

**Could Traceability in the Luxury Jewelry Market Create an Emotional Added Value?**

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**This research was conducted in collaboration with Wikirate project**

**ISBN: 978-989-54263-0-0**

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## Introduction

Our geological era is known as the Anthropocene, the time in which human activity is identified as the dominant source of influence on the environment (Future learn, 2018). In today's reality, the leading mindset about products stresses the importance of getting trendy items to the market as quickly as possible rather than creating durable use. Even in regard to luxury goods that were bequeathed from one generation to the next, modern renditions are tossed after short useful life. It appears to be human nature to try out anything that seems possible and even mass-produce it without a thought about the next day, let alone the next generation (Sennett, 2008).

In the past few years, there has been a growing awareness of and concern about issues of sustainability in the fashion industry and its exploitive system. Such is not the case when it comes to jewelry. In this paper, I investigate the luxury jewelry industry from broadly critical perspective, one of sustainability. By researching this topic from different angles, one indeed gets a wide view of the industry. Based on this research and as one of its outcomes, a new and innovative framework for the operations of this industry as a sustainable player is presented. From producers of materials up to consumers, people around the world today are unaware of the impacts of the mere act of mining or choosing to buy specific piece of jewelry. Hopefully, this paper and several other initiatives that are trying to push this industry toward transparency and disclosure will allow this topic to be addressed in ways that include practical and attainable methodologies such as that presented below.

As attested in many reports by NGO's, deeper research on the topic of sustainable jewelry is needed, one of the reasons and motivations for this study. Only by expanding research in this field may clarity be achieved on how sustainability can become a core value in the production of luxury jewelry. Once this happens, designers and companies will be able to implement methods that disrupt the current production chain on the basis of a wider and deeper database. This paper and the research behind it are predicated on several methodologies: in-depth interviews with knowledgeable experts, designers, suppliers of materials, content analysis of public reports with the help and support of Wikirate (an open research platform that focuses on the collection, analysis, and discussion of corporate environmental, social, and governance [ESG] data) the Wikirate matrix, developed collaboratively researching the fifteen biggest luxury jewelry brands. The Wikirate platform allowed me to develop questions regarding sustainability issues in the luxury jewelry industry and to ask how companies deal with or solve the attendant problems. To gather information about the questions asked, participants referred to Human Rights Watch report, *The Hidden Cost of Jewelry*.

After interviewing professionals in the fine jewelry industry, a sensed for a stronger support system specific to this industry occurred, through which challenges in respect of sustainability

issues can be analyzed and available alternatives, along with inserting traceability into the equation, can be broached.

Issues of materiality in the jewelry-making history will be presented along side explaining the uniqueness of luxury jewelry. Social, political, and economic changes that led to a shift in luxury production from prior practices to today's are discussed. A presentation of the supply chain is accompanied by a discussion of current production problems from the standpoint of sustainability and transparency. An introduction is given to several pro-sustainability solutions that are used and their limitations, along with the construction of a new set of requirements for sustainable luxury jewelry.

The purpose of the methodology is to create awareness and engage designers and brand professionals in an analysis of their supply chain and to find the sustainable practices that best fit them.

## **1. The Lost Traces of the Origins of Precious Jewelry in the Industry: from Past to Present and Beyond**

### **1.1 The traditional definition of luxury and luxury jewelry**

In antiquity, luxury meant sinfully excessive self-indulgence (Gorjancwa, 2018), in which wealth was used to attain a pleasant lifestyle (Miller, 2017). In the course of history, this definition softened and lost its judgmental tenor but retained the sense of luxury as something enjoyable or comfortable but not necessary (Gorjancwa, 2018). According to the philosopher Yves Michaud, luxuries signify rarity, cost, change, transformation, expenditure, distinction, excess, and pleasure (McNeil and Riello, 2016). In the abstract, luxury represents wealth, sophistication, desirability, and influence; for this reason, it is a powerful social force (Pinkhasov and Nair, 2014). Luxury is visible in all aspects of life—from how and where people eat to the way people sit on chairs. Yet it is always time- and place-specific and varies dramatically across cultures and times. Luxury is always defined by its surrounding; it depends on what a society assumes to be “beyond” necessity (McNeil and Riello, 2016).

Part of what makes luxury distinctive is the rare aspect of these products from creation to presence, (Campbell, 1996) the quality of conception, (Pinkhasov and Nair, 2014) manifested in unique or precious material, special craft involved, or splendid experience (Campbell, 1996). Luxury artifact can be rare and unusual because it comes from another time or place (McNeil and Riello, 2016).

Jewelry items as personal ornaments play an important role in luxury culture because they reflect the wearer’s values and beliefs via nonverbal communication (Hackspiel Mikosch, 2016). It is probable that humans thought of decorating their bodies before they thought of making anything that could remind us of clothing (Encyclopedia Britannica, n.d). Jewelry yields information about hierarchy, prestige, power, (Chadour-Sampson, n.d) social status, political ambitions, financial status, gender, ethnic affiliation, and religious beliefs (Golani and Wygnańska, 2014).

### **1.2 Luxury materials and making along history**

The best way to appreciate the role of objects is to consider them symbols that represent humans. It is the self that gives them such dignity, glamour, and refinement (Miller, 2010). Material culture and materials are tangible syntheses or resource flows. They are critical because they make symbolic production real and provide humans with physical means with which to form identity and act as social beings and individuals (Fletcher and Grose, 2012).

Design matters because it is an intrinsically humanistic discipline of making, connected to the core of why humans exist (Helfand, 2016).

Detailed examples that trace the origins of jewelry materials all the way from Asia (McNeil and Riello, 2016), and of lapidaries and goldsmiths brought from Greece, imply interest in and appreciation of the origin such materials (Encyclopedia Britannica, n.d). Monarchs imported special minerals from places that they ruled or passed through while traveling from Egypt, Spain, Britannia to Dalmatia; and stones from the Middle East or pearls from the Red Sea and the Indian Ocean. Peridot or topaz from India and Ethiopia and emeralds from Scythia were much desired. The more remote the origin of the material was, the more desirable it was (McNeil and Riello, 2016).

Luxury products are the results of skillful production, education, and innovation accumulated over generations (Pinkhasov and Nair, 2014). Malinowski sees materials and making as laboratories in which reflexes, impulses and emotional tendencies are formed. Hands, arms, legs, and eyes are adjusted by the use of implements that are wielded with the requisite technical skill (Malinowski, 1948). This is why people in prehistory chose materials from their immediate environment (Chadour-Sampson, n.d).

## **2. The transparent supply chain of the jewelry craft as a result of traditional trade routes**

There is historical evidence of the transparent creation of jewelry—from artifacts originating in precious materials to unique techniques and splendid styles that carry the influence of different places. It is not far-fetched to analyze an old piece of jewelry according to today's supply chain and be able to identify most of the processes along the way.

Goldsmiths were international figures, under Elizabeth I of England, involved in the financial affairs of clients and trade generally. It was they who moved gold and silver from America via Spain and Portugal to the rest of Europe, as well as Indian diamonds, Burmese rubies, sapphires from Ceylon, Colombian emeralds, and Persian grown pearls (McNeil and Riello, 2016). Although the expansion of global trade in the seventeenth century making precious materials more available, it was still a source of much pride to share the origins of the techniques and materials used (Phillips, 2008).

### **3. Loss of transparency during the Industrial Revolution and as colonialist act**

The role and meaning of luxury jewelry have changed, mainly due to advanced production and globalization processes (Buchli, 2001). Today, "materialistic" thinking has fallen into obscurity because people use many objects with which they do not intimately identify, neither make them nor understand their provenance (Sennett, 2008).

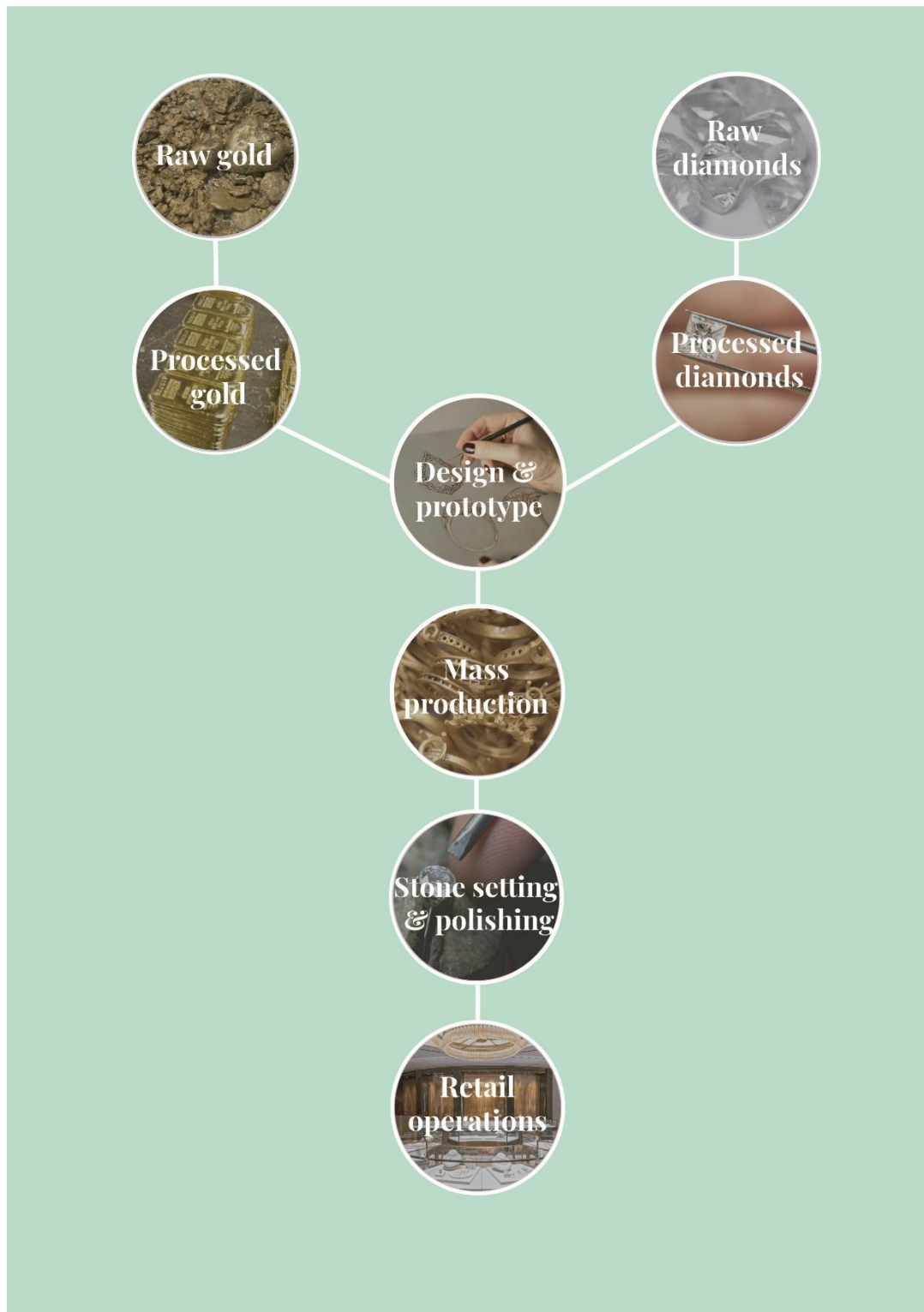
Several key concepts of "modern luxury" jelled in the eighteenth century (Niemtzow, 2018) since then goods were copied over into popular culture, transforming luxury to fashionable goods (McNeil and Riello, 2016). Therefore, the producer's reputation, represented by name or label, acquired paramount importance in assessing the value of a product as luxury (McNeil and Riello, 2016). Now industrialized, major luxury brands became high-priced commodities that had nothing in common with traditional luxury. The eradication of luxury was accompanied by the loss of knowledge and skills. Here, as in any revolution in which the trappings of an elite are overthrown. Old ways of doing things were persistently and deliberately jettisoned in favor of faster and cheaper ones. Traditional exquisite techniques and deep intellectual reflection were lost forever (Pinkhasov and Nair, 2014). Even today, luxury is under threat, its knowledge and skills disappearing. The industrialization of important luxury brands keeps prices high but leaves only a veneer of what makes luxury luxury (Pinkhasov and Nair, 2014). Designers themselves treated like commodities and are replaced as quickly as collections change. Luxury stores that once provided an extraordinary retail experience have lost all distinction. Quondam luxury products that had long shelf life are now replaced as often as all other merchandise (Thomas, 2007).

The Industrial Revolution changed the role of jewelry as a symbol of social rank. This evolution created a market for vast quantities of jewelry at prices that the middle class could afford (Crowley, Driscoll Goulay, Niemtzov, Norton, Prattico And Woods, 2015). Hundreds of different components were produced by machines, an electric gold-plating technique was invented, metal alloys replaced gold and silver, and production of imitation stones increased in quantity and quality (Encyclopedia Britannica, n.d).

During the colonialism, precious resources were used to wield superior power over local communities in developing lands. By the late nineteenth century, there were already examples of Westerners amassing fortunes by exploring Africa for diamonds and other minerals, using the wealth thus acquired for other luxury ventures (McNeil and Riello, 2016). In the 1940s, De Beers coined the iconic advertising slogan, "A Diamond is Forever." Since then Western companies and businesspeople have been more motivated to control local communities for their own use. (Rudnicka, Mamros, DeRiggi, and Munshower, 2011).

#### 4.The shift from a linear and discreet jewelry supply chain toward traceability

Figure 4.1



## **5. Sustainability issues in the luxury jewelry supply chain**

### **5.1 Social and environmental problems**

Although people spend billions on jewelry every year, manufacturers can't guarantee that materials and products are ethical or sustainable. Problems such as mining under brutal, abusive conditions and morbidity in communities (Human Rights Watch, 2018).

One major problem for gold-mining communities is the lack of economically viable alternative responses to major livelihood challenges. People rely on mining to supply their families with basic necessities, risking their lives and their children with no assurance of a monthly salary (Earthbeat Foundation, n.d). The use of chemicals in mining processes also has pernicious effects due to exposure through the inhalation of dust, fumes, or vapors (Human Rights Watch, 2018).

The Responsible Mining Index, introduced in April 2018, assesses the policies and practices of thirty large companies that produce quarter of mined commodities (gold, copper, coal, etc.) in more than forty countries. Among these firms, 331 workplace deaths were reported in 2015-2016 (Responsible Mining Index, 2018).

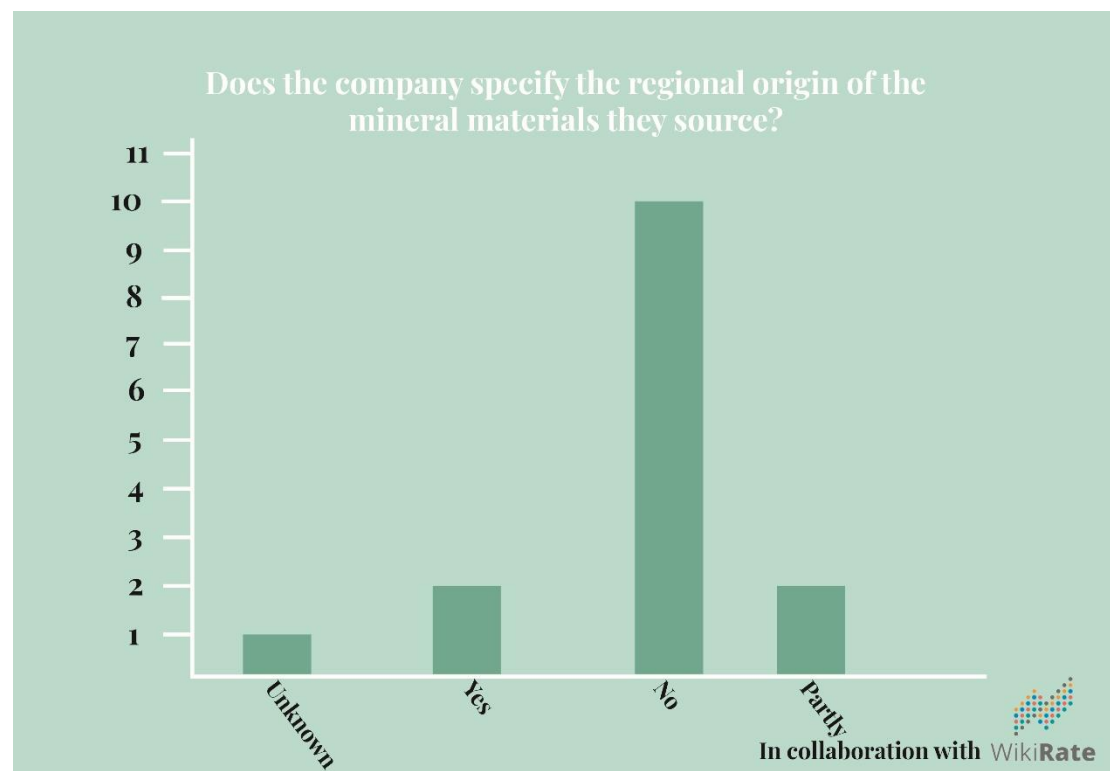
The expression “conflict diamonds,” first captured the world’s attention in the course of an extremely brutal conflict in Sierra Leone in the late 1990s. Rebels against legitimate and internationally recognized governments also used rough diamonds to finance armed conflicts across Africa. The problem here is not the diamond itself but the insurgents who exploit it to achieve their goals (Cartier, n.d).

Mining for precious materials may result in water pollution, greenhouse gas emission, and soil erosion. Toxic elements such as cyanide and mercury are intensively used in mining; an average large-scale gold mine, uses 1,900 tones of cyanide annually (Epoch Times, 2013). Twenty tones of waste are produced for every ounce of gold. The waste contaminates water, soil, and air around mines. Small-scale gold mining is the largest source of mercury pollution to air and water combined. In many mines oversight is often lacking and workers, local residents, and the earth are not properly protected. Resins, acids and “pickles” used in mass production of jewelry also contain harmful petrochemicals that are harmful to both the workers and the surroundings (Earthbeat Foundation, n.d). All the gold that has been extracted in history still exists. On average, every tonne of ore yields fewer than ten grams of gold (Guardian, 2013). There is up to thirty times more gold in a tonne of discarded mobile phones than in a tonne of gold ore (Pechstein, 2018).

## 5.2 Economical and political problems

The period of discreet in the jewelry industry doesn't fit today's reality anymore, while complex global supply chains offer opportunities for development, they often present serious risks that are hard to mitigate and respond to effectively (Hicklin, 2016). According to Frederic Cumenal, former CEO of Tiffany's & Co., most companies do not extract their own minerals, making it hard for them to keep track of the provenance (Cumenal, 2017) and deter them from taking short cuts in production and the conditions under which they produce. Transparency safeguards against the intrusion of bogus components and materials into the supply chain. In today's reality, if firms do not release provenance information themselves, others will do it for them reaching their consumers with live proofs. Consumers, governments, and companies are increasingly inclined to demand details about the goods they consume (New, 2017) tight control over the source of materials and the methods used in processing them is needed (Clancy, 2015). A big difference is seen between knowing the supply chain and sharing the information publicly.

Figure 5.1



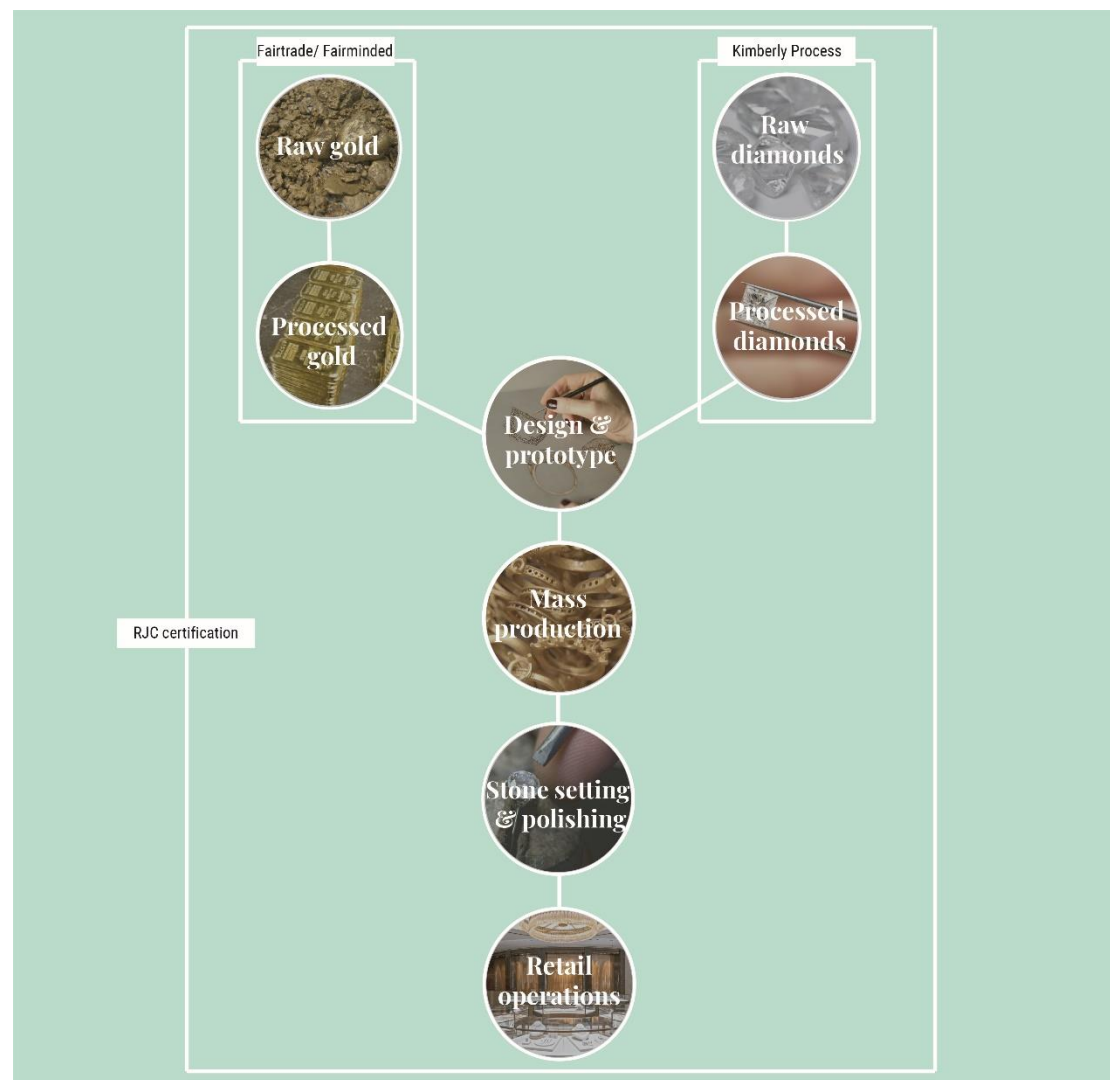
The jewelry industry is highly fragmented, several large companies interspersed among many family-owned firms that do business worldwide. This diversity and fragmentation present challenges that few industries can match, leading to situations in which new materials and models are genuinely uncommon and hard to implement (DeMarco, 2016).

## 6. New concepts for sustainable luxury jewelry production and supply chain

Luxury must always stand at the forefront of creativity and innovation in pursuing the highest standards of knowledge and behavior as much as for product quality and refinement (Pinkhasov and Nair, 2014). This is why these enterprises should use their resources while steering their industry toward future thinking. Traceable steps would restore their responsibility and security when it comes to their products.

### 6.1 Materials and standards

Figure 6.1



The Kimberley Process Certification Scheme (KPCS), established in 2000, is a binding agreement among eighty-one governments, civil-society organizations, and industry leaders to stop global trading in conflict diamonds, applying to all diamonds mined since January 1, 2003 incorporating KPCS into domestic law (Kimberly Process, 2017). Kimberley Process is a system of industry self-regulation requires all traders in rough diamonds, polished diamonds,

and jewelry containing diamonds to declare that the stones were from legitimate sources (Conflict Diamonds, n.d).

KPCS refers only to conflict-diamond issues and does not oblige members to share information about countries or mines of provenance, leaving traceability off the scope. The scheme totally overlooks other social and environmental problems. The certification process is oblivious to money-laundering and mine-rehabilitation issues. Since this certification unifies the entire industry, governments and social initiatives around the world, the non-inclusion of social and environmental requirements, leaving the industry in underperformance in sustainable standards. The last issue with KPCS is the laxity of its enforcement mechanism. Although the KPCS organization reports that 99.8 percent of diamonds traded today are conflict-free, it is almost impossible to verify it.

The Fairtrade Gold standard and Fairmined Gold- raw and processed gold

The main issues concerning Fairtrade Gold relate to the use of toxic chemicals. While responsible usage and disposal are controlled, the requirements regarding rehabilitation of closed mines are inadequate. At the present writing, the discussion about rehabilitation is in its initial stages, a complex problem for the future because in absence of requirements or laws constraining companies to deal with their production footprints, closed mines left as-is.

The Fairmined standard received by multi stakeholders as a robust and credible instrument. Focusing on the ability to deliver positive impacts to miners and their communities, a valued tool for the transformation of artisanal and small-scale mining into an active force for good while supporting sustainable-development mining communities (Fairmined, n.d). The standard requires minimization of ecological disruption and full traceability to the mine, quite effectively. At the moment, the main problem is a weak extension of the standard to the tier of jewelry additional elements that are used in production and are not available in the market.

RJC (Responsible Jewelry Council) certification

The Responsible Jewelry Council founded in 2004 by a small group of fourteen companies and trade associations interested in making consumers confident in the jewelry they purchase. RJC members commit to and independently audited against the RJC Code of Practices, an international standard on responsible business practices in diamonds, gold, and platinum-group metals. It addresses human rights, labor rights, environmental impacts, mining practices, and product disclosure along the supply chain.

Figure 6.2



The research with Wikirate, proved that this certification is widely used but its current structure and requirements are problematic. The RJC board accommodates industry representatives only, leaving all the other stakeholders out. RJC members, recognize only refiners that operate according to OECD-aligned standards as “responsible” for its mineral regulations until recently, this provision and intention was not included. The COP requires companies to go through human rights due-diligence process that seeks to identify, prevent, mitigate, and account for human-rights impacts in line with the UN Guiding Principles. Little details provided on how to carry out and publicly report due diligence in the supply chain or evidences to ask their suppliers to provide, no reference to the OECD Due Diligence Guidance. According to an RJC auditor, suppliers need only pledge that they carry out “strong” human-rights due diligence. RJC members are given two full years to comply with the standard after joining; in the interim, they benefit from the RJC’s reputation. Same goes for a small subsidiary office with similar name to the large jewelry firm can obtain RJC membership and leave the rest of the corporate group out, but the entire group enjoy the reputational benefit. (Human Rights Watch, 2018). The Code of Practices allows companies to excuse from certification facilities that they do not fully control. The reporting obligations in the code are vague and absolve firms of the need to identify, assess, and mitigate risks in their supply chains. The Code of Practices is currently under review; a new version—announced for the end of 2018.

## Alternative materials and new approaches and models along the supply chain

Today replacements for many supporting production processes are available like cadmium-free solders and fluoride-free fluxes. Replacing “Jewelers’ pickle” with citric acid or salt and vinegar, using biodegradable soaps, lead-free enamel, using raw eggs as a replacement to oxidize metals, electrolyte etching and silica-free polishing compounds.

Establishing closer communication with consumers, encouraging them to customize their demand for luxury products in order to enhance emotional value and attachment. Retailers should also develop takeback systems through which materials may be recycled or reused, enhancing customer loyalty to the brand. Customers could send old, inherited, or unused jewelry for refinement and remanufacture into new products. Gold is the ultimate recyclable material; it can be melted down and turned into different products again (Guardian, 2013). Responsible ways of recycling used metals in electronics need to be developed. Although recycling will not solve the problem of scarcity of these precious materials, it certainly would help (Nuwer, 2014).

## 6.2 Technologies, political and economical tools

Today, diamond workshops can laser-inscribe every stone with a microscopic code, indicating its provenance and every step along the supply chain (Cumenal, 2017). New generations of tags can be used to label jewelry inconspicuously. Data can be stored and updated as the item moves through the supply chain, creating opportunities for brands to exploit for continuous improvement. This means that consumers can gather provenance and supply chain information for specific item and companies get reassurance for their goods (New, 2017). Blockchain technology makes the lifecycle of mined diamonds traceable. Attributes of each diamond are recorded digitally, eliminating all risk of fraud (WGSN, 2018). De Beers, stated in 2018 that it aimed to create an industry-wide blockchain to track gems each time they change hands from extraction (Fashion network, 2018). Lab-grown diamonds offer a viable alternative to dealing with social challenges. Several start-ups have developed such gems using renewable energy. Traditional diamond giants criticized these products harshly, impugning their quality, but now even they start producing them. 3D printing has the potential to enable speedy, on-demand, and customizable jewelry production (WGSN, 2018).

Most luxury companies do not share information about their supply chain, placing large question marks over their ethical credibility. As a motive force of this industry toward innovation and new trends and set an example solving sustainable concerns.

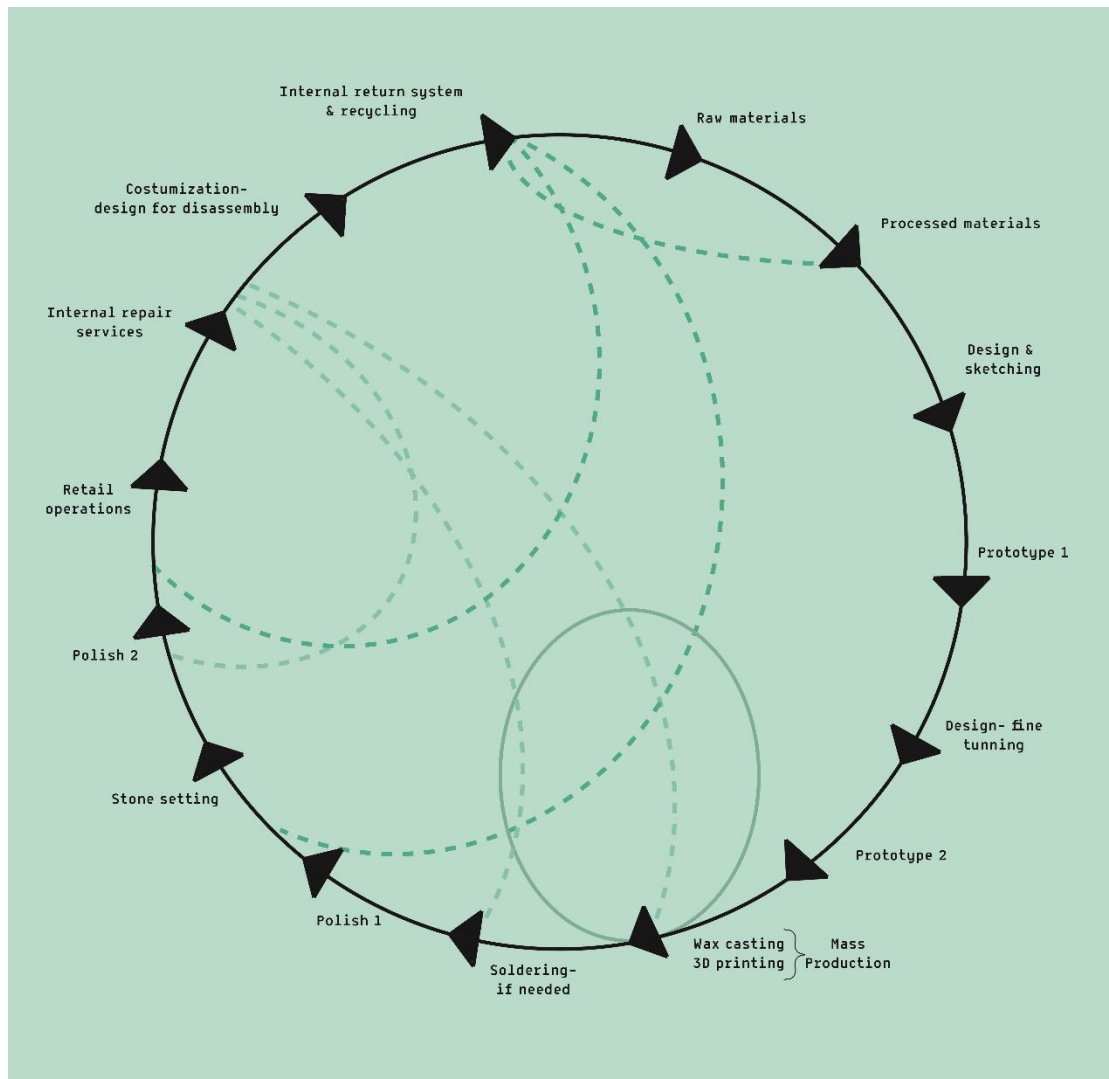
Figure 6.3



The European Union has been restricting the use, import and export of products that contain nickel, given the toxicity of this element and its implication in allergies and skin problems that affect large share of the population. The same restrictions and controls should be extended to sustainability problems in jewelry manufacture. EU policy and legislation can ban materials and set an example for the rest of the world.

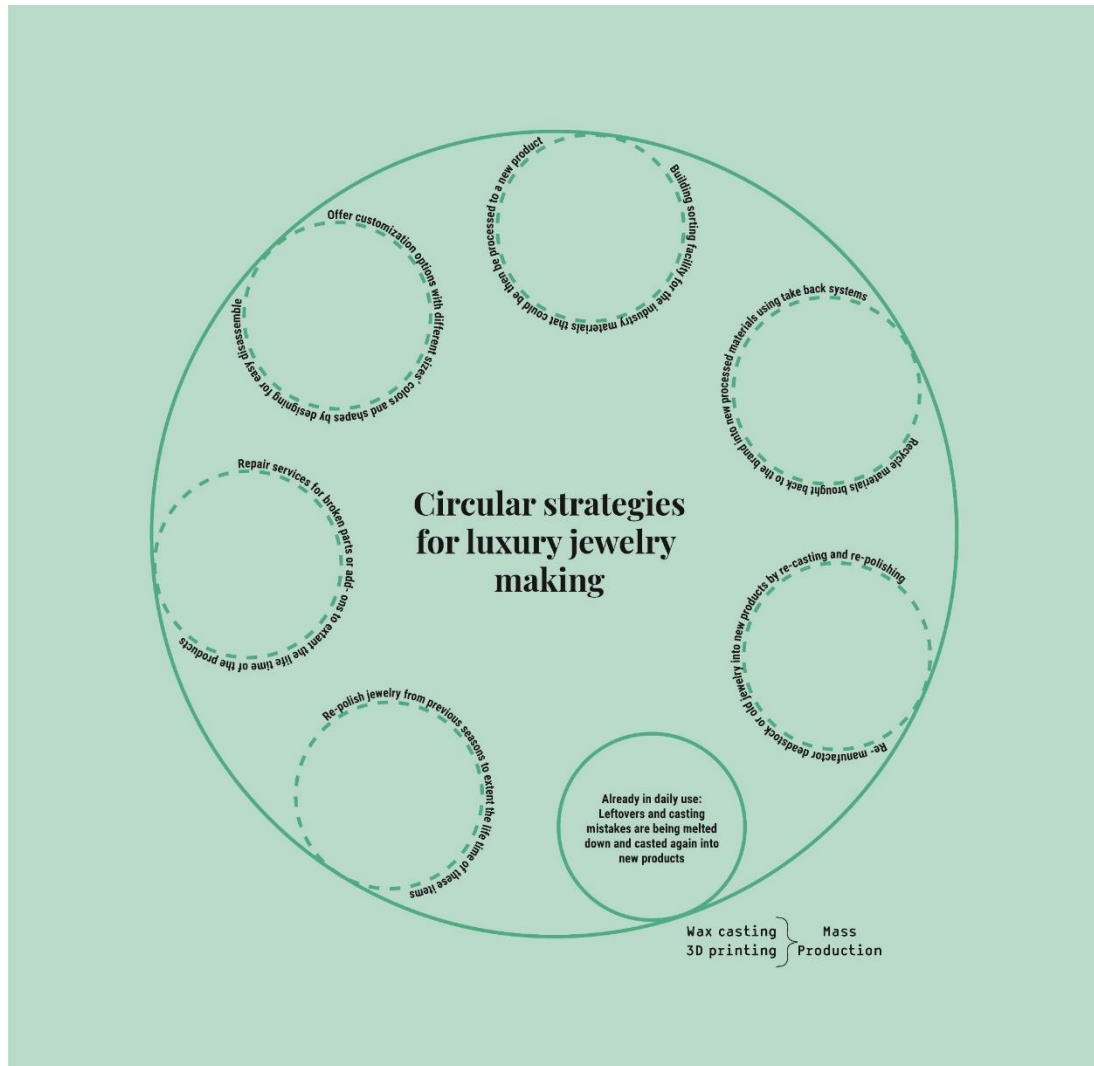
## 7. New definition of sustainable jewelry and new set of sustainable requirements

Figure 7.1



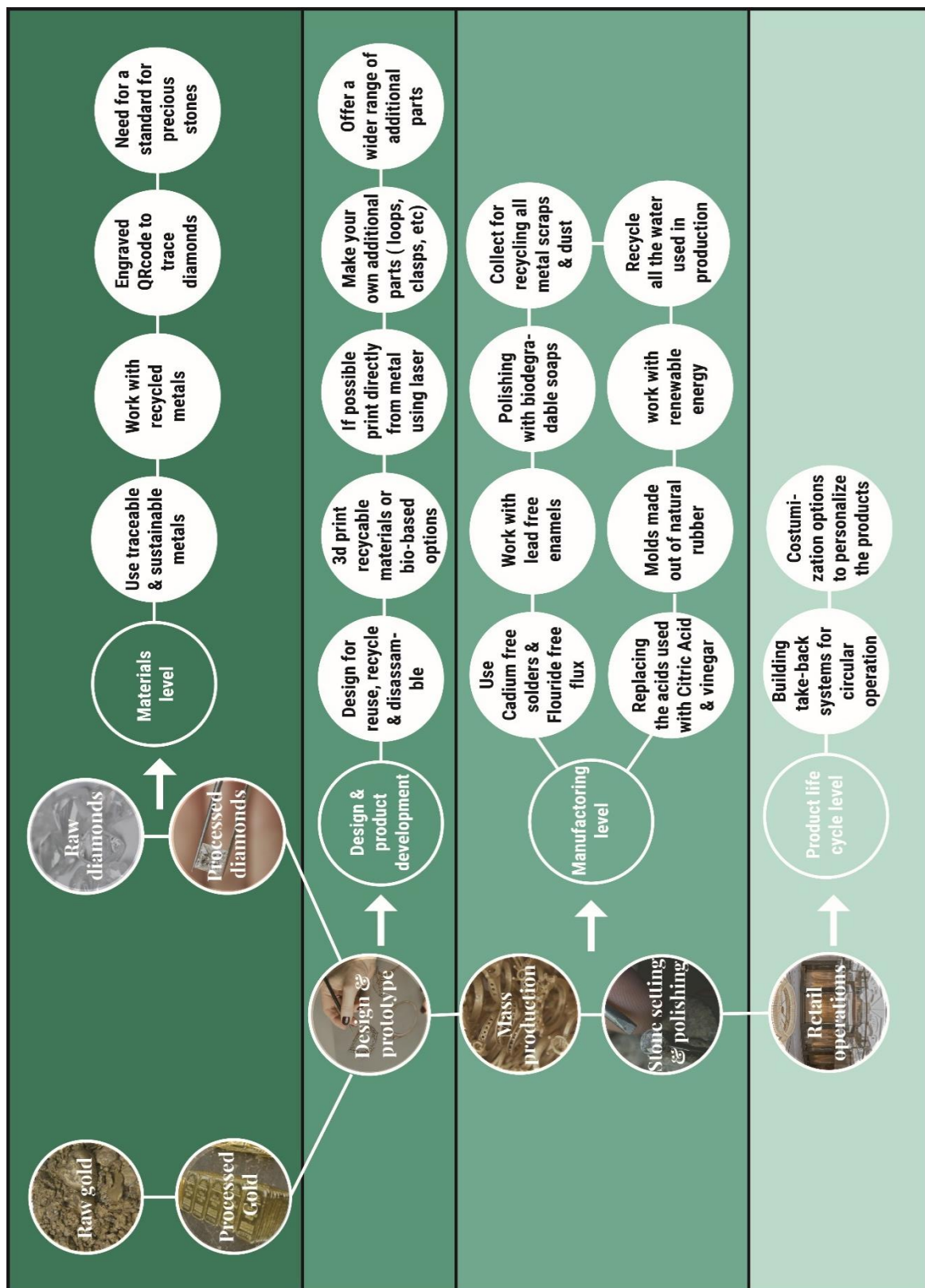
The luxury industry, as a leading player in the broader industry setting trends and innovations, should aim to combine traditional luxury with new models that are relevant to today's economy and reality. Minerals and precious metals that retain their underlying social and chemical value should be reused, repaired, remanufactured, and recycled on a fundamental and routine basis. At the present writing, no links exist between suppliers along the supply chain. Although the materials are precious, incentives to collect and save them are not offered; therefore, it is not surprising to see them going into landfill. Since these materials do not decompose in landfill, their value justifies a refining process.

Figure 7.2



Apart from integrating circular strategies into production, additional standards in the industry are needed. The KPCS should expand covering sustainable concerns in their broader context, including ground rules for "recycling" diamonds. A similar regime should be developed for precious stones. Improving and restructuring the RJC certification, is needed, introducing better recommendations for mass-production supply chain and, of course, management systems and KPIs that measure companies' performance. Last but not least, a standard for recycled gold is needed, defining "recycled gold" and "recycled gold product".

Figure 7.3



## **8. the "See Through" methodology as a tool for a transparent and sustainable luxury jewelry supply chain**

### **8.1 Sustainability and traceability as a unique selling-point opportunity**

Marketers of luxury jewelry base their branding and strategies on legacy as a powerful value that differentiates their jewelry from mass-market merchandise (Au, 2018). An important part of legacy its, tradition, is intense appreciation of quality materials and exquisite production methods, this also create strong differentiation. (Voyer and Beckham, 2014).

To mobilize today's consumers, their emotional buttons must be pushed (Fisher, 2004). One such button is their wish to be responsible global citizens. Some 87 percent of adults say that sustainability impact their purchasing decisions. Brands should follow their customers' lead, placing broad sustainability approach, at the heart of their infrastructure and making an authentic commitment (Verde and Hanton, 2018). "The consumer's not a bloody fool; she's your wife," the advertising executive David Ogilvy once stated. The consumer, Dana Thomas elaborates, "wants to know that Piaget watches are made in the Piaget factory. [That's] what makes it special. Otherwise, it's just another brand." (Thomas, 2007) Exquisite craft matters less to millennial shoppers, it is more the brand, the image, and the storytelling that attracts consumers (Bain, 2018).

Millennials representing \$2.5 trillion in annual spending power and will become dominant in the labor force by 2020. Losing faith in governments and nation-states, looking to other institutions to advance the sustainability goals that they consider essential for bright socioeconomic future (Sennett, 2008). The contemporary consumer is searching for new luxury products that embraces human values and high ethics (Welsh, 2018). Today's consumers want to recognize the brands that they choose and experience them as part of their world (RJC, 2012).

Technically, all products are "Made In" one single country, keeping with today's economic and technical structure, practically, this is never the full story. An entirely new labeling system that would fully answer the questions of who made these products, from which materials, and where. Thus consumers would be more reassured about what they are buying and from whom (Sawyer, 2018). Combining more value-based perspective with traceability and the circular approach could create stronger and more concrete uniqueness and differentiation in the market, enhancing profit margins if communicated in the right way to the right audience (Miller, 2012).

Few people can actually tell the difference between an authentic Rolex watch and a fake one. Disclosure of origin will soon be an essential part of establishing trust and securing reputation

for brands and consumers. Companies that become early adopters of transparency and reliability toward their customers will probably have a higher chance of success and profitability (New, 2017). Michael Porter analyzes the value creation as added-value, demarche that yields competitive advantage and unique story. Ultimately, it enhances business' profitability by allowing to raise prices and project strong and authentic message or story (Porter, 1985).

Today jewelry is made on such a large scale that it no longer has real value, it does not express sense of appreciation, emotional worth, or long-term legacy (Clark, 2018). To make sustainable jewelry possible, brands may invoke Porter's model in tandem with the circular model presented before, offering consumers ongoing products and services that better suit their needs and style and allow some adaptation over time. If these steps are taken, one hopes, sustainable luxury jewelry products will become heirlooms, retained in the long term as the precious objects that they were.

It is the responsibility of brands and designers to make sustainability cool, appealing and easily communicated (Leach, 2018). From the perspective of today's economy corporate social responsibility is an opportunity and not an obligation—a chance for businesses to use their profits, power, and influence to create positive change and empowerment, brands that adapt to these standards would survive (Verde and Hanton, 2011). A new generation is marching toward revolution; it wants to use products that tell a new story and take tomorrow into account (Goldenberg, 2014). High status is increasingly associated with transparency and responsibility, consumers vote with their wallet, and what they want from their vote is value (Craik and Peirson-Smith, 2018).

## 9. The "See Through" methodology- description, visualization, and target group

As customers take greater interest in the origins and authenticity of the things they buy, producers and retailers should include provenance tracking tools in the marketing mix (New, 2017). Brands should equip themselves with daily work tools that support their decision-making, especially in a topic as complex as sustainability, by continually measuring and monitoring the entire supply chain they can start doing so. The aim of the methodology is to create a reliable industry information platform on sustainability, supporting and encouraging businesses to approach sustainability and implement it in their daily strategies along their supply chain. The first step for a brand is to investigate its supply chain, including its direct and indirect operations, to understand where the biggest impacts occur and in what places change may be made (Future Learn, 2018).


Figure 9.1



Design choices are important for more than a product's final look and function; they also influence its social and environmental impacts, for better or worse. Thus, the more knowledgeable designers are in regard to sustainability issues, the better they can adapt their designs to today's global problems (Design for longevity, n.d). Changes can also be made closer to the consumer, since luxury companies have numerous retail operations worldwide. By integrating services and takeback systems in their retail operations, they can offer products for



longer use, introduce customization options, provide recycling incentives, and invoke other circular strategies (Hepler, 2015).



Figure 9.2





Materials

Gold:

Weight of gold:    grams

Karat:   



Color:   



Supplier:



Certification:

Stones:

Main stone:

Size:    mm

Color:   

Weight:    ct

Kind:

Supplier:


Certification:

For smaller stones

Next

Figure 9.3

Additional parts

Chain: 

Studs/ loops/ clasps/  
omega/ brooch mechanism/  
rendand bails/ safety fig/  
box clasps:

Kind:  Kind:

Weight:  grams Weight:  grams

Length:  cm Supplier:

Supplier:  Certification:

Certification:

Skip Next

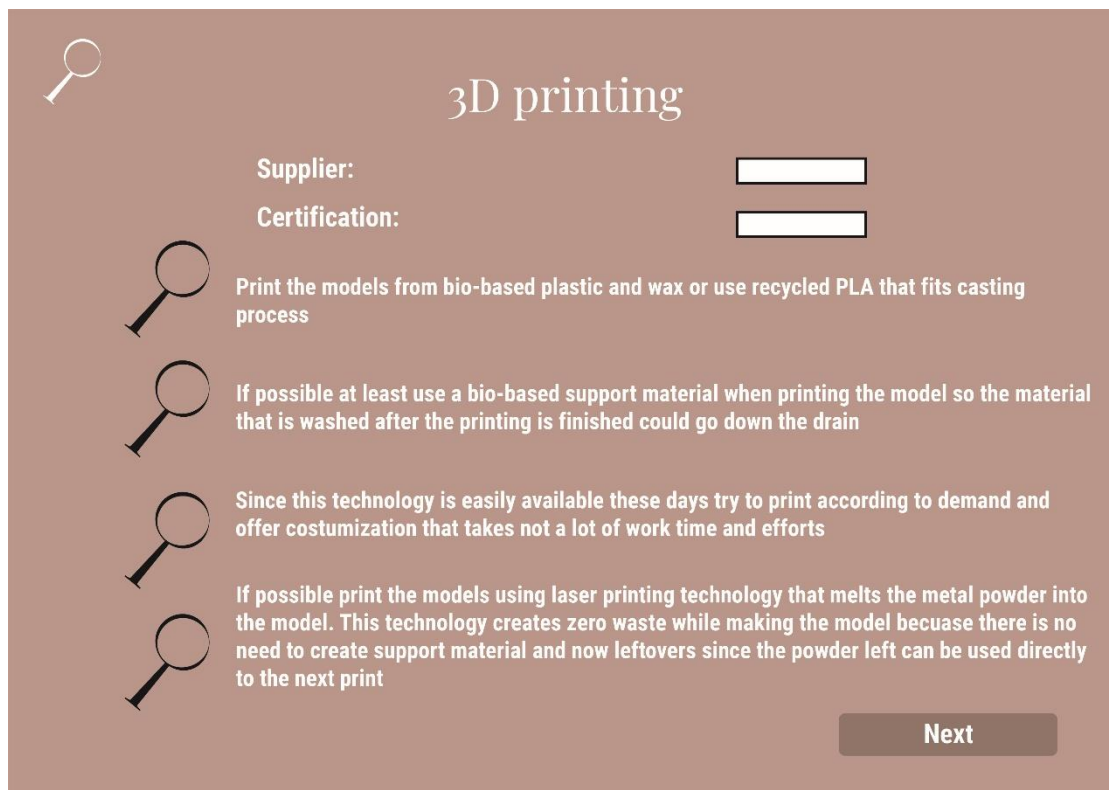
In view of the jewelry supply chain presented before, the user of the See Through methodology moves along in planning jewelry item—from product development and its technical details, suppliers details, location, certifications (if known), relevant country regulations (if known), and any other relevant detail. A series of actions that apply values, ethics, and sustainability perspectives to the supply chain, such as sustainable design strategies, industry-certified materials and standards, alternative production practices and developing in-house circular strategies in luxury jewelry brands.

The output of the methodology for the user is a document summarizing the technical details and offers recommendations and alternatives production processes for the planned item. This document can help the user to devise, step-by-step, an action plan based on the recommended sustainable strategies, resulting in a less disruptive industry.

Young professionals are the target group for the See Through methodology. They may be managers in jewelry companies who are involved in supply-chain management or production; corporate social-responsibility or sustainability team members; or independent designers with their own luxury jewelry brand. Based on interviews and own self experience collecting information about sustainability issues and reliable solutions is complex and time consuming,

this explain why the jewelry industry is far behind, say, the fashion industry where sustainability and transparency issues are concerned. The See Through methodology can gather and verify the kinds of information mentioned. Resulting the process of decision-making on sustainability matters much shorter and transform these strategies and recommendations into real-life company policies. Luxury is no longer just about exquisite materials, perfect production quality, and superb creativity. It is also the assurance that the brand behaves consciously, lives up to its values, and offers a deeper and more meaningful consumption experience (Doyle and Bendell, 2011).





Figure 9.4



## 3D printing

Supplier:

Certification:

-  Print the models from bio-based plastic and wax or use recycled PLA that fits casting process
-  If possible at least use a bio-based support material when printing the model so the material that is washed after the printing is finished could go down the drain
-  Since this technology is easily available these days try to print according to demand and offer customization that takes not a lot of work time and efforts
-  If possible print the models using laser printing technology that melts the metal powder into the model. This technology creates zero waste while making the model because there is no need to create support material and now leftovers since the powder left can be used directly to the next print

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Figure 9.5



## Polishing & stone setting

**Stone setter:**

**Polishing:**


**Certification:**



Use only Cadmium free solders and Fluoride free flux while finishing the jewelry



While cleaning the final jewel use Citric Acid or salt and vinegar instead of regular acids and pickles. Although using alternative acids these liquids can't not be disposed in the drain




Use only biodegradable polishing soaps while polishing the final products



Collect and recycle all scraps, leftovers and metal dust from the production process

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Figure 9.6




## Polishing & stone setting

**Setting style- main stone:**


**Setting style- smaller stones:**

**Supplier:**


**Certification:**



While polishing the jewelry use only biodegradable for the whole process. These soaps are made without toxic chemicals so working with them is better for workers and for use and dispose



Choose a setting that it would be possible to offer to your clients various options of stones, from different colors, sizes and shapes. By planning a setting to be disassemble recycling or remanufacturing would be easier, when needed



During the process of polishing and setting the stones save any metal scraps and dust from leftover parts, used sand paper, clean the tools used to take of dust and even vacuum clean the table and studio and empty the bag so these small metal particles wouldn't roll into the outside world and interrupt the ecosystem

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Figure 9.7



## 10. Design strategies for transparent and traceable luxury jewelry

Designers today have power and influence on people's behavior toward many commodities. If this power is duly appreciated, the values that these products deserve may be restored. Jewelry is emotive, unique and expensive. Even as few sectors can claim the status of “belonging to a family,” jewelers and jewelry brands are often referred as the “family jewelers or brands” this status is earned through trust.

Creating a connection between the user, the product, and the materials of which it is made may precipitate major changes. A balanced view on manufacturing is that thinking and feeling are part of the process. If so, today’s designers should completely re-think the way they design. When one speaks of the lengthy tradition of jewelry making, a strong link and connection to craft is found, an enduring, basic human impulse: the desire to do a job well for its own sake. It is quality driven work. To do good work means being curious about it, investigating it, and learning from ambiguity (Sennett, 2008).

According to "cradle to cradle", “Design for Disassembly” means products that are intentionally designed to allow materials used in one product to be reclaimed and re-used repeatedly in a

meaningful way without downcycling. Answering how can a product and all of its parts and pieces be reused at the end of its first useful life? Currently, most products that surround us are designed as though they will never be broken down, thrown away, or just replaced with newer version. Its goals are to create enduring objects and projects, create value for product owners, and eliminate waste within closed loops (Cradle to Cradle, n.d).

Fashions and accessories give sensual pleasure (Busch, 2018). Since we are flooded with “stuff”, quality products should tell a story or an interesting message or emotion (Sennett, 2008). “products,” Farrah Floyd advises, should be designed with hope to evoke strong emotional connection to the buyer, wearer, who takes impeccable care of it, and who will hopefully pass it forward as a precious piece to be cherished. The aim of designers today should be to prolong the life of each product by incorporating quality and emotional attachment into each product (Floyd, 2018). For an object to have a long lifespan, it must be aesthetically sustainable and provide continuous source of aesthetic nourishment (Harper, 2018). If storytelling was the buzzword in 2016, then “the” concept to watch out for in 2018 will be influence through emotion (Verde and Hanton, 2018). Given that jewelry is a craft, one who buys unique pieces that have a history and could be inherited it was part of the DNA of jewelry. This strategy should be revived by telling the full story of the materials, workers, craftspersons, and technologies, along with their lengthy journey around the world until they reach the point of purchase (Doyle and Bendell, 2011).

In a July 2018 report, McKinsey counseled business that wish to grow placing personalization at the core of their marketing and design efforts. Today, consumers expect companies to hear their voices better and tailor their products and services to their needs (Boudet, 2018).

Repair is a neglected and poorly understood but important strategy. The sociologist Douglas Harper believes that making and repairing constitute a single whole; makers that do both possess the “knowledge that allows them to see beyond.” This knowledge is the medium that makes making and fixing parts of a continuum. Indeed, it is often by repairing things that we get to understand how they really work (Sennett, 2008).

Designers have vast power in today's economic world, they determine the future of our material culture. Since design originally reacted to problems solving, today it should take into account material crisis, population growth, social aspects and transparency. Designers today should not help to produce more; their helpfulness may be expressed in turning out fewer but better things (Design Boom, 2017).

## Final remarks

As presented in this paper, the topic of sustainability in the luxury jewelry industry, is in the starting blocks and should expand by further research and also by developing suitable frameworks, strategies, and policies side by side to new materials, standards, production methods, business models, and circular strategies. Specific research tailored to this industry would lead to customized solutions. The lack of reliable data in the topic and the dearth of sustainable-materials suppliers, craftspersons, and manufacturers severely impair the industry's ability to move forward and join other industries in the sustainability queue.

Although the historical meaning and understanding of luxury have not changed drastically, the production of luxury has undergone a massive shift. Today's luxury items are not made in Italy, France, or Switzerland, as Dana Thomas expresses in *Deluxe: How luxury lost its luster*. There is a need to learn from the past—from the exquisite technical skills of ancient Rome, the Renaissance style, and the colorful enameling and brilliant cut of diamonds in the seventeenth century. Luxury should benefit consumers not just by feeding their excessive self-indulgence but also by providing emotional connectivity and ethical values.

It is clear that although sustainability is still a niche topic of concern, demand for it is growing and the jewelry industry will have to join, too. Luxury businesses should use this momentum to be at the forefront of creativity and innovation, pursuing the highest standards of knowledge and behavior as much as for product quality and refinement (Pinkhasov and Nair, 2014) and, by doing so, staying the industry trendsetters. In this industry, due to its structure and complexity, the change should start specifically among large luxury firms that can put pressure on, and make demands of, all tiers. Incorporation into today's economy parts of the traditional definition of luxury products, such as craft, leadership, influence, and change, may restore the supply chain's sparkle. The earlier these brands take new perspective on these products, the less their reputation will be affected.

The innovative part of this research concerns the establishment of new requirements for sustainable luxury jewelry, and the methodology developed and presented. As the methodology was being developed, no other tool for the production of circular jewelry was found. That is, neither far-reaching circular requirements nor for the design and product development of sustainable luxury jewelry appears to exist. Based on the interviews conducted a stronger support system for industry players was requested and this is part of the aim of the methodology. The weakness of this research is that the results were not tested on large corporate setting in order to determine its fitness for the realities of this industry and the possibility of adapting and adjusting it to firms' daily operations. Until research in collaboration will take place, it will be

hard to say with total confidence that the methodology developed, and the requirements set forth, are suited to the reality of the luxury jewelry industry.

Design has the power to make things look appealing, even within a complex and controversial framework such as sustainability. The jewelry industry should join the sustainability revolution and prove that luxury and magnificence can be sustainable as well. It is a time for design to be produced and judged not only by its optics but also by a more complementary perspective that takes into account the joy and happiness not only of the current user but also of future users of the same product or materials. This, one hopes, will lead to a more positive future, in which humankind's impact on the planet will be less negative and more regenerative.

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