability.

This one is very important to report brands' improvement and achievement in term of "sustainability and corporate social responsibility" (CSR).

The question of quality and of its control is also explored by Brun, A. et Moretto, A. (2014) who study the requirements to reach such a high level, at each steps of the Supply Chain, for some French luxury brands, given that France is a leader in this industry since tens of years. Accessible luxury and Aspirational luxury have a full-time department quality when Absolute Luxury Houses uses a part-time activity. This one is ensured by all the departments alongside the SC, so suppliers and buyers are also responsible for the quality of the materials. Here is the result of the research, through 4 different cases:

<p>MODEL A CHANEL and DIOR</p>	<p>MODEL B MOËT&CHANDON</p>	
<p>Double dependency of the quality manager.</p>	<p>Two different and nearly independent quality departments.</p>	
<p>Top Management ↑↑ Quality Assurance Manager Quality Control Manager ↓↓ Production Manager</p>	<p>Wine Quality Department ↓↓ Brand</p>	<p>Control Quality at the Production Level ↓↓ Production Department</p>
<p>MODEL C LOUIS VUITTON, GIVENCHY, BACCARAT</p>	<p>MODEL D HERMES and CARTIER</p>	
<p>Independent Quality Department and Quality Operations are reported to the Industrial Department.</p>	<p>Two specifics models that all the Absolute luxury brands use.</p>	
<p>Louis Vuitton Example</p> <p>Quality Department ↗↑ ↑↑ ↖↘ Production Operations Retail</p>	<p>Hermes : Widespread quality department strongly linked to the company's industrial activities.</p>	<p>Cartier: Quality department strongly linked to the customer service department.</p>

Source: Brun, A., & Moretto, A. (2014). Organisation and supply chain for quality control in luxury companies. Journal of Fashion Marketing and Management, 18(2), 206-230.

As a result, it appears that the Quality Management (QM) depends also on the nature of the products offered. For example, higher the level of craftsmanship more the QM is ensured by the craftsmen themselves, such as at Louis Vuitton and Hermes for the leather goods. These two Houses, have organized the control by family of products, when others like Givenchy (Accessible), Chanel (Aspirational), Dior (Aspirational), and Moët&Chandon (Accessible), which have a lower level of craftsmanship, think more in term of QM by area. Moreover, the role of regulations and certifications is important in the production process. In our case, we are more interested in the environmental and social aspect of the control; and these are also more and more important for the customers. Today, more and more French luxury brands have the objective to obtain the ISO 14001 standard that proves their involvement in environmental concerns.

Finally, in term of quality control at the sourcing level, some brands like Hermes trust their supplier as much as they trust their craftsmen and thus do not practice any “quality insurance”, i.e “incoming raw material quality inspections”. Some others, like Louis Vuitton, exert a very strong follow up on their suppliers and are involved in the development of new technology that will increase the quality of the materials provided. As a general observation, there is no “one best method” and, contrary to the mass-market where everything is regulated, it is possible to have difference in the quality given the variable dimension and the uniqueness of the materials and of the craftsmanship.

The quality control in luxury is the responsibility of the brands and of their suppliers. The climate change and the scarcity have effects on the raw materials quality so the luxury industry has to develop new tools to monitor collaboratively the sourcing activity to keep guaranteeing the best quality possible. Besides, the use of new materials, derived from new components or artificial ones can also lead to the questions of the quality of the new raw materials. Innovation in sourcing, while conserving high standards of quality are both challenges and opportunities for this industry.

2.2.4 The Supply-Chain Innovation (SCI).

The SC is a source of considerable added value for luxury brands and, nowadays, competing in SC can be much more impactful than competing on products which, if we take a look at the market, are more and more similar. The main benefits of SCI are the costs saving, as well as a long-term competitive effect.

Caniato, F., Moretto, A., & Caridi, M. (2013) explains how Dynamics Capabilities (DC) are at the origins of the SCI. DC are defined by Teece and Pisano (1994) as “*a subset of the competences/capabilities which allow the firm to create new products and processes and respond*

to changing market circumstances". So in our context of environmental changing we could expect that new DC appeared to help companies to adapt their SC processes at different levels. Thanks to the study of an Italian company, the authors made some observations among which there is the importance of the resources management as a factor of competition. From a sourcing perspective, the Italian luxury company decided to rethink its strategy about keys raw materials in focusing on the most reputed European countries.

"In order to introduce product innovations, different policies with suppliers have been adopted; in particular, for accessible brands several activities (e.g. the whole production of the products, the selection of the raw material suppliers, the realization of the PD activities after the concept) have been outsourced to a stable network of suppliers".

Source: Caniato, F., Moretto, A., & Caridi, M. (2013)

"For fashion-luxury companies, product innovation is predominant but should require a coherent SC, by considering SC as value chain, segmented SC, extended SC"

Source: Caniato, F., Moretto, A., & Caridi, M. (2013)

As a result, Dynamic Capabilities enlighten the important areas of actions to consider when brands are elaborating their new strategies. Indeed, these areas are source of important added value. DC are mainly about the market, the business and the environment, while the CSF are only market oriented. Thus, the formers are better indicators than the latters. Caniato, F., Moretto, A., & Caridi, M. (2013), studied in depth the phenomenon of innovation with a useful focus on the sourcing part, mentioning the stakes and the luxury value that are concerned by these changes.

After these readings, we can tell that the SC is definitely a chain of value and each one of its innovation is source of competition. Also, we can mention the fact that audit tools are powerful tools to control each step of the Supply Chain and luxury brands have to be responsible for all their suppliers behaviors. They can not let opacity remains at any step of their Supply Chain. So the innovation in this area goes through the techniques chosen, the materials used but also the operations' processes:

*"Ten years from now, the main challenge that the luxury industry will face will be traceability." – Grégory Casper, co-author of *La Génération Y et le Luxe*, Dunod Publishing House."*

(source : Damien Palacci, Sebastien Maltaverne, 2016, The Bearingpoint Institute: A deeper shade of Green, The luxury industry and the environment.)

Regarding the technical innovation allowed by technology, The BearingPoint Institute report evokes also the idea that the change may come from the ability of brands to rethink their design part of the creative process. Rethinking this part of product creation will allow companies to optimize raw materials using. Thus innovation and technology would be one of the key to lead to sustainability. Artificial raw materials production could be a strategic answer/ solution to a sustainable sourcing and this idea leads also, as mentioned above, to the question of the desirability of the new materials used because quality, controlled scarcity and seduction are part of the Luxury's DNA.

“Nieto of Positive Luxury calls for a “transition from natural to synthetic” to reduce damage to the environment.” and ‘As Karl Lagerfeld once said, “you cannot fake chic but you can be chic and fake fur”.

(Source: Damien Palacci, Sebastien Maltaverne, 2016, The Bearingpoint Institute: A deeper shade of Green, The luxury industry and the environment.)

2.3 The Sourcing activity.

2.3.1. When marketing and branding are not sufficient enough to create added value.

In order to create more value and to be more competitive in our context of globalization, luxury brands need to increase the control of their supply chain operations. For example, Burberry, decided to adopt a reshoring strategy to make its SC stronger, more reactive and more flexible in *“rebuilding manufactures activities back in the UK”*. A greater control is also an advantage to better manage the provenance of their products and thus to win comparative advantages (Pamela K, Linda H, 2016). The same authors use the reference of Fratocchi et al. (2016) and Caniato et al. (2013) to go further in their exploration of the reshoring strategy and to put it in relation with the concern of sustainability. This strategy is a very effective way to protect the brand critical attributes when it is looking for competitive advantages that rely on *“rarity and brand exclusivity”*.

The global financial crisis of 2008 had an impact on every industry, included luxury which is not finally crisis-proof and that cannot be complacent (Guercini, Milanesi, 2016). The next crisis, that has already started, is the environmental one and this specific industry started, few years ago, to rethink their sourcing strategies in order to avoid scarcity and manage the exclusivity of their top quality raw materials, because the marketing is not anymore sufficient to guarantee the fame of luxury brands' names.

In our actual context of environmental crisis, multinational luxury companies – so almost all of them- are focusing on the problematic of “how to locate sourcing and production?” in order to respect new regulations while keeping the highest quality possible (Pamela K, Linda H, 2016).

2.3.2 The strategies.

Despite the very strong and trusty relationship that can exist between the company and its suppliers, it is quite common that luxury brands have to deal with several suppliers for each kind of products in order to avoid dependence. This allows brands to have a better overview of the global supply market and to limit scarcity crisis if it had to happen. Moreover, the Italian company I-Luxury owes “43 stores all over the world and 11 corners”, which is a challenge, and has planned to set up a new manufacture in Italy, of 1.500 squares meters, in order to support the leather goods production in term of quality, quantity and delivery time (Guercini, Milanesi, 2016).

Using a vertical sourcing strategy is also a good strategy because it allows luxury brands to keep a greater control of the supply chain and to give the guarantee of a real “Made in” origin to the final luxury customers. For example, the extreme luxury products are known to be fully made in a specific location, whose market is not necessarily very receptive but which is very meaningful for foreign markets (Guercini, Milanesi, 2016). Also, as production and resources’ locations are responsible for giving birth to the internationalized luxury business model, we can assume that environmental concerns have an impact on the development of new business models too.

Kim B, (2013) gives also the definitions of two strategies:

- The in-house sourcing, in which “the firm makes its products or supplies internally, i.e inside its own plants or facilities”.
- The outsourcing strategy which consists in utilizing “external suppliers and/or partner companies for making products or procuring parts and materials”.

Bensaou (1999) focused on the relationship between buyer and supplier and stated on four different types which are:

<p><i>The Market Exchange:</i> Buyer and Supplier have both low investments.</p>	<p><i>The Captive Supplier:</i> Only the supplier's investment is high.</p>
<p><i>The Captive Buyer:</i> Only the buyer's investment is high.</p>	<p><i>The Strategic Partnership:</i> Buyer and Supplier have both high investments.</p>

(Source: Kim B, 2013).

Given that the optimal situation would be the Strategic Partnership in our luxury context, we understand why extreme fashion luxury brands started to stop partnering with the Asian market which is currently characterized by rising costs, decreasing quality and rigid supply chains (from Pwc 2013 and Bain and Company 2014, by Pamela K, Linda H, 2016).

In their research paper, Macchion, L., Danese, P., & Vinelli, A. (2015) study specifically the new “supply network strategies to face changing environments”, applied to the fashion and to the luxury industry. They focus also on the “Made in” advantage as well as on the importance to reinforce partnership and collaboration along the SC to provide “new collections with compressed lead times and improved quality content” to recover a high level of competitiveness in a global market where actors are more and more numerous but were the quality is decreasing, partly because of the new environmental constraints and the scarcity issue. The three women used the method of the case study to enlighten different strategies. According to their findings, over 11 companies studied, 5 emphasize the importance of technological innovation to develop and to seek for new raw materials that will answer the high expectations of customers for quality. The documents talks about the commercialization of organic cotton and wool product lines, the use of bamboo, the increasing use of vegetable-tanned leather, the ban of furs and finally the use of recycled materials. But the paper talks also about the quality complexity implied by these new raw materials.

Luzzini, D., & Ronchi, S. (2010) provides as well a classification of the purchasing habits for luxury companies that illustrates the complexity of the situation. Given the wide range of products offered by this industry and the multiplicity of the CSF according to each brand, the purchasing strategies – as part of the SCM- are variable. "*There's no best way to execute purchasing strategy*".

The different decisional factors are:

- the market dynamics
- the country of operation
- the product or service concerned

And everything is articulated according to several problematic:

- selection of suppliers portfolio
- suppliers development initiatives
- suppliers involvement in new products development
- the use of long-term relationships.

The two authors establish as well a categorization by clusters of 4 luxury suppliers families:

<p>Large fashion company (Linen, Apparel, Underwear)</p>	<p>Companies manufacturing products with an average degree of complexity (Kitchen, Light, Furniture)</p>
<p>Small fashion company (Shoes and Gadgets)</p>	<p>Companies manufacturing products with a high degree of complexity (Bull, Horses...)</p>

For example, fashion brands rather to use spot-contracts and consider the quality and the innovation as primary in their raw materials selection, when luxury brands offering complex products prefer to use a long term contract.

This reference provides an large overview of the luxury industry with a wide variety of suppliers. After reading this, I wondered if the environmental constraints are redefining these strategies. If so: How? What are the new relationship between the raw materials suppliers and the luxury brands?

2.3.3 The “Made In” impact, symbol of “excellence”, “exclusivity” and “authenticity” (Guercini, Milanese, 2016; Pamela K, Linda H, 2016).

The importance of the provenance has been mainly explored for the fashion industry with leather and textiles brands, especially for the Scottish Luxury textile industry (Towers, N., Perry, P., & Chen, R., 2013; Collins, M., & Weiss, M., 2015; Keith, S., & Silies, M., 2015). On one hand, it is related to the subjective part of the customer’s perception about quality within geographical and cultural frameworks; on the other hand it can be objectively justified by a real value linked to a specific sourcing or a specific craftsmanship that cannot be reproduced elsewhere.

The use of new raw materials can question the quality of the new products, however, luxury brands found a solution to keep supporting the quality and the value allowed to their products thanks to the “Made in” argument (Macchion, L., Danese, P., & Vinelli, A., 2015).

“Even though global sourcing is sometimes compulsory, many luxury firms supply networks are localized in geographical districts close to the focal firms, like the ones of leathers in Tuscany, silk in Como or furniture in Cantù. This combines the access to rare, non-imitable know-how and the “made-in” which is highly evaluated by customers.” Luzzini, D., & Ronchi, S. (2010)

The extreme luxury fashion is an example of the industry in which the country of origin is the main asset of the brand and that testifies of the highest quality possible of the products. It is a point of reference, especially when the strategy of a luxury brand relies on internationalization (Guercini, Milanese, 2016). In their paper, S. Guercini and M. Milanese, focus on this specific business model and use the example of an Italian brand, whose name remains confidential, to explain that in addition to use a “Made in Italy” brand, they also use some very valuable and meaningful “Falto in Italia”, “Falto a mano in Italia” and, the must-have, “Made in Florence”. The paper is also interesting because it enlightens the benefits of having an international strategy with a cross-borders sourcing strategy; however I would add that it is an opportunity that brings a lot of benefit at the condition to be able to manage properly the raw material sourcing. The authors talk about excellent know-how and top quality materials but Italy is known for leather, not for silk, cotton, wool, fur and others components useful for the Fashion-Industry. Thus, it is crucial to be able to have a sustainable sourcing in order to guarantee the quality, no matter what. The sourcing activity, in the context of the luxury industry, is responsible for the scarcity control and the product's authenticity all around the world (Collins, M., & Weiss, M., 2015) that is why environmental matters are at the core of this part of the Supply Chain. In the case of Burberry, Christopher Bailey said in 2014 about the brand’s core customers that they *“like that the cashmere is made in Scotland and the trenches are made in the Yorkshire.”* (quoted in Armstrong 2015 by Pamela K, Linda H, 2016). However, of course, this kind of “Made in”

strategy in the western countries has a high cost and it is challenging for luxury brands to be able to support them. Thus, we can wonder what are the effects of the introduction of new sustainable processes in the SC? Are they making these costs heavier or are they beneficial to the company in adding more value to the offered products and making the new strategy more profitable?

2.3.4 The Raw Material Issue.

The BSR report about Kering enlightens the fact that luxury uses natural resources in order to offer uniqueness. The climate change, for this reason, is a big threat for the business and will be at the origin of disruption in the raw materials supply with, in addition, a decreasing of their respective coveted quality. The report talks about “Natural Capital” to designate the overall natural raw materials resources and focuses mainly on natural and animal raw materials: cotton, beef leather, sheep and lamb leather, vicuña, cashmere, and silk to provide a forecast of what will happen by some years for this specific resources. Here is the detail of the climate change effect on availability and quality:

Table : Raw Materials affected by climate change.

RAW MATERIAL	CLIMATE CHANGE EFFECTS ON AVAILABILITY	CLIMATE CHANGE EFFECTS ON QUALITY
COTTON	<p>Reduced water availability can reduce yields.</p> <p>Temperature increases may have beneficial or adverse effects on production in different countries depending on current temperature and the upper limit of cotton's temperature threshold.</p>	<p>Increasing temperatures lead to increased occurrences of pests/diseases, which diminish cotton quality. Degradations in cotton crop quality results in lower end-fabric quality and reduced ease of processing.</p>
BEEF LEATHER	<p>Extreme and prolonged droughts contribute to reductions in cattle hide production. Availability of water for feed may also restrict expansion of cattle rearing in some countries. Warming climates likely to allow pests and diseases to spread into new regions, which will impact cattle productivity.</p>	<p>Higher temperatures lead to increased incidents of pests like lice and ringworm that cause marks on the skin and reduce the quality of beef and calf hides.</p>
SHEEP AND LAMB LEATHER	<p>Warming climates likely to allow pests and diseases to spread into new regions, which will affect sheep productivity. Ongoing desertification increases vulnerability for sheep flocks, including in Mediterranean countries and the Patagonian steppe. Much of the sheep leather is coming from small-scale producers who do not have the resources to adapt to changing conditions.</p>	<p>Higher temperatures lead to increased incidents of pests like lice and ringworm, which cause marks on the skin and reduce the quality of sheep hides. Large inter-annual variation in weather, particularly precipitation, can decrease the quality of grazing pasture, which in turn can affect hide quality.</p>
VICUNA	<p>Restricted water availability and variations in temperature decrease quantity of fibres produced. Vicuña have daily water requirements and must live near water sources to survive. Increasing drought length, more prevalent dry years, glacial melt, and irregular precipitation may restrict water availability. Increased vulnerability due to limited geographical range.</p>	<p>Restricted water availability and variabilities in temperature diminish the quality of fibres produced, as vicuña have evolved to have very fine hair or wool to keep them warm and dry. The animal will respond to changing temperatures and rainfall patterns, which may result in changes to the quality of their hair.</p>
CASHMERE	<p>Increased vulnerability due to limited geographical range.</p> <p>Major production habitat (Mongolian steppe) already suffering from degradation and desertification.</p>	<p>Degradation of habitats and foraging sources leads to undernourished goats with coarser hairs. Rising temperatures projected in regions like Mongolia can also constrain goats' winter hair growth, which is the source of high quality cashmere fibres.</p>
SILK	<p>Increased temperature and fluctuating humidity can reduce yields. Highest quality silk from indoor production is insulated from direct climate impacts while outdoor production is directly exposed to changes in climate. Drought decreases availability of mulberry trees, the main source of silkworm food—an indirect effect for indoor silk production.</p>	<p>The quality of silk fibres is strongly influenced by environmental conditions like temperature and humidity.</p>

(Source : BSR / Kering Report)

The report recommends three kinds of actions to act directly on the gas emission but also to anticipate eventual raw materials scarcity and manage the sourcing better:

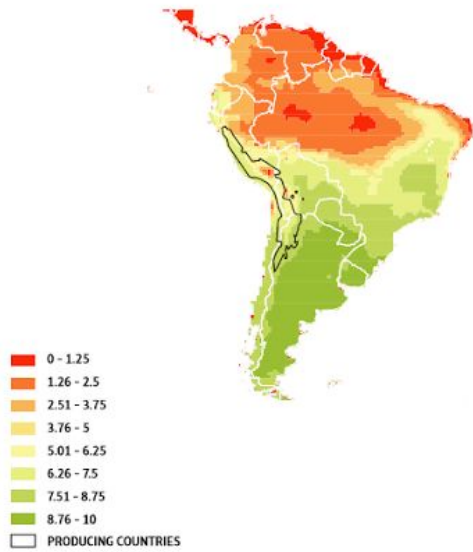
- 1) Identify raw material priorities by mapping supply chains against climate change risks.
- 2) Take actions and set targets with supply chain partners and other stakeholder.
- 3) Monitor impacts.

The report lists also explicitly the different risks to which companies will be exposed at different time and in different measure, that's why each company needs to look carefully at their supply chain and their particularities to know what part will suffer first and how to be the most resilient possible. The risks listed are:

INPUT RISKS	concern the availability, the quality and the cost of the raw materials and inputs that companies need.
PHYSICAL RISKS	concern the access and the use to the brands' operations and assets (manufactures raw materials). This will create disruption and delays making instable the Supply Chain.
MARKET RISKS	concern the demand of the market due to climate change, that will become even more difficult to predict.
STAKEHOLDERS RISKS	concern the possibility to fail meeting stakeholders expectations in term of environmental management.
REGULATORY RISKS	concerns the new regulations' effect that can be emitted by new environmental policies and will affect the strategies well established of brands.

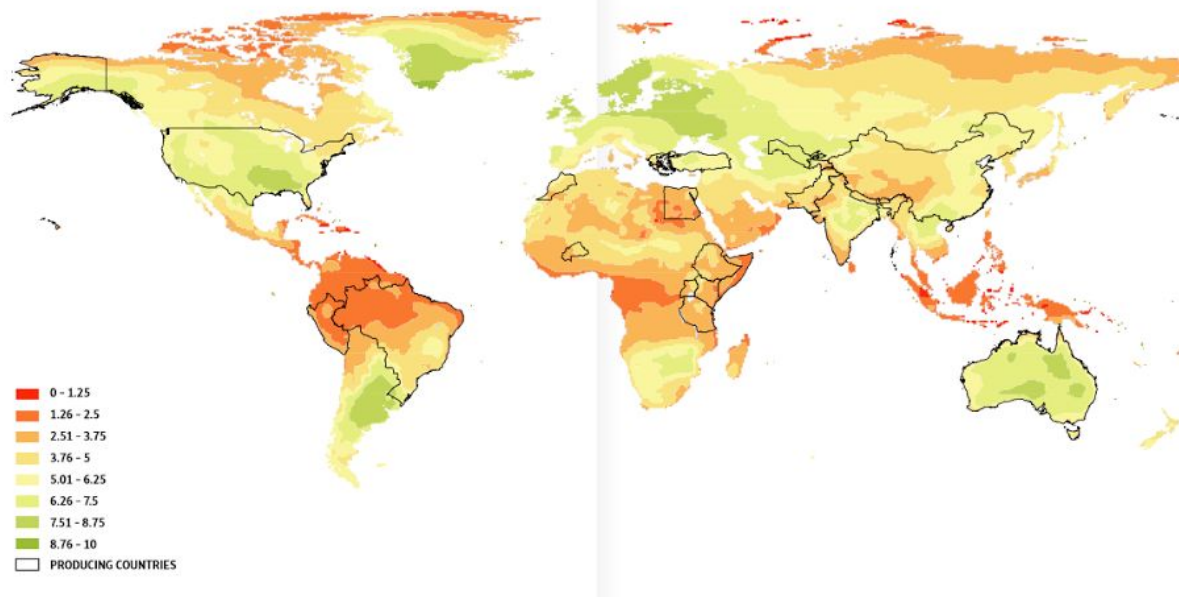
The Report provides as well several Raw Materials Hotspots Maps:

figure 2: CLIMATE CHANGE RISK INDEX FOR VICUNA (2036-2060)



Example with the vicuna and the cotton situation (below)

figure 3: CLIMATE CHANGE RISK INDEX FOR COTTON (2036-2060)



To have a broader approach of the luxury industry, the Bearingpoint Institute, in its report “A deeper Shade of Green”, mentions as well the global warming as a threat for the wine produced in Aquitaine, in France, and the Bulgarian Rose, “*whose essence, one of the most popular in the world, could disappear.*” But natural and animal raw materials are not the only concerns. Regarding the mineral raw materials situation, the report talks also about the increasing scarcity of diamonds and gold. In fact, nowadays, a growing part of the used gold come more and more from recycled one.

“We are almost short of gold (almost everything we use is recycled)’ said Diana Verde Nieto, co-founder and CEO of Positive Luxury”

(source : Damien Palacci, Sebastien Maltaverne, 2016, The Bearingpoint Institute: A deeper shade of Green, The luxury industry and the environment.)

Each sector of the luxury industry is aware that they need to rethink their strategies of sourcing on the long term in order to secure their resources, the environment where their suppliers are operating and to provide decent working conditions to people involved in the sourcing process. Then the questions become: how? What are the best practices? and how to remain competitive?

SECTION III

Methodology

For this topic, I wanted to adopt a qualitative approach so I looked for primary data collection through eight interviews, but, before that I chose to use several public information found online as secondary data. It was important for me, as it is a burning topic, to be aware about what it is already known in order to build my questionnaires. At the end of the day, as my topic presents several limits, the primary and secondary data were complimentary to make observations and to draw conclusions.

3.1 The collection of secondary data : public reports, NGOs websites and social media.

After reading my literature review references I decided to look for public reports coming from the main actors of the luxury industry and from international organizations involved in the rethinking of the luxury business. It was important for me to consider stakeholders which represent the three big kind of natural resources used by this industry : the vegetal, the animal and the mineral resources. The interest of doing so, was double. On the one hand, it was useful to become aware about the actions taken in term of sustainability by the different actors, to know more about the changes that happened and which are happening, about the brands objectives and about the influence of the international organizations for each sector of the luxury industry. On the other hand, as I was interested in observing any sign of competition, I compared reports of the same kind in order to observe contradictions or evidence of leadership positioning within the sustainability field.

3.1.1 Companies' strategies.

My first step was to look more into companies strategies. I started by reading through the reports of B-to-C companies and B-to-B companies.

I started by going through the public reports of Kering, LVMH and Richemont, as well as going through their websites to learn about their taken actions, their partnerships and their objectives on the long term. I also observed the way they communicate about it and how they position themselves against their competitors. Here are the reports I used:

- The report about climate change implications and strategies for the luxury and fashion sectors, available on the Kering website, published in november 2015
- The report about environnement, available on the LVMH website, published in 2016

- The Corporate Social Responsibility of Richemont, available on their website, published in 2017. I focused on the following points : Sourcing and products integrity, Environnement and Innovation for Sustainability.

I read them broadly and then used only the informations relative to the supply chain and the sourcing activity. Besides, the different informations about their partnerships and their collaboration with others organizations have expanded my knowledge about all the actors working for regulating the luxury industry.

After comparing Business-to-Consumers luxury brands, I looked for observing suppliers' strategies and I decided to consider the two main competitors of the fragrance industry: Givaudan, a french company, and its swiss rival, Firmenich. Both have interactions with the luxury industry. The vegetal raw materials are extremely sensitive to the climate change and, in order to preserve their precious resources, suppliers, in collaboration with luxury brands, have to find solutions. Here are the two reports I used :

- The Sustainability Report of Givaudan, published in 2016.
- The Sustainability Report of Firmenich, published in 2016.

These reports allowed me to observe the different strategies adopted according to the nature of the resources and to the technology employed.

3.1.2 NGOs.

I found two international organizations, the Responsible Jewelry Council and Fair Jewelry Action, both involved in bringing transparency in the mineral raw materials sourcing (gold, diamonds, gemstones...). The jewelry' supply chain being the most opaque of the luxury industry, I decided to compare their recommendations and their influence on the industry. Here are the reports I have used:

- The annual reports of the RJC, published in 2015 and 2017.
- The report of the FJA, published in 2011.

The RJC is much more known by luxury brands compare to the FJA but this last one provided a report, divided in five modules, with way more details about the challenge of this sector, compared to the RJC. Besides, I noticed that at some point, some critics is made. Thus I used these two documents to study an eventual competition between them and to extend my problematic of competitiveness beyond the usual frame of business.

The Responsible Eco-Sourcing Platform (RESP) was also interested to study in term of collaboration and of innovation. This organization work hand in hand with many luxury brands and with others organization, such as the Convention on International Trade of Endangered Species of Wild Flora and Fauna.

3.1.3 News and Social Media.

Finally, this topic being a burning one, I paid close attention to the news in order to keep updated about the brands' actions related to their sourcing strategies. I used LinkedIn to have access to insightful information, only known by people working in the sustainability and the luxury fields. I also kept posted about the public communication of brands. Gucci was one of the most communicative luxury brands, we heard a lot from them and it allowed me to observe how the different players are looking for a leadership position within the sustainability field. The different findings were useful to create my questionnaires and to interview experts in a relevant way, relatively to my discoveries.

3.1.4 Partnerships and Material Innovation.

Finally, in order to have a better pictures of what is going on, I chose also to list all the local and international organizations with which the three groups Kering, LVMH and Richemont work. In addition, I listed the main material innovations too. These ones are available online. I tried to obtain primary data about it but they are, obviously, confidential.

3.2 The collection of primary data : Interviews.

The challenge to rethink supply chain strategies and to innovate in raw materials sourcing is considered for several years now, and brands have already implemented solutions. However the objectives are high and run on the long term so there are still many projects to lead. As the whole industry is searching for solutions, I could not access many informations because of their confidential nature. Nevertheless, the fact that we are in full swing of the subject allows me to seek for feedbacks and forecasts. Thus, I looked for interviewing professionals of the luxury industry and experts in sustainability. My point was to talk about the raw materials sourcing strategies adopted by the luxury brands in an ethical and sustainable way, in order to become more transparent. My questions were mostly oriented toward the notions of innovation, collaboration and competition. It was also important to be able to discuss the topic with people coming from different sectors of the industry in order to link their answers with the research I made through the secondary data collection. Thus, I used different questions depending on the professional expertise and the specialization of each interviewee. Besides, I had to rephrase some

questions when some others remain without any answer because of their too intrusive nature and despite the confidentiality clause given to the interviewees. Furthermore, everyone ask for the anonymity so only their title was explicit. Among the eight people I had the chance to interview two consultants in sustainability within the luxury industry, a Doctor in Environmental Law and Sustainable Development - CSR, an expert in Luxury, Fashion Retail and Business Strategy, an expert in material innovation within the luxury industry, an expert in luxury for the fragrance industry, an expert in sustainability and certification economy and, finally, a former raw materials purchaser for a famous luxury brand.

SECTION IV

Findings.

4.1 Kering, LVMH and Richemont.

4.1.1 Their objectives

In its report, it is obvious that Kering is willing to make sustainability a trend, something irresistible, in which every brands want to get involved, and of what the group is the leader. Marie-Claire Daveu, Chief Sustainability Officer and Head of international institutional affairs at Kering, wrote in the BSR report of 2015: *“We can replace the outdated ‘compete and consume’ business models with ones that are ‘collaborative and regenerative’.”*

Here are the three strategic steps recommended by Kering in his 2015 report on climate change implications, co-written with the BSR consultant company :

- a) “Identify raw materials priorities by mapping the Supply Chains against climate change risks.”
- b) “Take actions and set targets with Supply Chain partners and others stakeholders.”
- c) “Monitor impacts.”

Besides, thanks to its Environmental Profit & Loss tool, the group identified that *“67% of carbon emissions come from raw materials production and its processing stages.”* But overall, the raw material management is “stuck” in the middle of the sustainability concerns because the whole supply chain relies on it.

Table 1: Business and climate change, environmental and economic impacts.

Business Activities: Agriculture, Breeding, Mining	Climate Change
<p>⇕ ⚡⚡⚡ ⚡⚡⚡ ⚡⚡⚡</p> <p>⇕</p> <p>⇕ Environment :</p> <p>⇕ Quality of the grounds, the fields, the water...</p> <p>⇕ ↓↓↓</p> <p>⇕ Raw materials:</p> <p>⇕ Quality and quantity</p> <p>⇕ ↓↓↓</p> <p>⇕ Local communities</p> <p>⇕ ↓</p> <p>↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↔ ↑</p>	

So far, the tools employed to identify the priorities are the EP&L, the “Life Cycle Analyses” (LCAs) and the “Natural Capital Accounting”. Here below are few examples of collaborative actions proposed by the group in its report:

- 1) Making mainstream the best practices
- 2) “Combatting human induced overgrazing and desertification” effects in exposed areas worldwide, example : thanks to the UK-Mongolian Sustainable Fiber Alliance (SFA).
- 3) Regarding the agriculture and the breeding : Preserving the “*raw materials by ensuring the existence of species varieties to the climate conditions of the present and near future.*”
- 4) Auditing better the suppliers in order to increase the transparency of the Supply Chain, which will allow to identify the risks better and to guarantee a greater traceability of the production.

In its environment report , and in its code of conduct intended for its partners and its suppliers, the group LVMH makes the statement that their first goal is “*to be the undisputed leader of the luxury industry*”. Among the six fundamentals principles of the group, I have noticed specifically three relevant for this dissertation:

- The number 3: Involvement in the protection of the environment, of its resources, and fight against the climate change. How ?
 - a) “ *Promoting collective actions and increasing the use of the best practices.*”

- b) “ *Preserving natural resources and integrating the environmental concern in very products.*” and “ *Developing new production systems more raw materials and energy saving.*”
- c) “ *Preventing environmental risks.*”
 - The number 4: Adoption of a responsible way of thinking and acting (which is explained in detail in their code of conduct) which is addressed to their suppliers, distributors and partners; in order to fight against bribery and to respect competitors.
 - The number 5: Acting as an united company which stands for the Human Rights, the improvement of living conditions of the workers and the development of local economies involved in direct and indirect LVMH’s activities.

In order to make respect the essential capital that is Nature (with its raw materials, its grounds and with water), the group makes sure that its suppliers comply with the code of conduct, that they receive trainings and that they sign specific charters.

Considering their tab “The main challenges per sectors”, we observed that:

- in term of ecosystem and natural resources protection, the wine sector is concerned about the vegetal resources needed for the wine production, the fashion and leather goods sectors is concerned about vegetal resources, exotic leathers and fur, the fragrance sector is concerned about vegetale resources and the jewelry and watch sector is concerned about packaging, exotic leathers and precious stones and metals.
- in term of projects of eco-conception, only the jewelry and the watch sector is blank. On the contrary of the wine industry, the fashion and leather goods industry and the fragrance industry where they plan to work respectively on the packaging, the cotton, the leather and others fabrics, the tanneries process/the packaging, the components of fragrances and cosmetics. This let suppose that nothing is yet sure about the recycling of gold or the use of alternative raw materials such as grown-lab diamonds. However, when we keep reading the report, we see that the jewelry and the watch sector are subjects to changes.

Focus on jewelry and watch industry:

In its “products objectives”, the group enlightens the necessity of focusing on mining activities in order to develop guidelines of eco-conception because of their environmental impacts. Bulgari, one of the lvmh brands, describes its 5 strategic points in order to be more sustainable and among them, 3 are particularly related to the raw materials sourcing activity and it impacts:

- Securisation on the long term of the raw materials access
- Conformity and traceability and the raw materials
- Responsibility social and environmental of the suppliers

This guideline has as main objectives to obtain a greater certification from the responsible jewelry council (RJC) and to “*increase the audits numbers of all the suppliers*”.

About the last group; Richemont gathers mainly centuries old luxury Houses which are part of the jewelry, watch and handwriting industries and which use overall animal and mineral resources. On its website, the group explains that its R&D and its innovation budgets are devoted to the product and the marketing activities. Indeed, the group doesn't consider their operations as having a direct impact on climate change and environment damages and, as LVMH, they consider that climate change and carbon footprint are mainly caused by the distribution because of the buildings maintenance and the logistics that goes with it. However, the group makes the difference between the actions taken for the environment and those taken for the biodiversity protection. Through the different webpages of Richemont, we can read that traceability, transparency of the information alongside the supply chain, development of new audit tools for their suppliers, diffusion of good practices, obtention of new certifications, redesign of their products in order to use less or others materials are the objectives of the group. Besides, among these objectives, in order to fully implement their new CSR plan by 2020, Richemont explains they still need to work on:

- Developing a new Supplier Code and think about a new audit tool
- Sharing better the results of the audits in order to provide better knowledge to the others suppliers about the good practices and how to implement them
- Increasing the number of certified suppliers in order to improve the traceability
- Helping the Houses to improve their SC in developing new tools supporting “responsible sourcing policies”.

4.1.2 Their actions.

The latest news about the fashion industry emphasized very well the position of Kering as a major actor of the fight against climate change, pollution of the grounds, social injustice, and resources scarcity.

At the occasion of its ‘traditional’ annual talk at London College of Fashion, October the 11th, Kering invited a specific guest to enlighten the actions of GUCCI, one of the successful brands of the group, on the stages of sustainability. Marco Bizzarri, the CEO of GUCCI, declared officially the beginning in 2018 of a new era completely fur-free. At the same occasion, some journalists asked him questions about the leather situation. He answered that the leather industry is currently subject to innovation and that, while the brand position itself as an actor of sustainability, it doesn't forget the importance of maintaining jobs, and renouncing to use leather would be dramatic for the economic situation in many countries. Of course, Stella McCartney, who belongs to Kering as well, made the choice to go fur free and leather free, but that is fully

part of her strategy and her convictions. Besides, at the occasion of this event, four students of the LCF were selected according to their sustainable projects. Two students were selected for GUCCI, and the two others were selected for Stella McCartney. The four winners were granted of two kind of prizes. Two financial help of 10,000 euro were given to these two projects :

- *“Creation of a new method of designing and printing patterns using microbial pigments”* (which are natural sources of colors)
- *“Research into producing clothing that absorbs CO2”*

When an internship was offered to the two others students, whose projects were:

- *“Replacing the plastic inner material in Gucci’s luggage with cork and bio-resin.”*
- *“Proposal for the the UK’s first fiber shed.”*

LVMH has common points with Kering. Like its competitor, it is member of the international BSR consultant company with which it tooks the initiatives to collaborate on the writing of an “Animal Sourcing Principles”. The group works also closely with the RESP in order to improve the materials traceability. This year, 2017, in the context of the organization, the group finances experimental projects in Indonesia in order to *“find a balance between business and environment, to benefit to the population and to preserve/ enhance the biodiversity”*. Still with the RESP, LVMH get associated with the Working Leather Group and the Textile Exchange group to implement and to guarantee better breeding conditions. In its strategy of securitization of the raw materials sourcing, the group respects as well the Nagoya convention, the CITES and the RBUE (Règlementation Bois de l’UE). According to the 2016 environment report, LVMH plans to implement the best standards in 70% of the supply chains by 2020, and to reach 100% by 2025 thanks to a specific plan of actions:

- Protect the wine industry
- Fragrance industry : audit more suppliers, especially for rose, jasmine, orange, bergamot + incentives to adopt ethno botanic process, such as Guerlain’s with its sustainable agriculture of vetiver in India, lavender in France, santal in Asia and its research centers for orchidea in France and in Switzerland, and to focus on strategic ingredients such as the vegetal glycerin and the beet alcohol, or using, at least, 50% of certified RSPO (Roundtable on Sustainable Palm Oil) palm oil by-product.
- Jewelry and watch industry: extension of the Chain of Custody Certification (RJC) to others brands than just Bulgari and working on projects on rethink the coloured gems supply chain.
- Fashion and leather goods industry: Use 70% of leather from LWG certified tanneries, increasing the use of cotton from BCI (Better Cotton Initiative), and for the wool, increasing the use of good practices developed by the IWTO and the Responsible Wool Standard.

LVMH has also created its internal Guideline tools called LIFE (LVMH Indicator for Environment), whose five of the nine points concern the raw materials sourcing activity:

- a) Taking in count the environment in the conception of the products
- b) Securisation of the raw materials access
- c) Traceability and conformity
- d) Environmental and Social Responsibility of the Suppliers
- e) Protection of the critical know-hows

Each one of them summarized in the specific suppliers objectives which emphasizes the importance of collaborate with them and with the subcontractors. One of the strengths of this program, is the fact there are sustainability boards in every brands making easier the project's development and decision making process. For example, the sustainability board of Louis Vuitton and its LIFE pilot committee focus on the eco-conception with the recycling in order to be approved by the ISO 14001 certification and to implement more eco-friendly initiatives alongside the supply chain. Others Houses, like Fendi, decided to have a representant of LIFE in every departments. During an interview, Pietro Beccari, CEO of Fendi, talked about the elaboration of an “*unique in the world certification*” for the fur sourcing: “Welfur”, which guarantees the animal welfare and health within the farms where they're raised. Guerlain, for its part, targets an eco-conception of 100% of its products by 2020.

Finally both, Kering and LVMH are working new products creation tools. Among them are the internal online materials library with about a hundred of innovative materials which respect the environment and the DNA of the luxury industry, “*the exceptionality and the desirability*”, and the 3D conception that relies on the idea of eco-conception. The numerical and the printings processes allow to save materials from the design stage to the production stage.

However, in its strategy of risks management related to the production sites location and to the raw materials purchase (among others), the group elaborated their own mapping tools - when Kering is willing to share its knowledge about the climate change risks. In addition, LVMH mentions several types of partnerships that are absent of the Kering's report. For example, since 2013, the group, in association with the RESP, works with the Center for Environmental Research UFZ de Leipzig since 2013, fight against the poaching and developing python's' skin traceability. The group LVMH uses its “own methodologies”, gets involved in international organizations and is rated with 4 indexes, based on responsible investment criterias.

Some of its engagements, such as the support it brought to the Prime Minister in Great Britain, Mr. Gordon Brown, in 2007, to incent all the companies to invest in projects to reach the Millennium' Development objectives, are very political. The group was also principal sponsor of the COP21.

At Richemont, the actions are focused on the jewelry and the watch industry.

The company is proud of its growing responsible gold and diamonds sourcing. For gold, so far, 90% of their suppliers are certified RJC COP and the gold mainly comes from COC Standards

certified suppliers. Besides, the amount of recycled gold is increasing and more and more suppliers are certified SA8000, influencing each others.

“That standard encourages organisations to develop, maintain and apply socially acceptable practices in their own workplace.” (Source: Richemont.com/corporate-social-responsibility)

For the diamonds sourcing, the stones are certified “Conflict free” by the Kimberley Organization. Their suppliers committed in the respect of the “System of Warranties”, proposed by the World diamond Council. This system *“relies on the creation of a chain of written warranties - from original Kimberley Process certificates through to invoice - of all transactions involving the purchase and sale of diamonds, their cutting and polishing.”* Thus *“compliance is closely monitored.”*

About the sourcing of coloured gemstones and leather; they are being studied to identify the risks and the challenges of their own supply chain. Here are some examples of actions already taken:

- For the “Colored Gemstones”: V&A and CARTIER have actively worked closely with the RJC in order to rethink tools that will allow more traceability along their very difficult SC.
- For the “Trade in Protected Species and Animal Welfare”: suppliers complied with the CITES and Richemont is writing, in intern, a list of “others international and local fish and wildlife regulations” in order to be the most relevant possible.
- About the “Animal Testing”: the group strictly respect the “European Regulation regarding Perfumes and Cosmetic Products”. No fragrances or perfumes are tested in intern. Moreover, the Houses working with external companies (licences), received the warranty that no animals have been implicated in the production process.

4.1.3 Focus on the different material innovations.

On its website, and through some articles, Kering enlightens the sourcing actions taken with some brands to innovate in term of used materials. Stella McCartney is famous for using:

- biosynthetic materials as an alternative to the leather,
- biodegradable soles for shoes on some collections,
- APINAT plastic (started in 2007, apiplastic.com)
- and Ricin seeds for 2013 sunglasses collection

Volcom, another brand of the group, uses organic cotton + premium quality old jeans recycled at White Oaks, North Carolina, to produce a part of its jeans collections. Otherwise, the group talked about the use of liquid wood, biodegradable and ecofriendly fiber, such as, the *“wood fiber, lignin from paper and wax production”*, eco friendly managed by the FSC and used, for example, for specific collection of sunglasses at Gucci.

Lvmh emphasizes innovation for the luxury fashion industry:

- “[...] *soft blends of organic cotton and Lycra; lyocell and hemp; and cork, bamboo, and Tencel*”
- “[...] *Cupro, a cellulose fabric created from byproduct, specifically the ultra fine, silky fibers that stick to the seeds of a cotton plant after ginning.*”
- “ *new materials and dyeing techniques—such as using microorganisms to produce color*”

New actors of the innovation in sustainability are entering into the luxury industry landscape thanks to new production processes that can bring solutions to the increasing scarcity problem that are facing luxury brands:

- Pinatex imitates leather using pineapple leaves,
- Bionic Fibers produces fibers from plastic found in oceans,
- Worn Again implemented a technology that allows to separate cotton and polymers,
- Osomtex takes part into the recycling movement thanks to a process that transforms used and dirty fibers in “uniform fibers”,
- Bolt Threads is able to recreate man-made spider silk in huge quantity (they work with Stella McCartney now),
- Orange Fiber produces silk made from orange in Sicily, and the company is partnering with Ferragamo,
- Vibro Labs is able to create grown lab leather from animals cells (cows, crocodiles, ostriches),
- Diamond Foundry, produces grown lab diamonds made from plasma laser.

To face a threat, luxury brands have more and more options. For example, the climate change jeopardizes the living conditions of the silk worms. To preserve them and their precious work, some brands keep the farms in asia and invest in infrastructures innovation. Others decide to invest in research to develop a new kind of silk that can be grown in a different environment, but the quality results are unsure. These strategies, in addition to secure a raw material, secure a savoir-faire when others companies can choose to use different making processes such as partnering with Bolt Threads or with Orange fiber. Thus the strategies of sourcing are different. Another strategic decision example would be the statement made by Gucci to go fur-free. Some of their products made with fur have already been rethought. The slippers Jordaan are not anymore design with fur but with lamb wool processed. Later on, they may use synthetic fur for their collections. Finally, in order to keep using a raw material in a sustainable way, each luxury brands can either choose between investing no matter what in its securitisation, remaining traditional, or find another way to produce it naturally or man-made.

4.2 Givaudan and Firmenich: the natural raw materials.

Both of them put the innovation at the core of their activity and they partner with universities, NGOs, governments and associations to elaborate new components and to be able to secure the fragrance they need, one way or another. Givaudan, who works with experts in green chemistry and biocatalysis, has a partnership with the University of California Riverside concerning the citrus. The company invested USD 1 million to preserve 1000 varieties in the frame of an exploratory program whose aim is “ *to discover new ingredients and varieties that have never been used before in flavour creation*”. The name of the project is Taste Trek® Citrus. Besides, in order to source better their raw materials, which means to put transparency in their supply chain and to manage better the sourcing activity, Givaudan chose a strategy of sourcing at the origin.

“Our strategies are to source directly from producers through collection networks and exclusive farming partnerships as well as to build processing capabilities at origin. Sourcing at Origin can also be done in partnership with our suppliers.”

Since 3 or 4 years now, the company is using collaborative sourcing strategies with farmers and others companies on the spot to get the best quality and the most ethical raw materials possible. Among them are the Patchouli coming from Borneo, in Malaysia, the Clove leaf oil, obtained thanks to partnership in Madagascar, with the Natural Resources Preservation Program. Givaudan inaugurated as well, in 2016, NATEMA, a joint venture located in Madagascar to pilot the natural extraction. In addition, the company, in its willingness to source better, is implementing project for communities living from the raw materials production. It is especially the case for the vetiver oil in Haiti, the vanilla in Madagascar or even the lavender and the lavandin in France. For each of them, the company is partnering with cooperative, farmers and distillers to preserve the resources and the quality of life of the people who cultivate them. For others resources, the focus is made in preserving the biodiversity and the environment of the resources such as the Ylang Ylang, in Mohéli, in Comoros or the tonka beans, in Venezuela while collaborating with Conservation International.

“Our Communities at Source projects touch thousands of raw material producers worldwide and we continue develop new projects in different supply chains.”

On its hand, Firmenich is partnering with the Stanford University and the EPFL in Switzerland in order to focus on sustainability and neurosciences. This year, the company released 29 patents

applications such as the AMBROX® SUPER which is “ *a highly sustainable and cost effective amber note*” and the CLEARWOOD®, a fragrance to go further in their white biotechnology leadership, which consists in synthesizing products. This technology presents several advantages like saving energy, reducing production wastes and being degradable faster. Firmenich writes on its website that 10% of its annually investments are made in breakthrough science. They are devoted to create “*sustainable and cost-effective flavor and fragrance ingredients*”. About the sourcing part, in particular, in 2016, the company was directly involved in 15 responsible sourcing projects, which represent 37.5% of their 2020 objectives. Like Givaudan, they oriented their projects on working with cooperatives to improve the production environment, farmers’ life and to secure the different concerned markets. Here are several examples cited on the website:

- Developing inclusive business by forming cooperatives, ensuring market security, establishing a fair price mechanism and encouraging direct sourcing.
- Implementing sustainable agriculture practices by creating intercropping opportunities and building nurseries to provide seedlings.
- Improving primary transformation of raw materials by upgrading to more efficient and environmentally friendly distillation equipment.
- Caring for local communities by supporting education, health, biodiversity, and finance initiatives.

4.3 The International Organizations’ impacts.

4.3.1 The RJC and FJA : mineral raw materials sourcing and regulation.

As the jewelry and watch industries are very opaque, I used the RJC (2015/ 2017) and the FJA (2011) reports to picture the situation and to think about the kind of actions that brands can take. In my opinion it was interesting to use both because they are complementary. The FJA makes a lot of observations and recommendations. The RJC is more about regulations and awards.

First, the FJA (2011 report), in its different modules/ reports, explicits all the issues related to the mining industry, with a focus on gold, diamonds and precious gemstones from three perspectives.

Table 2: FJA report: Mining, Gold, Diamonds and Gemstones industries' impact.

Activity / Perspectives	POLITICS	PEOPLE	PLACE
MINING	<ul style="list-style-type: none"> ● Legislation ● Finance 	<ul style="list-style-type: none"> ● Employment ● Health and Safety ● Conflict with local communities 	<ul style="list-style-type: none"> ● Use of toxic chemicals (mercury, cyanide, citric acid ...) ● Loss of agriculture and wildlife ● Deforestation and soil erosion
GOLD (silver, platinum)	<ul style="list-style-type: none"> ● Corruption ● Payments ● Opacity of the SC 	<ul style="list-style-type: none"> ● Child Labour ● Working conditions ● Forced relocations 	<ul style="list-style-type: none"> ● Pollution water systems ● Deforestation
DIAMONDS	<ul style="list-style-type: none"> ● Conflicts funding ● Corruption ● Smuggling 	<ul style="list-style-type: none"> ● Human Right Violation ● Poverty wages ● Health issues ● Unreclaimed washing pools ● Prostitution, alcohol, drugs 	<ul style="list-style-type: none"> ● Deforestation ● Soil erosion ● Pollution of water
GEMSTONES	<ul style="list-style-type: none"> ● Blood Gems, Conflict zones ● The opacity prevent for regulations implementation 	<p>“Some of the major sources are located in countries where violence and non-respect of human rights are institutionalized :</p> <ul style="list-style-type: none"> ● Child Labour ● Dislocation and forced removal of indigenous ● Disreputable traders 	<ul style="list-style-type: none"> ● Soil erosion ● Deforestation ● Water pollution

In the mining industry, two kind of suppliers “fight” for the sourcing: the Artisanal and Small-scale Miners (ASM) vs the Large scale Miners (LSM), represented by large companies and governments, such as De Beers. But the fight is not equal since they both don't have the

same means. The ASM activity is even more noxious for the health, the environment and the biodiversity because it is barely regulated. The industrialization of the whole industry could be a solution to regulate but it is not sure that the local communities would really benefit from big companies activities as the mining activity is full part of their daily life; the opacity would remains.

Indeed, for the gold mining industry, 80% or the gold comes from the LSM and still, associations deplore a big lack of transparency and traceability. To illustrate the situation, the report mentions several supply chain models that already exist. One of them is the “Book and Claim” model. The idea is to operate a real detachment of the material from its source and to trade certificates that guarantee an origin. Manufacturers pay the premium price to buy certification proving that “*a benefit of some kind has been paid to a location, somewhere*”. So the the challenge is to implement new types of supply chains within the jewelry industry. Example with the Fairtrade Labelling Organisation (FLO) and the Alliance for Responsible Mining (ARM) who gave birth to the Fairtrade Fairmined system.

Regarding the diamond mining industry, many companies have been involved in the Kimberley Process Certification Scheme (KPCS) to guarantee that their diamonds come from free war zones and that no conflicts are financed by this specific trade. The FJA report gives us a picture of the diamond’s supply chain in 9 steps and the certification happens between the third and the fourth step.

Table 3: Diamond’s SC.

1. ASM and LSM activities	
=> The ASM is subject to many external movements	=> The LSM activity is vertically integrated to the companies
2. Trader / Buyers of rough stones	
=> The diamonds coming from ASM are manipulated by many different actors.	=> LSM can be willing to purchase specific stones from them.
3. In Country Point of Export	
The official KPCS representatives of the country should “examine and seal” each batch of rough stones to make it ready for the export under the certification.	

4. Kimberley Certified Import Country
5. Sorting and Grading => Diamonds are mixed and the traceability is lost.
6. Diamond Bourses / Trading floors
7. Cutting and Polishing
8. Diamonds Certification and the 4Cs
9. Industry (Diamonds are bought by the retailers or by the brands)

Thus, suppliers companies and brands have to work on specific business models that control better the diamonds circulation before the KPCS action. One of the solution would be to develop a track and trace system alongside the Supply Chain, such as the one implemented by CanadaMark (trademark) which testify of the true Canadian origin of the diamonds and which respects a Code set in accordance with the principles sustainable development. A minimum set of standards has to be proven before the certification delivery.

Finally, at the contrary of the gold and the diamonds mining industries, the precious gemstones mining industry counts more than 70% of its production as coming from ASM activities, which represent an greatest challenge to control the supply chain and to implement regulations. The few LSM involved in this business are focusing on the emerald, the sapphire and the ruby. In this industry, it happens very often that traders, especially in secondary countries, falsify the origin of the stones, if they ever know it. The rare regulations that are implemented touch the export part of the supply chain. In Tanzania, the government set laws to intent to control the exportations of the tanzanites and to make sure that the profit coming from this activity benefit to the country.

The report gives also some lines of thoughts regarding the transparency of the gemstones. Some of them are the implementation of a “Trader Disclosure of source” to increase the relationships based on trust in the industry, however this should be something already put in practice, the “Origin of Denomination Brands”, that could help enhancing trust around a brand, such as the tanzanite and, last but not least, going further in the vertical integration of the supply chains. Example with the Columbia Gem House Inc which either own the sourcing manufacturers of ruby, sapphire and emerald or exclusively trade with suppliers whose products are said to be free contamination and free corruption.

Then, in 2015 and 2017, the Responsible Jewelry Council, whose ambition to become a reference in term of standards and certifications for the Jewelry and Watch Industry, is clearly stated on its website, published two reports over the last two years. These documents describe how the number of RJC certifications and members had increased thanks to collaboration with “*like-minded standards organizations, civil society and government*”. The international organization’s values are transparency, integrity and collaboration. The RJC is willing to make companies work together to improve the industry and it provides two kind of certifications: the Code of Practice and the Chain of custody. On the one hand, the RJC mentions 6 aspects to be respected in order to obtain the COP certification. Companies have to use a Responsible SC and to respect the Human Rights, to respect Labour Rights and Working conditions, to be careful about Health Safety and environment, to work with Gold, Diamond and platinum group metal products, to have a Responsible Mining attitude and to respect its General requirements. On the other hand, the CoC is about meeting the standards of traceability and transparency alongside the supply chain and it focuses on suppliers activity. Thus, being certified COP and/ or CoC means that brands are able to improve their business and supply chain models matching or getting closer to these 6 standards, while working on ways to overcome some challenges described by the FJA in 2011. Here is what happened during the last two years:

Table 4: The Responsible Jewelry Council’ influence over the past two years.

RJC	Report 2015	Report 2017
<p>Certifications diffusion</p>	<ul style="list-style-type: none"> - 571 members. Among them 5 are producers and 54 are refiners ... - 442 COP certifications granted - 14 coc members certified <p>-Members in 29 countries: South Africa, Australie, Japon, Corée Sud, Chine, HK, Thailand, Sri Lanka, India, Mauritius, UAE, ISrael, Turkey, Austria, Switzerland, Italy, Germany, France, belgium,Denmark, Spain, N Ireland, UK, Canada, US, Mexico, Honduras, Peru, Brazil.</p>	<ul style="list-style-type: none"> - 929 members, among them, 8 are producers, 69 are refiners ... - 586 COP Members certified - 42 coc members certified <p>-members in 36 countries <i>Note : “ +50% members in france, italy (jewelry manufacturing) and india (cutters and polishers)”</i></p> <p>67 countries count facilities certified by the RJC => 8033 facilities to be exact.</p>
	<p>In 2014 :</p>	<p><i>Note : “70% of the global diamonds market is produced by RJC members (in</i></p>

<p>Actions and Challenges</p>	<p>-“2 important pillars : Provenance Claims and Human Rights provisions.” -”outreach of the Indian diamond and jewelry trade”, “meetings with the Gem Jewellery Export Promotion Council (GJEPC) RJC’s India Working Group,” took part in trade fairs, organized training sessions in order to develop memberships over there and extend the community.</p> <p>-”attended and presented at Baselworld, Dubai Precious Metals Conference, Hong Kong International Jewellery Show, JCK Las Vegas, IIJS Mumbai and International Jewellery London” => Worldwide presence !</p> <p>-”Diamond Development Initiative (DDI), the Alliance for Responsible Mining (ARM) and CIBJO, the World Jewellery Confederation.”=> meetings with these organizations in what they call Memorandum of Understanding (MOU)</p> <p>“Cross-recognition agreements with the London Bullion Market Association (LBMA), the Dubai Multi Commodities Centre (DMCC), the Conflict-Free Sourcing Initiative (EICC-GeSI), the World Gold Council and the Fairmined Producer Standards” => kind of joint venture of the standards organization worldwide</p>	<p>term of production volume)”</p> <p>Renewal of the MOU btw RJC and ARM</p> <p>-The coloured gemstones industry will enter in the scope of actions in 2018, in participating to consultative meetings.</p> <p>Others stakeholders with who partners the RJC:</p> <p>-de BEERS BEST PRACTICE PRINCIPLES : possibility to have a double audit BPP/ RJC</p> <p>-Signet Responsible Sourcing Protocol : all their suppliers have to comply with the Provenance Claim transparency standard</p> <p>Remaining challenge: -”India remains an important market to develop in the diamond and gold sectors. RJC is committed to ensure the Asian market is recruited as well as work on the continued growth and membership retention in the United States.”</p>
<p>Actions and Challenges</p>	<p>-Recognition of the Fairmined Standards authorizing them to consider their gold production as a Coc member.</p> <p>-An audit revealed that 6 big challenges remain but the RJC sees them as the opportunity to set new standards and be even more present in the industry regulations. Here are these 6 challenges : “ health and safety, money laundering, bribery, business partners, legal compliance and working hours”</p> <p>-publication of the first “Impact report” that</p>	

	<p>focused on “ <i>mining in Latin America, diamond cutting and polishing in India, and small-to-medium enterprises (SMEs).</i>” to show the benefit of the certification.</p> <p>In 2015 : Rethinking the Fairtrade Standards</p>	
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We can observe that the Fairminded association, already mentioned in 2011 by the FJA, was only recognized by the RJC in 2014 and we can wonder why it took so long between the two recognition. Other than that the works of Provenance Claims and Human Rights provisions were well improved by 2017 and the development of partnerships between international organizations had the consequence of increasing the influence of each one of them through audits and certifications. These partnerships look more and more like conglomerates.

4.3.2 The Responsible Eco-Sourcing Platform (RESP).

The RESP website put in evidence the existence of a collaborative-competition, within the luxury industry, which is the best way to improve the quality control thanks to traceability through the whole supply chain and to secure the raw materials resources thanks to developing monitoring tools, regulations implementations and fight against illegal supply. However this is not happening in every industry. When this phenomenon is not noticeable in one sector, it can be explained by the opacity of the supply chain, the archaic business models used for it and the big lack of concern from the final customers which doesn't drive any innovation in strategies on the luxury brands side. To give a specific example, the association talks about the colored gemstones sector. If we compare it with the diamond's, nothing is really done to change the complexity of its supply chain. Nevertheless, as we could observed it earlier, Kering, LVMH and Richemont' brands recognised the importance of collaboration with multiple actors about the sustainability issues in order to gain in competitiveness in many different fields.

On its website, the RESP offers several examples of actions taken toward the animal raw materials. About the quality control and the traceability, the association writes about the situation of the reptile's skin and about the actions taken to overcome its challenging SC. In 2015, the association developed a system to make reptile skins traceable “*in real time throughout the entire supply and regulatory chains*”, in collaboration with the CITES. To do so, they create a sort of numeric passport for every reptil, in which, all the professionals of the leather industry

worldwide will find the “fingerprint” of the animal (use of a biometric image recognition technology). All the passports will be stocked in a specific database, accessible from an application that will track them in real-time all around the world, allowing to share information with the whole supply chain, in real-time and worldwide too.

Table 5 : Reptile skins commerce

2 MILLION	2%	25	25	\$6 BILLION
Of skins traded each year	Of the total leather industry, it's a niche market	Species concerned	Producing countries	Of Revenue each year

Interview of Bruno Berken, General Manager of the Association of Manufacturers of Leather Bracelets by the RESP: *"a traceability system of skins is the only sustainable route that will secure legality and will promote good practices in the capture or farming of exotic species. Only under these circumstances will the end consumer be reassured in its purchase, securing as such the value chain in the benefit of all."* The system was tested until this year. It is supposed to be fully efficient by 2019. We can assume that, this technology will be a new tool for many luxury brands that are famous for their exotic leather. Having access to this means to have a better vision of its supply chain and a better control of its suppliers. It's in the DNA of the luxury industry, at the contrary of the mass market, to control the products they offer, from A to Z, in order to guarantee the perfect product to the final customers. Another specific example is given with the python skin. This year started a collaboration between the RESP and the LIPI (the Indonesian Institute of Sciences) in order to regulate the python skin supply. The illegal market is said to be equal to the legal one, threatening the normal development of this specie in Indonesia, which is the first supplier country for this precious skin. The RESP talks about implementing a compelling regulation that will reward companies that are careful about using the legal market and which will sanction the others. However, the certification process and the adoption of standard might be justified by audits but nothing force the companies to change their strategies, their processes and their relationship with their suppliers. In order to gain in efficiency, NGOs and governmental associations must act using the law in order to make

changes happen. So collaborate, in this condition, is a solution to gain in efficiency, in knowledge but also in influence, and these lead to innovation for the people, for the environment and for the businesses. These three elements are part of one big ecosystem governed by snowball effects.

In an interview given by JN Kapferer to the Xerfi Magazine, on youtube, the expert in luxury explained that, nowadays, luxury brands tend to create products in association with other brands that control a part of the final product, better than they do. He cites the example of the smartwatch. Which after sales service department will be the most appropriate to care about the client, the luxury brand's or the technological brand's? The second one, so the luxury is losing control. Here, my point is: if luxury brands know perfectly their supply chain, they will be able to answer the final customer need very quickly. Thus, if the leather strap has a default, which should not be the case, they will know exactly from where the animal skin came from and they will be able to chose another one, coming from another supplier with whom, they've never had any quality issues.

Regarding the raw materials resources securitization, the RESP, in an article written in 2015, talks about the land-management problem of desertification due to the climate change with all its impacts on the breed, on the wool and the skin, on the local economy and communities, as well as on humans. The articles focuses on the grazing practices of sheeps, camelids and goats and explains that production systems do not assess well enough the positive and the negative impacts of the activity on the ecosystem. As a result, the RESP deployed new "impact assessment and monitoring systems" to report eco-systems level data and to incorporate them in decision-making strategies and business models. In 2014, members of the International Work Group On Wool Fibers committed themselves to use these new monitoring tools. Using them will enable luxury brands to better monitor their wool and leather supply chains while guaranteeing the same level of quality. Source

4.4 Beyond the public informations, the 8 testimonials of several professionals and experts within the luxury industry and/ or the sustainability field.

Interview with A, consultant in sustainability within the luxury industry (translated from french to english):

“Today, the position of luxury brands, in term of communication toward sustainability, is more defensive than offensive. They are not considering it as a competitive topic but as a co competitive / collaborative topic.”

“Today, it’s still not really an comparative advantage for sales. Retail in luxury is not preoccupied by sustainability. Competitive areas exist though. They concern the raw materials sourcing to secure the resources. For example to secure its python and croco’ skins , Hermès owns its farms, but Hermès can not say that he sells a sustainable skin to the final consumer. This has no interest. So, so far, there is no competition on the sustainable features of the product. The war is in the backstage, to secure raw materials.”

“Luxury brands have to face technical difficulties. For example, in the case of tanneries, there is no individual traceability. You could be like Hermès; you own your farms to close the others sourcing springs - it is extremely rare - but we almost never know the leather origin. In the case of wines, liquors and cereals, the traceability is completely lost. Otherwise, for gold, some company like JEM, implemented very specific controlled supply chain.”

“Two approaches exist to choose the raw materials [In the context of the luxury fashion industry]. A positive and a negative approach. The negative approach aims to exclude a certain amount of problematic raw materials such as blood diamonds or astrakan. By the way, one of the LVMH brands stopped using it. So brands pick among the problematic 5% of raw materials. Then they choose, among the most trendy 5% raw materials available on the market and they include them in their material library. In every sectors, Artistic Director are divas. When they have an idea, they have power. Nobody can really tell them what to use. So, in order to manage this situation, LVMH pursue them in creating a virtuous materials catalog, in partnership with editing houses specialized in ethical to make designers willing to use some materials instead of others.”

“As long as the supply chains are not fully controlled and transparent, luxury brands will remain very defensive. Today, they still have difficulties to do so.”

Interview with B, consultant in sustainability within the luxury industry (translated from french to english):

“For the exotic leathers, the starting point was to secure the sourcing because there is a war happening on this type of rare products.”

“In comparing the number of skins coming from declared farms and the total amount of skins present on the market, we noticed that there are more skins in reality than what it’s supposed to be. This means that, despite certifications, the situation is like a spendthrift. Same things for diamonds and colored precious gems. The effort to make the supply chains transparent are sincere but it is very challenging. [...] Fear of scandals then. Same situation with the animal well being and the PETA. Fur, even though it is a democratized material, is today a burning issue.”

“ [On decisions taken by luxury brands] The influence of the consumer, who is not rational and not that well informed, is still weak. [...] The governments ... it’s difficult to say because the market is global. Regulations are not very well implemented everywhere. NGOs are definitely powerful and influence the brands behaviors. I would say, they are the first drivers. The phenomenon of competition is also a significant driver even if there is no “I am more green than you”. So far the situation is a competition of gentlemen. Finally, ex aequo with the NGOs, the fear of the scarcity, leads brands to rethink their supply chains.”

Interview with C, Doctor in Environmental Law and Sustainable Development - CSR :

“Overall, companies are going in the same direction. There is an homogenization of objectives but the actions taken are different from a House to another one.”

“Talking about competition within the sustainability field is like talking about “best” practices, “best” certifications and “best” standards which would be used by only few leading luxury brands; however they are all struggling with the sourcing and the raw materials traceability issues.”

“We do not have enough feedbacks to observe the consequences these practices and regulations. Nevertheless, we can still talk about “Best tools”.”

“Regulations are not like laws, they are very little binding.”

“The Sustainability field is an environment where partnerships are “wanted” and “desirable”.”

Interview with D, expert in Luxury, Fashion Retail and Business Strategy:

“The "cost" of decreasing this "impact" may be very high in the start (new processes and systems) but the long term impact is not only sustainable but cost saving as well. Because of this, sustainability is an important part of any brand's business strategy.”

“Each BIG conglomerate understands the importance of sustainability today. Without fail, all of them are re-looking, revisiting and changing their sourcing, factories, production, supply chain ,etc. But many times the nature of business makes this focus easy or difficult. For example, the impact of a sustainable approach can be measured and felt quickly in the cosmetics / clothing business whereas not so much in the watch making business.”

“ innovation in nanotechnology / artificial intelligence etc in using new and totally sustainable "alternatives" of new material like fur, leather, man made nano fibres, 3D printed recycled goods. We can see some early examples of material usage in denim, shoes, bags,etc.”

Interview with E, expert in material innovation within the luxury industry:

“ Yes innovation is key to secure raw materials sourcing.”

“I don't think that brands will have to choose between preserving natural raw materials and elaborating new man-made materials. I think it's not a choice that has to be made, I think brands have to do both.”

“There are so many scenarios possible [for the future landscape of the materials innovation within the luxury industry] . I see many projects done with universities and research center. I think that many new things can be done in the textile industry. Overall, in the luxury industry, more and more there will be an increasing need for circularity in the production but also in the economy to reduce waste, and unnecessary use of water, energy. So use of renewable energy, recycled materials ...”

“When you're walking into a luxury fashion store, you don't really see anything related to sustainability or to innovation. And this can be explained because it's a complex supply chain”

“ We are developing new sustainable materials for our different brands. But while we’re doing that we have to take into account the several operational constraints of the brands. It’s not because it’s sustainable that it means it’s appropriate for the brands ”

Interview with F, expert in luxury for the fragrance industry:

“Precious raw materials keep alive the luxury industry that is now completely aware of its dependency toward them and toward the climate change as well as the extinction of vegetal and animal species. For example, champagne producers buy lands in the south of England to prevent from the climate change but, when we are in a sector that relies on a logic of appellation like “Champagne”, the situation can become complicated. Moët & Cie cares a lot about keeping their lands. Another example of challenge could be Guerlain, who is struggling to preserve wild orchid. So luxury brands are really fearing the environmental decline impact on their supply chain.”

“We want to be able to keep offering a product made from the best raw materials. These are the highest quality, they are rare and they are sustainably cultivated.”

“Example, with the fragrance created by Firmenich with Bulgari. We consider that natural raw materials are the key value of our fragrances. Their scarcity makes their desirability and their beauty but we have also to protect them from climate change and from decreasing quality of the lands.”

“Innovation and research are happening in partnership with universities and research centers around the world. Artificial molecules are mainly produced for the food and the cosmetics industries. In regard to the luxury industry, companies are investing in the securitization of the natural resources in improving the infrastructure facilities on the production sites or in developing new ways to produce them.”

“We partner with NGOs, Universities and we participate to international events like COP21 or the Fashion Tech Salon where knowledge are shared with everyone for the common good of the luxury industry. There is a will to make the luxury industry a true sustainable industry ... a leader in sustainability because we are supposed to offer the perfect product. However, we don’t partner with competitors because we are always looking for keys differentiators. We are all on the same boat but the first one to land will have a new competitive advantages compare to the others.”

Interview with G, former raw materials purchaser for a famous luxury brand:

“If we didn’t respect the schedule, the risk was to produce unsaleable products”

“Some delays in the supply chain, and especially in the sourcing, which is at the origin of everything, have important material and financial impacts on the whole supply chain.”

“Each one of them [suppliers] have to respect requirements specification otherwise we would just refuse to partner with him. The process of suppliers selection of this House is severe but it has been implemented to control as best as possible the traceability of the wanted raw materials and materials.”

“The choice of the raw materials was decided at two levels. First, by the artistic board and the general board who provided the way forward, telling us what to buy according to the collections that had been imagined and the fashion shows planned. Then, the marketing board and the operations had the last word in order to make the collections consistent with their commercialization.”

“materials library [...] was used by the artistic department, the general board and the marketing board to innovate and to agree on the path they must follow to create the coming collections.”

Interview with H, expert of sustainability and certification economy (translated from french to english):

“Reputation and commercial networks are the two main comparative advantages of the certification companies across the globe. Their fame with brands depends on their popularity and their influence worldwide. These audit companies are expensive but getting an accreditation from them is a commercial argument that becomes a competitive asset for brands.”

“The certification SA8000, which is about respect of Human Rights, get inspiration from the ONU and the Universal Declaration of Human Rights. One of the goal of the certification, which is very explicitly written on the website of one of the company promoting it, is “Improvement of your brand image”.”

“ [...] given the increasing awareness of the final customers, luxury brands are influenced by each others in the certifications adoption. Besides, the first company to get accredited and to be able to keep it on the long term - because this is costly - will maintain a certain comparative advantage.”

“The CSR is part of the corporate culture of LVMH, Kering and Richemont, and it is used, through the communication, as a competitive factor.”

“[...] we can expect luxury brands to go further into the certifications business aiming to make the supply chain fully transparent. When they will be able to guarantee its whole traceability, then, they will become pioneer in new norms and their leading position will become even more profitable.”

“Luxury consumers, in general, do not really feel concerned about ethical and environmental issues that luxury brands have to face. However, more they communicate about it, more they improve their image.”

“I think that marketing is here to prepare the next competitive field. So far brands are waiting to have more tangible arguments such as new technology development, new process, new regulations or new eco-friendly raw materials to really declare the war on sustainability field. Brands keep working on their ability to make transparent their supply chain in order to have a true competitive advantage within the sustainable field as a full selling argument.”

SECTION V

Discussion and Implications

At the beginning of my research, after reading the literature review, I had the thought that the sustainability field could become the new competitive area for luxury brands. So, I focused on it and I made two hypotheses related to the raw materials sourcing strategies within the luxury industry, to face sustainability issues. Given that we are more than ever concerned by climate change, high speed information communication, and increasing scarcity of the resources, the first hypothesis was luxury brands are rethinking their strategies. Then, because luxury is a very competitive industry I made a second hypothesis that would go with the decreasing competitiveness of some luxury houses : these new strategies are made to make the brands more competitive thanks to a better supply chain management.

Here are the results of my qualitative research, after reading public reports and interviewing experts in sustainability and in luxury.

1) The actions taken.

When, in order to maintain a certain level of production, luxury brands choose to invest in human and in facilities to preserve their precious resources, three main scenarios are possible. First, luxury brands can decide to remain traditional and to protect the traditional sourcing of the wanted raw material. Second, they can decide to focus only on the raw material' nature and to look for new ways to produce it, while keeping a natural sourcing; for example in using delocalization or in using either another animal or a vegetable substitute. Third, because the technology allows it and because the sourcing can become too complicated to manage, luxury brands can choose to use synthetic and man-made sources. The actions taken are different but the objective is the same: securitization of the raw materials. Today, we could wonder which one of these strategies is the most efficient in term of benefiting to the planet, to the people and to the business; but we need more time to draw conclusions about it. We need time to know what are the best practices, if they exist. However, we can make observations about the competitive behaviors emerging from this problematic of sourcing. At the end of the day, innovation and partnerships increase the power of the luxury brands.

What I firstly noticed was that luxury brands attitude toward the sustainability issues is mainly defensive. The competition happening is about the raw materials resources access. However, it was difficult to define their strategies in front of the final consumers. Indeed, I was looking for evidences showing that the decisions made on the sustainability field would become competitive arguments in front of the final consumers. Luxury brands are looking to each others, they learn from each others and try to take the lead in their respective sectors. So far, the final consumers are not their main preoccupation whereas NGOs, increasing scarcity and fear the see their profits to decrease are the main drivers of the change. An efficient securitization of the natural resources aim to preserve a long run sourcing that allow a full efficient operations work. This prevent from material and financial losses that could be issued by growing delays due to increasing scarcity. For example, when climate change impact the quality of lamb skins, or cashmere or silk, brands need to order higher quantities and productors may need more time to be able to meet the demand. Besides, luxury brands decide to act for specific type of products. The ones that we can qualify like the top row. At this level we identify the products whose raw materials are or the 5% worst of the 5% best of the brands portfolio, ethically and sustainably speaking. Thus, luxury brands, who are rethinking their sourcing strategies, are focusing on 10% of their raw materials to know what to stop, like the astrakhan and the fur, what can be improved thanks to traceability and transparency of their supply chain and what deserves to be spotlighted. When we take a closer look at the design and the creation process of each House, we know that the decisions are mainly taken by the Artistic Director. He or she tells what to do and what will be the next trend, but brands and groups need to control them to be consistent with their sustainability goals. To “help” them in their raw materials and materials choices, luxury actors, such as LVMH, use a material library. This one, elaborated with specialized agencies, is provided to the artistic team. Little by little, luxury brands rethink their design conception which has an impact on the sourcing strategies. Apart from the luxury fashion industry, we notice also strategies driven, not by ethical issues, but by climate change. For the champagne industry, several wine producers bought lands in the south of england to anticipate the decreasing quality of the grounds in France. Another example is the one of the fragrance industry. Houses, like Guerlain, are wondering about the protection of their rare, fragile and precious vegetal raw materials, such as the wild orchid.

So far, even if the brands communicate about their concerns and their actions, it is only when the luxury industry and its actors will be able to master from A to Z their supply chain that they will have real arguments to compete on the sustainability field. Furthermore, the use of manmade and synthetic raw materials as a remedy against the shortage phenomenon does still need to be proven. Stella McCartney is a very committed designer in the non use of animal raw material and against the negative impact of the fast fashion. Her House is now experiencing a real fade but we can wonder what could happen if all the luxury brands decided to do the same. Maybe it

would lose some of its interest; maybe the use of manmade and synthetic materials is only a trend.

2) An era of collaboration.

To face ethical issues and climate change, our society, including the luxury industry, in order to find solutions, entered in an era of collaboration and partnership. Actually, all the luxury brands are working on the sourcing, on their supply chain in order to gain transparency and traceability - these words are everywhere. The objectives are social, environmental and economic and I wondered what could influence them, except a certain fear, to reconsider most of their strategies.

It is important to know that, until then, governments are very little committed in the supply chains of the luxury industry. The real threat comes from NGOs and the climate change. NGOs and international organizations offer tools to companies, like the “ Sustainable Development Goals of the United Nations, written 2 years ago, with goals for 2030”. Fun fact, this year is used in almost all the reports I have read. Luxury brands get aligned on these objectives and set 2025 and 2030 as their deadlines. The SDGUN are supported by 17 points. The 12th focuses on production and consumption. The 17th focuses on partnerships with university, innovation and suppliers of R.M.. Which is interesting here, is to notice how big luxury companies focus on these points and try their best to get certifications from their actions. Besides, as there are different degrees of obligation in law, we talk about hard law (which has to be enforced) and soft law - certifications are part of the soft law so there's absolutely no obligations to adopt them. After learning that, I thought that the main reasons why brands decided to comply with the international standards of sustainability was to please the consumers, but this was definitely wrong. They all work on their supply chain, with respective environmental, social and economic goals, according to their sectors, to win accreditations and certifications whose influence will reinforce the collaborations with organisations and agencies such as the RJC, the CITES, the RESP, the GOT, etc, who will help to improve their image. Thus, luxury brands get aligned to build trust and become stronger thanks to new partnership and thanks to a growing network.

The competition on the sustainability field does not look like it's happening with the final product - because of the lack of concern of the consumers, and the lack of traceability of the raw materials- but with the sourcing itself. This competitiveness is not aggressive and one of our interviewees (A) talks about co-competition because it looks more like a “gentleman fight”.

The main strategy of the luxury Houses is to participate in the knowledge economy. They can not partner with each others but they take part to the same events, like the COP21 or the fashion tech exhibition. They look at each others, they listen at the ideas of each others, etc. The collaboration, in addition of the international organizations, happen at the level of universities, research centers and suppliers, with whom, they try to work closer.

3) The one goal.

However others research elements let us think that these collaborations, for the good of all, could be the perfect tools to lay the foundation of a new kind of competitiveness within the luxury industry, about being leader in sustainability from the sourcing to the distribution of the final products. The certification system gives us several clues about the interest of going further in the process of having their supply chain accredited. Raw materials sourcing strategies are going hand by hand with certifications and respect of standards - sometimes- issued by the luxury brands themselves, whose one goal is to protect their image. Today, we are at a point where the necessity to act for the planet and the communities drive real actions and this rejects the idea of brands communicating only for green-washing. Nevertheless, as the number of certifications is increasing across the globe, as it is illustrated with the RJC, we are experiencing an increase of some brands' awareness and influence; those who communicate the most about it. When brands talk about sustainability in their public reports, it's strategical and marketing but real changes happen. From a sector to a sector the change speed is different. Improvements are faster in the cosmetics industry than in the jewelry industry. The challenges and the supply chain structures are not the same. In jewelry and watchmaking, innovations are slower. The conditions of sourcing are changing but they remain marginal. They occur in partnership with the suppliers to improve the working and life conditions of the miners and the local communities. Actions are taken to make the sourcing more ethical thanks to NGOs support.

About the luxury fashion industry, the sourcing is rethought thanks to technology that provide technical means to produce differently and better the same materials or some new ones.

Each brand has its own methodology according to its industry. The new technology use is becoming more and more standard, and innovations are happening at a quicker pace. The final consumers awareness is also increasing, even if it is slower. But, the difference of pace is an asset for companies who know how to use it at their advantage. This way, luxury brands can anticipate the future eco-responsible expectations of luxury customers. Indeed; despite the fact we used to described the luxury purchasing behavior as emotional and not rational, we can make the comment that the emotional part is linked to the image of the brand. If brands succeed in becoming this perfect image they are looking for, in term of ethical and environment, their ability to be sustainable will make the customers proud to buy their products. In starting right now their communication campaigns about their new positioning, like Kering does, they put checkers on the chessboard. This way, they will be able to compete on the products thanks to their sustainable competitive advantages. The only condition that remains to start this new war is : master your sourcing.

SECTION VI

Conclusion

The raw materials sourcing strategies for the luxury brands to face sustainability issues question the sourcing processes, the materials themselves and the production facilities used. Luxury brands are all different according to the sector they are working in, the products they are selling, the raw materials they are mainly using (animal, vegetal, mineral), the image they want to have; so their actions are linked to all these factors. However, despite these differences, they all aim for the same objectives: building a transparent supply chain to increase their control and protecting their sourcing on the long term. In addition, an obvious competition for the access of raw materials is occurring but the challenge of sustainability gave birth to an era of increasing collaboration with international organizations, specialized agencies in sustainability, suppliers companies, universities and research centers. Furthermore, this collaboration can be qualified of co-competition, as explained one of our sustainability expert, because we are able to observe signs of an underlying competition. Even if the luxury final customers is not really preoccupied by who sells the most ethical products, we notice that the speech of “I am the best” is still noticeable in brands’ reports. Luxury brands, in their willingness to remain leader in their sector, communicate a lot about their partnerships. Everything is about letting the final consumers know who is collaborating with the best universities, the best research centers, who has been accredited, how they have been ranked by international organizations, who is the most innovative, who is the most praised by its pairs, etc. Their strategies of sourcing, despite their confidentiality, are put forward by the communication in order to keep one step ahead of competitors. This “one step ahead” will give them a comparative advantage if they maintain their position of leader in the sustainability field.

The sourcing strategies are proper to each brands. A luxury group can give a direction to its brands but each one of them has its own image and its own values. This unicity goes hand in hand with a specific supply chain model in term of raw materials, savoir-faire and production processes. To face the rarity issue most of the luxury brands are looking for artificial solutions but the nature of luxury, its DNA, make that brands are very cautious with them. Unless you are Stella McCartney, who made her House based on being fur and leather free, you, as a luxury player, could not use these materials because the final customers could not understand your choice. Being sustainable is a trend that is going to run on the long term because it is about survival and luxury, as always, has to find its own rules. So, as I wondered if the man made and the synthetic could be the answer to face natural raw materials decreasing, it seems that the best

strategies are those using both, natural and artificial. The strategy of Stella McCartney can not be extended to the whole industry, however, innovations and knowledge can be shared. Thus, a homogenization of the strategies is unlikely to happen; which, on another note, is good for developing its competitive assets. Besides, we can imagine that, at some point, a tide of privatization of the production sites and the farms will occur. This will allow to create a closed circuit for the raw materials sourcing, like Hermès did. The solution could benefit both to the brand and to the producers. First it will be relevant to improve the leather and gemstones sourcing process; two markets composed by many independents and small scale farmers, that need more transparency to control the quality and to avoid the black market. Then, doing so would improve local communities life and their environment.

Now, luxury brands are looking for a new competitive field. Their image is still at the core of their preoccupation. If they are not ready yet to really compete on the sustainability field, they are still innovating faster because, on the one hand, they need to find solutions to scarcity as quickly as possible, and, on the second hand, they can not afford to be second in front of the competitors. The fact that groups such as LVMH and Kering express clearly their willingness to be the best in sustainability and in CSR is, right now, all about communication but they are laying the foundation for their next battle field. They are currently setting their next “critical factors of success”. We already know the effects of the “made in” on the purchase behavior of the luxury consumers. I think we can expect having the same situation with a future “made by” or “made of/ with” to enhance the strategies implemented along the supply chain, with suppliers and local communities. Besides, this new appellation will be a tool to make new raw materials desirable.

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APPENDIX

APPENDIX 1: Questionnaire for the two consultants in sustainability within the luxury industry (translated from french to english).

- 1) How would you describe the burst of the luxury brands for the sustainability?
- 2) About the R&D, the innovation, etc: Are the actions adopted by the companies, to remedy to the sustainability and the ethical issues, collaborative or , would you say that luxury brands have found a new competitive field?
- 3)What are the main innovations? Who did it ? Which brands are the most successful rethinking their supply chain to be more sustainable and more ethical?
- 4)The use of man-made materials is more and more obvious in this industry which, still, advocate for the authenticity. How would you describe the Houses' sourcing strategies in raw materials :
 - natural sourcing > man-made ?
 - natural sourcing = man-made ?
 - natural sourcing < man-made ?
- 5) Who influence the most these strategies : the consumers ? the government's ? the NGOs ? the fear to see profits decrease? The Houses with each others ?

APPENDIX 2: Questionnaire for the expert in Luxury, Fashion Retail and Business Strategy.

1) To what extent, the sustainability concern, affect the business strategy of fashion luxury brands? How does it impact their supply chain?

2) Kering communicates a lot about sustainability. LVMH, communicates more and more. Richemont communicates very few information. They are competitors, they all need to secure their raw materials sources and their reputation with the final customers . They have all adopted pretty much the same certifications, however, they are trying to differentiate from each others by their actions.

What is changing in the fashion luxury industry? What is new?

3) When we look at the landscape of the raw materials used in the Fashion luxury industry, what is the role of the innovation in term of sourcing? (New materials use, recycling ...)

4) Finally, in general, would you say that the sustainability field is the new competitive field for luxury brands?

APPENDIX 3 : Questionnaire for the expert in material innovation within the luxury industry.

1) One of the biggest fear and challenge of the luxury industry is the increasing scarcity of their precious natural raw materials. Brands are looking for new ways to produce, for example, the company Bolt Threads created a process that produces spider silk in large quantities. Now, they work with Stella McCartney.

- Would you say that being innovative in the choice of used materials is a strategy to secure the raw materials sourcing ?

- In your opinion, if sustainability was the new competitive field for companies, would you say that the winner would be the one who is able to preserve natural resources, the one who is able to create new artificial sustainable materials, or would it be the one who is able to combine both in the most optimal way ?

2) *I know that some companies, such as Bolt Threads, but also such as Orange Fiber and Ananas Anam Pinatex, are using natural raw materials to innovate in the process of creating new materials from them (vegetal leather, new silk fiber,...) . At the contrary, some others brands use artificial raw materials to make sure they won't run out of it, for example the grown lab diamonds industry.*

- According to you and to your experience, what could be the future landscape of the materials innovation within the luxury industry?
- Will it be mainly derived from natural materials or will it become artificial ?

3) *Given that luxury is about craftsmanship, savoir-faire and product perception by the customers:*

- Is the preciousness and the desirability of the materials a concern for the innovative labs ?
- Do labs take this in count when they elaborate new materials and raw materials ?
- Do you think that customers will welcome the new materials era ?

APPENDIX 4 : Questionnaire for / Discussion with the Doctor in Environmental Law and Sustainable Development - CSR.

1) I would like to talk about the overall situation : the luxury industry facing with climate change, social change and sustainability issues, at every levels of its Supply Chain, and especially, at the sourcing level.

2) I am wondering about:

- a) The Sourcing Strategies as Key Success Factors for Luxury brands in regard to climate and social change : «Traditional raw materials management and innovative raw materials management : what impacts for environment, people and business?»
- b) The Collaborative and/ or Competitive Business Models within the Sustainability field:
 - is the standardization of new ethical and environmental friendly regulations uniform or diverse ?
 - is there any race occurring for the «best» practices, the «best» tools and the «best» certifications?

APPENDIX 5: Questionnaire for the experts of fragrance within the luxury industry (translated from french to english).

1) During a meeting organized by the agency 1.618 Paris, to promote a sustainable luxury, I met a company specialized in the niche fragrance. This company only uses natural raw materials and condemn the artificial components. Given that luxury relies on the use of exceptional natural raw materials but that they are jeopardized by the climate change, what could be the future of the luxury fragrance industry ?

2) Climate change is threatening several geographic areas across the globe so the sustainable production of some raw materials. If a land is jeopardized then the local populations who work on it is also concerned and, as a consequence, the sourcing become even more challenging. How do you manage this threat ?

3) In order to face this issues, did your company ever think about temporarily collaborating with others actors of the industry to improve the R&D and to benefit from the knowledge economy ? How does the company choose its collaborators ?

4) When we take a look a the fashion industry, we notice several innovations such as the vegetal leather, the silk made from orange fibers or even improvement in the textiles fibers recycling. What is the current situation for the luxury fragrance industry ? What is the role of technology here ?

APPENDIX 6: Questionnaire for a former raw materials purchasing manager at a very famous luxury brand (translated from french to english).

1) What was your exact missions ? What kind of raw materials were you in charge to source ?

2) What were the main challenges you had to face ?

- 3) Did you have to know the sourcing strategies of the competitors to know how to source better : which suppliers ? which quality ? where ?
- 4) Were there any raw materials becoming more difficult to source than others ? why ?
- 5) What could you say about the challenge of bringing more transparency and more traceability within the supply chain ?
- 6) What determined which raw materials would be used : the artistic board ? the CEO ? the group to which belongs the brand ?
- 7) Did you ever use the materiauthèque ? How much of this materiauthèque was composed by sustainable / ethic components ?
- 8) To what extent the issues of being sustainable had an impact on the sourcing team work ?

APPENDIX 7: Questionnaire for the expert of sustainability and certification organisations (translated from french to english).

- 1) Is there any phenomenon of competition between two certification organisations of the same nature ? For example, the RJC is globally known and the FJA is less famous but this last one, in a report, slightly criticizes the RJC.
- 2) Luxury brands are partnering with standardization and certification organisations (CITES, RJC, WWF...). Is there any phenomenon of a race to the certification ? Are the luxury brands running after these accreditations ? If so, why ?
- 3) What is the impact of certification for the final luxury consumers ?
- 4) When we read the environmental reports of Kering and LVMH, we notice quite easily the idea of "I'm the best". Do the luxury brands possess the materials means to compete in the sustainability field at the level of their supply chain ?

APPENDIX 8 : Lists of principals international organizations which influence the luxury industry in its environmental and ethical performances

(Sources : **Kering, LVMH, the Bearing Point and FJA reports**).

- UK Mongolian Sustainable fibre Alliance (SFA)
- Textile Exchange - Responsible Wool Standard
- Textile Exchange
- Organic Cotton
- Organic Cotton Accelerator
- Leather Working Group
- Global Roundtable on Sustainable Beef
- IUCN Camelid Specialist Group
- Wildlife Conservation Society
- The Nature Conservation Society
- Vétérinaires Sans Frontières
- BSR's Fur Luxury Industry Roundtable
- BSR's Sustainable Luxury Working Group
- CITES (Convention on International Trade of Endangered Species of Wild Flora and Fauna)
- Forest Management Certification - FSC international
- Sustainable Forest Management - PEFC => Competition ?
- Dow Jones Sustainability Index
- Responsible Council of Jewelry (RCJ)
- Fair Jewelry Action Association (FJA)
- Carbon Disclosure Project
- The Climate Group => Partners in the "We Mean Coalition"
- ISO 14001 (Certification environmental)
- Dragon Fly Program
- Fondation pour la Recherche sur la Biodiversité (FRB)
- OREE (Organisation pour le Respect de l'Environnement)
- Nature Capital Coalition

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- Organizations described as Collaborative by the Kering report on climate change

