

Zurich University of Applied Sciences
ZHAW School of Management and Law
Bachelor of Science in International Management

Bachelor's Thesis

An Analysis of the Swiss Watch Industry

The State of Non-Financial Reporting and Barriers to Circular
Economy

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Winterthur, May 23, 2022

Management Summary

The watch industry plays of great relevance in Switzerland. With 59,000 people employed, the industry represents 1.5 percent of Switzerland's gross domestic product. Rising concerns have appeared regarding the environmental impact of the industry. In particular, the sourcing of raw materials, such as gold, is worrisome. The Swiss watch industry makes comparatively few efforts to decrease its environmental impacts. Therefore, it is essential to analyze the cause of the lack of activities for a more circular industry. Furthermore, an analysis of the state of non-financial reporting represents first insights into the industry's state of sustainability.

The objective of the thesis was to analyze the state of non-financial reporting within the industry and identify why the Swiss watch industry does not perform as well as other industries do in regard to circularity. Therefore, barriers to the Circular Economy (CE) needed to be identified.

Primary and secondary research was conducted to identify the state of non-financial reporting and barriers to the CE. Complementary, semi-structured interviews with experts employed in the watch industry were conducted.

It was identified that the state of non-financial reporting in the Swiss watch industry is still in its infancy. This fact reflects the comparatively low efforts in sustainability within the industry. Furthermore, issues arose concerning the applied reporting standards as several standards exist, and the comparability among them is hardly possible.

Furthermore, industry-specific barriers to a CE were identified. Lacking transparency from suppliers, particularly raw material suppliers, represents a barrier as circular inflow cannot be estimated reliably. Internal resource constraints regarding time and employee capacity and managerial constraints further decelerate the transition to a CE. Downstream barriers have further been identified to be customers' hesitation regarding more circular products. According to customers, the Swiss watch industry is associated with high-value products that do not entail recycled products. Lastly, issues concerning the opaque nature of the industry in combination with the lacking regulatory incentives and deep-rooted working habits of watchmakers impede the transition to a CE.

Efforts toward more sustainability in the Swiss watchmaking industry are urgently required. Particularly the impact the industry has on the sourcing of raw materials, needs to be minimized, and barriers to a CE need to be overcome. With the approaching non-

financial reporting regulations, barriers can be minimized, and the transition can be continued. Having identified barriers, the industry can actively tackle them and increase circularity along its value chain. As the qualitative research was conducted with a limited number of companies, industry-wide quantitative research should be conducted to verify the findings. This thesis represents the start of an in-depth analysis of the Swiss watch industry's transition to a CE. It is promised to represent considerable value-added for practitioners and future researchers.

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List of Abbreviations

CDP	Climate Disclosure Project
CE	Circular Economy
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
EC	European Commission
ESG	Environmental, social, governance
EU	European Union
FOEN	Federal Office for the Environment
GHG	Greenhouse Gas
GRI	Global Reporting Initiative
IP	Interview Participant
KOF	Swiss Economic Institute
NFRD	Non-Financial Reporting Directive
NGO	Non-Governmental Organization
SDG	Sustainable Development Goal
SME	Small and Middle-Sized Enterprise
SSI	Semi-Structured Interview
UN	United Nations
WEFIBCSM	World Economic Forum International Business Council Stakeholder Capitalism Metrics
WWF	World-Wide Fund for nature

1. Introduction

As a result of the refined quality of its goods, the Swiss watch industry has captivated the world. Following a serious crisis in the 1970s, which continued until the 1980s, the industry has undergone a fresh boom and has emerged as one of the Swiss economy's crown jewels (Federal Department of Foreign Affairs [FDFA], n.d.). According to the Federation of the Swiss Watch Industry (n.d.), the business's resilience against crises and economic challenges has allowed Swiss watchmaking to maintain its global leadership.

The watch sector ranks third after the chemical and pharmaceutical industry and the machinery industry regarding export volume. Furthermore, Switzerland is the world's top watch-exporting country in terms of value, closely followed by Hong Kong and China (Federal Department of Foreign Affairs [FDFA], n.d.). In Switzerland, the watch business is a large source of employment. Approximately 59,000 people contributed to 1.5 percent of the gross domestic product of Switzerland in 2015 (Federal Department of Foreign Affairs [FDFA], n.d.). This reveals the relevance that the Swiss watchmaking industry has within the Swiss economy.

Therefore, it is crucial to consider the impact the industry has on Switzerland's sustainability goals. It is especially important to acknowledge the sourcing of the raw materials that are needed for the watch manufacturing process. According to Schön-Blume et al., (2021) mining of raw materials (e.g., gold) is known to be a major threat to the environment. The occurrence of illegal logging, the related release of poisonous mercury into the environment, and the destruction of enormous sections of virgin forest each year, negatively affect already fragile ecosystems and Indigenous communities (Schön-Blume, Dolega, Buchert, Bodenmüller, & Meyer, 2021).

This paper investigates the state of non-financial reporting in the Swiss watch industry. It focuses on the barriers to the actualization of a CE. Such barriers are based in the EU taxonomy closely connected to non-financial reporting.

This thesis is divided into six chapters. In the first chapter, the problem is stated followed by the relevance and current state of the research. This chapter concludes by presenting the research gap and the research questions. In the second chapter, a literature review is conducted on the Swiss watch industry, non-financial reporting and its relevance to Switzerland, the EU taxonomy, and the barriers to a CE. In the third chapter, the methodological frameworks used for the qualitative research and the interview analysis

are outlined. After the frameworks are set, the interviews are analyzed in the fourth chapter before the results of the interviews are compared with the literature review in the fifth chapter including limitations. Lastly, in the sixth chapter, conclusions are drawn alongside recommendations for future research.

1.1. Problem Statement

The watch industry was founded on sustainability. It develops products that may be bequeathed, auctioned, resold, repaired, and gifted (Boudrand & Szegedi, 2021). However, the controversy around sourcing raw materials presents a growing concern for the environment, especially concerning gold sourcing. The Swiss watch industry, in particular, is vitally linked to this topic, as it is home to world-renowned watch firms. Switzerland is also the global leader in gold refining (Grünenfelder, Manríquez, & Starmanns, 2018). Roughly half of the world's most valuable watch companies are Swiss, and their use of gold accounts for 60 to 70 percent of the world's mined gold that passes through Switzerland (Grünenfelder, Manríquez, & Starmanns, 2018). The mining of gold presents a severe risk to various parts of the environment. To obtain a small amount of valuable gold, miners must remove a large soil volume. This results in various environmental issues that range from deforestation to pollution, which arise throughout the mining process (Bishop, 2021). Water is already scarce in regions of Latin America, Asia, and Africa, which hold the majority of the world's gold reserves. The poisonous compounds used in gold extraction may play prominent roles in further water pollution and may destroy the entire ecosystem (Bishop, 2021).

Beyond the controversy regarding the mining of gold, gold also becomes scarcer every year. The lack of this raw material and the environmental damage from the mining process present a risk to businesses in the watch industry (Boudrand & Szegedi, 2021), especially in Switzerland, as watchmaking is the second-largest manufacturing sector and the third-largest export sector (Grünenfelder, Manríquez, & Starmanns, 2018). This demonstrates the watch industry's importance and influence both in Switzerland and on the environment. Thus, for firms intending to launch new items, it has become necessary for them to consider recycled or repurposed materials to ease supply strains (Boudrand & Szegedi, 2021).

To become more resilient in terms of sourcing in times of resource scarcity, companies in the watch industry must consider implementing circularity in their supply chain

(Werner, 2015). The CE turns goods that have reached the end of their useful life into resources for others. There have been abundant research concerning this topic, and the number of studies is continually growing. Nevertheless, CE research is still in its infancy and has significant room for improvement in terms of qualitative research (Sharma, Govindan, Lai, Chen, & Kumar, 2020).

Regulators and stakeholders are starting pressure the watch industry to be transparent concerning its environmental impact and sourcing of raw materials (Koumbarakis & Matzdorf, 2021). Given the increased sensitivity to environmental, social, and governance (ESG) factors, this pressure is regularly rising. The implementation of a CE can assist organizations in converting this pressure into opportunities. Actualizing a CE makes both commercial and environmental sense (World Economic Forum (WEF), n.d.). Watch manufacturers have an excellent opportunity to operate more sustainably – and thereby cut costs and run more efficiently and profitably – by closely observing their value chain and rethinking how they use and reuse resources (Koumbarakis & Matzdorf, 2021).

According to the Deloitte Swiss Watch Industry Report (2021), most surveyed watchmaking companies (i.e., 48 out of 67) have been increasing their investments toward sustainability. Even more companies (i.e., 62) indicated that sustainability will play an essential role for them beyond 2021 (Boudrand & Szegedi, 2021). Many Swiss watchmaking companies (e.g., IWC and Oris) are claiming to be climate neutral and to be using renewable energy to manufacture their products (Gomelsky, 2021). Others (e.g., Chopard) solely rely on ethical gold extracted from small mines (Gomelsky, 2021). Despite the sustainability claim, the sector continues to engage in greenwashing and make unsubstantiated statements about sustainability (Boudrand & Szegedi, 2021). While other sectors (e.g., the retail industry) have taken steps toward sustainability in the sourcing of raw materials, the watch industry appears to be lagging behind (Gomelsky, 2021).

With the introduction of the Corporate Sustainability Reporting Directive (CSRD), which will amend the current Non-Financial Reporting Directive (NFRD), the scope will expand in terms of entities affected and the matter of sustainability itself (Wollmert & Hobbs, 2021). The goal of the CSRD is to educate stakeholders about social and environmental consequences, direct more funds toward a green economy, and set a basis for standard setters and governments to enhance non-financial reporting within the EU (Se & Holland, 2022).

Furthermore, the CSRD will impose stricter reporting standards, especially for vital raw resources, including gold. This will significantly affect large Swiss watchmaking firms, which will need to report about their sourcing activities and invest in sustainability (Boudrand & Szegedi, 2021). With six environmental objectives as criteria, the EU Taxonomy Regulation seeks to define which economic activities are ecologically sustainable. Climate change adaptation, climate change mitigation, transition to a CE, sustainable use and protection of marine resources, pollution control and prevention, and biodiversity and ecosystem protection and restoration are the six environmental objectives outlined in the EU Taxonomy (Deloitte Ireland LLP, 2021). These green financial indicators will be included in the CSRD (Deloitte Ireland LLP, 2021). Therefore, the implementation of a CE for companies in the near future becomes more relevant as the CSRD includes the transition to a CE.

1.2. Relevance

The Swiss watchmaking industry generates negative environmental and social consequences and does not adhere to appropriate environmental norms. Switzerland is inadvertently connected to more environmentally damaging practices than one might realize. The country is home to world-renowned watch companies and is the global leader in gold refining. Approximately half of the world's watch companies are Swiss. As mentioned, between 60 and 70 percent of the world's mined gold passes through Switzerland in order to be processed (Grünenfelder, Manríquez, & Starmanns, 2018).

The extraction of metal ore involves large-scale land clearing and high-energy extraction procedures. Furthermore, metal ore mining is typically performed in remote regions, resulting in high levels of pollution due to long transportation routes (Bishop, 2021). According to the Deloitte Swiss Watch Industry Study (2021), inadequate raw material supply is a danger to the business. Therefore, metal ore mining should be considered subject to change through the use of more environmentally conscious processes. Research regarding the state of Swiss watchmaking companies concerning non-financial reporting is crucial in identifying the status of the industry. Concerning the environmental impacts of mining of metals such as gold, the role of the Swiss watchmaking industry is significant.

Aside from the negative environmental implications along the raw material supply chain, the watch industry is progressively adding to the waste problem, which is owed to the

production of lower-value items with shorter life expectancies (Boudrand & Szegedi, 2021). Many of the components used to manufacture mass-produced and low-cost watches lack sufficient intrinsic value to make circularity commercially viable (Boudrand & Szegedi, 2021). High-end items, however, typically contain extremely valuable raw materials that are worth the effort to recycle, repair, and reuse (Koumbarakis & Matzdorf, 2021). Precious metals such as gold, for example, can be recycled without a loss of quality. This makes the watchmaking sector an excellent example of an industry where the implementation of circular elements into their supply chain would be attractive (Koumbarakis & Matzdorf, 2021).

1.3. State of Research

With their Status Report on the Swiss Circular Economy, Stucki and Wörter (2021) have compiled the first representative study on the implementation of the CE at the company level. Based on a specially developed concept for mapping the CE at the company level, approximately 8,000 companies from the Swiss Economic Institute (KOF) Business Panel were surveyed in 2020 with a response rate of 29.1 percent. The data collected allows for a comparison among industries, regions, and company size classes and thus reveals (for the first time for Switzerland – and probably also at an international level) a representative and comparative picture of the spread of circular activities in companies (Stucki & Wörter, 2021).

Furthermore, Tura et al. (2018) have introduced a framework of barriers and drivers of the CE, which was drawn from current literature. These drivers and barriers are categorized into seven specific areas: supply chain factors, organizational, environmental factors, political and institutional factors, technological and informational factors, economic factors, and social factors. The results of this paper represent empirical examples of possible barriers and drivers, while providing the management implications for greater circular business performance and better execution of the CE (Tura, et al., 2018).

With the upcoming CSRD, abundant research has been conducted regarding the consequences and adaptation in different countries and industries (Wollmert & Hobbs, 2021; Se & Holland, 2022; Mélon, 2021). Zimmermann (2021) went further in depth concerning the EU taxonomy, which applies to companies that are mandated by the CSRD to disclose non-financial reporting, and its relevance for Swiss companies. The

author states that, because of the worldwide interconnectedness, the scope of the Taxonomy Regulation's applicability is extending globally. The Taxonomy Regulation defines broad characteristics that a business activity must fulfill to be considered sustainable and lays the base for the EU taxonomy (Albers, Bouwmeester, Hindriks, & Otto-Mentz, 2021). Participants in the Swiss markets who operate in the EU are affected as well, which is the case for many Swiss watch companies because industry has undisputed domination over the global watch market (Donzé, The Swiss Watch Industry, 2018).

1.4. Research Gap

Research on drivers and barriers across industries and levels has already been conducted from a broad viewpoint (Tura, et al., 2018). Furthermore, research about the barriers to broadly implementing a CE across Swiss industries, including the watch industry, has also been conducted (Stucki & Wörter, 2021). However, the gap in comprehensive knowledge regarding barriers in the Swiss watch industry at the organizational level and its supply chain is still significant. This provides the opportunity to thoroughly research the reasons behind why Swiss watchmaking companies do not adapt (or have not yet adapted) their supply chain to fit the CE. Furthermore, an analysis of barriers in the Swiss watchmaking industry is fundamental with the upcoming Corporate Sustainability Reporting Directive and Swiss regulations, which include, amongst other solutions to minimize the barriers, the transition to a CE. Lastly, research about the state of the Swiss watch industry concerning non-financial reporting has not yet been conducted and provides as an indicator to identify how the Swiss watchmaking industry is performing regarding sustainability.

1.5. Research Questions

The objective of this thesis is to assess the state and future implications of non-financial reporting within the Swiss watch industry. Furthermore, the barriers to the implementation of CE, which are included in the EU taxonomy in the context of the CSRD, are analyzed. The following two research questions will serve as guidance throughout the paper:

What is the state of non-financial reporting in the Swiss watch industry?

What are the barriers to a transition to a circular economy for Swiss watch companies?

This thesis contributes ideas about how the Swiss watchmaking industry performs with the increasingly demanding sustainability reporting standards by focusing on the transition toward a CE. The barriers to this transition are analyzed at the macro level (environment), meso level (upstream and downstream) and micro level (internal processes). More precisely, consideration is provided at the supply chain level regarding the sourcing of metals where, the watch industry has been lagging behind as compared to other sectors (Gomelsky, 2021). The focus lies exclusively on watch brands that were established in Switzerland, whereby every price category is considered.

2. Theoretical Framework

The purpose of this chapter is to provide an overview of the existing literature on the Swiss watchmaking industry, the state of non-financial reporting, and the current state of CE implementation. The literature review includes in-depth research about the topics of the Swiss watch industry, non-financial reporting, the EU taxonomy, and the CE to offer a comprehensive understanding of these subjects.

2.1. Literature Review

The following section will conduct a secondary literature review on the Swiss watch industry and its sustainability. It aims at identifying and combining existing literature on non-financial reporting and barriers to circular economy.

2.1.1. The Swiss Watch Industry

Switzerland manufactures more than 20 million watches every year, accounting for approximately 2 percent of the world's watch production. Nevertheless, it controls more than half of the world's watch business concerning retail sales value (Jaberg & Turuban, 2020).

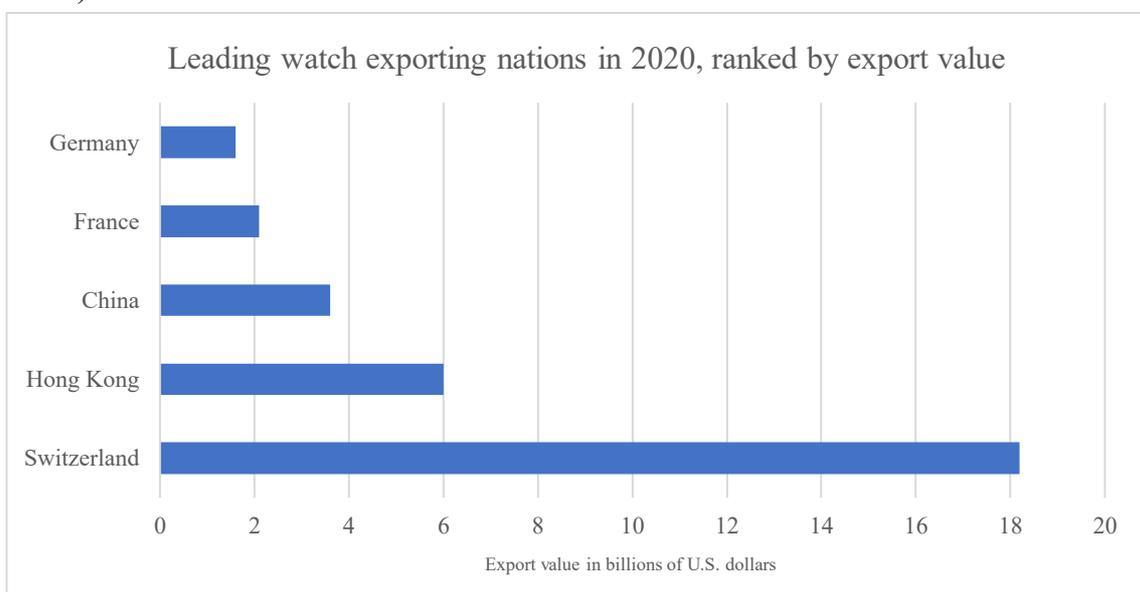


Figure 1: Leading Watch Exporting Nations in 2020, Ranked by Export Value (own illustration based on data retrieved from: Federation of the Swiss Watch Industry FH, 2021, p. 5)

When considering the leading country that exports watches, one can observe that Switzerland, with an export value of 18.2 billion U.S dollars (as presented in Figure 1),

is by far the largest exporter. Switzerland is then followed by Hong Kong, China, France and Germany (Federation of the Swiss Watch Industry FH, 2021).

The Swiss watch industry is not only successful today but has also endured the test of time. The tradition of watchmaking has endured in Switzerland, despite the development of digital watches, quartz watches, and smart watches (Smith, 2022). Swiss timepieces, which many customers purchase due to their prestige and superior quality, are considered a luxury item (Smith, 2022).

Switzerland is home to various world-renowned watch companies. The country is also the global leader in refining gold. Approximately half of the world's best watch companies are Swiss, and their headquarters remain in Switzerland (Grünenfelder, Manríquez, & Starmanns, 2018). This has provoked a large amount of mined gold passing through Switzerland (i.e., between 60 and 70 percent). Therefore, this distinguished role accompanies a negative effect to the environment. The lack of sourcing transparency among corporations and the high demand for valuable resources are major subjects of concern (Grünenfelder, Manríquez, & Starmanns, 2018). The procurement of raw materials, such as metals used for the production of watches, creates significant environmental impacts. This resource acquisition eventually provokes ecosystem fragmentation and deforestation, among other problems (Grünenfelder, Manríquez, & Starmanns, 2018).

2.1.2. Non-Financial Reporting Standards

Non-financial reporting is a subset of transparency reporting, through which corporations formally reveal information unrelated to their profitability, such as data about human rights and environmental impacts (National Action Plans on Business and Human Rights, n.d.). Different jurisdictions approach sustainability reporting differently. This may be seen via the varying definitions of materiality and through how various jurisdictions address the ESG issues individually in their frameworks (Drolet, Elsner, Bunn, & Hasmath, 2021). Materiality under the GRI is the requirement to include specific information in order to prevent missing focus of data collection in non-financial reporting (Hirschi, n.d.). According to a study conducted by Wallimann (2021), where 50 companies were analyzed based on their non-financial reporting activities, only three companies did not disclose a sustainability report.

As presented in Figure 2, a large variety of reporting standards are applied among Swiss companies. The Climate Disclosure Project (CDP) standard has been applied by 34 companies, closely followed by the United Nations (UN) Sustainable Development Goals (SDG) and Global Reporting Initiative (GRI) Standards with 32 and 30 companies, respectively. This demonstrates that there is not one prominent reporting standard but rather several, which are often equally applied. This is further supported by the “Focused Reporting” benchmark analysis, conducted by the Fachhochschule Nordwestschweiz and Engageability (2021), which analyzed 150 sustainability reports across 14 industries. The report concluded that the GRI and the SDG standards have been the most commonly used among non-financial reports.

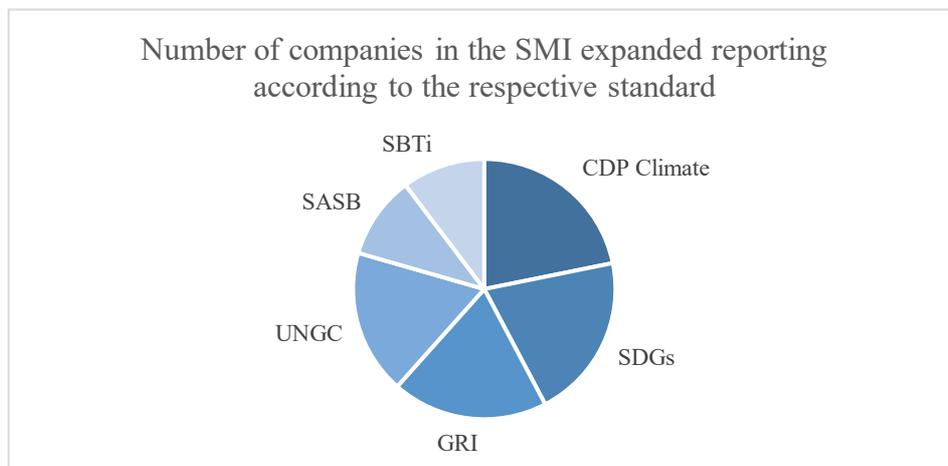


Figure 2: Number of Companies in the SMI Expanded Reporting According to the Respective Standard (own illustration based on the data retrieved from: Wallimann, 2021, p. 4)

Furthermore, the report mentions that the institutional and regulatory context that businesses now face has evolved in recent years. While the UN Summit in 2015 examined the 2030 Agenda in explicit terms for the first time, sustainability challenges are now a prominent topic (Engageability & Fachhochschule Nordwestschweiz, 2021). The European Union’s (EU) Corporate Social Responsibility (CSR) reporting obligation has required European companies to disclose non-financial information (Engageability & Fachhochschule Nordwestschweiz, 2021). The International Financial Reporting Standards Foundation recently announced the establishment of their International Sustainability Standards Board, which will require comprehensive and uniform reporting on non-financial business activities in the future (Engageability & Fachhochschule Nordwestschweiz, 2021).

2.1.3. Corporate Sustainability Reporting Directive

On April 21, 2021, a proposal for the CSRD was approved by the European Commission (EC), which significantly increases the existing reporting obligations of the EU's NFRD (Deloitte Ireland LLP, 2021). This extensive set of initiatives is likely to have a profound impact on organizations. The NFRD's reporting standards set fundamental criteria for major corporations to disclose sustainability information on a yearly basis. It established a dual materiality viewpoint, which requires corporations to report on how sustainability concerns influence their company as well as the impacts the company has on the environment and people (European Commission, 2021).

However, there is substantial evidence that the information provided by firms insufficiently aligns with the NFRD standards (European Commission, 2021). Reports frequently exclude information that stakeholders and investors believe are critical. Reported information can be difficult to compare from firm to firm, and readers are frequently unsure if they can trust the information (European Commission, 2021). Problems with sustainability reporting and its quality have consequences. Such issues imply that investors do not have a reliable picture of the sustainability risks (i.e., business activities that adversely affect the environment) to which corporations are subject to (Group Sustainability Risk, 2016).

The incorporation of non-financial information into the management report is a key aspect of the CSRD. This new reporting format enables ESG data to be embedded into the decision-making frameworks of investors (Messini, Brilland, Kaesmann, & Schots, 2021). Furthermore, the transition from optional to obligatory disclosure, which was left to each member state to decide in the past, greatly increases the inclusion of sustainability indicators throughout Europe (Messini, Brilland, Kaesmann, & Schots, 2021).

The upcoming CSRD dramatically alters the scope and style of previous sustainability reporting (Se & Holland, 2022). The CSRD extensively addresses crucial ESG factors, with the goal of increasing investments in sustainable long-term operations throughout the EU (Deloitte Ireland LLP, 2021). It significantly broadens the requirements governing non-financial reporting. This new reporting obligation applies to all firms listed on any regulated EU market, thereby excluding micro companies (Deloitte Ireland LLP, 2021). Although micro-companies do fall out of the scope due to their size, they can apply the regulations on their company on a voluntary basis (Wollmert & Hobbs, 2021). Moreover,

organizations that are not publicly traded must nevertheless report on compliance with the CSRD if they meet two of three criteria. The criteria under the CSRD are as follows: net sales are greater than 40 million euros in two consecutive years, total assets exceed 20 million euros, and the staff count is greater than 250 (Se & Holland, 2022). This means that the number of reportable enterprises in Europe will increase from 11,000 to almost 50,000 (Se & Holland, 2022).

The CSRD will be critical in altering the corporate reporting environment to improve the consistency, quality, and uniformity of the sustainability-related information provided by companies. It will provide financial actors the information they need to satisfy their own transparency responsibilities under the EU Taxonomy Regulation and the Sustainable Finance Disclosure Regulation (Messini, Brilland, Kaesmann, & Schots, 2021). The CSRD introduces numerous innovative components concerning ESG and sustainability. As a result, the Swiss watch industry, among many other industries, should be preparing to meet their sustainability reporting requirements as soon as possible (Messini, Brilland, Kaesmann, & Schots, 2021).

Relevance for Switzerland

The CSRD includes a cross-border feature that will have unforeseen repercussions for both the EU and its policy aims – namely concerning their pledge for climate neutrality by 2050, the capital markets union, and the desire of non-EU corporations to participate in the EU economy (Swiss Finance Council, n.d.). The capital markets union is a single capital market with the aim of making capital flow across the EU (European Commission, n.d.). According to the CSRD, international enterprises which are located in the EU and outside the EU that have any type of security listed in at least one EU-regulated market are required to report sustainability information at the consolidated level (Swiss Finance Council, n.d.). Therefore, this means that it will have implications for Swiss companies that act internationally in the EU area. These companies will be affected by the non-financial reporting regulations.

The ESG regulation in Switzerland follows several legislative moves that have been made abroad to improve firms' accountability regarding human rights breaches or harmful environmental effects connected to their activities (Kurth, Reich, & Nacht, 2021). Several nations have enacted due diligence rules, some of which are particular to specific industries, regions, or products. Notably, the Swiss Federal Council has indicated repeatedly (particularly in its national action plans that implement the Agenda 2030 and

the UN Guiding Principles on Business and Human Rights) that it would maintain a careful eye on legislative actions amid the EU and abroad. Hence, the EU Commission has already been going beyond the current state of law, which Switzerland currently emulates (Kurth, Reich, & Nacht, 2021).

According to a report on the sustainability goals of Swiss companies (2021), companies in Switzerland will be subject to particular requirements from January 1, 2022. These requirements apply to major publicly listed firms and other organizations, such as insurance companies and banks. These institutions must have more than 250 workers and a minimum turnover of 40 million euro or assets of a minimum of 20 million euro. Furthermore, these reports must be published for the beginning of the fiscal year 2023 (Grunert & Cameron, 2022). This is a result of the indirect counterproposal to the Corporate Responsibility Initiative (Engageability & Fachhochschule Nordwestschweiz, 2021), which was voted on in 2020 (Plüss, 2020). Companies will be forced by law to report on non-financial information. In addition to the regulatory requirements, there is a rising need for clear, comprehensive, and qualitative information about a firm's risks and opportunities associated with environmental change (Engageability & Fachhochschule Nordwestschweiz, 2021).

Environmental, Social, and Governance Reporting and Due Diligence

The upcoming Swiss legislation (set to take effect in 2022) will impose new and additional non-financial reporting responsibilities on major Swiss corporations regarding social, environmental, human rights, employment, and anti-corruption issues, which are comparable to those of the NFRD (Oser & Marti, 2021). Furthermore, certain Swiss firms will face additional supply chain due diligence responsibilities in relation to child labor and conflict minerals (Oser & Marti, 2021). Due diligence is a continuous, proactive, and reactive procedure, through which businesses may guarantee that they protect human rights. It may also assist corporations in ensuring that they follow international law and state legislation, such as those controlling trade in mineral raw materials like gold (Organisation for Economic Co-operation and Development [OECD], 2016).

2.1.4. EU Taxonomy

In March 2020, the European Commission announced the EU taxonomy, which is a “classification system of economic activities that can be considered environmentally sustainable” (Lucarelli, Mazzoli, Rancan, & Severini, 2020, p. 1). The EU taxonomy will

be applied in financial product disclosures as well as in reporting by major and publicly traded companies under the CSRD (Albers, Bouwmeester, Hindriks, & Otto-Mentz, 2021). It has the potential to play a significant role in assisting the EU to increase sustainable investment and implement the European Green Deal. Furthermore, it provides the proper criteria for determining whether economic activities may be considered ecologically sustainable to enterprises, regulators, and investors (European Commission, n.d.). As a result, it provides investors with security, shields private investors from companies participating in greenwashing, assists enterprises in becoming more climate friendly, reduces market fragmentations, and assists in shifting investments where necessary (European Commission, n.d.).

In June 2020, the Taxonomy Regulation was published in the Official Journal of the EU and implemented in July 2020. It lays the groundwork for the EU taxonomy by defining broad characteristics that a business activity must fulfill to be considered sustainable (European Commission, n.d.). Moreover, there are six environmental goals established under the Taxonomy Regulation: mitigation of climate change, adaptation to climate change, marine and water resource sustainability and protection, the shift to a CE, pollution prevention and management, and the biodiversity and ecosystem conservation and restoration (European Commission, n.d.).

A significant number of academic works (i.e., 161,595 publications) have examined taxonomy-related fields, demonstrating that the EU taxonomy established a working process based on collaboration among academics, regulators, and industries (Lucarelli, Mazzoli, Rancan, & Severini, 2020). Thus, it serves as a valuable example of evidence-based policymaking.

Because of the worldwide interconnectedness, the scope of applicability of the EU Taxonomy Regulation is extending globally. Participants in the Swiss markets who operate in the EU are also affected, which includes the majority of Swiss companies (Donzé, 2014). The EU taxonomy impacts product providers and firms that want to market goods to EU clients. As more delegated acts are released, the far-reaching ramifications will become obvious (Zimmermann, 2021).

2.1.5. Circular Economy

The CE is an industrial system that is intended to be regenerative or restorative through design and intention (Ellen MacArthur Foundation, n.d.). The CE replaces linear

conceptual ideas regarding resource access with a movement toward the use of renewable sources of energy, restoration, and the elimination of harmful chemicals (e.g., luminous paint or tritium) that hinder reuse through the enhanced design of products, business models, and systems in a company (Ellen MacArthur Foundation, n.d.). The CE is a common concept currently being encouraged by the EU's numerous national authorities and many enterprises worldwide (Korhonen, Honkasalo, & Seppälä, 2017).

Among the literature, there are various different definitions of the CE. According to Geissdoerfer et al., (2016), a CE can be defined as follows:

(...), we define the Circular Economy as a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, and recycling. (Geissdoerfer, Savaget, Savaget, M.P. Bocken, & Hultink, 2016, p. 766)

The concept of the CE is to convert end-of-life items into resources for others by closing loops and reducing waste (Stahel, 2016). It changes economic logic by replacing production with sufficiency by reusing what can be reused, recycling what cannot be reused, repairing what is damaged, and remanufacturing what cannot be fixed. One expects a shift to a CE to lower greenhouse gas (GHG) emissions by up to 70 percent while increasing the relevant workforce by approximately 4 percent (Stahel, 2016).

Transitioning to a more resource-efficient CE is not typically regarded as a policy aim in and of itself. Governments appear to be more interested in the social, environmental, and economic benefits that may result from such a change (OECD, 2019). One specific benefit is the risk reduction of raw material supply disruptions which can either be short term owing to geopolitical factors or long term owing to natural resource exhaustion (OECD, 2019). Risks due to geopolitical factors may occur in the form of de-globalization or conflicts between countries. This is especially crucial to consider for companies with global supply chains (Kalish & Wolf, 2021). Short term risks such as the exhaustion of certain raw materials, which are used in watchmaking represent a further risk to supply disruption. However, with the CE, risks of supply chain disruptions can be mitigated (OECD, 2019).

Circular Economy in Switzerland

Several projects in the field of CE have been launched in Switzerland in recent years. With new techniques and innovative efforts, a number of commercial enterprises and governmental organizations are working toward the goal of making the Swiss economy more circular (Circular Economy Switzerland, n.d.). However, according to the Federal Office for the Environment (FOEN), the CE has mostly taken root in Switzerland's waste management sector (n.d.). There are, however, initiatives, such as the Circular Economy Transition, Impact Hub Switzerland, the MAVA Foundation, and sanu durabilitas, which aim to increase the use of the CE approach in Switzerland. Despite such ambitious initiatives, only ten percent of Swiss companies engage in substantial CE operations in their daily activities (Stucki & Wörter, 2021).

Especially for Switzerland (with its scarce resource) the CE model is highly attractive and brings great potential (KOF Swiss Economic Institute, 2021). The FOEN promotes environmental technologies and operates a sustainable procurement office to aid companies' transition to a CE. It also collaborates with organizations that support CE implementation (FOEN, n.d.).

Extensive research has been conducted on the position of the Swiss CE, which includes the study by Stucki and Wörter (2021), where 8,000 companies were questioned by use of a written questionnaire. These companies are part of the KOF and considered to be representative of Switzerland. Among the 8,000 companies, 182 (i.e., 130 small, 49 medium-sized, and three large) watch companies were contacted. It is important to mention that it is not known whether these companies originated in Switzerland. This thesis focuses entirely on Swiss watch companies that were founded in Switzerland. In the Stucki and Wörter (2021) study, the response rate averaged 14.8 percent (i.e., 15.4 percent for small companies, 14.3 percent for medium-sized companies, and zero percent for large companies). This was the lowest return rate among all 34 industries analyzed, indicating that communication concerning the CE in the Swiss watch industry is insufficient (Stucki & Wörter, 2021).

Barriers to the Circular Economy

After decades of debate and research on the CE, it is evident that there are obstacles to the actualization of a more circular economy. There is a small but increasing body of research committed to this topic (Hart, Adams, Gieseckam, Tingley, & Pomponi, 2019).

Among the global literature on barriers to a CE, there is an abundance of literature on industry-specific literature, such as that concerning the textile industry (Jonsson, Fredriksson, & Miljevic, 2020), the built environment (Hart, Adams, Gieseckam, Tingley, & Pomponi, 2019), the manufacturing sector (Kumar, Sezersan, Garza-Reyes, Gonzalez, & Al-Shboul, 2019; Jaeger & Upadhyay, 2020), and the mining industry (Upadhyay, Laing, Kumar, & Dora, 2021), amongst others.

In a literature review conducted by Galvão, de Nadea, Clemente, Chinen, and Monteiro de Carvalho (2018), 18 authors mentioned policy and regulatory hindrances as a barrier to the CE. With these 18 authors, the regulatory barriers are the class of barriers most often mentioned. Regulatory barriers can occur in the form of lacking government enforcement or a lack of definition of the CE provided by governments (Ratner, Gomonov, Lazanyuk, & Revinova, 2021). These are followed by financial/economic barriers, limited technology, customers, social factors, performance indicators, and managerial issues. Moreover, Grafström and Aasma (2021) state that the most important barriers concern limited institutional support, inconsistent policies at a global level, high initial investment with little access to finance, lack of customer awareness, and externalities that are not absorbed by taxes. This is in line with the findings of Galvão et al., (2018).

Furthermore, country-specific (but not industry specific) research regarding barriers to a CE for Switzerland has increased in recent years with studies by Spörri et al., (2021) and Stucki and Wörter (2021). Organizations such as the Foundation for Sustainable Development (2021) and *sanu durabilitas* have analyzed the barriers in Switzerland.

The Postulate 18.3509 Noser of the Council of States calls for a rigorous identification of barriers to a CE (FOEN, n.d.). The study demonstrates, that specific regulatory barriers do not individually prevent the potential of the CE model from being exploited. Rather, there are multi-layered constellations of mutually influencing barriers in all fields of action (FOEN, n.d.). The study from Stucki and Wörter (2021) has identifies barriers to a CE that affect the Swiss economy. The most prominent reasons why the CE is not implemented by Swiss companies (mentioned in order of importance) are as follows: not suitable for the industry/business, high investment costs, technical implementation issues, no concern of the company, regulations, and limited implementation knowledge (Stucki & Wörter, 2021).

Another report on the barriers to the CE commissioned by the FOEN (Spörri, et al., 2021) identifies further obstacles for the Swiss economy. The most prominent barriers mentioned are insufficient economic incentives, limited implementation expertise, and a lack of professional employees who are familiar with CE implementation. This aligns with the findings of Stucki and Wörter (2021). Further barriers identified by Spörri, et al., (2021), are as follows: limited information regarding implementation practices, technological and organizational constraints, and lack of economic incentives. Barriers are also identified on the customer side, where limited willingness to pay a premium price for more sustainable products is a relevant barrier in CE considerations.

Swiss Regulations

The above-mentioned postulate to remove barriers to a CE by Swiss Council of States member Ruedi Noser advocates for an identification and assessment of CE approaches and an explanation of the reasons behind why these are not being exploited (Spörri, et al., 2021). Barriers should be recognized, especially where current laws, regulations, and guidelines are impeding the realization of identified potentials (Spörri, et al., 2021).

The parliamentary effort to strengthen the CE has established new framework conditions in Switzerland for a contemporary and ecologically sustainable CE (KOF Swiss Economic Institute, 2021). The Commission for the Environment, Spatial Planning, and Energy of the Swiss National Council approved them, and they were up for public comment until February 16, 2022 (KOF Swiss Economic Institute, 2021).

The Five Circular Business Models

Circular business models feature a restrained use of natural resource inputs which, are commonly known as virgin materials (Lacy & Rutqvist, 2015). Besides this, these distinct business models feature a number of additional unique characteristics (OECD, 2019). First, these business models frequently capitalize on the value contained in pre-existing, products, materials, and components. Second, the underlying sales strategy places less focus on increasing the sales volume of short-lived and low-margin items. The emphasis rather lies on selling higher quality products or promoting access to products rather than ownership itself. Thirdly, circular business models frequently include increasing degrees of coordination across various supply chain partners (OECD, 2019). Suppliers and consumers regularly interact with one another, which builds a strong feeling of client loyalty (OECD, 2019).

Accenture (2014), outlines five circular business models, which assist firms to improve distinctiveness, decrease costs, improve the impacts on resource demand and supply regulations, and minimize risk while generating new income streams. The five circular business models are as follows: recovery and recycling, circular supply chain, product life-extension, the product as a service model, and the sharing platform (Lacy & Rutqvist, 2015).

Compared to a linear supply chain, the circular business model includes two additional procedures: Recover and use. This implies reusing, refurbishing, recycling, downcycling, and increasing end-user product availability (Olthaar, Vegter, & van Hillegersberg, 2020). The product life-extension business approach attempts to recapture the value products contain after being discarded. Companies keep products commercially valuable by maintaining and upgrading them through improvements and repairs (Lacy & Rutqvist, 2015). Product as a service is applied through consumers who lease a product to use it for a particular period. The ownership remains with the company selling the products (Lacy & Rutqvist, 2015). Furthermore, the sharing platform model enables companies to use fewer resources by renting, lending, and sharing the products produced. This model is beneficial for products not often used in households (Lacy & Rutqvist, 2015).

2.2. Preliminary Conclusion

To gain an overview of the Swiss watch industry, relevant reports, which stated the current position of the Swiss watch industry within the country, were analyzed (Boudrand & Szegedi, 2021; Federation of the Swiss Watch Industry FH, n.d.; Martel, 2022). The industry has also been considered from an international perspective (Donzé, 2019). Thereby, other topics, such as the transparency of sourcing (Grünenfelder, Manríquez, & Starmanns, 2018) and the consequences of sourcing on the environment (Koumbarakis & Matzdorf, 2021) have been discussed in the literature. These reports indicated the importance of the Swiss watch industry when compared with other countries. First, more than 50 percent of the watch brands are Swiss. Second, the Swiss watch industry uses more than half of the gold accessed globally through annual production (Koumbarakis & Matzdorf, 2021). As the sourcing of raw materials such as gold represents a hazard to the environment in the form of water and air pollution, deforestation, and soil degradation, the role of the Swiss watch industry in making improvements in this field is more crucial than one might think (Grünenfelder, Manríquez, & Starmanns, 2018).

Swiss watchmakers, like their counterparts in the construction, fashion, and car industries, are under great pressure to demonstrate their commitment to sustainability (Gomelsky, 2021). When considering the customer perspective, an average of 60 percent of customers claimed that they consider sustainability factors when purchasing a watch, with millennials setting the pace at 71 percent (Deloitte AG, 2021). According to the World Wide Fund for nature (WWF) Environmental rating and industry report (Grünenfelder, Manríquez, & Starmanns, 2018), which demands more transparency and responsibility in the Swiss watch industry, the industry has been slow to embrace sustainable initiatives. Many brands did not declare the environmental impacts their company caused and did not satisfying appropriate environmental standards (Swithinbank, 2022). Concerning sustainability reporting, one can see that reporting is often insufficient or even non-existent amid the Swiss watch industry (Grünenfelder, Manríquez, & Starmanns, 2018). This is undesirable not only for the environment, but also for communities, investors, governments, and customers who consider sustainability when making purchasing decisions. (Harris & Thiel, 2021). Beyond customers pressure on companies to become more sustainable, the shift of the regulatory landscape is adding further pressure on companies to report and invest in sustainability efforts (Boudrand & Szegedi, 2021). The EU's NFRD requires disclosures about environmental matters for companies operating in the EU, and the upcoming CSRD incorporates stricter and more detailed reporting requirements, particularly in sourcing critical raw materials such as gold, which plays a major role in the Swiss watch industry (Boudrand & Szegedi, 2021).

The CE represents an alternative model that decouples growth from the use of scarce resources and critical raw materials (Lacy, Keeble, & McNamara, 2014). Additionally, there is regulatory pressure to adopt this model, as one of the six environmental objectives developed by the EU taxonomy is the transition to a CE (European Commission, n.d.). The EU taxonomy is a categorization system for economically sustainable activities. Moreover, its overarching purpose is to increase transparency and to reveal the impacts of investments (Bär & Schrems, 2021). According to the Federal Council (2020), they currently lack plans to implement regulations similar to the EU taxonomy. The Federal Council justifies this decision because ensuring compliance to such regulations constitutes a complex process from a regulatory standpoint (Federal Council, 2020). Nonetheless, evolutions on this topic in the EU and globally are being closely observed. As a result, pressure on Swiss firms which is rising not only indirectly through European

legislation and market needs, but also directly from within Switzerland (Federal Council, 2020).

However, barriers to CE implementation have been identified through the literature review (Stucki & Wörter, 2021; Spörri, et al., 2021; Galvão, de Nade, Clemente, Chinen, & Monteiro de Carvalho, 2018; Grafström & Aasma, 2021). The most prominent barriers were unsupportive regulations, limited implementation knowledge, high investment costs, managerial issues, and customer awareness. Among the literature on the CE barriers, no industry-specific literature of the Swiss watch industry was found, indicating the importance of analyzing the barriers in this industry.

3. Methodology

3.1. Secondary Research

Secondary research is the examination of information collected from various literature with the aim of providing an overview of the topic and existing literature (Strang & Szabo, 1997). To provide an appropriate selection of the substantial number of data and information available, considerations of sources used, need to be considered (Claire & Morris, 2019). For this literature review, industry reports, governmental press releases and reports, journal articles, literature reviews, newspaper articles, and company reports were used. This broad range of resources allowed a differentiated and in-depth analysis of the Swiss watch industry, non-financial reporting regulations, and the EU taxonomy.

To provide an overview and identify relationships between the different topics, a concept map was created (Claire & Morris, 2019). This is especially helpful for the literature in this thesis, as several different topics (the Swiss watch industry, the CSRD, the EU taxonomy, and the CE) are being combined. With the concept map, connections, which arised during the literature review can be visualized shown in Figure 3.

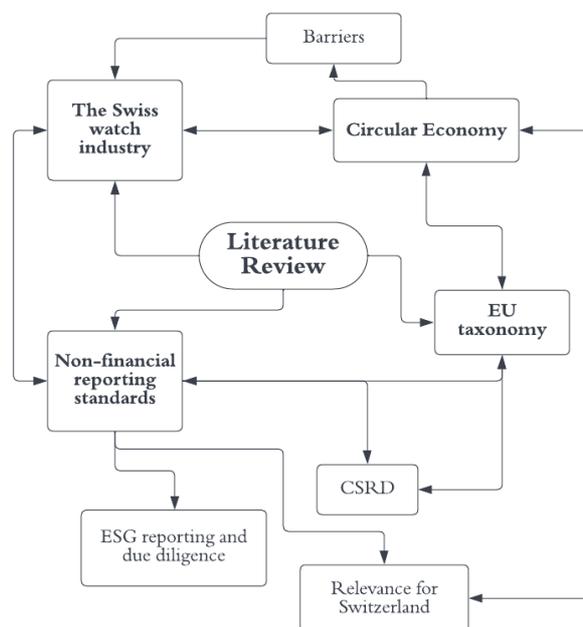


Figure 3: Concept Map of Literature Review (own representation)

3.2. Primary Research

The goal of this research is to identify the Swiss watch industry's situation of the ability to comply with non-financial reporting as well as the barriers to implementing a CE in the industry. So far, there has been only a limited attention to and research regarding the topic of sustainability and the Swiss watch industry. Due to a lack of research in this area, qualitative research was used to determine answers to the research questions in this thesis.

Qualitative approaches are used to gain knowledge regarding the experiences, intentions, and viewpoints of participant. These data are rarely countable or measurable (Hammarberg, Kirkman, & de Lacey, 2016). In contrast to quantitative approaches, which presume that truth is objective and can be experimentally disclosed, qualitative research paves a way of understanding and learning about the diverse experiences of participants from their perspectives (Vishnevsky & Beanlands, 2004). The naturalistic paradigm underpins qualitative research, which holds that reality is not predefined but rather formed by the participants, in this case, the interviewees (Vishnevsky & Beanlands, 2004).

As mentioned, Stucki and Wörter (2021) published a status report on the Swiss CE, to which the watch industry belongs. In their study, the barriers to a CE were analyzed. However, the findings are not industry specific and hence, present an opportunity to conduct in-depth research on the barriers of CE in the watch industry specifically. To gain in-depth knowledge and answers to the research questions, the qualitative research design of in-depth interviews is most suitable (Boyce & Neale, 2006; Grossoehme, 2014).

3.3. Interviews

For this study, interviews were conducted according to the qualitative research design, which is described by Maxwell (2013) and Adams (2015). Interviews are used to collect different expressions of expertise and impressions regarding certain topics at the time of the research being conducted. Responses are then compared to another (Flick, 2004).

The interviews were held using the structure described by Günter and Mruck (2011). They were organized as follows: First, there was a warm-up with introductory questions about the topic and other specific factors concerning the interviewed person. Second, the opening questions of the interview were asked. These questions were not directly central

to answering the research questions because, at such an early stage, the most essential questions may not yet be effective, or they may be answered too briefly and would thus be wasted. Third, specific and in-depth questions were asked. At this stage, follow-up questions may have also been asked to ensure adequate answers related to the research questions. Finally, the interview concluded with broader questions regarding the future and questions with a retrospective character for closing the interview.

Therefore, the interviews followed the semi-structured interview (SSI) described by Qu and Dumay (2011), and the qualitative analysis occurred according to Adams (2015) as well as Fossey, Harvey, McDermott, and Davidson (2002). The formulation of the interviews and their analysis and evaluation are divided into four parts as described in Figure 4.

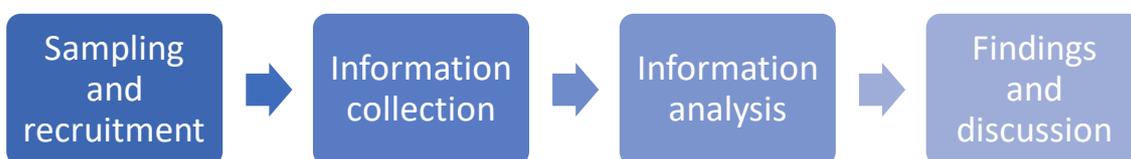


Figure 4: Procedure of a Qualitative Analysis (own representation based on data from: Adams, 2015 & Fossey et al., 2002)

Firstly, qualitative research requires the selection of participants who can best contribute to the study and are relevant to answering the research questions. The number of participants in the qualitative sampling may be small, but, with long and content-rich interviews, the amount of data acquired may be considerable. Thus, in qualitative research, sampling continues until patterns repeat themselves or until no new information emerges, which makes additional sampling unnecessary (Fossey, Harvey, McDermott, & Davidson, 2002).

Second, after the sampling stage is completed, information is collected through SSIs. Fossey, et al., (2002) state the following regarding this process.

Semistructured interviews are used to facilitate more focused exploration of a specific topic, using an interview guide. Interview guides usually contain a list of questions and prompts designed to guide the interview in a focused, yet flexible and conversational, manner. (Fossey, Harvey, McDermott, & Davidson, 2002, p. 727)

The interview guide aims at facilitating the interview and structuring it clearly. Otherwise answers may be unsatisfactory due to the unclear interview and question structure.

Third, patterns and connections are sought through using discovery-focused strategies. This means that, instead of individual words or phrases, the unit of analysis is frequently a segment of the text that conveys a certain meaning (Fossey, Harvey, McDermott, & Davidson, 2002). These are then categorized, sorted, and structured to seek for patterns or relationships among the interviews.

Finally, the results of the interviews are presented as written descriptions. Thus, the results of the information analysis are interpreted and discussed. This part focuses on developing an understanding the meaning of the information.

3.3.1. Semi-Structured Interviews

According to Taylor (2015), interviews are the most frequently used means of data gathering. Furthermore, the format of SSI is the most commonly used style in qualitative research (Crabtree & DiCicco-Bloom, 2006). To ensure a high-quality result from the conducted interviews, thorough research on the topics is required prior to the interviews (Kallio, Pietilä, Johnson, & Kangasniemi, 2016).

An SSI is conducted through a dialogue with one responder at a time and includes a mix of open- and closed-ended questions, which are frequently supported with the use of another follow-up question (Adams, 2015). The questions and conversation can drift around the themes on the agenda and may even delve into completely unexpected areas. Hence, even though the interviewer has a previously planned path for the interview, it may include other topics (Adams, 2015). An SSI is most suitable in conducting research that involves a small group, rather than including a large number of respondents (Drever, 1995).

3.3.2. Sampling and Interview Guide

For sampling and selecting interview partners, the most important factors were their combined expertise regarding sustainability topics and the Swiss watch industry. It was crucial that the interview partners knew about the process of watchmaking and the impacts it has on the environment. Ideally, they work for a Swiss watch company in the sustainability department. The size of the companies was irrelevant for this study. However, the origin of the companies was important as they needed to originate from Switzerland.

Information from the WWF watch and jewelry report (2018) was used as a starting point, as it analyzed the biggest and most impactful Swiss watchmaking companies and worked closely with them. If these companies had a head of sustainability, they were contacted via LinkedIn. If the companies did not clearly state such contact, they were approached via their contact form on their homepage. Simultaneously, contact with personal connections was achieved. After the first contacting round, smaller, Swiss watchmaking companies were approached via their contact form on their homepage. In total 26 interview partners/companies were contacted from which five companies agreed to give an interview. Many representatives who responded but were unable to offer an interview reasoned this action through the missing time capacity of the company. Further details on companies which were contacted, and their answers can be seen in Appendix A.

In using an interview guide, the aim is to gather data for the interviews and draw on prior knowledge of structural, logical, and cohesive forms. An interview guide can be characterized as a collection of questions that steers the conversation throughout the interview toward answering the research questions. The questions guide the interview in the right direction without a need to strictly follow these questions (Kallio, Pietilä, Johnson, & Kangasniemi, 2016). The detailed interview guide can be found in Appendix B.

Each interview started with introductory questions to gain information about the interview partner and their role in the company. It then continued with questions regarding non-financial reporting and the company's awareness of and readiness for a transition to a CE before concentrating on the barriers to such a transition. Each interview ended with general industry-related questions about each interviewee's (and their company's) future prospects.

3.3.3. Conducting Interviews

All of the interviews, except for one, took place online, either via Webex by Cisco or Microsoft Teams, in the months of April and May 2022. One interview was conducted via e-mail. To provide comfortable and trustworthy atmosphere, each interview started with a light conversation and a brief introduction to the research questions and their backgrounds. It was important for the interview partner to feel comfortable and know that, if there was a question that they did not feel comfortable answering, there was no

need to answer it. All interviews were held in English except for one interview which, was conducted in German and in written form.

After providing this information to the interview partners and receiving their consent, the interviews were recorded so that an in-depth evaluation of the interviews could occur. To ensure that no data was lost due to technical issues, the interviews were recorded on two devices using a voice memo application.

Table 1 presents the interview partner, the company where they are employed in, and their role at the company, to give a broad overview. Closer information regarding the interviews can be seen in Appendix C.

Table 1: Overview of Interview Partners (own representation)

<i>Interviews</i>	Name	Company	Role within the company
1	Aurélien Debeyer	Audemars Piguet	Head of CSR
2	André Bernheim	Mondaine	President of the board
3	Mark Schwarz	Vault	Founder
4	Participant required anonymity	n/a	Head of Sustainability
5	Martin Tobler	Beyer	Division Manager Sales

3.3.4. Evaluating Interviews

To evaluate the interviews, relevant parts of the recordings for the coding process were converted into text and analyzed according to the qualitative content analysis (Mayring, 2015). Two fundamental steps of analysis are being combined: the first step is a qualitative-interpretative phase that assigns categories to text passages using interpretive logic, and the second was a quantitative examination of the frequency of such assignments. The coded interviews can be seen in Appendix D and Appendix E.

For the qualitative content analysis, the structuring process was applied (Mayring, 2015). The goal of the analysis was to filter out specific parts of the material gained through the interviews. These parts provide a cross-section of the material based on pre-determined categories. The content can thus be evaluated based on specified criteria. The categories

in such techniques are pre-formulated in the manner of deductive category assignment. To ensure adequate categories, three determining approaches are used: defining the categories, defining anchor samples, and generating coding rules. First, categories must be defined, so that the components of the text that belong in a certain category can be precisely determined. Second, concrete passages from certain categories are used as typical examples to demonstrate the characteristics of those categories, which represent the anchor samples. Third, coding rules are formed with the aim to clearly assign a text to a certain category if there are differentiation problems among categories (Mayring, 2015).

The categories defined for this thesis are non-financial reporting and the EU taxonomy which includes the CE. For a more precise categorization, codes and subcodes were chosen according to Table 2 and Table 3.

Table 2: Codes and Subcodes to Answer the First Research Question (own representation)

No.	Code	Subcodes
1	Non-financial reporting	Current state Non-financial reporting standards Future of non-financial reporting

Table 3: Codes and Subcodes to Answer the Second Research Question (own representation)

No.	Code	Subcodes
2	Upstream	Suppliers
3	Internal processes	Capacity Cost factors Internal conflicts
4	Downstream	Customers Trust Stakeholders
5	Environment	Regulations Industry image Culture

4. Interview Analysis

4.1. State of Non-Financial Reporting

The following section aims to display the interview results and build a foundation for answering the first research question. First, the current state of non-financial reporting will be analyzed. Second, reporting standards used to disclose non-financial reports and the issues related to the use of reporting standards are mentioned. Lastly, the general opinion on the future of non-financial reporting in the Swiss watch industry is presented.

4.1.1. Current State

Out of the five interview participants, interview participant 1 (IP1), interview participant 2 (IP2), and interview participant 4 (IP4) indicated that their company has disclosed information about sustainability in a report-based format. Interview participant 3 (IP3) shared that their company does not actively publish information about sustainability, and interview partner 5 (IP5) mentioned that their company has outsourced its reporting and has not yet published information concerning activities around sustainability. The three companies that are disclosing non-financial reports have only recently started to do so. Certain reports are currently only internally communicated, while one initial report will be published on their website in 2022:

We started to make non-financial reports based on the GRI index, but for the moment it is just an internal communication for the board and the top management to measure the impact and to follow the improvements on our commitments. For the first time, this year, based on 2021 information, we published on our website the first what we call the transparency report but what is not really a CSR report. But it is a way for us to commit on some of our commitments and to inform our stakeholders about where we want to go. (IP1, personal communication, 08.04.2022)

In providing a reason why certain reports have not been published earlier, IP1 mentioned that a comprehensive approach is needed. The company wants to ensure that they not

only have positive values regarding CO² emissions but have also thoroughly addressed other key aspects, such as water management and human rights.

As stated, three of the five participants mentioned that non-financial reports of their company have been disclosed. Furthermore, non-financial reporting is considered a relevant topic, as indicated by IP4:

We have a strong focus on non-financial reporting in terms of the attention that is provided by our senior management and that is provided by our shareholders to public a report on a regular basis, which in our case is an annual basis. (IP4, personal communication, 03.05.2022)

This indicates that the topic of non-financial reporting is highly discussed in Swiss watch businesses, especially as a means to provide purposeful information to shareholders.

Furthermore, one interview participant (IP4) mentioned the relevance of transparency reporting and the complementary topic of traceability of raw materials (the origin of materials), where little effort has been provided in the Swiss watch industry thus far.

4.1.2. Non-Financial Reporting Standards

Currently, two (IP1 and IP4) out of the three participants whose companies disclose information about sustainability stated that their companies do so according to reporting standards. While IP1's company started displaying its non-financial reports based on the GRI, IP4's company works with several reporting standards according to its needs:

We based our reporting principle on the World Economic Forum International Business Council Stakeholder Capitalism Metrics [WEFIBCSCM], and we made that decision because after having reviewed other means of reporting we decided that the WEFIBCSCM provides the most meaningful transparency. We do as well include the SDGs in our reporting and will actually expand them in our next report. But our core structure is the WEFIBCSCM and that of course draws from GRI, [Task Force on Climate-Related Financial Disclosures] TCFD, and a range of other reporting frameworks. (IP4, personal communication, 03.05.2022)

Other interview participants did not mention any reporting standard they are currently working with. No information regarding a tendency of reporting standards in use can therefore be made. One can, however, see that both companies using reporting standards use the GRI.

Furthermore, regarding ESG reporting, respondents indicated that the Swiss watchmaking industry still heavily focuses on environmental topics, such as the reduction of waste volume or the carbon emissions associated with waste disposal (IP4). However, the social and governance factors have not yet been comprehensively tackled.

4.1.3. Future of Non-Financial Reporting

Regardless of the current state, all participants agreed that the importance of non-financial reporting in the Swiss watch industry will increase significantly in the future. One reason mentioned is the pressure to disclose non-financial reporting from stakeholders that demand information concerning where the company is going in the future in terms of sustainability (IP1). Many Non-Governmental Organizations (NGO), the press, students, customers and suppliers are interested in company activities and want to be able to grasp additional information. Furthermore, new regulations and competition are seen as drivers for companies to disclose non-financial reports (IP4). However, there are barriers to overcome, as explained by IP1:

The real challenge is not on how you communicate but how you communicate on the not visible part of the iceberg. We all have good practices, and this is the visible part of the iceberg. The important information and the improvement possibilities are in the invisible part of the iceberg. It is more important to communicate on this part. To say: “Okay, my product is very good, and I know I have to progress on this and this parts because of this.” We will see how it will happen. To make a report is very easy because we have many things to tell but this is not valuable at all. (IP1, personal communication, 08.04.2022)

For the future, it will be important for companies to publish information about sustainable activities not only to communicate their purpose but also to share additional information that is substantial (relevant and of considerable importance) and differentiated

(comprehensive and objective) (IP3). Such reporting should also be a tool for companies themselves to see where there is potential to improve.

Lastly, there is agreement among all participants that non-financial reporting will become an integral part of the Swiss watch industry. As IP1 mentioned, “in terms of CSR reporting and communication I am convinced that, in two years, each brand will communicate on its impact because of the new regulations, competition, demands, and it will be something normal.” (IP1, personal communication, 08.04.2022)

4.2. Barriers to a Circular Economy

The barriers to a CE have been divided into the following categories: upstream, internal processes, downstream, and environment. First, the role of suppliers as a barrier in the upstream supply chain is analyzed. Second, internal capacity, cost factors, and internal conflicts within the company are addressed as a barrier. Third, stakeholders, including customers and their trust in Swiss watch companies are analyzed in the context of the downstream supply chain. Finally, the environmental barriers are analyzed in terms of regulations and the industry culture. Hereby the term “environment” is not meant in the context of sustainability; rather, it is considered as the surroundings and influencing factors around the Swiss watch companies that hinder their transition to a CE. An overview of the barriers analyzed can be found in Appendix F.

4.2.1. Upstream

Suppliers

Two respondents (IP1 and IP2) mentioned a difficult relationship between their watch company and its suppliers. Often, there is a lack of transparency regarding the origin of materials as well as the percentage of the circular inputs used. After pressing for an answer regarding what percentage of circular inputs is used in production, IP2 expressed having received the following answer: “(...) ‘between 0 and 80 percent.’ Maybe there is some recycled metal in it. Maybe there is not. There is nothing I can do with that.” (IP2, personal communication, 11.04.2022)

This is mostly due to the many levels of suppliers; each supplier has a supplier. The more intermediaries there are, the lower the transparency on circular inputs used in production. As explained by IP1,

It is easy to ask for more sustainable and circular production for Audemars Piguet to its suppliers, than transmitting these demands to the supplier of the supplier. Audemars' suppliers are working with bigger suppliers where, there again, they have little say. (IP1, personal communication, 08.04.2022)

Often these suppliers are customers of much bigger suppliers, and these larger suppliers do not listen to the smaller ones, as the revenue generated by them only accounts for a small percentage of their overall earnings. Thus, even if the watch company would have negotiated more circularity with its direct suppliers, there is no guarantee that these would be applied upstream.

This barrier to a CE is especially hard to overcome because, even when changing to another supplier, the issue will be the same. Many suppliers have the same major supplier, especially concerning raw materials such as gold (IP2). Furthermore, even when watch companies do negotiate for more sustainability with their suppliers, there is no guarantee that this will be the case because often negotiation with only the first-level supplier is not enough. The suppliers of the supplier must also be informed, as explained by IP2: "They [watch companies] put all the obligations on their suppliers. But they do not do any attempt to go further than their direct contact. It is difficult to get to the source." (IP2, personal communication, 08.04.2022) Therefore, watch companies often cannot make connections all the way down their supply chain, which complicates an attempt to become more circular.

Another barrier is the low bargaining power watch companies have when negotiating with suppliers. This, however, is mostly the case for small watch companies, as indicated by IP1: "The supplier told me, that I represent one hour of his production. So, if they do not agree with our high sustainability demands, they can live without us and still be successful." (IP1, personal communication, 08.04.2022). This makes it difficult for small watch companies to increase their actions around sustainability, as they may even risk losing the supplier by demanding too much in terms of circularity. As stated by IP1,

If you are too small regarding one of your suppliers, you are excluded. It does not make sense for the supplier to be challenged by their customers while their profit

with this customer is almost nothing compared to other customers. (IP1, personal communication, 08.04.2022)

Meeting such demands often means the supplier must apply greater efforts sometimes even financial investments, which they are not ready to make for small customers.

4.2.2. Internal Processes

Internal Capacity

All of the participants mentioned company size and its capacity as a barrier to a CE. For two participants (IP1 and IP4), being a large company presents a barrier. For the other three participants (IP2, IP3, and IP5), being a small- and middle-sized enterprise (SME) is a barrier to adopting a CE approach.

On the one hand, being a large company means using significant resources and large quantities of raw materials: hence, more suppliers. With an increasing number of suppliers, it is difficult for the company to ensure a detailed understanding regarding all suppliers and how they operate and maintain their efforts toward greater circularity. As stated by IP1, “Related to the quantity, the more you need, the more suppliers you have, and the more risk you have in your organization and supply chain when it comes to transparency.” (IP1, personal communication, 08.04.2022)

Thus, if the company would implement a regulation that all their steel is recycled, they would have to discuss this with all its supplier – without the guarantee that every supplier would comply with the new demands. As soon as one supplier does not comply, the entire attempt of becoming more circular is overthrown.

Additionally, with an increasing number of suppliers, the complexity of processes increases significantly, as mentioned by IP4: “Understanding processes – upstream and downstream – and really mapping those and understanding all the actors on the way is a challenge.” (IP4, personal communication, 03.05.2022) Without knowing the exact processes and working steps of the supply chain, it is hardly possible to become more sustainable through circular practices.

On the other hand, being an SME represents a barrier in the sense that they have limited leverage in comparison with large companies when negotiating with suppliers. This has already been stated in the previous section of upstream barriers and was mentioned by several participants:

If you are a big watch brand you might have more leverage because you can basically say, ‘well, if you do not move in that direction, if you do not comply to our sustainable mission and goals, then we will just switch to another one.’ Now, in our case, that's maybe a bit harder, I have to say, but it is not impossible. (IP3, personal communication, 22.04.2022)

Thus, even though it is seen as a barrier to more circular business practices, the interview participant is convinced that with the right partners, it is possible to impose higher demands even as a small company with limited leverage.

Additionally, due to their limited leverage, SMEs may not have the capacity to dedicate an entire department to improving their circularity. Companies that are unfamiliar with the topic will face issues in increasing their circularity due to the complex and broad nature of the CE. As mentioned by IP3, “There is an issue for the SME companies, especially. Circular economy and sustainability are a difficult area, with a lot of things that people do not know, so they do not know how to approach it.” (IP3, personal communication, 11.04.2022)

Concerning the impact of the company size and internal capacity as a barrier to implementing a CE, the interview partners expressed differing opinions. This demonstrates that company size does matter and that both small and large companies do have barriers due to size.

Lastly, regardless of company size, the plan to increase circularity may not be the first priority due to restricted time resources. This was mentioned by IP4:

Time resources are a current barrier. We are just very constrained and having to prioritize issues we see circularity is highly important, but we also have other burning topics. Time resources, and going from there, a matter of really understanding the situation, finding the technological solutions and then behavioral solutions. (IP4, personal communication, 03.05.2022)

A combination of the complexity of the topic and the restricted time resources may therefore provoke a limited focus on increasing circularity and hence represent a barrier.

Cost Factors

One interview participant (IP2) mentioned the cost aspect as one of the barriers to a CE. Especially SMEs, having limited resources, must pay close attention to whether increasing circularity is profitable. As stated by IP2, “Increasing circularity in the supply chain is not as easy. And, you know, at the end of the day, we really have to also watch what benefits do we have of doing more.” (IP2, personal communication, 11.04.2022)

Additionally, circular processes require initial investments, which are often substantial for SMEs. Another aspect where greater circularity can generate higher costs, is the change from virgin materials to recycled materials, as recycled materials can be more expensive to purchase (IP2).

Internal Conflicts

Out of all participants, three (IP2, IP3, and IP4) have mentioned barriers caused by internal conflicts and differing points of view within the company regarding the importance of circularity. Conflicts among departments was emphasized by IP2:

I wanted to switch our whole production to grape skin. Now our sales and marketing people said, ‘no, let us do it only with one line and then see how it is accepted by our dealers and by our consumers.’ (IP2, personal communication, 11.04.2022)

Another point mentioned by IP2 is the role of the top management and their ambitions toward circularity. He has experienced that top management, which formally has the decision-making power, is limited in implementing its plans due to internal reasons, as there is resistance from the lower levels:

I was listening to a webinar last week: Price Waterhouse. And there were mainly bigger companies or big companies, very few SMEs, and I heard over and over again that the problem is that the board and the top management do not stand behind becoming more circular. Now I cannot judge or know if that is true for the large companies, but I know it is not for my company. I am the member of the board. Even president of the board together with my brother. We are the only shareholders. I am pushing for more sustainability. I am struggling that the people within the

company on the lower levels really see the need and the benefit. So, I feel exactly the opposite from what I hear from the outside. They say it has to be the top management and the board who has to stand behind it. I am there. I do not get it through internally. (IP2, personal communication, 11.04.2022)

As a result, whether it is upper or lower management that is against more circular processes, internal hesitation to transition to such a business model typically represents a barrier to a CE. This often occurs alongside the concern that customers will not accept the changes and will consequently not purchase the watch (or that customers will not be ready to pay the same price for a product with more circular inflow). Here, the barrier of customers being hesitant (mentioned in section 4.2.3) is key as the marketing department, for example, has to consider customer interest and preferences, which may not consistently align with the circular ambitions of the company.

Lastly, even though the company where IP4 is employed has published its 2021 mission report on sustainability, the CE term has not been mentioned once. This does not mean that they do not implement circularity but rather that they have not defined the term internally. This is explained by IP4:

We do have circular activities, but we do not name them as such to be quite frank it is because we are still trying to get a meaningful logic behind circular economy because it is a very complicated and complex subject, and we did not want to use the word without having something to say behind it. (IP4, personal communication, 03.05.2022)

This unclear company understanding regarding the term may lead to a resistant attitude toward the CE concept and hence can generate resistance to tackling the topic. This aligns with the barrier of the complexity of the topic.

4.2.3. Downstream

Customers

Out of all interview partners, IP1, IP2, and IP4 mentioned customers as a barrier at least once during the interview. All three interview partners mentioned comparable examples

of facing a situation, where customers represented a barrier to becoming more circular. In one case (IP1), the company proposed a recycled (hence, circular) packaging for their watches. These boxes were smaller and weighed less than the original boxes. The customers, however, preferred the original boxes, which were much heavier and made out of Swiss wood (virgin material). The recycled and lighter boxes did not align with the customer expectations and thus had to be adapted. Therefore, the production of the original boxes had to be re-organized and produced in a way as circular as possible. Although, a more sustainable solution was determined for the original boxes, the original attempt to become more circular was hindered by its customers. In another example (IP2), using reused plastic to make watch cases was not accepted by customers. In this case, the reused plastic raised concerns about a potential lack of quality. IP2's answer concerning potential quality concerns is as follows:

The consumer will not see any difference. We tested it in the lab, to see if there is any weakness in the material or anything, and there is absolutely nothing. For the consumers, who really just are skeptical will find reasons why the quality is not the same. (IP2, personal communication, 11.04.2022)

The third example was mentioned by IP4, whose company had produced upcycled watch boxes made out of 100 percent recycled Polyethylene Terephthalate (PET). These boxes were lighter as well, which meant that they had positive impacts on emissions, as the transport of lighter boxes means less CO² emissions. Many People reacted negatively, which the company associated with a status-quo bias, where customers prefer the current state in contrast to changes.

The concern of customers regarding the quality of products with a circular inflow was described as a major barrier (IP2). Significant effort must be exerted to convince customers that, for example, their grape skin is as favorable as leather, both in terms of touch and feel and regarding the quality and durability of the material.

Besides quality concerns, two of the interview participants (IP2 and IP3) mentioned a lack of customer interest in the CE topic. IP3 further specified that it is not a lack of interest in sustainability but rather that customers have other priorities when purchasing watches. He further mentioned that receiving greater pressure from the customer side would increase CE implementation significantly in the Swiss watch industry.

Furthermore, although customers might choose a more sustainable watch over a less sustainable one, the sustainability aspect is generally not the decisive overall (IP2).

Lastly, the most difficult part of the supply chain to address in implementing a CE (according to IP4) is the downstream component. This is due to a lack of control and oversight regarding the circular outflow. Therefore, even if these boxes are recyclable, there is no data concerning the appropriate disposal of the boxes. The missing option to collect reliable data and to follow the outputs after selling the watch to the customer is seen as a barrier to ensuring a CE downstream. Downstream circularity has been challenging for IP2 as well, as their company attempted to initiate a take-back scheme, where they accepted all watches, no matter the brand. However, interest was very low. This was explained by IP2 through the following statement:

People who have got watches, even if they do not work anymore or if they do not like them, they do not throw them away. They put them in a box or in a drawer and there they remain. And if you move your apartment, it moves with you, but you do not throw the watch away. So, the emotions behind a watch are tighter than clothing. That is certainly one reason why companies do not offer a take-back service, because people will not send in their watches. (IP2, personal communication, 11.04.2022)

Such emotional attachment and customer behaviors in combination with the long-lasting nature of watches make take-back schemes (hence, the implementation of a CE at a downstream level) particularly difficult.

Trust

Trust is crucial in the Swiss watch industry. One participant (IP3) mentioned that the trust customers have toward Swiss watch companies plays a key role in why they are not actively pushing for sustainability.

I believe it has a lot to do with trust. So, in essence, if you trust a certain brand, let us say a Swiss luxury watch brand, you expect, to some extent sustainability already factored in and that it is a part of the company activities. (IP3, personal communication, 22.04.2022)

Because the industry is seen as sustainable at its core, customers trust that the companies work in a sustainable way. In this sense, companies do not have to actively increase circularity and are still considered sustainable because of the trust customers have.

Stakeholders

Three out of the five interview participants (IP2, IP3, and IP4) referred to stakeholders representing a barrier to a CE approach. As an important barrier, limited pressure from shareholders was mentioned (IP3) as well as the conflict between circularity and profitability (IP4). This is especially important for Swiss watch companies that are on the stock exchange and have their shareholder value publicly traded (IP2). It is a complex and demanding task to satisfy all stakeholders while increasing circularity.

4.2.4. Environment

Regulations

All participants mentioned regulations as a barrier to implementing a CE, which reveals the importance regulations have in circularity. The large variety of data collection types complicates the transition to circularity, especially regarding the sourcing of raw materials, as mentioned by IP1:

When it comes to mining, especially gold we have a huge issue. We are using data, which are aggregated coming from all over the world and do not correspond to the type of mine we use. We use this international standard, GHG-protocol, but this standard is not aligned with the suppliers we are working with. We do not know if the mine we are working with is better or worse in terms of emissions. We currently cannot rely on the data we have. (IP1, 08.04.2022)

Thus, even if there are efforts toward more circular sourcing, they are hindered by the incomparability of data collection standards. The diversity of data collection makes it nearly impossible to assess suppliers on their circular performance. Therefore, a standardized and internationally comparable standard is required. Only then can circularity be assessed reliably through the whole supply chain, despite the state of circularity of the supplier.

Additionally, IP3 believes that negative measures introduced by governments, such as sanctions for not complying with sustainability standards, will not be the solution to implementing a CE and may even represent a barrier. This was further explained by IP3:

We cannot just bet on the free markets to transition by themselves. There are going to have to be interventions obviously from the government. But I think the best way forward will be if we have global standards in place because one big issue is, if we start to just simply implement sanctions or, let us say, additional cost to manufacturers in Switzerland if they do not move into a green, sustainable way, leads to the fact that the manufacturer is going to be moved to other countries. (IP3, personal communication, 22.04.2022)

Companies will not transition from linear to circular by themselves and the current regulations will not enhance circularity in companies. These regulations will simply increase the incentive to shift production abroad, where transparency and circularity will be even less advanced than it currently is.

Furthermore, to become circular requires a step-by-step approach due to its aforementioned complex nature. Many companies face difficulties when making the first steps toward greater circularity. Here, a lack of support from governments (concerning their regulations) and other organizations can be observed. Even though there are regulations for more sustainable business practices, there is little support from governments and other organizations to introduce the topic and present how to approach the actualization of a CE internally. As mentioned by IP2, there is an obligation on the governmental side, which has not yet been fully exploited:

Once they [employees] started to understand what I am doing, they wanted to become totally green. Babies do not start with a marathon. You start crawling, then you start walking, and then then you might start running. So, I think that is also an obligation of the government and of maybe organizations and volunteers to help SMEs to get into the topic. (IP2, personal communication, 11.04.2022)

The missing support from governments (pertaining to regulations and in the form of an introduction to the topic) represents a barrier especially for SMEs (IP2).

Industry Image

Four out of five participants (IP1, IP2, IP3, and IP5) have mentioned the nature of the Swiss watch industry as a barrier to a CE. First, the nature of the watch implicates that there is no end of life. Even if the watch should not work anymore, it is bequeathed to the next generations and is not thrown away, like with other commodities. According to IP1, Swiss watch companies use this fact to “protect themselves [from making] any further commitments.” (IP1, personal communication, 03.05.2022)

The justification for not implementing a CE because of the sustainable nature of the Swiss watch industry was also mentioned by IP3:

So, I think it really has got to do with trust and maybe also the fact that in comparison to a car... Let us say, an automatic watch, which is powered by your own kinetic energy, feels per definition as let us say, less of something which you have to scrutinize in comparison to a V12 sports car, for example. There is something that is probably one reason why I can see a much greater effort in the car industry to move into a more sustainable green way of working and operating in comparison to the watch industry. (IP3, personal communication, 22.04.2022)

Swiss watch companies do not see the need to become circular because of the core principles of the Swiss watch industry, which are sustainable. Compared to other industries, the general public already perceives the Swiss watch industry as green and sustainable without necessarily adding further effort toward a CE.

An additional barrier is the opaque nature of the Swiss watch industry, as mentioned by IP1:

We are working in a very secret industry. There is huge competition between the main players in the industry. One supplier does not want to give information to a brand because this supplier is also working for another brand. So, the lack of

transparency is partly due to protection in the competitive industry. (IP1, personal communication, 08.04.2022)

The competitive industry is a large barrier to transparency among suppliers and Swiss watch companies. This in turn, leads to limited transparency for each company and hence hinders the implementation of a CE.

Culture

The watch industry and the production of watches have deep roots and longstanding traditions in Switzerland. The methods to produce the watches have remained the same for centuries. With the implementation of a CE, however, profound modifications to the processes must be made. These modifications can happen across the supply chain as well as at the production site itself. As explained by IP4,

At the production site, if you think, at a watchmaker's desk, there is going to be a number of different plastic-containing components there, like a Q-tip [cotton swab] or a cover for the fingers to reduce the friction as they are working. And right know these are being thrown into a waste basket at the side of their desk. It requires little intervention on their part, but we are soon going to ask people to leave their desk and distribute these parts into dedicated receptacles for material, which can be recycled together. And that is actually a huge barrier to overcome in terms of behavioral change. So, there we will be addressing the status-quo bias. These workers have done it this way for many years, which for some people may be 30 years, and now we are asking them to change their behavior they had for that long in a way that is quite substantial. (IP4, personal communication, 03.05.2022)

Having to alter processes on a daily basis represents a major challenge for the implementation of circularity, as mentioned by IP4. Similar to customers, employees working within the company are subject to the status-quo bias. There is no guarantee that the behavioral changes ordered from top management, who are attempting to increase circularity, will actually be executed. The barrier at the human level was further explained by IP4:

Since circular economy at the end is so human-level oriented, it requires substantial changes in each of us to the way that we work and live our lives. It is a huge barrier that we have to consider in the process. (IP4, personal communication, 03.05.2022)

The culturally rooted nature of the Swiss watch industry in combination with the status-quo bias and behavioral patterns, which cannot be easily changed, portray a further barrier to CE implementation.

5. Discussion

5.1. State of Non-Financial Reporting

This section focuses on sustainability reporting in the Swiss watchmaking industry. Therefore, the current state is first discussed followed by sustainability standards in use. This section concludes with the future of sustainability reporting in Switzerland, and more specifically, in the Swiss watch industry.

5.1.1. Current State

According to a study conducted by Wallimann (2021) where 50 companies were analyzed based on their non-financial reporting activities, only three did not disclose a sustainability report. This lies in correlation with the findings of the interviews, where three out of five companies currently disclose information about their sustainability activities.

Non-financial reporting, through which corporations formally reveal information unrelated to their profitability (e.g., information concerning human rights and environmental impacts), is a subset of transparency reporting (National Action Plans on Business and Human Rights, n.d.). Such reporting is crucial, especially for the Swiss watch industry, as there has been limited transparency regarding the sourcing of raw materials such as gold. This aligns with the perspectives of interview participants, who regarded sustainability reporting as a crucial tool to increase transparency throughout the industry. According to the interview participants, there has been a lack of traceability and transparency regarding sourcing over time, which can be solved with non-financial reporting regulations.

Currently, the CSRD has implications for Switzerland, as it includes a cross-border feature for non-EU corporations that desire to participate in the EU economy (as many Swiss watchmaking companies do). Switzerland, being the largest watch-exporting nation (in terms of value), cannot ignore sustainability regulations abroad, especially not concerning its neighboring countries (Federal Department of Foreign Affairs [FDFA], n.d.). Hence, the relevance of the CSRD is high. Moreover, the Swiss Confederation is likely to follow the EU in terms of regulations in the near future.

5.1.2. Non-Financial Reporting Standards

In Switzerland, various reporting standards are used to report on sustainable activities within a company. According to Wallimann (2021), the most-used reporting standards are the CDP Climate standard, the SDG standard, and the GRI. The interview results indicate even more standards than Wallimann had analyzed. Additional standards such as the WEFIBCSM and the TCFD were mentioned during the interviews. Both interviewed companies that are reporting according to standards, included the GRI Standards in their non-financial reporting. This indicates that, the interview findings are in accordance to the literature review as the majority of Swiss companies have used the GRI as a reporting standard.

The fact that a large number of different non-financial reporting standards exist was criticized during the interviews, as they are often not comparable to one another. Hence, it is difficult to compare companies in the same industry if they do not disclose sustainability information in the same manner.

With the implementation of the CSRD, crucial ESG factors will be addressed. However, the Swiss watch company representatives interviewed mentioned that their companies' current focus lies on the environmental factor. This indicates that, if Switzerland follows the EU with its non-financial reporting regulation, progress must be made regarding the social and governance factors.

5.1.3. Future of Non-Financial Reporting

The Swiss government has ambitious plans regarding the advancement of non-financial reporting. As a result of the indirect counterproposal to the Corporate Responsibility Initiative, which was voted on in 2020, new non-financial reporting regulations have been introduced (Plüss, 2020). This increases the number of companies affected. Listed companies (as well as companies fulfilling the requirement of having more than 250 workers and having a minimum turnover of 40 million euros or assets of a minimum of 20 million euros) will have to follow the new regulations (Se & Holland, 2022). This aligns with the interview results, which suggest that non-financial reporting will significantly increase in the future.

Interview participants mentioned the new regulations being a driver for information disclosure. Further stakeholders, which pressure the companies to increase their focus on

sustainability reporting, were mentioned. Among them, NGOs, students, the press, customers, as well as suppliers were acknowledged.

However, there is a rising concern among interview participants about the quality of disclosed information. Information about purpose should not be all that is disclosed. Rather, differentiated information with substance should also be shared. Furthermore, it is important to openly communicate where there is potential for additional improvements. The purpose of non-financial reporting is not solely to show the public how well the company performs in terms of sustainability but also to represent what is actually being done and what still needs to be done to become as sustainable as possible.

Both the government and the Swiss watch industry are aware of the importance and necessity of non-financial reporting. It will be a challenge for the Swiss watch industry to overcome the barriers of its opaque nature to fully disclose and be transparent about its activities regarding sustainability. However, the interview results indicate that non-financial reporting will be an integral part of the Swiss watch industry, and it will be a logical consequence for information about the purpose of a company's action to be communicated in the next two years. This aligns with the entry into force of the non-financial regulations.

Therefore, although no interview participant is currently subject to the regulations passed by the government, they all strongly believe that they will be affected and pressured to disclose sustainability reports. This indicates the pressure that other stakeholders, besides governments, exert on the Swiss watch industry.

5.2. Barriers to a Circular Economy

The following section presents a discussion of the literature review conducted on the barriers to a CE and the interview analysis. As in the interview analysis, the barriers are divided into the four elements: upstream, internal processes, downstream, and the environment.

5.2.1. Upstream

The barrier of suppliers is among the most prominent and difficult to overcome, according to the interview participants. This is due to the limited leverage Swiss watch companies have on their suppliers. Nonetheless, insufficient leverage is not the only barrier concerning suppliers. If a company succeeds in enforcing its sustainability claims with

its suppliers, there are two further barriers to be overcome. First, there is the issue of transparency and traceability among suppliers, especially suppliers of raw materials such as gold. This is a serious concern, as approximately 60 to 70 percent of mined gold passes through Switzerland (Grünenfelder, Manríquez, & Starmanns, 2018). Furthermore, the procurement of raw materials used in the making of watches has substantial environmental consequences, which eventually provoke ecosystem fragmentation and degradation. Second, there is often a major supplier (which supplies many different watch company suppliers) behind the direct supplier of watch companies. Thus, different suppliers frequently have the same large supplier of raw materials. Here again, the small supplier lacks leverage to impose sustainability claims.

The barrier concerning limited transparency among suppliers must be specific to the Swiss watch industry, as it was not mentioned in country-wide reports about barriers to a CE (Stucki & Wörter, 2021; Spörri, et al., 2021). No reports or literature reviews mention suppliers specifically as one of the most prominent barriers. This might be due to the particular nature of the Swiss watch industry. The industry works with abundant raw materials (e.g., gold and steel) where the extraction and mining practices have not progressed as greatly as other industries regarding CE practices. Other industries might be more advanced, as the materials they are working with are easier to replace.

5.2.2. Internal Processes

Internal processes are mentioned in several industry-unspecific literature reviews about barriers to a CE. Managerial issues (Galvão, de Nadea, Clemente, Chinen, & Monteiro de Carvalho, 2018), high initial investments (Grafström & Aasma, 2021), limited concern within a company (Spörri, et al., 2021), and organizational constraints (Stucki & Wörter, 2021) were the most often mentioned. All these barriers were mentioned during the interviews; hence, they can also be applied to the Swiss watch industry. However, the reasons behind why the aforementioned topics represent barriers may be specific to the Swiss watchmaking industry.

Three out of five participants mentioned internal issues regarding the importance of circularity and its implementation. Managerial issues were also mentioned by one participant. However, in this case, the barriers lie in resistance from lower levels of the company, where individuals have been hesitant about going circular. Nonetheless, according to Galvão et al., (2018), these barriers often lie with top management, where

a transition to a CE is considered to be of relatively low importance when compared with the opinions of those at lower levels. Although one interview participant experienced the lower-level opinions as representing the barrier, their experience is likely a less probable situation, as no other interview participant shared the same experience.

Furthermore, all interview participants mentioned organizational constraints regarding size and capacity as a barrier. This is one of the most-often mentioned barriers according to Stucki and Wörter (2021) and is especially prominent for SMEs, as they may lack the time and resource capacity to dedicate additional resources to the implementation of a CE. Often more substantial tasks must be done before focusing on a CE. Hence, SMEs have different priorities due to their size-related limitations.

For both SMEs and large companies, the complexity of the CE hinders them in implementing it. The unclear logic behind the term may provoke resistant attitudes toward CE and hence can generate resistance to tackling the topic.

Lastly, the high initial investments related to CE implementation that are mentioned by Grafström and Aasma (2021) were also mentioned by interview participants. However, the importance of this barrier was not considered as high for the interview participants as it was in the literature. This might be due to the nature of the industry and the luxury segment that many Swiss watch companies operate in. Among all participants, only one mentioned financial constraint as a barrier, especially regarding improvements in the supply chain. Moreover, SMEs often have limited resources and must pay close attention to staying profitable while increasing circularity.

5.2.3. Downstream

The most challenging barrier to overcome, according to interview participants, is customers' willingness for and interest in a CE. This is mentioned in several literature reviews (Grafström & Aasma, 2021; Galvão, de Nade, Clemente, Chinen, & Monteiro de Carvalho, 2018). However, neither of the two Swiss reports about CE barriers (Spörri, et al., 2021; Stucki & Wörter, 2021) mention customers among the most prominent barriers. Often, the limited interest in environmental issues or the low demand for remanufactured goods due to poor customer acceptability make it difficult to sustain CE activities (Kumar, Sezersan, Garza-Reyes, Gonzalez, & Al-Shboul, 2019). This lies in correlation to the findings of the interviews as, three interviewees mentioned that their recycled watch boxes were not appreciated by customers. Customers were concerned

about the quality of the recycled materials and were instead accustomed to heavy boxes made from virgin materials, such as wood.

Besides quality concerns, the understanding that interest in circular activities in the Swiss watch industry is relatively low was identified through the interview analysis. Another conclusion that can be drawn from the interview analysis, is the low priority of sustainability when customers are considering purchasing a watch. Sustainability is not typically the reason why a customer purchases a watch, but it is certainly a factor that is being considered. This is partly in line with the literature review that states that on average 60 percent of customers consider sustainability when purchasing a product (Deloitte AG, 2021). However, this demand is not transmitted into pressure for the Swiss watchmaking industry. On the one hand customers claim to consider sustainability as relevant, and, on the other hand, they are hesitant regarding new and more sustainable products. An attitude behavior gap can therefore be identified.

The lack of pressure from the customer side may be explained by the nature of the Swiss watch industry. Customer trust in the company and industry plays a crucial role. Through the interview analysis, it was determined that the trust customers have toward Swiss watch companies is a critical reason behind why they are not actively pushing for sustainability. This trust mainly comes from the sustainable nature of the industry, as watches do not have an end of life. The issue of not having an end of life is further considered to be a barrier, according to Hart, et al., (2019), as it increases the complexity for companies to implement resource recovery strategies.

5.2.4. Environment

In both Swiss reports on the barriers to a CE (Spörri, et al., 2021; Stucki & Wörter, 2021), the Swiss regulations are mentioned as an obstacle that has to be overcome. This aligns with the interview results, as all participants had mentioned regulations being a barrier. This demonstrates the important role the Swiss regulations have in the matter of the CE. The missing comparability between Swiss regulations and global standards especially presents a barrier. This can be seen through the case of IP1's company, which cannot compare data that has been aggregated globally from its supplier that is not aligned with the standards that the company uses. This leads to uncertainty around whether this supplier is more sustainable than others. Therefore, without having the ability to compare

amongst suppliers, the company cannot choose the most sustainable option and hence lacks influence on its circular flow within its value chain.

Furthermore, the nature of support from the regulatory side increases the difficulty to transition to more circular business practices. Currently, the CE is not a policy aim regarded by the government. It rather focuses on social and environmental, and economic benefits that result from this change (OECD, 2019). The complex nature of a CE makes it difficult to understand and implement, especially for SMEs with limited resources dedicated to this topic. This leads to many watch companies not even considering a CE. This is partly due to a lack of support from the bodies that impose regulations, which could help companies to make a first step in becoming more circular. Even through attempts have been made to increase the innovation efforts that aim to make the Swiss economy more circular (FOEN, n.d.), the awareness of these programs among companies seems low. There is a great potential on the side of the government, as regulations and support from the Swiss government may help many smaller watch manufacturers in becoming more circular (Circular Economy Switzerland, n.d.). Hence, a transformation of the government from being a barrier to becoming an enabler of a CE is possible.

Besides regulations, four out of five participants identified the nature of the Swiss watch industry as a barrier. The opacity of the industry has been made clear in the report by Stucki and Wörter (Stucki & Wörter, 2021), where the Swiss watch industry had the lowest return rate among all 34 industries analyzed. Due to the low participation in the study, no research on barriers specifically for the Swiss watch industry has been conducted and has not yet been acknowledged in the literature. This is in line with the primary research conducted. Out of 26 watch companies that were contacted, only five agreed to an interview.

For the case of the Swiss watch industry, the interview results reveal that many Swiss watchmakers do not see the need to become more circular due to the non-existence of an end of life for watches and the sustainable image the industry has. These factors are considered a protection from making further commitments to circularity.

Lastly, the culturally rooted nature of the Swiss watch industry represents a daily barrier. Many watchmakers have been working in this business for several decades. This makes it difficult for companies to implement behavioral changes. Even the smallest changes in processes are time consuming and rarely successful, as behavioral patterns cannot be

easily changed. This differentiates the Swiss watch industry from other industries, as its longstanding tradition is not as receptive to change.

5.3. Answering the Research Questions

First, the question about the current position of the Swiss watch industry in terms of non-financial reporting was analyzed. It can be stated, that the majority of the interview participants (three out of five) have started to disclose information on their sustainability activities. However, non-financial reporting in the Swiss watch industry is still in its infancy, as all of the aforementioned three companies have only started publishing their reports in the past two years. Despite the still small share of companies publishing their sustainability reports, the topic is highly discussed in the industry. It was highlighted that it is important to provide purposeful information about traceability and transparency to shareholders.

Regarding reporting standards used, it was found that there is no unity amid the Swiss watch industry. All three out of five participants have used different as well as a combination of several standards in their reports. This makes comparability among companies within the industry infeasible. Regarding the ESG factors, it was identified, that the industry still heavily focuses only on the environmental factor. This indicates that there is still significant work to do in both tackling all factors of the ESG and providing relevant information.

According to the interview results, there is strong agreement that non-financial reporting will increase significantly in the future in the Swiss watch industry. This is mainly due to pressure from NGOs, customers, suppliers, the press and students. Additionally, the upcoming legislation on non-financial reporting has provoked greater efforts in disclosing non-financial reports. Consequently, overall agreement exists among participants that non-financial reporting will have an integral role in the Swiss watch industry within the next two years.

Second, the analysis focused on identifying the barriers to a CE in the Swiss watch industry. The barriers were separated into four categories: upstream, internal processes, downstream, and the environment. These barriers include more specific barriers to a CE. Among the upstream barriers, the interview results indicate that suppliers are an important barrier due to their lack of transparency in the supply chain as well as the limited leverage

of companies over suppliers. This was identified as being especially the case for raw material suppliers. These suppliers are often much larger than the companies and they do not need to comply with the same sustainability commitments that the companies do.

Several internal difficulties such as managerial issues, resource constraints, and high initial costs, were also identified as a barrier. Hesitation within the company concerning the implementation of a CE has risen due to a fear of the customer response. Furthermore, time resources that may accompany CE implementation are often insufficient, especially for SMEs. Thus, a CE may only be partly implemented or not tackled at all, which is also partly due to the complexity of the topic.

Regarding downstream barriers, the most prominent one mentioned is the customer. Customers of Swiss watches expect high-quality goods. These high-quality goods are often not associated with recycled products. Customers often associate products of a CE with a lower value and are not ready to pay the same price for a recycled product. This reveals that the concerns of employees regarding the customer response (mentioned in the paragraph above) are not groundless. This quality concern in combination with a limited interest in sustainability on the customer side is an essential reason as to why Swiss watch companies do not implement a CE to the extent, they originally plan for.

Lastly, barriers in the industry's surroundings were identified. The industry's image of being sustainable at its roots is mostly due to the long-lasting lifecycle of a watch. This has been used as an argument to not further consider a CE. Currently, Swiss regulations represent another barrier because governments do not provide incentives or active support to ease the implementation of a CE. The ingrained behavior of Swiss watchmakers presents a barrier in its most simple sense. Many employees have been manufacturing watches in the same manner for decades. Company-enforced changes to the daily processes enforced by the company are difficult to execute due to the deep-rooted working-habits of Swiss watch manufacturers.

5.4. Limitations

Due to the opaque nature of the Swiss watch industry, many companies do not communicate about their activities regarding sustainability. Hence, only a few companies agreed to an interview. This is a limitation of the study because a collection of opinions that comprehensively represent the broad range of different watchmaking companies did

not fully occur. There might be differences between company size and the targeted segments within the industry as the Swiss watch industry offers a broad range of watches in terms of price. Some sell luxury watches whereas other sell more affordable watches. This may have an impact on the barriers to the CE. The low participation in interviews can further be explained by the fact that many Swiss watch companies are part of a bigger group and do not independently communicate. These groups often do not know the exact processes of each brand, which makes it difficult to identify barriers to a CE.

It is important to mention that all participants are not subject to the upcoming legislation concerning non-financial reporting, as they do not fulfill the requirements with regard to number of employees, turnover, and assets. Hence, the need to disclose non-financial reports and prepare for this legislation is not as strong for these interview participants. The state of non-financial reporting might have been more advanced with companies that are subject to the legislation.

Lastly, regarding the barriers, the world is not black and white. Interview participants mentioned customers being a barrier. However, there are customers who are a driver and support circularity within Swiss watch companies. Thus, even when the general opinion about barriers is the same among the interview participants, there will typically be outliers.

6. Conclusion

The following section presents the conclusion drawn from the discussion by describing the answer to the research questions. This is then followed by recommendations for future research regarding non-financial reporting and the barriers to CE implementation in the Swiss watch industry.

6.1. Summary of Key Findings

The aim of this paper was to identify the state of non-financial reporting as well as the barriers to a CE in the Swiss watch industry. Thereby, a qualitative research was conducted through the use of SSIs. The following section emphasizes the key findings and provides answers to the research questions.

Based on the qualitative research, it can be concluded that the Swiss watchmaking industry is currently in a formative stage with regard to non-financial reporting. Pressures from various stakeholders as well as upcoming regulations have provoked an increased focus on disclosing information about business activities related to sustainability. However, the reporting standards applied in the industry are multifaceted, leading to limited comparability amongst companies in the Swiss watchmaking industry. With the Swiss regulations on non-financial reporting coming into force in 2023, more clarity and increased attention to sustainability reporting is expected. The findings demonstrate that Swiss watchmaking companies view non-financial reporting as essential in the future.

Nevertheless, concerns have emerged regarding the relevance and substance of the information disclosed. Non-financial reporting should truthfully reflect the ambitions and activities regarding sustainability and reveal where potential for improvement lies. The reports should not be disclosed solely with the interest of satisfying shareholders but should also help the company to improve over time.

The literature review and interview analysis further revealed barriers to the implementation of a CE in the Swiss watch industry. The interview results comply with the industry-unspecific barriers and present further exploration of the barriers within the watchmaking industry. Thereby, barriers were identified in all parts of the value chain (i.e., upstream, internal, and downstream) as well as in the watchmaking's surroundings.

Several industry-specific barriers arose during the interviews. When it comes to upstream barriers, results reveal, that suppliers are a large barrier to overcome for two reasons. First, limited transparency and unusable data on the CE provided by suppliers makes it difficult for Swiss watch companies to identify the circular inflow of their watches. Second, insufficient leverage of companies over suppliers generates an inability to enforce upstream requirements regarding a CE.

Several barriers were identified at the company level. For SMEs, especially, a lack of time and money resource hinders the implementation of circular activities. Due to the complex nature of the topic, many SMEs do not have the capacity to place intensified focus on CE implementation. Furthermore, the hesitancy from employees to go circular slows down the transition from linearity to circularity. Even when top management tries to enforce its implementation, lower management can represent a barrier.

Customers and their standpoint on a CE were identified as an important barrier, which is difficult to overcome for two reasons. On the one hand, watch customers already consider watches as sustainable and do not further invest any attention to this topic. Customers are often not even interested in the way the watch has been produced. Sustainability might be one factor influencing the purchase decision, but it is not the decisional factor. On the other hand, the Swiss watch industry is known for its high-quality materials. Now that materials with circular inflow exist, customers are hesitant as recycled products are perceived as less valuable. Additionally, it is difficult to observe what is happening with the products at the downstream level, as there is missing data. Such data, however, is difficult to collect. Without knowing exactly what is happening with the products in the customer's hand, Swiss watch companies cannot interfere.

In contrast to other industries, the Swiss watchmaking industry has an image of being highly sustainable. This is mostly due to the longevity of watches, which often exceed the lifespan of a person, as the watches are bequeathed to descendants. This fact is often used by companies to avoid activities generating greater circularity. In addition to the industry image, the behavioral embeddedness of watchmakers is difficult to overcome in times of changes. Lastly, a lack of support from regulatory bodies for further improvement in the implementation of a CE aligns with the lack of incentives to advance processes internally.

6.2. Recommendations for Future Research

This analysis has focused on the state of non-financial reporting in the Swiss watch industry. However, the effect that the implementation of regulations through the Swiss legislation will have in 2023 cannot yet be analyzed. Therefore, further research regarding the effect of these regulations on the Swiss watchmaking industry represent an advantageous opportunity to identify what changes occur after the law has been implemented. Hence, conducting the analysis again after the implementation would reveal whether the regulations had an impact on non-financial reporting and on the barriers to a CE, as regulations have also been identified as a barrier. Furthermore, future analysis on the state of non-financial reporting in the Swiss watch industry is recommended to confirm or deny the expectations regarding its relevance in the future.

This thesis has presented a foundation for broad quantitative research across the Swiss watch industry. Now, as the barriers have been identified through qualitative research, they can be used in the context of quantitative research. Thereby, the importance as well as the weight of the barriers can be analyzed in further detail. This thesis represents the start of an in-depth and quantitative analysis of the Swiss watch industry's transition to a CE. It is promised to represent considerable value added for future researchers.

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8. Appendix

8.1. Appendix A: Contacted Companies

No.	Company	Response	Reason for declination
1	Audemars Piguet	Accepted	-
2	Baume & Mercier	No response	-
3	Beyer Chronometrie	Accepted	-
4	Swiss watch company	Accepted	-
5	Chopard	Declined	Insufficient resources
6	Eberhard & Co	No response	-
7	Franck muller	No response	-
8	Hublot	Declined	Referred to the LVMH Group
9	IWC	No response	-
10	Jaeger-LeCoultre	No response	-
11	Longines	Declined	No direct communication on sustainability but referred to the Sustainability Report from the Swatch Group
12	Maurice Lacroix	No response	-
13	Maximilian Büsser & Friends	Declined	Company too small
14	Mondaine	Accepted	-
15	Omega	Declined	Insufficient resources
16	Oris	No response	-
17	Patek Philippe	No response	-

18	Piaget	No response	-
19	Rado	No response	-
20	Richard Mille	No response	-
21	Roger Dubuis	No response	E-Mail was forwarded to CSR department - no response from there
22	Rolex	Declined	Do not communicate on their sustainability program
23	TAG Heuer	No response	-
24	Ulysse Nardin	No response	-
25	Vacheron Constantin	Declined	Referred to Richemont Group
26	VAULT	Accepted	-

8.2. Appendix B: Interview Guide

Introduction: Thank you very much for your participation in this study. Your experience and knowledge as an industry representative are a significant source of information and add great value to my research. My goal is to identify the state of non-financial reporting in the Swiss watch industry as well as barriers to the Circular Economy. The interview will be structured in four different parts. First, I will ask a few general questions about you, then I will go over the topic of non-financial reporting and the EU Taxonomy and will wrap up with a few final questions.

Block 1 – Warm-up

1. Since when do you work at “company X”?
2. What are your daily tasks as Head of CSR at X?
3. How is your department built up? How many employees are there?
4. How familiar are you with the topic of sustainability?
For how long have you been working in this field?

Block 2 – State of non-financial reporting

5. Has the topic non-financial reporting already come up in your company?
If yes, has it been considered relevant?
6. How strong is the focus on non-financial reporting in your company?
7. Do you have activities dedicated to the non-financial reporting?
If yes, do you have any reference you do them upon? E.g., UNSDG, ESG, etc.
8. What kind of commitments do you have towards non-financial reporting?
9. Do you consider your company ready for the upcoming legislative changes?
10. What are the main issues in terms of the preparation of non-financial reports?

Block 3 – EU Taxonomy and the Circular Economy

I will now ask you a few questions concerning the EU Taxonomy, where I will mainly focus on one of the six environmental goals, namely, the shift to a circular economy.

11. Have you already heard of the Circular Economy?
12. Do you apply it in your company?
If yes, what aspects do you address (ESG)

13. What experience have you had with Circular Economy?
14. With whom are you working? (upstream (suppliers), alone, downstream (customers))
15. In which part do you implement the Circular Economy? Procurement, manufacturing, distribution?
16. What do you still consider difficult when it comes to implementing the concept of Circular Economy?
Have you experienced objectives when implementing any circular business practices? If yes, were you able to overcome them? How?

Block 4 – Wrap-up/final questions

17. How do you see the future of the Swiss watch industry in non-financial reporting?
18. What are your next steps toward a Circular Economy?
19. What barriers do you see for a company that wants to transition from linear to circular?

8.3. Appendix C: Interview Participants

<i>Interviews</i>	Name	Company	Role within the company	Date	Format
1	Aurélien Debeyer	Audemars Piguet	Head of CSR	08.04.2022	CISCO Webex
2	André Bernheim	Mondaine	President of the board	11.04.2022	MS Teams
3	Mark Schwarz	Vault	Founder	22.04.2022	MS Teams
4	Anonymous	n/a	Head of Sustainability	03.05.2022	MS Teams
5	Martin Tobler	Beyer	Sales Division	06.05.2022	E-Mail

8.4. Appendix D: Interview Responses for the First Research Question

<i>No.</i>	Code	Sub code	Interview Responses
<i>1</i>	Non-Financial Reporting	Current state	<p>We are working on the update of the data of 2021 and are expecting to publish it in the coming months. We want to draw the line for the industry by starting to open up and be more transparent.” (IP1)</p> <p>“It is a holistic approach. If we communicate on CO² emissions but if we are not at ease on the human rights part, or if we communicate on water and do not have the security of our water management in our supply chain, we prefer to do nothing. We are so exposed and there are so many challenges within the supply chain that we have to be careful about that.” (IP1)</p> <p>“2020 was our first report. It was also the first year we became CO² neutral in scope one and two and part of scope three, which we enlarged now in 2021. But for the large scope three, so the shipping to our direct customers, we included those emissions. The first Echo balance-sheet we calculated was for 2019 to know where we are and what to do. It was also the year where we started with the photovoltaic, so we took also that as a benchmark.” (IP2)</p>

		<p>“I personally feel that you should do it because you are really committed and you feel committed and not just because you believe, well, this is going to please your shareholders. I think that this is quite important. Do it for the right reason.” (IP3)</p> <p>“We have a strong focus on non-financial reporting in terms of the attention that is provided by our senior management and that is provided by our shareholders to publish a report on a regular basis which in our case is an annual basis.” (IP4)</p>
	Reporting standards	<p>“We started to make non-financial reports based on the GRI index, but for the moment it is just an internal communication for the board and the top management to measure the impact and to follow the improvements on our commitments. For the first time, this year, based on 2021 information, we published on our website the first what we call the transparency report but what is not really a CSR report but it is a way for us to commit on some of our commitments and to inform our stakeholders about where we want to go. We had many questions from NGOs, press, students, customers, supplier who want to know where the brand is going. The brand is not linked with the CSR communication. The CSR communication and the brand are two different things. We work mainly on the compliance of the impact of the company more than the impact of the product. We deal with the company impact and not really with the product impact and what we sell today is the product. That</p>

		<p>is maybe why these two are not linked together.” (IP1)</p> <p>“We are aware of a number of reporting initiatives whether they are covering overall sustainability measures of specific measures in environmental or social sustainability, for example. That was one deciding factor, I would not say it is the driving or main factor, but we obviously knew that we were going to have a compliance aspect to our sustainability reporting approach for sure.” (IP4)</p> <p>“We based our reporting principle on the world economic forum international business council stakeholder capitalism metrics, and we made that decision because after having reviewed other means of reporting we decided that the WEFIBCSCM provides the most meaningful transparency. We do as well include the SDGs in our reporting and will actually expand them in our next report. But our core structure is the WEFIBCSCM and that of course draws from GRI, TCFD, and a range of other reporting frameworks.” (IP4)</p>
	Future	<p>“In terms of CSR reporting and communication I am convinced that in 2 years each brand will communicate on its impact because of the new regulations, competition, demands and it will be something normal. But the real challenge is not on how you communicate but how you communicate on the not visible part of the iceberg. We all have good practices, and this is the visible part of the</p>

		<p>iceberg. The important information and the improvement possibilities are in the invisible part of the iceberg. It is more important to communicate on this part. To say: ‘okay, my product is very good, and I know I have to progress on this and this parts because of this.’ We will see how it will happen. To make a report is very easy because we have many things to tell but this is not valuable at all.” (IP1)</p> <p>“Transparency and the complementary topic of traceability is very relevant, and I think like most industries we have still quite a bit of work to do in this regard. So that is something that we are actively working on right now to be able to provide meaningful disclosure.” (IP4)</p> <p>“It is a matter of time, it may be a matter of legislation, but I think non-financial reporting will continue to grow of importance.” (IP4)</p>
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8.5. Appendix E: Interview Responses for the Second Research Question

<i>No.</i>	Code	Sub code	Interview Responses
2	Upstream	Suppliers	<p>“Today, if you have a new supplier, it will not be as easy to receive that level of information and transparency in contrast to having long-lasting relationships with suppliers.” (IP1)</p> <p>“We may not even represent one percent of the global steel demand and we have high criterias. We are not heard by the big players.” (IP1)</p> <p>“The supplier told me, that I represent one hour of his production. So, if they do not agree with our high sustainability demands they can live without us and still be successful.” (IP1)</p> <p>“It is easy to ask for more sustainable production for Audemars Piguet to its suppliers, than transmitting these demands to the supplier of the supplier. Audemars’ suppliers are working with bigger suppliers where there again, they have little say.” (IP1)</p> <p>“If you are too small regarding one of your suppliers you are excluded. It does not make sense for the supplier to be challenged by their customers while their profit with this customer is almost nothing compared to others.” (IP1)</p>

		<p>“Supply chain is really a difficult topic because we do not have the power to enforce anything.” (IP2)</p> <p>“We do not find transparency on leather. These suppliers are not willing to declare what and how it is being done. Or at least it is not trustful.” (IP2)</p> <p>“They put all the obligations on their suppliers. But they do not do any attempt to go further than their direct contact. It is difficult to get to the source.” (IP2)</p> <p>“We can change the supplier, but the answer will not be different.” (IP2)</p> <p>“We asked our suppliers, we talked to them, we tried to find out who their suppliers are. The stock market has got a dealer and the dealer has got a dealer and so on. It is hard to find out where exactly from which factory the steel is coming, so they do not know it exactly, so we press them for giving us an answer. ‘What is the percentage of recycled materials?’ and recycled for them means actually not consumer recycled waste material, but production waste. So actually, that answer should not be too difficult, but the answer we got is between 0 and 80 percent. Maybe there is some recycled metal in it. Maybe there is not. There is nothing I can do with that.” (IP2)</p>
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<p>Internal Processes</p>	<p>Capacity</p>	<p>“Related to the quantity: the more you need, the more suppliers you have, and the more risk you have in your organization and supply chain when it comes to transparency” (IP1)</p> <p>“The big companies, they probably would have the economic power to put pressure on their suppliers to dig deeper. With a small company, we do not. They just tell us to go to someone else.” (IP2)</p> <p>“(…), it is probably an advantage of being a SME.” (IP2)</p> <p>“There is an issue for the SME companies, especially. Circular Economy and sustainability are a difficult area. With A lot of things that people do not know, so they do not know how to approach it.” (IP2)</p> <p>“We are quite a small player. So, in terms of the leverage you have, facing your suppliers is not such an easy way to take.” (IP3)</p> <p>“If you are a big luxury watch brand you might have more leverage because you can basically say: ‘well, if you do not move in that direction, if you do not comply to our sustainable mission and goals, then we will just switch to another one.’ Now in our case that is maybe a bit harder, I have to say, but it is not impossible.” (IP3)</p>
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		<p>“Time resources are a current barrier. We are just very constrained and having to prioritize issues we see circularity is highly important, but we also have other burning topics. Time resources and going from there a matter of really understanding the situation, finding the technological solutions and then behavioral solutions.” (IP4)</p> <p>“Understanding processes [upstream and downstream] and really mapping those and understanding all the actors on the way is a challenge.” (IP4)</p> <p>“We try to avoid waste and conserve resources within the scope of our possibilities. However, there is no responsible person for this topic.” (IP5)</p>
	Cost	<p>“Increasing circularity in the supply chain is not as easy. And you know, at the end of the day, we really have to also watch what benefits do we have if doing more.” (IP2)</p> <p>“Some materials are a little bit more expensive like the ocean waste material.” (IP2)</p>
	Internal Conflicts	<p>“I wanted to switch our whole production to grape skin. Now our sales and marketing people said no, let us do it only with one line and then see how it is accepted by our dealers and by our consumers.” (IP2)</p>

		<p>“I was listening to a webinar last week of Price Waterhouse. And there were mainly bigger companies or big companies, very few SMEs and I heard over and over again that the problem is that the board and the top management do not stand behind becoming more circular. Now I cannot judge or know if that is true for the large companies, but I know it is not for my company. I am the member of the board. Even president of the board together with my brother. We are the only shareholders. I am pushing for it. I am struggling. The people within the company on the lower levels that they really see the need and the benefit. So, I feel exactly the opposite from what I hear from the outside. They say it has to be the top management and the board, who has to stand behind it. I am there. I do not get it through internally.” (IP2)</p> <p>“I do not think sustainability is obviously a very important topic for every company, for everyone.” (IP3)</p> <p>“We do have circular activities but we do not name them as such to be quite frank it is because we are still trying to get a meaningful logic behind circular economy because it is a very complicated and complex subject and we did not want to use the word without having something to say behind it.” (IP4)</p>
4	Downstream Customers	“We wanted to hand out more sustainable boxes to the clients, which were less big, with natural and recycled raw materials and it was not in line with the expectations of the customers. They wanted to have

		<p>the same boxes with the Swiss wood. We had to re-organize the production of our original boxes.” (IP1)</p> <p>“When it comes to marketing and exhibitions, there is room for improvement in terms of circular economy. But it is not easy because you always have to propose new experiences to the customer, and if you reuse what you have done before it is not a new experience.” (IP1)</p> <p>“I have had a dispute with my brother, who was the initiator of sustainability in our company, so he is all for sustainability. But there are just doubts about how much is sustainability of importance to consumers. And I think we all agree that a consumer will not buy a watch just because it is more sustainable.” (IP2)</p> <p>“We reuse plastic to make watch cases. The consumer will not see any difference. We tested it in the lab, to see if there is any weakness in the material or anything, and there is absolutely nothing. For the consumers who really just are skeptical will just find reasons why the quality is not the same.” (IP2)</p> <p>“I am in contact with smaller companies that now are trying to use more recycled material. Of course, I would prefer to use consumer recycled material, so which has been in consumer use. So, kind of upcycling which we did already in the 90s. But It was</p>
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		<p>just too early then. Now I would like to do it again.” (IP2)</p> <p>“..., we still have to convince the consumer that Grape skin is as good as leather. In terms of touch and feel, but also the quality lifecycle and everything, so we went through some extensive tests. Found that the grape skin is at least as good in all terms as a leather.” (IP2)</p> <p>“I think the Swiss watchmaking industry, which mainly consists of luxury watch industry feel they are so superior; they do not need it [sustainable activities]. The consumers will buy the watch anyhow.” (IP2)</p> <p>“And that is why I am quite aggravated about when they now come up with a bio ceramic. Did you ever see a ceramic tree? So, I mean, it is a contradiction in these two words. Probably consumers do not ask themselves: Is there any bio ceramic? And so, the question is not being asked and they get along with it.” (IP2)</p> <p>“People who have got watches, even if they do not work anymore or if they do not like them, they do not throw them away. They put them in a box or in a drawer and there they remain. And if you move your apartment, it moves with you, but you do not throw the watch away. So, the emotions behind a watch are tighter than clothing. That is certainly one reason</p>
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		<p>why companies do not offer a take back service, because people will not send in their watches.” (IP2)</p> <p>“The obvious thing does not mean that it is good in terms of sustainability. But how do you want to explain this to a consumer?” (IP2)</p> <p>Question: Do customers ask questions about the sustainability of the watch?</p> <p>“We have not had collectors asking so far. There has never been actually questions so far in terms of that. Now either that could be because people trust our brand to do the right thing or there is maybe to some extent, I would not say a lack of interest, but just other priorities when purchasing such watches.” (IP3)</p> <p>“I think what really would help actually would be having more pressure from the consumer side. That would make a big difference to move towards more circularity.” (IP3)</p> <p>“When we released the upcycled watch boxes which is made from 100 percent PET, weighs less and has less logistics emissions associated with the box, a lot of people reacted negatively because they associate the Swiss watch industry with the big fancy boxes that weigh a lot even though they are going to throw it away.” (IP4)</p>
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		<p>“Implementing circularity downstream is very difficult, because there you have less control or just less oversight. You are less aware of your inputs and outputs and have challenges gathering data. You cannot follow what is happening downstream.” (IP4)</p>
	Trust	<p>“We have a lot of clear quality regulations in the Swiss watch industry that govern how materials need to be handled and I think there is an extra step which can be done in terms of testing to ensure that every material that may be of recycled origin or a new material that we are not familiar with are able to meet our quality requirements.” (IP4)</p>
	Stakeholders	<p>“Publicly traded watch companies have the shareholder value on the Stock Exchange. So, they are afraid of any negative press about what they are doing. So, they wrote it down to publish anything than publishing something which could have a negative influence on their share value.” (IP2)</p> <p>“Ultimately, it is going to be a combination of shareholder pressure, the belief of the company itself to move in that direction but also the consumer who expects that and wants to see that transparency and wants to see that change in the industry, which will lead to more sustainable future in the watchmaking industry.” (IP3)</p> <p>“There is a business case for sustainability, whether it is in the near term or the long term, but sometimes it may be more expensive. It is a matter of engaging with suppliers.” (IP4)</p>

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Environment	Regulations	<p>“When it comes to mining, especially gold we have a huge issue. We are using data, which are aggregated coming from all over the world and do not correspond to the type of mine we use. We use this international standards, GSG-protocol, but this standard is not aligned with the suppliers we are working with. We do not know if the mine we are working with is better or worse in terms of emissions. We currently cannot rely on the data we have.” (IP1)</p> <p>“Once they [employees] started to understand what I am doing. they wanted to become totally green. Babies do not start with a marathon. You start crawling, then you start walking, and then then you might start running. So, I think that is also an obligation of the government. And of maybe organizations and volunteers to help SME's to get into the topic.” (IP2)</p> <p>“We cannot just bet on the free markets to transition by themselves. There are going to have to be interventions obviously from the government. But I think the best way forward will be if we have global standards in place because one big issue is if we start to just simply implement sanctions or, let us say, additional cost to manufacturers in Switzerland if they do not move into a green, sustainable way, leads to the fact that the manufacturer is going to be moved to other countries.” (IP3)</p>
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		<p>“So, I believe the only way forward, and that is something which I strongly believe in, is what we need to solve the climate crisis in international regulations which are going to make sure that we have got a plain level playing field where everyone has got a fair chance to participate in the market.” (IP3)</p> <p>“From the perspective of ESG, we still absolutely focus on the environmental topic and reducing our waste volume and the carbon emission associated with the plastic production and waste disposal. Those are the ones that are most prominently addressed. I know that circular economy can have a lot of interesting social impacts and quite frankly we are not there yet.” (IP4)</p>
	<p>The industry image</p>	<p>“The Swiss watch industry uses the fact that high quality watches do not have an end of life to protect themselves to make further commitments.” (IP1)</p> <p>“We are working in a very secret industry. There is huge competition between the main players in the industry. One supplier does not want to give information to a brand because this supplier is also working for another brand. So, the lack of transparency is partly due to protection in the competitive industry.” (IP1)</p> <p>“We do not have trustable data in our industry because the volumes of produced watches are not the same, the origins of the resources are not the same,</p>

		<p>the quality we use is not the same. Each brand has very specific demands.” (IP1)</p> <p>“Watches do not have an end of life, so it is not possible to re-use the product in order to make a new one.” (IP1)</p> <p>“For as long as companies are saying it is not needed in our industry, because there is no pressure from the consumers, nobody will really act.” (IP2)</p> <p>“I believe it has a lot to do with trust. So, in essence, if you trust a certain brand, let us say a Swiss luxury watch brand, you expect to some extent sustainability already factored in and that it is a part of the company. So, I think it really has got to do with trust and maybe also the fact that in comparison to a car: Let us say, an automatic watch which is powered by your own kinetic energy feels per definition as let us say, less of something which you have to scrutinize in comparison to a V12 sports car, for example. There is something that is probably one reason why I can see a much greater effort in the car industry to move into a more sustainable green way of working and operating in comparison to the watch industry.” (IP3)</p> <p>“Personally, I think that the arrogance of the luxury industry and consumers entails a discreet ‘looking the other way’. We have, for example, added vegan watch straps to our range. The success is</p>
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		devastatingly small. Customers prefer alligator or calf straps.” (IP5)
	Culture	<p>“it is a cultural change in our industry.” (IP1)</p> <p>“The nature of the industry is quite opaque, and it is its historical nature and I think that it accounts for a lot. It is a core cultural issue and a significant barrier to disclosure. In addition to that, is that a lot of companies are privately held, so are not subject to any compliance measures by which they had to issue disclosures and the next would be that I think there has been a risk-reward calculation conducted, whereby they have determined that the balance is more on the negative risk and not on positive risk and they have decided there-upon not to disclose.” (IP4)</p> <p>“At the production site, if you think at a watchmaker’s desk, there is going to be a number of different plastic-containing components there, like a Q-tip [cotton swab] or a cover for the fingers to reduce the friction as they are working. And right know these are being thrown into a waste basket at the side of their desk. It requires little intervention on their part. But we are soon going to ask people to leave their desk and distribute these parts into dedicated receptacles for material which can be recycled together. And that is actually a huge barrier to overcome in terms of behavioral change. So, there we will be addressing the status-quo bias. These workers have done it this way for many years, which for some people may be 30 years and now we are</p>

		<p>asking them to change their behavior they had for that long in a way that is quite substantial.” (IP4)</p> <p>“Since circular economy at the end is so human level oriented, it requires substantial changes in each of us to the way that we work and live our lives. It is a huge barrier that we have to consider in the process.” (IP4)</p>
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8.6. Appendix F: Overview of the Barriers

Upstream	Internal Processes	Downstream	Environment
Lacking transparency of suppliers	Limited resources due to company size	Customers' skepticism towards circular products	Lacking regulatory incentives
Low bargaining power against suppliers	Lacking understanding of the topic	Attitude behavior gap of customers	Missing introduction of institutions
Complexity of value chain	High initial investments involved	Lacking pressure from stakeholders	Sustainable nature of the Swiss watch industry
	Managerial issues / hesitation from lower management		Culturally rootedness of the industry