Socially Responsible Sourcing in Automotive Supply Chains

The case of conflict minerals at Volvo Cars

Carl-Henrik Gustafsson and Henrik Samuelsson
Abstract

Engaging in corporate social responsibility has become increasingly important for organisations. This has increased the focus on sourcing processes and how social and environmental aspects can be incorporated. Organisations are now taking action in an attempt to trace their use of so-called conflict minerals, and to assure that their supply chain is free from them. The purpose of this thesis is to investigate how automotive manufacturers can source components potentially containing conflict minerals in a socially responsible way. This is done through a case study at an automotive manufacturer not yet affected by any regulation. The study highlights that incorporating requirements and policies into codes of conducts and/or request for quotations, traceability and collaborative measures such as sharing of information are crucial to ensure a supply chain free from conflict minerals, whereas supply chain complexity and the lack of monitoring activities constitutes barriers.

Keywords: conflict minerals, responsible sourcing, sustainable supply chain management, monitoring, collaboration.
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Abbreviations

CoC – Code of Conduct
CSR - Corporate Social Responsibility
CFSI - Conflict-Free Sourcing Initiative
CFSP - Conflict-Free Smelter Programme
DRC - Democratic Republic of Congo
EICC - Electronics Industry Citizenship Coalition
IMDS - International Material Data System
MNC - Multinational Corporation
MSA - Manufacturing Site Assessment
NGO – Non-Governmental Organisation
OECD - Organisation for Economic Co-operation and Development
RFQ - Request for Quotation
SCM - Supply Chain Management
SSCM - Sustainable Supply Chain Management
SEC - Security and Exchange Commission
SQM - Supplier Quality Management
VC - Volvo Cars
1. Introduction

This section will provide the reader with the required background information regarding conflict minerals and related supply chain issues, as well as the related problematisation. Moreover, the purpose, research questions, and scope of the thesis are discussed, as well as a short description on the thesis outline.

1.1 Introduction

The last decades show an increased focus on the relationship between global supply chains and corporate social responsibility (CSR), and how this affects multinational corporations (MNCs) (Chiara & Spena, 2011). Corporations now face social responsibility challenges on a daily basis and it is no longer up for discussion whether to consider them important or not, but rather how to integrate them into business processes and management decision (Epstein, 2008). Increased competition and development on a global level, together with increased outsourcing, have resulted in that the typical supply chain is now being comprised of more actors than before (Seuring & Müller, 2008). This has led to a growing level of uncertainty throughout the supply chain, i.e. that organisations lack knowledge about actors in their supply chain (Boström et al., 2012). Traditionally supply chain partners have had large impacts on cost, quality, speed etcetera (Ragatz et al., 1997). However, as CSR-issues have grown in importance organisations now risk suffering reputational damage through their sourcing activities (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2013), something that has been illustrated by public boycotts of global brands such as Nike and Shell (Lee & Kim, 2009).

Recently issues regarding products containing minerals sourced from conflict areas, such as the Democratic Republic of Congo (DRC) has been increasingly emphasised (Epstein, 2011; European Commission, 2013; Swedwatch¹, 2010). Minerals labelled as conflict minerals are most commonly defined as tin, tantalum, tungsten, and gold originating from the DRC and its adjoining countries (SEC, 2012). The minerals can be found in everyday electronics such as mobile phones, computers, and cars (Epstein, 2011). It is estimated that armed rebel groups

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¹ An independent non-profit organisation recording Swedish business relation in developing countries, focusing on social and environmental concerns. For more information see http://www.swedwatch.org.
control approximately 50 percent of the mines in the DRC (BSR\(^2\), 2010). This has manifested itself in a growing number of efforts targeting the issue, for example legal requirements in the form of the *Dodd-Frank Wall Street Reform and Consumer Protection Act Section 1502* issued by the U.S. Securities and Exchange Commission (SEC\(^3\)). The Dodd-Frank Act requires U.S. and certain foreign organisations to publicly report their use of conflict minerals (SEC, 2013). Furthermore the European Commission issued a proposed self-certification system for smelters on March 5th, 2014, targeting the European importers of tin, tantalum, tungsten, and gold (European Commission, 2014a). In 2011 the Organisation for Economic Co-operation and Development (OECD\(^4\)) published the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* (later referred to as the OECD DD Guidance); a collaborative government-backed initiative intended to avoid the contributing to the conflict as well as respect human rights (OECD, 2013).

The initial and most exposed industry in terms of conflict minerals is the electronic industry; however the automotive industry is witnessing an increased focus as it is one of the most economically relevant industries in terms of revenue (Böhme et al., 2013). Consequently, several organisations and governments have addressed the issue of these minerals funding an on-going conflict and the need to dissolve this link (BSR, 2010; Epstein & Yuthas, 2011).

With the intention of looking closer at how automotive manufacturers can source components possibly containing conflict minerals in a more socially responsible way, this thesis will be done through a case study in collaboration with the purchasing department at Volvo Cars (VC). In doing so, it will highlight current working methods and challenges surrounding the conflict minerals issue with regards to supply chain and supplier management.

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\(^2\) A non-profit organisation and network, consisting of 250 member companies working together to build a just and sustainable world. Developing sustainable business strategies through research, consulting and cross-sector-collaboration. For more information see http://www.bsr.org.

\(^3\) An agency of the United States federal government. Responsible for enforcing the federal securities laws and regulating the nations stock and options market, and other activities and organisations. For more information see http://www.sec.gov.

\(^4\) An international economic organisation founded to stimulate economic progress and world trade. Promoting economic and social well-being of people around the world. Provide a forum where governments collaboratively share experiences and seek solutions to common problems. For more information see http://www.oecd.org.
1.2 The Congolese Mineral Production and Conflict

DRC is one of the, if not the, most dangerous regions in the world (Enough Project⁵, 2009) and considered the most unstable part of the world (Mazalto, 2009). The conflict started in the late 1990s and has caused 5.4 million casualties and millions of rape victims, and one of the key drivers behind the conflict is due to DRC’s natural resources (BSR, 2010; Enough Project, 2009; Epstein & Yuthas, 2011; EYE, 2013). Most of the revenues profit the armed groups instead of the local communities and citizens. In 2008, DRC were responsible for 4 percent of the global tin production, 15 percent of the world’s tantalum production, 2 percent of global tungsten production, and less than 1 percent of global gold production (Enough Project, 2009). A large part of the minerals trade in Eastern DRC is controlled by units of the Congolese army, militias and the Democratic Forces for the Liberation of Rwanda, who were involved in the Rwandan genocide in 1994 (BSR, 2010; Global Witness⁶, 2010). The rebel group National Congress for the Defence of the People controls most of the tin and tantalum mining areas using mafia-style extortion tactics (Global Witness, 2010). A mapping of the mines in Eastern DRC uncovered that 12 out of 13 major mines, and approximately 50 percent of the 200 total mines, were under armed groups’ control. The mines in Eastern DRC remoteness further complicate the control and insight into the area (Wimmer & Hilgert⁷, 2011). The armed groups generate income in two main ways, either by controlling the mines which entails mining themselves, or through illegal taxation, fees and charges from other miners without giving anything in return. The Enough Project (2009) estimate that the armed groups earned approximately $185 million from the trade in 2008.

The lack of adequate governance in Eastern DRC is one of the more prominent underlying factors that enable the armed rebel groups and militia to continue to expand and control the

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⁵ A non-profit organisation initiated by policymakers and activists with the aim to end genocide and crimes against humanity. Focus lies in Sudan, the Democratic Republic of Congo, Somalia, and the areas controlled by Lord’s Assistance Army. For more information see http://www.enoughproject.org.

⁶ An international non-governmental organization (NGO) that since 1993 has run campaigns against natural resource-related conflict and corruption and related environmental and human rights abuses. For more information see http://www.globalwitness.org.

⁷ Published by International Peace Information Service, an independent research institute dedicated on peace and development in sub-Saharan Africa. Focusing on arms trade, exploitation of natural resources, and business and human rights. For more information see http://www.ipisresearch.be.
Seay (2012) argues that the weakness of the Congolese state and absence of sound governance, is contributing more to the current state, rather than the mineral trade itself. To mitigate this, the Enough Project (2009) argues a more comprehensive approach is required, an approach that promotes sustained and long-term investments in DRC’s security, governance and livelihoods that generate a higher degree of transparency and accountability. To achieve this, international organisations and governments should work jointly to enable a greater control of the mining and commerce in Eastern DRC. In 2010 the World Bank launched a project (*DRC - Growth with Governance in the Mineral Sector*) with the intention to strengthen key institutions and their capacity to manage the mineral sector, improve conditions for investments and revenues, and help increase the related socio-economic benefits (The World Bank, 2014).

A large degree of the minerals are exported to the neighbouring countries including Uganda, Rwanda and Burundi (Enough Project, 2009; Mitchell & Garrett, 2009). Due to the relatively high tax on exported minerals in DRC in relation to these surrounding areas, the buying houses have therefore strong incentives to underreport the quantity in order to avoid taxation, and thus smuggle the minerals across the border (Enough Project, 2009). Roughly 30 percent of the actual tin trade is documented (Bates & Sunman, 2007). Moreover, the international traders do their best to hide the trait back to DRC, and as an example Rwanda reported exports of 2,679 tons of tin the first six months of 2008 even though the largest mine produces approximately five tons a month (Enough Project, 2009). Thereafter the minerals are shipped to Asia, where they are processed into metals by multinational smelting and processing organisations in e.g. Thailand, China and Malaysia (Enough Project, 2009; Mitchell & Garrett, 2009).

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8 Published of the Center for Global Development which is an independent, nonprofit policy research organisation dedicated to reducing global poverty and inequality and to making globalisation work for the poor. For more information see www.cgdev.org

9 Published by RCS Global. Organisation that provides audits and assessment services, as well as consulting and strategic advisory services to mining companies and conflict minerals supply chains actors. For more information see http://www.rcsglobal.com.

10 Published by the Department for International Development, UK’s governmental agency working to end extreme poverty through creating jobs, unlocking potential for girls and women and helping save lives when humanitarian emergencies hit. For more information see https://www.gov.uk/government/organisations/department-for-international-development.
1.3 Supply Chain Issues Regarding Conflict Minerals

Much due to problems in distinguishing between conflict-free minerals and minerals benefitting the armed groups, the consumption of consumer goods contributes to the continuation of the conflict (Epstein & Yuthas, 2011). Furthermore as the result of increased global sourcing and outsourcing activities engaged by MNCs, organisations are running the risk of being entangled with actors involved in various conflicts (Schouten, 2013) and also risk reputational damage (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003). Due to the intricacy surrounding conflict minerals in supply chains (BSR, 2010) and that the typical supply chain is getting longer and more complex as more organisations are involved (Seuring & Müller, 2008), transparency plays a significant role in establishing more sustainable supply chains (Egels-Zandén et al., 2014). A simplified model of how a supply chain of conflict minerals looks like is presented in Figure 1.

![Simplified model of a conflict mineral supply chain (Schuh & Strohmer, 2012).](image)

The conflict minerals from Eastern DRC and its surrounding area are most often filtered into the global supply chain by exporting organisations, mixing the conflict minerals with the conflict-free minerals (BSR, 2010; Global Witness, 2010). Furthermore the minerals are transformed into refined metals at large smelters, which results in a non-transparent supply chain which complicates traceability (BSR, 2010). The conflict minerals are part of supply chains with

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11 Published by the Commercial Conflict Dependent Actor. A NGO consisting of Diakonia, Church of Sweden, and University of Gothenburg with the objective to develop concepts and promote the corporate sector to avoid reinforcing negative impacts in conflict-affected areas. For more information see http://www.cccda.se.

12 Published by A.T. Kearney. A global consultancy firm. For more information see http://www.atkearney.com.
numerous stages and intermediaries from mine to end-product, which shines a light on the complexity of establishing a conflict-free, transparent and accountable supply chain (Fenwick & Jurewicz, 2013). According to Carter and Rogers (2008) transparency has become increasingly important for organisations as various local stakeholders are demanding more visibility and in order to maintain as well as gain legitimacy organisations need to open up their operations. Much due to the Dodd-Frank Act, organisations are now increasing their transparency within operations regarded to conflict minerals as witnessed by for example Intel’s published efforts to secure that their microprocessors are free from conflict minerals (Intel, 2013).

1.4 Problem Discussion

Today, production processes are increasingly dispersed around the world (Seuring & Müller, 2008), and attention is currently more on competition between supply chains rather than between firms (Andersen & Skjoett-Larsen, 2009). As it generally is the focal organisation that is under scrutiny (Andersen & Skjoett-Larsen, 2009), firms with long and complex supply chains may now be held responsible of the environmental and social impacts of their suppliers (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003). As a result, operations, purchasing, and supply chain managers are now trying to integrate these aspects into their respective activities. In the last decades corporations have acknowledged sustainability and CSR as increasingly important and vital parts in their business strategies (Epstein, 2008). Seuring and Müller (2008) argue that organisational engagement in sustainability in supply chains are predominately driven by response to stakeholders, customer demands, environmental and social pressure groups, legal demands, reputation loss, and competitive advantage. Schneider and Wallenburg (2012) argue that the implementation of sustainable sourcing relies strongly on the purchasing function. The more complex supply chain, the more links and nodes there are and thus the greater risk being exposed to failure (Christopher, 2012). One industry demonstrating the growing complexity in modern supply chains is the automotive industry, as the industry is characterised by a high level of outsourcing (Caniëls et al., 2013). Furthermore, Caniëls et al. (2013) argue that suppliers account for 60-80 percent of the total manufacturing costs, which makes the automotive sector highly supplier-dependent. Numerous industries, e.g. the electronic industry, the automotive industry, and the jewellery industry have recently encountered new regulations and initiatives focusing on conflict minerals (Global Witness, 2010), most prominently the Dodd-Frank act,
proposed EU legislation and the OECD DD Guidance. This has resulted in increased awareness of conflict minerals within organisations. Organisations active in or associated with the region of DRC may therefore be at risk of contributing to the conflict and abuse of human rights through rape, extortion, massacres, forced labour, and forced recruitment of child soldiers (Global Witness, 2010; OECD 2013) as the trade in conflict minerals is one of the key drivers of the Congolese conflict (Enough Project, 2009).

Chiara and Spena (2011) argue that MNCs can act as moral agents, and that these organisations need to understand how they can contribute to the development of undeveloped regions, and that they through influence and commitment can contribute to a more sustainable and prosperous future. As a result of production processes being dispersed around the world, the social and environmental impact is no longer strictly regional, and upstream supplier-operations are generally taken into consideration when evaluating the focal organisation's performance (Seuring & Müller, 2008). Caniëls et al. (2013) elaborates further and state that a high level of environmental and social performance from the focal organisation may be counteracted by a lower level of performance from its suppliers, as it is the end-product and organisation that is most often held accountable and up for scrutiny. Therefore it requires collaboration with suppliers throughout the supply chain and not only with first-tier suppliers (Seuring & Müller, 2008; Pagell & Wu, 2009). Chiara and Spena (2011) argue that the key to more responsible and sustainable business strategies are relationships with both internal and external stakeholders. Consequently, operational sourcing activities are increasingly being incorporated with social and environmental issues (Chiara & Spena, 2011: Seuring and Müller, 2008). Furthermore dialogue, transparency, and interaction with suppliers are significant components of CSR initiatives and without collaborative partnerships with suppliers, the pressure may exceed their ability to respond and comply (Chiara & Spena, 2011).

Research within the field of sustainability in the last decade show that there is a deficit in supply chain management (SCM) and purchasing literature on social issues (Seuring & Müller, 2008; Seuring 2008a). Moreover, where some industries have progressed further on the issue of conflict minerals (e.g. the electronics industry), other ones such as the automotive industry has not (Böhme et al., 2013). This study concerns conflict minerals in automotive supply chains, and
as such seeks to fill the above mentioned void by focusing on how automotive manufacturers can source in a socially responsible way.

1.5 Purpose and Research Questions

The purpose of this study is to investigate how automotive manufacturers can source components potentially containing conflict minerals in a socially responsible way. In order to address the purpose of the thesis, the following research questions are proposed. The first research question is more out of a descriptive nature, whereas the latter require more analytical measures.

- What current legislation and initiatives exists regarding conflict minerals for automotive manufacturers and their supply chain?
- What measures can automotive manufacturers take to source conflict minerals in a socially responsible way?

This question will be answered through a case study conducted on the purchasing department at VC in Gothenburg, Sweden.

1.6 Delimitations

In addition to social problems related to conflict minerals, there are environmental problems as well. There are issues with the use of for example mercury and cyanide in the process of extracting the minerals and the mining threatens surrounding important ecosystems, causes water pollution, and deforestation as the communities require fertile soil for food cultivation (Institute for Environmental Security\textsuperscript{13}, 2008; Levin et al., 2012). Although social and environmental issues are connected in many ways, it would be beyond the scope of this study to try to investigate both of these issues. Furthermore it is believed that the study will attain a higher level of quality focusing on strictly social factors. The thesis will therefore not target environmental factors of conflict minerals.

While the underlying causes behind working with sustainability are important, this thesis aims to take more of a practical approach focusing on the sourcing of components potentially containing conflict minerals and the operational challenges this poses. Therefore, the assumption is made

\textsuperscript{13} An international non-profit NGO. Established in order to increase political attention and improve environmental security, safeguarding vital conditions for peace and sustainable development. For more information see http://www.envirosecurity.org.
that automotive manufacturers wants to take action and source potential conflict minerals in a responsible way. Thus the focus will be on potential measures rather than motives behind.

1.7 Definitions
Conflict minerals are defined by the SEC as “...(A) columbite-tantalite, also known as coltan (the metal ore from which tantalum is extracted); cassiterite (the metal ore from which tin is extracted); gold; wolframite (the metal ore from which tungsten is extracted); or their derivatives; or (B) any other mineral or its derivatives determined by the Secretary of State to be financing conflict in the Democratic Republic of the Congo or an adjoining country” (SEC, 2012:6). This is the definition that will be used when mentioning conflict minerals.

Social responsibility in the context of this thesis is clarified by defining both social issues and responsibility. “In a supply chain context, responsibility is conferred when a firm has authority to make decisions independently, and has the ability to control, pressure or induce action by suppliers and customers through such factors as product design or contractual arrangements” (Klassen & Vereecke, 2012:104). Social issues are defined as “product- or process-related aspects of operations that affect human safety, welfare and community development” (Klassen & Vereecke, 2012:103).

Sustainable supply chain management (SSCM) is defined as “the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements” (Seuring & Müller, 2008:1700). When referring to SSCM, this is the definition that will be used.
1.8 Outline

The outline of the remaining parts of the thesis is structured as in Figure 2. The methodology chapter introduces the essential concepts, how the information was gathered, and the credibility of the findings, analysis and conclusion. Thereafter follows the theoretical framework and empirical background. The empirical findings are based on information collected through interviews conducted with VC’s suppliers, as well as internal interviews at VC. The analysis of the findings, important conclusions, and suggestions for further research are developed in the latter part of the thesis.

Figure 2. Thesis outline. Own illustration.
2. Methodology

During the process of conducting this thesis a number of methods and theories were used to be able to understand and analyse the research topic, as well as answering the proposed research questions. This chapter intends to assist the reader in understanding the chosen methods. Furthermore it allows the researchers’ to motivate and criticise the used methods and sources of information, and hence reflect of the thesis validity and reliability.

2.1 Research Approach

According to Bryman and Bell (2011) a qualitative research seeks to gain contextual understanding, i.e. behaviours, values, beliefs and so on, rather than generalise the results to a larger population. The focus will not rely on the organisation itself, rather the inter-organisational process between the focal organisation and its suppliers.

The thesis will largely be based on deductive reasoning (Bryman & Bell, 2011). As the existing knowledge forms the basis of the theoretical framework, the deductive research approach enables and drives the process of gathering empirical data. The research will include some inductive reasoning as well, as the field of research is relatively unexplored and the theoretical framework was revised following the collection of empirical data. Furthermore Bryman & Bell (2011) point to the fact that deductive research is considered as a very linear process, which seldom is the case as new theoretical ideas or empirical findings may call for a revised theoretical framework. This addresses the notion that the thesis will include inductive reasoning to some extent.

2.2 Research Design

According to Bryman and Bell (2011) the research design provides a framework for collection and analysis of data, and reflects upon the choices and priorities done during the research process. The researchers’ were approached by Volvo Cars (VC) that had an interest in the focal matter. VC requested an assessment analysis over the current regulations and initiatives targeting the conflict minerals issue, as well as a recommendation on how to conduct sourcing activities in a more socially responsible way. Based on VC’s requirements, significant time was allocated to establish a purpose that would meet their requirements. Valuable input was given from our academic supervisor on how to narrow down the subject. Once the purpose was established, the research questions were formulated, keeping in mind that it would be used to guide the research
to achieve its purpose (Bryman & Bell, 2011). The theoretical framework accompanied with the empirical findings was thereafter used in order to conduct the analysis.

To effectively conduct a qualitative research it is of vital importance to get background information on the subject, also known as contextualisation (Collis & Hussey, 2009). Therefore an extensive literature review was conducted in order to construct the foundation for the thesis. The theoretical framework would have to underpin the concept of supply chain management (SCM) and related aspects such as the importance of the purchasing department in terms of sustainable sourcing. The theoretical framework will thereafter be compared with the empirical findings. The literature review is critical for the study as it evaluates the existing literature on a topic and guides the research (Collis & Hussey, 2009). Consequently the research consists of both secondary data (existing literature and regulations) and primary data (information gathered through internal and external interviews). The empirical findings were gathered with the use of a selected number of suppliers, all of which were supplying VC with products containing potential conflict minerals. Furthermore internal data and information at VC was gathered using interviews. In order to structure the findings and analysis, van Weele’s (2010) model of the purchasing process (see section 3.5.1) was modified to encompass the sourcing of potential conflict minerals (see section 3.7), and thus forms the basis for the findings and result.

2.3 Research Method - Case Study

The purpose of this study is to investigate how automotive manufacturers can source components potentially containing conflict minerals in a socially responsible way. The field of sustainable supply chain management (SSCM) and related literature have recently increased; there is however a deficit in case study based research on the matter (Seuring, 2008b). The research method is the technique used for collecting data (Bryman & Bell, 2011). This thesis will be conducted using a case study as research method. A case study is preferable when “…(a) "how” and “why” questions are being posed, (b) the investigator has little control over events, and (c) the focus is on a contemporary phenomenon within a real-life context” (Yin, 2009:2). As the research attempts to answer how an automotive manufacturer can incorporate conflict mineral management, the research method was deemed suitable.
The advantage of case studies over other qualitative, and quantitative, research methods is due to its flexibility as it allows the data collection to be designed after the research question (Meyer, 2001). The researchers’ deemed it appropriate to conduct a case study due to the fact that the study is of an explorative nature, and the intent is to explore how an automotive manufacturer can incorporate social issues in terms of the management of conflict minerals into the existing sourcing processes. Case studies enable the researcher to study many different aspects and examine them relative to each other, investigating the process within its conceptual environment and utilise the researchers´ capacity of understanding and analysing. Hence, investigating if and how other supply chain partners are undertaking the issue will improve the level of knowledge and understanding, and thus enable the structure of an appropriate approach towards the management of conflict minerals. Case studies as a research method have been criticised for its lack of rigor (Meyer, 2001; Seuring, 2008b), but if the research is well-structured and well documented it still allows the means for an in-depth analysis (Seuring, 2008b). As the analysis is reliant in multiple judgements of an analyst, and the analyst may unconsciously search for support of a particular view of data, it is advisable that two or more analysts interpret the data in order to achieve adequate reliability (Brewerton & Milward, 2001). This evidently tests the researcher’s abilities, however being students on a graduate level the researchers’ should possess sufficient analytical skills. Exploratory case studies are used when there are few theories or a shortage in knowledge on a phenomenon (Collis & Hussey, 2009). Within exploratory case studies, Yin (2009) defines one of the types as a descriptive case study that introduces a comprehensive description of a specific phenomenon within its context. These notions further strengthen the choice of research method as the management of conflict minerals is a new field within academic research. Meyer (2001) argues that without an adequate theoretical framework, the research may be in danger of providing description without meaning. Therefore, much emphasis was put into a rigorous literature review to validate the theoretical framework.

2.4 Sampling and Data Collection

The collection of data can be used through a variety of techniques. There are primarily two different ways of doing this, either by primary or secondary data. Primary data is original data collected at the original source by the researcher for the specific research problem at hand, whereas secondary is information collected by others for purposes that may be others than the
focal research (Bryman & Bell, 2011; Collis & Hussey, 2009). Most often research is conducted using both methods (Ghauri & Grönhaug, 2005).

2.4.1 Primary Data
Primary data has been collected through interviews with representatives from four suppliers and three departments internally at VC. The interviews generated a broader and more holistic description of the researched problem and form the basis of the empirical findings.

Sample
In order to identify a number of relevant suppliers for the study, an investigation was carried out aided by of the international material data system (IMDS). IMDS is the automobile industry’s material data system and was jointly developed by Audi, BMW, Daimler, EDS, Ford, Opel, Porsche, VW and VC (IMDS, 2013). After launching the system several other actors have joined the system and IMDS is currently a global standard. Using IMDS, all materials used in automobile manufacturing are collected, maintained, analysed and archived. Using the system enables automobile manufacturers and their suppliers to meet national and international standards, laws and regulation. However, it is important to note that source of origin is not included. At an initial stage as well as during the study’s process, a number of informal meetings were held regarding what direction the study was taking as well as how it progressed with representatives from the Purchasing, R&D, and Compliance and Ethics departments.

The use of IMDS enabled the search for all components containing potential conflict minerals i.e. gold, tantalum, tin or tungsten, as well as derivatives of these substances, with a minimum content of 0.1 percent of the component weight. The search itself was conducted by an analysis engineer consultant employed by VC. Suppliers were then selected on the basis of either being positioned at the top of the list in number of components supplied, or by material weight (i.e. suppliers of components containing a large amount of one, or several, of the substances). It is important to note that this search did not include purchased volumes of the components. As such the results from this search does not reflect how large amounts of these substances are being sourced, but can be seen as an indicator that they exist in several components in non-negligible amounts. Additionally, suppliers are not obligated to report gold content; hence information regarding component amount of this substance might be imperfect. The information regarding
content is also supplied by the suppliers themselves. However to make sure that the final selection of suppliers for the study consisted of suppliers that were relevant; this final decision was made in consultation with highly knowledgeable purchasing managers as well as the vice president of purchasing at VC. This further resulted in that the study’s participating organisations were suppliers that VC had sound business relationships with. This was done with the purpose of attaining higher response rates. Furthermore a criteria used in the selection process was that the selected suppliers should supply VC with a different set of products, to cover as large a scope of the supplier base as possible. The inquiry was distributed to eleven suppliers whereas four of them approved participation. Four more organisations showed interest in participating but were not included due to time constraints. The internal respondents were chosen based on the function rather than the individual. The selected departments were functions that would be affected by potential conflict minerals measures, thus their input was considered as equally important. See Table 1 for more information regarding the interviews.

**Interviews**

In order to conduct the research, four interviews were conducted with corresponding number of suppliers. As VC is a global company with a supplier base from all over the globe, the most suitable interview method identified was telephone interviews. Qualitative interviews are according to Donley (2012) the most common way of collecting qualitative data. Furthermore qualitative interviews offer the opportunity to gather rich data about people’s behaviours, perceptions and attitudes (Hague et al., 2013). There is however no set rules on how to conduct a qualitative interview, as some are more structured than others (Donley, 2012). Furthermore five interviews were conducted with employees at VC to get an internal perspective as well. These interviews were conducted with representatives from the Supplier Quality Management-, R&D-, and Purchasing departments. The interviews at VC were conducted face-to-face and were recorded. As illustrated by table 1, the number of participating representatives at both the supplier and internal interviews varied from one to four. This decision was made by the respondents with the purpose of making sure that sufficient expertise regarding the topic was present.
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At the point when an interview inquiry was distributed to the suppliers via e-mail, the purpose of the study and a few sample questions were provided to increase the level of discussion and so that the respondents should get an idea on what the interview would concern (see Appendix A). One of the suppliers requested for the entire interview guidance/guideline upfront, which then were supplied. The interviews were recorded with the consent of the respondents, and keywords were written down, in order to avoid memory loss as well as misinterpretations. As the interviews were recorded, the interviewers were able to listen rather than focusing on taking extensive notes (Donley, 2012). Thereafter the interviews were transcribed in order to conduct the empirical findings and analysis in the most suitable way. Furthermore, the respondents were given the opportunity to be anonymous, which they chose to be.

The interviews were conducted in a semi-structured manner, i.e. there were a set list of questions but the interview progressed naturally (Donley, 2012). Hence the interview itself was not rigid, rather a flowing conversation. Conducting a semi-structured interview allowed for an easier way to compare the results from the different interviews (Wilson, 2013). All of the interviews used the same interview guide (see Appendix B) that was based on the theoretical framework. There were also additional follow-up questions as well as questions for clarification asked. To ensure answers to the most important questions, the questions were ranked in order of importance. Both researchers’ were present during the interviews. The interviews with the suppliers were primarily conducted in English, whereas the internal interviews were conducted in Swedish.
2.4.2 Secondary Data

The initial research process primarily had its focus on requiring the prerequisite knowledge on the underlying problem, which is the conflict in DRC and the issue of conflict minerals. During this process most of the information was collected using reports initiated and conducted by a number of non-governmental organisations (NGO) specialising in human rights in the region of DRC and its adjoining countries as well as existing frameworks and legislation. The theoretical framework was primarily based on scientific peer-reviewed articles and journals, with the exception of a few books on supply chain management and sustainability. Keywords used to identify relevant sources of information were variations and combinations of supply chain management, sustainable supply chain management, environmental management, traceability, transparency, sourcing, purchasing to mention the most relevant.

There are a number of advantages and disadvantages with the use of secondary data. The most obvious advantage is the savings in time and money, as it allows the researcher to instantly understand and formulate the research problem, as well as it broadens the basis for the conclusion. Consequently, the reliability of the information and conclusions are greatly enhanced. Furthermore existing literature enable the researcher to find suitable methods and research areas. There are however drawbacks, the most prominent being that the secondary data is collected with another purpose than the focal research. Consequently it is important to critically review the source, both in terms of quality and if the research is aligned with the focal research. (Ghauri & Grönhaug, 2005)

2.5 Research Quality

The two most common concepts in terms of ensuring the quality of research are reliability and validity (Collis & Hussey, 2009). Reliability is the absence of differences in the results if the research were to be repeated or duplicated; whereas validity refers to what extent the research’s findings accurately reflect the studied phenomenon. According to the same authors reliability is not as important for interpretivistic research as for positivists, as it studies a more qualitative phenomenon. The interpretivistic paradigm aims to gain full access of the knowledge and understanding of a phenomenon, interpretivistic research is consequently associated with high focus on validity. Keeping this mind, the validity of this research will therefore be of greater importance than reliability.
2.5.1 Validity

As the case study aims to highlight how automotive manufacturers can source potential conflict minerals in a socially responsible way using VC as an example of the entire industry, external validity is of great importance. External validity concern if the results of a study can be generalised beyond the scope of the study (Bryman & Bell, 2011). Although implications differ, organisations face the same underlying problems regarding conflict minerals (e.g. complexity of supply chain, traceability, regulation et cetera) and it can be argued that the external validity should be regarded as high as the findings can be supplied to other organisations as well. Therefore the findings may to some extent be generalised on other industries as well. This is regarded as an asset, as qualitative research seeks for a contextual understanding rather than generalisability (Bryman & Bell, 2011).

To ensure validity in terms of the literature review, emphasis was put into finding relevant and valid sources of information. Whenever possible, original sources have been used to avoid misinterpretations from other researchers. To validate the sources much effort was put into using academically peer reviewed sources that had been cited frequently. Moreover a substantial share of the scientific articles was identified using available literature reviews of sustainable supply chain management.

In the introduction chapter a number of reports initiated by NGOs constitute the underlying knowledge regarding the conflict in DRC as well as the concept of conflict minerals. As these sources are working for and promoting human rights especially in central Africa, the validity of these sources may be at questioning due to potential bias. These organisations are however regarded as trustworthy, and as the information is used primarily to get a better insight in the underlying problem, these reports are regarded as non-affecting of the study’s validity as they strictly serve their purpose as background information. Moreover a number of opinions have been used to highlight the legislations strengths and weaknesses. These views are however regarded as highly subjective and the validity may be up for questioning.

To ensure that the interviews achieved the desired level of validity, the answers were crosschecked against company information posted online in as large extent as possible. Furthermore, follow-up questions were asked for clarification as well as ensuring that the
interviewers understood the respondents correctly. The respondents at the interviewed suppliers were not chosen by the researchers’, rather appointed by an initial contact person at the focal organisation. The respondents were however considered to be suitable persons as they were chosen by the contact person, and they were proven to possess the required knowledge on the matter. The same goes for the internal interviews, where the respondents were selected by the supervisor at VC.

2.5.2 Reliability

The foundation of the theoretical framework and hence the findings is constituted by previous scientific research. While systematically gathering the sources, a number of key words were used in a variety of databases. The relevant data was then saved and categorised to simplify the construction of the theoretical framework. As anyone interested in replicating the study easily could get access to the sources using the reference list, the reliability could be regarded as sufficient. However, there is often a probability that sources could be interpreted in different ways due to biases or subjectivity. Therefore we have tried identifying relevant sources that state similar things, using citation if the information could be interpreted differently. Additionally, there is however always a risk that there are unseen important sources.

The empirical background is constituted by existing and proposed regulations, frameworks and initiatives and should therefore be regarded as highly trustworthy. Equally reliable is the background information regarding VC, as it is based on both internal and external documents. Furthermore is has been approved by the external supervisor at VC. Regarding the online resources, there is a probability that some of the sources may be altered or deleted in the future. However, as these sources first and foremost are used to describe the situation regarding conflict minerals and the region of DRC and hence the background of the thesis, it is arguable that this fact will not affect the thesis reliability in too large of an extent as it is not critical information.

Some of the critics targeting qualitative research are that it is difficult to replicate since it is considered as unstructured and lacking standard procedures in comparison with quantitative research (Bryman & Bell, 2011). However, given the nature of the problem, it can be argued that the possibility to replicate the study should be regarded as high; hence the reliability is strengthened further.
As the interviews were conducted in a semi-structured manner, i.e. following an interview guideline, the interviews are to be considered as fairly reliable. It is however important to note that every interview is unique, hence interviewing the same respondent twice may end up with somewhat different outcome. Furthermore, the interviews were recorded which helps avoid the risk of memory loss. As the subject of the thesis is quite new, opinions and level of knowledge regarding the matter are likely to increase and change, which might result in different findings if the study were to be duplicated in the future. The selection of suppliers was as mentioned done bearing in mind that a sound business relationship with VC would be preferable. This could potentially result in that the findings to some extent are biased. With this in mind, the results could potentially differ if the interviews would have been conducted with suppliers not having as stable relationship to VC.

2.6 Data Analysis
During the process of conducting the interviews the theoretical framework was always kept in mind to mitigate future complications related to data analysis. After each interview, the findings were aligned with the theoretical framework and structured with key words to identify similarities and differences to the other interviews as well as theoretical framework (Bryman & Bell, 2011). The structure of the findings allowed for the theoretical framework to be analysed in a systematic way. During this process the researchers’ furthermore were able to identify relevant conclusions needed to discuss and answer the thesis research questions. In order to structure the presented findings and analysis a modified model based on van Weele’s (2010) purchasing process model and previous research was constructed. The final modified model was not perfected until the very end of the thesis, which enabled the researchers’ to alter the model as to encompass all aspects, as well as ensured that the findings and results were valid. The empirical findings and theoretical framework allowed for identification of similarities and differences which ultimately resulted in the conclusion.
3. Theoretical Framework

The following chapter presents the theoretical framework that forms the basis of the thesis, and is used to answer the research questions together with the empirical findings. The chapter introduces the concept of sustainable supply chain management as well as other relevant aspects such as the purchasing function, social issues and managing suppliers, and transparency.

3.1 Sustainability and Corporate Social Responsibility

The most common and well-quoted definition of sustainable development was developed by the Brundtland Commission\(^\text{14}\) in 1987, where sustainable development is defined as “...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987:8). This broad definition include areas as understanding the environmental impact of economic activity in both developed and developing countries, ensuring that basic human needs are met, and assuring the duration of non-renewable resources (Carter & Rogers, 2008). There is however a vast number of definitions of sustainability, where concepts usually include the intersection of social and environmental aspects as well (Carter & Rogers, 2008) and have a stronger focus on business ethics, such as corporate social responsibility (CSR) (Carter & Jennings, 2004). The European Union defines CSR as “the responsibility of enterprises for their impacts on society”, and the aim is to maximise positive impacts and minimize negative ones (European Commission, 2012). According to Kovács (2008) three important aspects are generally present in CSR definitions, (1) CSR concerns sustainability performance from a company perspective, (2) efforts are voluntary and (3) CSR includes both the natural environment and the social dimension. The current view of organisational sustainability includes a combination of economic, social, and environmental aspects, also known as the triple bottom line (Carter and Rogers, 2008).

Organisations have for a while been pressured to engage in CSR initiatives, and stakeholders are seeking to hold organisations accountable for social issues which may cause financial risks, if deemed unacceptable (Porter & Kramer, 2006). According to the authors, proponents of CSR

\(^{14}\) Formerly known as the World Commission on Environment and Development, the Brundtland Commission’s mission is to unite countries to pursue a more sustainable future. Named of the Chairman Gro Harlem Brundtland. Dissolved in 1987 after realising the well-known report *Our Common Future*. 
highlight four arguments to engage in CSR. Namely moral obligations, license to operate, sustainability, and reputation.

In the last decade, scholars and non-governmental organisations (NGO) have tried to make the definition of CSR and sustainability more applicable to non-politicians and the notion that sustainability visions and goals needs to be related to tangible decisions, processes and performance measurements (Tollina & Vej, 2012). Organisational executives have understood that in order to achieve long-term financial growth, social and environmental aspects are prerequisites and that taking them into account may result in a competitive advantage (Epstein, 2008). The author emphasises that the ultimate focus of organisational sustainability must be long-term corporate financial performance. To achieve organisational sustainability the commitment of top management is of great importance, as well as sufficient strategies and goals that convey the corporate commitment throughout the organisation. Therefore it is vital that the strategies are a central part of organisations overall strategy, integrated into all areas of the organisation, provided with adequate resources, and not a standalone strategy. Doing so, the strategy and surrounding systems should encourage employees to include sustainability in their daily operations (Epstein, 2008).

3.2 Supply Chain Management
The term supply chain management (SCM) was introduced in the early 1980s and gained tremendous attention in the late 1990s (Chen & Paulraj, 2004). It is considered as one of the key concepts within organisational management (Gunasekaran et al., 2004). The term SCM include a variety of definitions and have been used to explain the planning and control of material and information flow, as well as internal and external logistics activities (Chen & Paulraj, 2004). SCM is the integration of activities through supply chain relationships used to achieve and promote a sustainable competitive advantage (Handfield & Nichols, 1999). In the current business environment with increased competition and customer orientation, organisations are trying to leverage the resources and capabilities of their supply chain partners to create superior value and competitive advantages (Ganesan et al., 2009). Management attention has therefore moved from rivalry between organisations to rivalry between supply chains (Andersen & Skjoett-Larsen, 2009; Seuring & Gold, 2013).
3.3 Sustainable Supply Chain Management

When products move through different stages of production networks they involve several actors along the way, resulting in that focal companies might be judged by the environmental and social performance of their supply chain partners (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003). Brand owners in a wide range of sectors have had their reputation negatively affected due to social supply chain issues, examples varying from jewellers being accused of supporting wars in Africa through their use of “conflict diamonds” (Roberts, 2003), to the acting CEO of Nike stating that “the Nike product has become synonymous with slave wages, forced overtime and arbitrary abuse” (Cushman, 1998). As focus has shifted to encompass larger parts of (or entire) supply chains in conventional SCM, the focus on how to integrate environmental and social issues has shifted in the same direction, i.e. it needs to be addressed in joint efforts by supply chain actors (Klassen & Vereecke, 2012; Seuring & Gold, 2013; Seuring & Müller, 2008). These issues are also increasingly represented on the public agenda, and response to stakeholders, customer demands, environmental and social pressure groups and legal demands, reputation loss, and competitive advantage are frequently mentioned among triggers for sustainable supply chain management (SSCM) (Seuring & Müller, 2008). The Term SSCM is rather young, and other similar or related terms has circulated as well, e.g. green supply chain management (Pagell & Wu, 2009). SSCM is defined by Seuring and Müller (2008) as “...the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements” (Seuring & Müller, 2008:1700). A sustainable supply chain is therefore one that performs well in traditional terms, e.g. profitable as well as well-performing in the dimensions of social and environmental performance (Pagell & Wu, 2009).

In their literature review of SSCM, Seuring & Müller (2008) found that (1) company overlapping information, (2) management systems (e.g. ISO 14001), (3) monitoring, evaluation, reporting and sanctions, (4) training of purchasing employees and suppliers, and (5) integration into corporate policy are the most frequently mentioned supporting factors for SSCM. Amongst barriers for SSCM, (1) higher costs, (2) coordination complexity/effort, and (3) insufficient/missing communication in the supply chain were the most cited. Until recently
improvement-efforts has been largely focused on economic and environmental aspects, which has led to product and process improvements facilitated by for example certification standards such as ISO 14001 (Klassen & Vereecke, 2012). ISO 14001 sets the criteria for an environmental management system that organisations can be certified to. It does not state general requirements for environmental performance; it is rather a framework that any organisation, regardless of its activity or sector, can base their environmental management system upon (International Organisation for Standardization, 2014a). There is also a standard for social responsibility, ISO26000, which provides guidance on how organisations can operate in a socially responsible way (International Organisation for Standardization, 2014b). There is however no current certification mechanism in place for this standard.

However, research on social issues related to supply chain management lags behind and has been limited (Beske et al., 2013; Klassen & Vereecke, 2012; Seuring & Müller, 2008). Social issues in terms of SSCM are defined by Klassen and Vereecke (2012) as “product- or process-related aspects of operations that affect human safety, welfare and community development” (Klassen & Vereecke, 2012:103).

Organising CSR in supply chains is a challenging task especially in sectors with complex supply networks consisting of multiple tiers (Cramer 2008), something that characterises the automotive industry (Caniëls et al., 2013; Koplin et al., 2007). Cramer (2008) highlights taking the complexity and characteristics of the supply chain into consideration: “...the manner in which companies can organise their chain responsibility is heavily dependant on the particularities of their supply chain relationships. No step-by-step plan has been offered that can guide companies in organising supply chain responsibility while taking into account the characteristics of the company and its suppliers and the structure of the product chain” (Cramer, 2008:396).

3.4 Transparency and Traceability
At present customers and other stakeholders, e.g. NGOs and governments, is gradually demanding more transparency from organisations (Carter & Rogers, 2008; Egels-Zandén et al., 2014). Furthermore, transparency is frequently mentioned in relation to discussions regarding organisational sustainability (Carter & Rogers, 2008). Moreover the authors argue that transparency not only include reporting to stakeholders, but actively involving stakeholders and
their feedback and input to improve supply chain processes. This trend causes organisations to promote transparency and openly communicate their operational and sustainable business activities to maintain legitimacy and build reputation (Bhaduri & Ha-Brookshire, 2011). There are however organisations that have been accused of glorifying their activities which is coined as greenwashing, i.e. marketing or PR with the intention to deceive consumers into believing that an organisation is practicing environmentally friendly policies and procedures (Lane, 2013).

As organisations may be held accountable on behalf of its suppliers social and environmental actions, accountability have extended beyond the internal organisational boundaries (Caniëls et al., 2013). Additionally, due to increasingly complex supply chains (Marucheck et al., 2011; Seuring & Müller, 2008), and the notion that purchased materials and components account for an increasing share of firms total expenditure and sustainability impact (Egels-Zandén et al., 2014), as witnessed in the automotive industry (Caniëls et al., 2013), transparency could serve as enabler of a more sustainable supply chain (Egels-Zandén et al., 2014). Moreover the authors argue that relationships with suppliers are proven important, both in terms of sustainable supply chains and in general, and that transparency serve as a mean to improve sustainable supply chains. The relationship can build trust among supply chain partners, and prior relationships between the buyer and supplier can potentially substitute contracts and lower governance measures (Stuart et al., 2012).

Transparency is surrounded by a number of definitions, e.g. “means that the external impact of actions of the organisation can be ascertained from the organisation’s reporting” (Martinez & Crowther, 2008:19), “transparency relates to visibility and accessibility of business information” (Bhaduri & Ha-Brookshire, 2011:137), whereas Pagell and Wu (2009:44) states that transparency related to organisations “generally involve a chain providing information to the public about what it is doing”.

Traceability is defined by Pagell and Wu (2009:44) as “an internal practice of sharing information among chain members about materials and methods (...) to optimize noneconomic chain performance and minimize risk”. Accordingly, typical activities include demanding information on all materials from a suppliers product (including those the supplier have bought) to ensure that the materials meet the focal organisation’s standards.
Previous research (Egels-Zandén et al., 2014; Pagell & Wu, 2009) highlight that transparency and traceability are often intertwined and mixed. According to Egels-Zandén et al. (2014) the key difference distinguishing the concepts is that while traceability focus on sharing information along the supply chain and to customers (and stakeholders) about materials, methods and point of origin, transparency refers to the disclosure of truthful information about social and environmental conditions at the point of production.

### 3.5 The Purchasing Function

Purchasing is an important part of SCM. The purchasing function is a procurement activity and relates to the function of purchased inputs which are used in a firm’s value creating activities. This may include raw materials, components, supplies and other consumable items such as machinery and equipment. It involves for example determining the purchasing needs, selecting suppliers, specifying terms and conditions and following up to ensure proper delivery. The scope of the purchasing function is usually much broader than this and may encompass all activities necessary to manage supplier relationships in such a way that their activities are in line with the company’s overall business strategies and interests. The function thus has both internal and external aspects. Given this wider scope of the function it is also referred to as purchasing management, and popular related terms are supplier resource management and sourcing. The importance of purchasing for businesses is advantageously shown by the fact that for many, the cost of purchased goods make up for on average 50 percent of the cost of goods sold, and for automotive manufacturers this may be as high as 60-80 percent. (van Weele, 2010).

Requirements from the focal organisation to the supplier are often characterised as order qualifiers or order winners. Order qualifiers are criteria that an organisation is required to meet for a customer to even consider them as a possible supplier, whereas order winners are those criteria that ultimately win the order (Hill, 2000).

#### 3.5.1 The Purchasing Process

The purchasing process model shows how different purchasing activities are interrelated (van Weele, 2010). The model takes a process perspective, meaning that deficiencies in one step will lead to problems in the next.
The specification phase is the initial stage where the purchasing requirements are determined. Technical specifications such as standards, quality requirements, logistical requirements, and target budget are decided as well as whether to outsource the activity. Also, legal and environmental requirements are set.

The supplier selection is in practice made up of four different steps: (1) determining the method of subcontracting, (2) preliminary qualification of suppliers (i.e. which suppliers are eligible to place bid proposals), (3) preparation of the request for quotation (RFQ) and evaluating the received bids, and (4) selection of supplier. For strategic and critical suppliers it is also appropriate to carry out a risk analysis based on technical risk (e.g. manufacturing capabilities), quality risk (e.g. general quality management), and financial risk (e.g. risk bankruptcy). Finally, one (or more) suppliers will be chosen.

The contract agreement includes e.g. terms of delivery, payment, warranties and penalty clauses. These may be different depending on industry or purchasing policy et cetera. The ordering and expediting phases are about how orders are initiated (e.g. electronically) and after confirmation the orders is delivered according to agreed terms.

The evaluation phase involves administrational work such as warranty claims, updating supplier files and project evaluations. It is vital to keep updated records of the suppliers’ capabilities. These types of evaluations are often referred to as vendor ratings and are useful for future purchasing processes when for example assembling bidders and usually helps reduce the supplier base.

This theses will focus on the highlighted activities as they are the relevant ones in relation to the issue of conflict minerals and social issues in supply chains (i.e. they are the activities that need to be taken into consideration in particular to enable more socially responsible sourcing).
3.6 Social Issues and Managing Suppliers

The growing importance of the purchasing function of focal companies (particularly manufacturing companies) in relation to supply chains and social issues has been highlighted by several authors (Koplin et al., 2007; Preuss, 2001; Roberts, 2003). This may, in addition to purchased goods making up such a large part of the total cost of sold goods (van Weele, 2010; Caniëls et al., 2013) be explained by the fact that the purchasing function possesses strong influence on supplier and material selection, based on criteria such as price, quality, delivery etcetera (Zsidisin & Siferd, 2001). Preuss (2001) elaborates onwards stating that, “In actual fact, the influence of purchasing reaches much further. Purchasing does not only affect the immediate suppliers but reaches far along the supply chain. Where a company, for example, wants to offer the consumer a product of a certain quality standard, its suppliers have to work to this standard too, and this refers not only to immediate suppliers, but to the immediate suppliers’ suppliers, to their suppliers and so on” (Preuss, 2001:347).

The relationship between supplier performance and reputational damage is brought up numerous times in this study. Managing the link to suppliers is therefore critical for focal firms who strive to be more sustainable (Leppelt et al., 2013; Seuring & Gold, 2013). Koplin et al. (2007) state that “The purchasing or sourcing functions inside focal companies is the key actor to search for, evaluate and monitor suppliers” (Koplin et al., 2007:1054). As the purchasing function assumes a more strategic role within supply chain management, it has been argued to be in a key position to influence issues regarding the environment (Zsidisin & Siferd, 2001). The same logic applies to social issues and other authors have stressed the notion that the implementation of sustainable sourcing relies heavily on the purchasing function (Roberts, 2003; Schneider and Wallenburg, 2012). Though sharing the same view on the importance and influence of purchasing as the authors above, Preuss (2001) do however bring up other interesting points which are important to consider when discussing this topic. That is, whilst clearly being in a position to be able to influence variables such as supplier and material selections, purchasing is a service function to the requirements of its internal users (i.e. they are working towards certain requirements but not always responsible for setting these). This means that other departments within the company may have influenced and restricted e.g. material selection in stages prior to the involvement of the purchasing function; “It may be that there is a selection process further upstream by the engineer;
maybe the engineer has got a choice of three materials, and maybe equally he could have chosen one material over the other, that would be of no concern to him, but environmentally one is much more friendly than the other. . . . That decision is normally made further upstream before it comes to us and we would not normally pick that up” (Preuss, 2001:355). Although the quote and most of Preuss (2001) study focuses on environmental issues, the same reasoning should be applicable to social issues.

As defined earlier, social issues are related to human safety and welfare, community development and protection from harm (Klassen and Vereecke, 2012). The same authors conclude that this is a rather broad definition, and in relation to supply chains these types of issues can exist at very different levels. For example workforce diversity within a firm's own operations, working conditions at a supplier or fuelling armed conflicts in countries from where raw materials are sourced. But what does managing suppliers entail related to social issues, and what are the practical implications?

Björklund (2010) found in a study on activities that can be used to address different aspects of CSR in purchasing, that using a code of conduct (CoC) is a common and important procedure among companies working with CSR. A CoC can be used to set guidelines on a range of issues including resource usage, forced labour, child labour, health and safety etcetera. The author also suggests using international conventions such as the United Nations’ universal declaration of human rights. The importance of activities such as internal training and education of employees, integration into business management, monitoring of suppliers, and reporting of CSR performance are also mentioned as prerequisites to successfully implementing such a CoC. (Björklund, 2010).

Klassen and Vereecke (2012) propose two broad set of important capabilities for managing social issues in supply chains: monitoring and collaboration, which in addition are frequently mentioned in literature related to SSCM and supplier relationships (Beske et al., 2013; Björklund et al., 2010; Vachon & Klassen, 2006; Seuring & Müller, 2008). According to Klassen and Vereecke (2012), monitoring involves gathering and processing supplier and customer information, setting assessment criteria and evaluating performance factors related to social issues for purchased goods. Auditing is a concept closely linked to monitoring and the evaluation
of performance factor and concerns “... how and when monitoring should occur within the supply chain, as well as for what purpose” (Klassen & Vereecke, 2012:109). The importance of monitoring depends on the focal firm’s supply chain and variables such as supplier location, size and ownership. Collaboration on the other hand involves better coordination with suppliers, customers, or other stakeholders to improve social outcomes. It also relates improving suppliers own capabilities rather than reaching short-term outcomes. Collaborative approaches might require deeper relationships over longer periods of time to yields benefits, compared to monitoring initiatives. Regarding collaborative approaches, Beske et al. (2013) address several important aspects in their study of sustainable supply chain management practices in the food industry. Beske et al. (2013) argue that partner development may be pursued to do the fact that the overall performance of a supply chain can be limited to the performance of its weakest link, and highlight amongst other things knowledge management, supply chain partner development and co-evolving as key capabilities in SSCM practices. The activities described above also places demands on actors in the supply chain to possess the necessary resources to make use of them. Seuring & Müller (2008) emphasises company-overlapping communication, education of purchasing employees and suppliers, and integration into the corporate policy as supporting factors for SSCM. Related to monitoring, Boström (2012) found in his study on responsible procurement in complex product chains that the difficulties do not lie in establishing supplier requirements, but to check whether they actually are complied with or not. Visits to suppliers facilities (related to auditing) require substantial resources and the necessary expertise in knowing what to look for; “One has to know what one is looking at, ... being at a factory 3000 kilometres inside China somewhere and getting a picture of what they are doing there, or how old the workers are or what it looks like or whether it’s just a side-show. It can also be difficult to make unannounced visits unless you are a very big buyer” (Boström et al., 2012:106).

Other studies have found that violating supplier requirements (e.g. CoC) is the norm rather than an exception, and that the formal monitored part of a supplier’s organisation often tends to be purposely decoupled from the actual operational part of the organisation (i.e. the supplier actively deceives their buyer) (Egels-Zandén, 2007). This has led to the questioning of whether CoCs are an effective way of improving suppliers operations (Egels-Zandén, 2007; Lund-
Thomsen, 2008). Reasons behind this lack of compliance from suppliers can be several. Egels-Zandén (2007) emphasises the economic incentives of non-compliance, such as focal companies obtaining lower purchasing prices and suppliers themselves avoiding the extra costs associated with compliance (e.g. increased production costs and thus decreased competitiveness). The factor counteracting this would be the potential cost of negative campaigns if the non-compliance of their codes is revealed. This is especially relevant related to what other studies have highlighted, for example that when focal companies are pressured, they tend to pass this pressure on to suppliers (Seuring & Müller, 2008). However, providing modest but meaningful economic incentives to suppliers, signal strong buyer commitment and encourage faster improvements (Klassen & Vereecke, 2012). Lund-Thomsen (2008) continues on the same topic; while concluding that global sourcing companies who want to act in a socially responsible manner need to engage in longer term relationships with suppliers, the author also points to the fact that multinational corporations (MNCs) generally insist on suppliers paying the entire costs associated with improving social or environmental conditions. Cramer (2008) argues that the extra costs of audits and corrective actions should be paid by the supplier, who should in turn cover them in the price of their products. Regardless of whether suppliers understand requirements, when suppliers refuse to comply to these requirements focal firms must break the relationship. Lund-Thomsen (2008) also criticises CoCs for not taking local conditions into consideration (i.e. where suppliers are located), such as local culture, whether or not necessary public intuitions are in place to support them, et cetera. The cut and run response, when the situation actually worsens for local communities and workers because global sourcing companies break their links with the supplier (e.g. due to lack of compliance) is also mentioned as an issue.

3.7 A Model for Analysing Socially Responsible Sourcing

With the intention of devising a tool for organisation and analysis of the findings, a modified model based on the literature review/theoretical framework was created. The core component of this framework is van Weele's (2010) purchasing process model which was modified and supplemented with variables that enable socially responsible sourcing of conflict minerals.
Figure 4. Model for socially responsible sourcing.

The first two phases of the model, *specification and supplier selection*, are as van Weele (2010) pointed out, highly interrelated and as such will be treated as one. As mentioned by Björklund (2010), using a CoC is a common procedure among companies working with CSR.

It has been argued that the purchasing function is key when it comes to search for, evaluate and monitor suppliers (Koplin et al., 2007). With this in mind the *evaluation* phase in this model will be supplemented with previously mentioned activities such as monitoring and collaboration (Klassen & Vereecke, 2012).

A final phase called *process improvements* is added to the model, which will draw attention to the different implications and requirements the previous phases will entail for organisations applying the model. Epstein (2008), Seuring and Müller (2008) and Björklund (2010) all emphasize training of employees, and integration into all areas of the organisation as vital components when implementing CSR or sustainability. While the purchasing function as mentioned previously is in a key position to search for, evaluate and monitor suppliers (Klassen & Vereecke, 2012), Preuss (2001) also calls attention to the fact that other actors within the organisation (e.g. engineers) may influence and restrict purchasing’s actual choices in terms of supplier selections. As with van Weele’s purchasing process model (2010), this model takes a process perspective, meaning that deficiencies in one step will lead to problems in another.

### 3.8 Summary

Prior research has shown that organisations in the last decades increasingly have engaged in corporate social responsibility (CSR). With supply chains growing increasingly complex, focal companies may be judged by the social and environmental performance of their suppliers. This notion is highlighted in relation to the issue of conflict minerals, where focal organisations have to trace and map their use of potential conflict minerals. Organising CSR in supply chains is a challenging task, especially in supply networks consisting of multiple tiers, which characterises the automotive industry. As a result, integrating social and environmental aspects into supply
chains need to be addressed in joint efforts by supply chain actors. Important factors supporting this integration are e.g. company overlapping information, management systems, monitoring and evaluation, educating of employees and suppliers, and integration into corporate policies. In order to maintain legitimacy and be viewed as a responsible organisation, organisations need to transparently communicate how they conduct their operations and supply chain activities.

The purchasing function has been identified in previous research as important in relation to social issues in supply chains. Managing the link with suppliers is consequently crucial to strive for more sustainable supply chains. According to previous research two broad set of important capabilities for managing social issues in supply chains: monitoring and collaboration. Another common concept to do this is to include CSR factors into code of conducts (CoC) and/or request for quotations (RFQs). However, these CoCs are often violated and the problem does not lie in setting requirements, rather to validate if CoCs are adhered to. Consequently, adherence is often based on trust between the buying and selling organisation. These important aspects and findings in previous research are applicable to the research problem in focus in this study about how automotive manufacturers can source components potentially containing conflict minerals in a socially responsible way.

Organisations have in the last decades increasingly engaged in CSR. With supply chains being increasingly complex (Seuring & Müller, 2008), focal companies might be judged by the social and environmental performance of their suppliers (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003). Organising CSR in supply chains is a challenging task, especially in supply networks consisting of multiple tiers (Cramer 2008). As a result, integrating social and environmental aspects into supply chains need to be addressed in joint efforts by supply chain actors (Klassen & Vereecke, 2012; Seuring & Gold, 2013; Seuring & Müller, 2008). However, focus has up until now mainly targeted environmental aspects on behalf of social aspects. Important factors supporting this integration are e.g. company overlapping information, management systems, monitoring and evaluation, educating of employees and suppliers, and integration into corporate policies (Seuring & Müller, 2008). In order to maintain legitimacy and be viewed as a responsible organisation, organisations need to transparently communicate their operations and supply chain activities (Bhaduri & Ha-Brookshire, 2011).
The purchasing function has been identified as important in relation to social issues in supply chains (Koplin et al., 2007; Preuss, 2001; Roberts, 2003). Managing the link with suppliers is consequently crucial to strive for more sustainable supply chains (Leppelt et al., 2013; Seuring & Gold, 2013). Klassen and Vereecke (2012) therefore propose two broad set of important capabilities for managing social issues in supply chains: monitoring and collaboration. Another common concept to do this is to include CSR factors into CoCs (Björklund, 2010). However, these CoCs are often violated (Egels-Zandén, 2007; Lund-Thomsen, 2008) and the problem do not lie in setting requirements, rather to validate if CoCs are adhered to Boström (2012). Consequently, adherence is often based on trust between the buying and selling organisation.
4. Empirical Background

This chapter introduces current legislation and initiatives relevant to conflict minerals, focusing on the automotive sector. Furthermore Volvo Cars sustainability measures, concentrating on social aspects, as well as sourcing process are described.

4.1 Legislation and Initiatives

As previously mentioned, there are relevant legislation, initiatives, and industry collaborations targeting conflict minerals. Described below are some of the most prominent and relevant measures affecting automotive manufacturers.

The Dodd-Frank Act Section 1502

The Dodd-Frank Wall Street Reform and Consumer Protection Act Section 1502 were finally issued in August 2012 (SEC, 2013). Section 1502 of the act is applicable to all publicly registered companies listed by the Securities and Exchange Commission (SEC) in the U.S. who produce, or contract to produce, products that contain conflict minerals (for definition, see section 1.5) to publish in their annual report whether these minerals originate in DRC or an adjoining country. The term “adjoining country” is defined by SEC as “...a country that shares an internationally recognized border with the DRC, which presently includes Angola, Burundi, Central African Republic, the Republic of the Congo, Rwanda, South Sudan, Tanzania, Uganda, and Zambia” (SEC, 2012:6). If this is the case, the company would also need to provide a separate report that includes a description of the measures taken to exercise due diligence on the source and the chain of custody of its conflict minerals. Due diligence is defined by SEC as “...performing the investigative measures that a reasonably prudent person would perform in the management of his or her own property” (SEC, 2010:80949). The report needs to be audited by an independent private sector organisation, and be publicly available through the issuer’s internet website (SEC, 2012). The first reporting period of conflict minerals or all issuers will be from January 1, 2013 to December 31, 2013, with the first disclosure report must be filed on May 31, 2014 at latest (SEC, 2012). This essentially means that the affected organisations will have to map their usage of potential conflict minerals in collaboration with their suppliers, and annually report their usage and what kind of measures the organisations are undertaking to prevent the usage of conflict minerals.
There are concerns whether or not the rule addresses the actual problem, that the revenues from conflict minerals help fund armed rebel and militia groups in the DRC. Concerns that it could potentially lead to a de facto boycott or trade embargo on conflict minerals from the covered countries has been expressed on multiple occasions (Levin et al., 2012; SEC, 2012;), which could remove an important source of income for many inhabitants in the DRC (Levin et al., 2012). There has also been criticism related to the fact that the rule does not prohibit the use of conflict minerals, and thus imposes no direct penalties except for brand-related issues (Levin et al., 2012).

**OECD Due Diligence Guidance**

The *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas* is a five-step framework and result from a “...collaborative initiative among governments, international organisations, industry and civil society to promote accountability and transparency in the supply chain of minerals from conflict-affected and high-risk areas” (OECD, 2013:12). Its purpose is to help organisations respect human rights and prevent contributing to the DRC conflict through their sourcing decisions (OECD, 2013). Following the guidance allows organisations in any industry to tailor their own policy in order to promote a sustainable development and responsible sourcing from conflict-affected and high risk areas. It is intended as a proactive and reactive process and risk-management system that could be implemented into existing management systems. The five steps are founded by recommendations and form the basis for the risk-based process that organisations should take to identify and address current and possible risks. Risks are defined as “the potentially adverse impacts of a company’s operations, which result from a company’s own activities or its relationships with third parties, including suppliers and other entities in the supply chain” (OECD, 2013:13). The guidance proposes industry-wide initiatives as internal control mechanisms are generally unable to control the entire supply chain due the several stages included. The five-step framework looks as follows.

1. **Establish strong company management systems** - Adopt and communicate a clear policy for the conflict mineral related activities. Structure internal management systems to promote supply chain due diligence and support transparency and traceability. Moreover the organisation should identify upstream suppliers as well as establish company
engagement with the identified suppliers and encourage them to build capacities in order to improve their due diligence performance.

2. **Identify and assess risk in the supply chain** - Organisations should identify and assess risks that could have adverse effects in their supply chain based on the guidance standards.

3. **Design and implement a strategy to respond to identified risks** - Report findings to the top management and establish a risk management plan and strategy. Implement the risk management plan and monitor the performance of the risk mitigation efforts.

4. **Carry out independent third-party of supply chain due diligence at identified points in the supply chain** - Companies at identified points in the supply chain should have their due diligence efforts audited by a third-party.

5. **Report on supply chain due diligence** - The organisation should publicly communicate their due diligence policies and practices. Either by including the additional information regarding the issue of conflict minerals in their sustainability or annual report.

**Proposed EU Legislation**

On March 5th, 2014 the European Commission issued the European Union’s proposal for a responsible trading scheme for minerals originating from conflict zones (European Commission, 2014a). The focus of the initiative is to facilitate an easier way of conducting sourcing activities of potential conflict minerals while simultaneously encouraging legitimate trading channels. This will be carried out facilitating a system for supply chain due diligence self-certification of responsible importers of tin, tantalum, tungsten, and gold originating in conflict affected and high risk areas into the union (European Commission, 2014b). The self-certification system requires EU importers of the focal minerals and ores to monitor and administer their sales and purchases, according to the five steps provided by the OECD DD Guidance (European Commission, 2014a). Furthermore the proposal briefly states that adherence to the OECD DD Guidance may be a requirement in public procurement contracts within the European Union, regardless of the minerals origin. Unlike the Dodd-Frank Act Section 1502, the proposal is not restricted to region of DRC and its adjoining countries; hence it has a worldwide approach. It also includes incentives supporting the regulation such as “Policy dialogues and diplomatic outreach with governments in extraction, processing and consuming countries to encourage a
broader use of due diligence; Development cooperation with the countries concerned” (European Commission (2014a:2). Moreover the proposal differs from the Dodd-Frank Act Section 1502 as it targets the importers of the minerals and metals into the European Union and not all organisations that are using the minerals in their products and supply chain, narrowing it down to approximately 400 organisations (European Commission, 2014a). Hence the proposal targets the smelter level, whereas Dodd-Frank Act Section 1502 is on product level. The reason for targeting smelters is due to the fact that smelters and refiners are the last stage in the supply chain where due diligence can be effectively assured by collecting, disclosing and verifying information of the minerals origin (European Commission, 2014b). The narrow scope of the proposal targets the most effective level of these minerals and ores supply chain, and to facilitate the communication and flow of due diligence information downstream the supply chain to end users (European Commission, 2014a). The EU will eventually publish a list of the EU and global responsible smelters and refiners, doing so they will increase the smelters and refiners public accountability and promote supply chain transparency.

The proposal quickly encountered criticism as several actors and organisations regard the proposal as weak and too narrow (Holland, 2014; Neslen, 2014; Reuters, 2014) and there are critics arguing that the commission pay more attention to business lobbyists and less to the people suffering from resource-funded conflicts (Euractive15, 2014). Most of the criticism stems from the notion that the system is voluntary and that the most proactive organisations are by now exercising due diligence according to the OECD DD Guidance. As most consumer goods are produced outside the EU, it is regarded as far too restrictive and that it only address the tip of the iceberg (Holland, 2014).

The Conflict-Free Sourcing Initiative

The Conflict-Free Sourcing Initiative (CFSI) was founded in 2008 by a coalition of leading electronics companies, namely the Electronics Industry Citizenship Coalition (EICC16) and the

15 EurActiv.com is an independent media portal based on independency and close mutual co-operation dedicated to EU affairs, delivering EU policy information. For more information see http://www.euractiv.com.

16 A coalition of prominent electronic companies working jointly to improve efficiency and social, ethical, and environmental responsibility in the global supply chains. Members from every levels of the supply chain are included, from raw materials extraction to manufacturers. For more information see http://www.eicc.info.
Global e-Sustainability Initiative, (CFSI, 2013). Members include leading electronic companies such as Intel (EICC, 2014), which is one of the companies that has progressed the furthest regarding managing conflict minerals supply chain issues (Intel, 2013; Levin et al., 2012), but as recently started including other industries as the automotive industry as well. In the start of 2014 Intel announced that all their microprocessors issued in 2014 will be free of conflict minerals (Brown, 2014). The CFSI has together with their Conflict-Free Smelter Program (CFSP) grown to become an important organisation regarding conflict minerals. They offer guidance and tools to help companies address issues regarding conflict minerals in their supply chains. The CFSP can be used to evaluate smelters and refiners to see whether the minerals they produce can be classified as conflict-free or not. To qualify for this list of conflict-free smelters, smelters and refiners are subject to an audit process developed by CFSI. In addition to this, the organisation offers practical guidance on the OECD guidelines, and how to comply with the previously mentioned SEC regulations/Dodd-Frank Act (CFSI, 2013).

The Automotive Industry

There are relevant initiatives and associations within the automotive industry in regards to conflict minerals management. The Automotive Industry Action Group is an organisation based on membership-collaboration that include Ford, General Motors, Toyota, Hewlett Packard to name a few. The group primarily works with developing standards, recommendations and guidelines regarding corporate responsibility, supply chain management and quality. In relation to conflict minerals the group are collaborating with the previously mentioned OECD, EICC and CFSI as well as developing reporting tools for responsibly sourcing. (AIAG, 2014).

The Kimberley Process

In a response to the issue of how profits from diamond smuggling and sales were financing conflicts in a number of African nations, the United Nations along with concerned countries developed the Kimberley Process Certification Scheme which is an industry based certificate showing the rough diamonds source of origin as conflict-free. Since the implementation of the Kimberley Process, there has been a decrease in violence and an increase in legitimate diamond trade. A key factor contributing to the successful implementation was including and co-operating with local governments to assure effective verification. The DRC was banned due to non-compliance. (Epstein & Yuthas, 2011).
4.2 Volvo Cars and Sustainability

Volvo Cars (VC) was founded in Gothenburg, where the headquarters still are located, and the first car left the production plant in 1927 (VC, 2014a). VC is currently owned by Zhejiang Geely Holding (Geely Holding) of China. Earlier VC formed a part of Volvo Group, until Ford Motor Company bought the company in 1999. Ford controlled the company until 2010 when Geely Holding acquired the company. In 2012 VC sold 421,951 cars, had a turnover of approximately 106 Billion SEK, and employed approximately 21,500 people in 2011 (VC, 2012). VC is a member of the lobbying group European Automobile Manufacturers Association (ACEA\textsuperscript{17}). VC has a global presence, and according to the sales of 2013 the biggest markets were constituted, in decreasing order, by USA, China, Sweden, UK, and Germany (VC, 2014b). VC heavily relies and emphasise its four core values, quality, design, environment, and safety to distinguish themselves from their competitors. VC has a vast supplier base with approximately 500 business partners delivering production material for serial production from all over the world, which results in a complex supply chain structure. The supplier base consists of both multinational corporations as well as smaller domestic organisations.

According to VC their organisation is convinced that committing to a more sustainable future is accompanied with business opportunities and reinforces competitiveness (VC, 2014c). Sustainable development at VC means seeking to establish a balance between the need of VC, their customers, the society and future generations (VC, 2012). This is similar to the well-quoted Brundtland Commission definition (see section 3.1). Their commitment to sustainability is determined by the belief that it will benefit VC in both the short- and long-term (VC, 2012). Among other aspects in VC’s stated sustainability mission, VC should “take environmental and social issues into account in product development, purchasing, production and distribution” (VC, 2012:10). There are also policies in their supplier agreements with regards to both environmental and social issues. Furthermore violations of human rights are considered a risk factor. To mitigate this risk, it is believed that generating long-lasting improvements by combining a clear code of conduct (CoC) with continuous dialogue, audits and training serves

\textsuperscript{17} A collaboration among European car, van, truck and bus manufacturers. Working together with institutional, non-governmental, research and civil society partners, and industry associations to ensure economic, environmental and social sustainability of the automobile industry. For more information see http://www.acea.be.
the best result. It is stated in the Sustainability Report (VC, 2012) that their CoC is based on among other things, the 10 principles of the Global Compact, which regarding social issues includes e.g. “Businesses should support and respect the protection of internationally proclaimed human rights; and make sure that they are not complicit in human rights abuses” (United Nations, 2014). In 2011 supplier training was performed in India and Turkey. The training was conducted together with other original equipment manufacturers and members of the Automotive Industry Action Group. During 2012, VC conducted a supply chain responsibility training for suppliers with the intention to raise awareness and promote sound working conditions, environmental responsibility, and business ethics at supplier facilities and in supply chains in China and Mexico. Furthermore an audit plan covering direct and indirect material suppliers was to be implemented in 2013.

The demands on suppliers regarding environmental and social issues are a part of the terms & conditions which are included in the request for quotation (RFQ), and are also communicated through VC’s supplier portal. The portal supports information flow with suppliers which improve transparency and collaboration. The portal contains demands and expectations on suppliers, work procedures and tools. Furthermore VC’s CoC, Global Environmental Policy and Environmental Self-Assessment form can be found here. One requirement for first-tier suppliers is that they should be certified according to the ISO 14001 environmental management standard.

4.3 Volvo Cars’ Sourcing Process

The process of developing a car is highly complex and involves many different departments within the company, as well as external actors such as suppliers. The purchasing function is involved almost from the beginning to the end through the activities: Sourcing, Ordering and Product Quality Assurance. It is also common for suppliers to be involved early in the development stages. Research and development (R&D) define the technical specifications, including for example functional and appearance requirements. Suppliers are then selected during the sourcing activity, which starts with a request for information where suppliers provide general information about their company and its products or services. Based on this information VC invites suppliers to place bids on e.g. the component to be produced/outsourced through a RFQ. Included in the RFQ are the demands on the component as well as what requirements the suppliers themselves will need to fulfil in order to become business partners, e.g. ISO 14001
certification. VC uses the supplier evaluation model and manufacturing site assessment (MSA) to evaluate its potentially new and current suppliers. The supplier evaluation model is implemented during the selection process. The MSA is a tool that supplier quality management (SQM) uses to evaluate potentially new and existing suppliers on site (i.e. an audit). After evaluating the answer from the RFQ, Sourcing Committees decide which supplier(s) to select. Both SQM and R&D have representatives present at these meetings. SQM belongs to the same organisational unit as Purchasing (Purchasing & Manufacturing). (CSR Manager Purchasing, 2014).
5. Empirical Findings

This chapter consists of two separate parts. First of the findings from the internal interviews will be outlined, and thereafter the findings from the interviews with the suppliers are presented.

5.1 Interviews at Volvo Cars

In order to get a more holistic view of how Volvo Cars (VC) could source potential conflict minerals in a more socially responsible way, a number of internal interviews were conducted. These inputs are valuable as it shines a light on how VC could potentially handle the matter, through integrating the supplier’s thoughts and working methods with VC’s employee’s thoughts. Therefore a total of five interviews with representatives from the departments of Research & Development (R&D), Purchasing, and Supplier Quality Management (SQM) were conducted.

The awareness of the term conflict minerals and related U.S. and EU legislative initiatives internally at VC can be considered to be fairly low. While R&D and Purchasing CSR were aware about the term as well as different legislation, Purchasing Powertrain did not have any knowledge of the topic prior to the inquiry to participate in this study. SQM Powertrain had heard about the term previously but had no specific knowledge of the topic. SQM Electrical had researched the topic before the interview and had noticed that their suppliers to a large extent already were working with conflict minerals and thus were ahead of VC. They also mentioned that it was nothing that had been communicated internally.

5.1.1 Specification and Supplier Selection

The main focus in terms of supplier selection and evaluation regarding social and environmental aspects is to demand ISO 14001 certification, in addition to various quality standards and requirements, related to health and safety. The respondent from R&D explains that a lot of the focus is on the product (e.g. lowering emissions), but process-wise social issues in particular are underrepresented. R&D in general secures technical aspects of complete vehicles, systems and components, with primary focus on the main function. Optimization in terms of social and environmental aspects is often a second order priority. They have the possibility to influence more as they are an internal requirements specifier e.g. in terms of selected materials, but speculates that this is not on the agenda due to coming from a more technical background. The
need for clearly defined requirements and responsibilities was emphasised (regarding social issues), which is something that is lacking today.

Purchasing Powertrain is highly involved in the process of selecting suppliers and also propose potential new suppliers, which SQM then evaluates. The suppliers are chosen based on mainly technical criteria, but as mentioned have to sign and adhere to requirements such as environmental and quality standards. Purchasing CSR mentions that there is a strong focus on cost reduction in the purchasing department, as this is the main criteria for evaluation of performance. The ISO 14001 certification requirement does not apply to second and additional tiers. However, when recently evaluating a new supplier who in turn was subcontracting the manufacturing of the component to a firm in India, it was decided that they should demand certification of ISO 14001 on this second-tier supplier as well and VC will send a representative there to aid in this process. Health and safety areas and risk management are assessed through the manufacturing site assessment (MSA). However, labour related issues such as working hours, working age, wages, and business ethics are not currently measured and followed up in a systematic way, or to a desired extent. Moreover VC is conducting a field test of their Self-Assessment Questionnaire where they have targeted 90 suppliers to provide information regarding their CSR and sustainability efforts, where they have a section on conflict minerals. Lastly, R&D highlights that it is important to start somewhere and a good start is to require the suppliers to purchase their materials from certified sources. Even if this is not monitored, the suppliers at least know the requirements and how they preferably should act.

5.1.2 Evaluation

The department mainly responsible for evaluating and auditing suppliers is SQM. The previously mentioned requirements are checked in conjunction with evaluating potential new suppliers as well as existing ones. A potential supplier is audited first through a lighter version of the MSA, and later in the selection process the full site assessment is made which is more comprehensive and takes around three days. SQM makes the recommendation to purchasing regarding whether or not to source from the supplier in question. They furthermore have the possibility to stop a supplier from being selected as well as making the final approval. They also emphasise visiting the factories and auditing as key factors to get a more comprehensive, realistic and complete picture of the supplier.
Purchasing Powertrain refers to the Purchasing CSR as being responsible for working with environmental and social issues, including for example auditing suppliers on such criteria. This is confirmed by the respondent from Purchasing CSR who explains they have a global responsibility towards purchasing and SQM regarding these issues. Purchasing CSR is responsible for these functions strategic work including setting requirements, how to evaluate and how to follow up suppliers regarding social issues such as human rights, labour rights, working conditions et cetera. Purchasing CSR manages audits on first tier suppliers regarding social as well as environmental issues, with the objective to integrate sustainability into daily business. The few performed audits are not considered sufficient and are described as “the tip of the iceberg” (Interview Purchasing CSR, 2014). Currently, VC’s focus is on the previously mentioned Self-Assessment Questionnaire. In addition, they are investigating whether to include sustainability into their Volvo Cars Excellence Award (a tool used to evaluate and award their supplier’s performance) as well update their social and aspects in the MSA. At present, the MSA includes some social criteria such as working safety and factors related to production facilities, but not for example working hours, working age, wages, and business ethics. This is partly explained by resource constraints but also because of the auditors at SQM lack the competence to cover these issues.

5.1.3 Process Improvements
How and to what extent the different departments work with social and environmental issues in practice vary. All departments feel they can influence the organisations work related to these matters yet both Purchasing CSR and R&D comment that they have the possibility to influence more but are hindered by resource constraints. Social issues and criteria seem to be underrepresented and few of the departments work with them to any larger extent. VC has high ambitions regarding social aspects on a company level yet there are uncertainties regarding how this is communicated further down the organisation and how to reach these ambitions in practice. There is a lot of room for improvement here at R&D according to the respondent where goals on a strategic level needs to be broken down in levels of operational detail and spread further down the organisation. This view is shared by Purchasing CSR who states that there is a need for a clearer message from top management that social issues are important, and a more systematic way of working. The respondent elaborates further and makes comparisons to the cost reduction
targets of purchasing, which come from top management and is essentially what that department should deliver.

None of the departments believes resource requirements in terms of financial or time as particularly high, estimations vary from a halftime position to a handful of people. Both Purchasing CSR and R&D propose the possibility of outsourcing the auditing functions to firms with more competence in these areas (e.g. knowledge of culture, language and local legal requirements). There is a call for clear instructions on how to work with the issue (e.g. in terms of what to require from suppliers) by all of the departments. Both SQM and Purchasing Powertrain stress the need for an industry supported solution, especially in terms of data management and mineral certification that can ensure mineral traceability globally (not focusing on one region). For companies to investigate and collect the data separately would be a far too cumbersome task, which would also burden suppliers with a lot of additional work. R&D emphasises the question of who should be responsible for handling the issue internally, who should set the demands and decide strategically how to work with the issue over time. The need for some form of monitoring function where the issue is tracked over time as well as a sampling or auditing function is mentioned. Purchasing CSR, Purchasing Powertrain and SQM mention the importance of requiring suppliers to source certified minerals, and being able to demand this as important. Purchasing CSR voices that there is a lack of support and resources that make it hard to implement changes to the organisation related to social issues in general. Social factors are not measured and followed up systematically neither are they present as requirements when suppliers are selected from the beginning.

The respondent from R&D believes the largest challenge lies with improving the awareness and consciousness regarding social issues in the industry, to establish norms rather than simply following legal requirements. Purchasing CSR and SQM mentions the complexity of automotive supply chains, consisting of many different tiers, and ensuring the diligence of suppliers located further upstream as a challenge. SQM elaborates on the topic and states that the further upstream one goes in the chain, the worse it gets and the less influence VC possess. Purchasing CSR also mentions that the further up you go, the smaller the suppliers are and less resources they have. One respondent from SQM believes the focus should not be on just the Democratic Republic of Congo (DRC) and the adjoining countries but on what is needed; a control-system for inbound
materials. Concerns regarding how the suppliers would acquire certified smelter certificates, and the authenticity of them, are raised. There is a perceived lack of support which makes it hard to implement changes to the organisation.

All respondents mention that from an ethical perspective, working with the issue of conflict minerals is beneficial. Three out of five also mention that it could potentially strengthen the brand of VC in terms of market value. R&D comments that being able to communicate efforts towards a supply chain free from conflict minerals in a transparent and honest way, would pose a strong statement. R&D also mentions the possibility of “fair-trade” cars in the future, and does not see future demand of cars like this in the future as unlikely. SQM thinks it could be a requirement from fleet buyers (vehicles owned or leased by a business rather than an individual) in the future, and thus could serve as order qualifier.

5.2 Supplier Interviews

The findings in this section are based on the obtained answers from the interviews conducted with four of VC’s suppliers (see Table 3). Three out of the four suppliers are long-term suppliers to VC (one supplier for approximately 55 years), whereas one of the suppliers had re-started supplying products in 2013. Supplier A develops, manufactures, and sells audio products for automobiles and information and communication products. Hence, the parts supplied to VC containing potential conflict minerals identified in IMDS are used in the cars entertainment systems. Supplier B is a global organisation with its headquarters in the Netherlands, specialising in supplying vehicle brands with latches, hinges, lock sets and door handles. The products supplied to VC containing potential conflict minerals were door handles. Supplier C is a company focusing on safety technology in the automotive industry, supplying products to virtually all major automotive manufacturers with its head office in Sweden. The identified products potentially containing conflict minerals supplied to VC are related to seat belts. Supplier D operates in 80 countries, with its global headquarter situated in the U.S., and focuses on stored energy for the transportation and industrial industries. The identified supplied products containing potential conflict minerals were consequently batteries.
Table 2. External interview respondents.

The conflict minerals issue has had different implications for the organisations in the study as they have gone through the process of understanding, mapping and sourcing conflict minerals in a more socially responsible way. For the majority of the respondents it has been a matter of complying with the Dodd-Frank Act Section 1502, or adhering to customer demands, as well as social responsibility. Furthermore the affected suppliers state that the organisations are taking actions to drive positive change in the area in order to increase transparency and ensure responsible procurement.

5.2.1 Specification and Supplier Selection

All of the suppliers are currently working with both environmental and social issues in different ways. In common for all of the respondents are that they are certified in accordance with ISO 14001, and a requirement in their RFQ is that their first-tier suppliers have to be certified in accordance with ISO 14001.

All the respondents acknowledge the fact that they are forced to adhere to VC’s general requirements and CoC, which is a part of the RFQ, in order to conduct business with VC. Two of the respondents’ mention the notion that they are compelled to input the content of materials in their products into the previously mentioned international material data system (see section 2.4). Supplier D highlighted that VC are extra keen regarding safety issues as it is one of the core values. Moreover all of the respondents acknowledge the fact that the demands put on them by VC are of a standardised nature in terms of social and environmental responsibility, as they all supply products to a vast number of automotive manufacturers. Hence the demands from VC in particular have not caused any of the suppliers to alter or expand their working methods in terms of social and environmental aspects.
Supplier A have a purchasing policy based on an industry association guideline (JEITA\textsuperscript{18}), in which corporate social responsibility is one of the key aspects. The suppliers are requested to cooperate with the policy which intent is to promote a supply-chain-wide-CSR collaboration through improving information security, the handling of conflict minerals, and minimise environmental impact. Within this policy Supplier A has their CoC, which the suppliers have to acknowledge and ratify. In addition to this Supplier A also make use of the ISO 26000 guidance for social responsibility. Supplier D has a global environmental, health, and safety policy related to their products that their suppliers are forced to adhere to. Supplier C also uses their CoC to ensure that their environmental and social standards are adhered to. Furthermore Supplier D has an internal CoC, but not a specific targeting the suppliers. Supplier B’s main approach is their certifications, e.g. ISO 14001. Hence, all of the respondent suppliers have some form of contract that requires the suppliers to follow the focal firm’s environmental and social standards, as well as adhere to local legislation.

Three out of the four respondents (Supplier A, Supplier C and Supplier D) were directly affected by the Dodd-Frank Act Section 1502, and have consequently progressed further than the fourth supplier. Supplier C and Supplier D have their own conflict minerals policy published online which they referred to during the interviews, whereas Supplier A has a section regarding conflict minerals on their homepage. The content of the two policies as well as the section on Supplier A’s homepage were quite standardised, as they all presented a short description of the intent of the Dodd-Frank Act Section 1502 and that their focal organisation understood and agreed with the regulations intent. Supplier B was well aware of the U.S. legislation but was not obliged to follow the law as they were not publicly listed in the U.S. However, the supplier had received inquiries from several of their customers requesting for identification and mapping of some of their products content. Therefore they are conducting an investigation of their supplier base in order to identify potential conflict minerals, based on their customer enquiries at present. There are currently internal discussions to include it in their RFQ.

\textsuperscript{18} The objective of the Japan Electronics and Information Technology Industries Association (JEITA) is to promote the healthy manufacturing, international trade and consumption of electronics products and components in order to contribute to the overall development of the electronics and information technology (IT) industries. For more information see http://www.jeita.or
Supplier A are asking their suppliers to source from certified smelters, but it is currently not a requirement as they initially have been given time to investigate and map their use of potential conflict minerals. Supplier B and Supplier C did not request suppliers to source from certified smelters, but acknowledge that this might be an option in the future. Supplier C further states they generally have a high bargaining power because of sourcing large volumes of raw materials and negotiate framework-agreements on behalf of their component suppliers. Supplier D states that their intent is to reduce any possible impacts from their sourcing activities and would thus favour suppliers sourcing from certified smelters, even though that a financial evaluation will be done. If the respondents’ suppliers would not succumb to the request to alter their sourcing process the respondents might consider changing supplier. However they also stress that this is seldom the case as the suppliers usually are keen to keep their existing business relations. Supplier A emphasises the idea that close collaborations with their suppliers promote environmentally friendly procurement.

5.2.2 Evaluation

All respondents conduct audits themselves (some of them also use third party audits) related to other social and environmental aspects. Supplier C conducts audits on all new suppliers of direct material (i.e. material used for creation of the final product) before initiating a relationship, and the new suppliers are required to acknowledge and follow their supplier manual, including CoC. The current suppliers are audited either every other or third year. Supplier D conducts audits based on their global environmental, health, and safety policy to assure that their suppliers meet their set standards as well as regulatory requirements. Supplier A distributes a self-evaluation checklist to their suppliers where they evaluate their performance in relation to the required information. The self-evaluation includes greenhouse gas emissions, information security, conflict minerals, and child labour.

None of the respondents are conducting any audits related to conflict minerals at present as the existing legislation is rather new, and it is not yet a requirement. The suppliers are rather mapping their suppliers’ use of conflict minerals at the moment. However, the affected suppliers have ongoing investigations whether to include audits or not in the future. Supplier A mentioned that 12 percent of their suppliers assured that they were free from conflict minerals, whereas 88 percent did not know if they had any conflict minerals in their products, or had not replied.
Supplier B described that the suppliers’ willingness to provide information in general was high. Supplier C started their investigation in July 2013 and by the end of the year, 90 percent had reported their usage. The suppliers that had not responded were to a large extent either small suppliers or currently being discontinued. Supplier D mentions that the response rate for their inquiries regarding the use of potential conflict minerals is relatively high at 90 percent, and that other firms usually have around 75 percent. It was also mentioned that reaching a complete response rate will probably not be achievable until the rule becomes an ordinary part of global sourcing, “Most companies have retrieved overwhelming response rates but there are some suppliers that are not obligated to do due diligence, and until the suppliers risk losing their customer they will probably continue not to comply” (Interview Supplier D, 2014). Thus the willingness to provide information from their suppliers has been high. Moreover the respondent mentioned that the suppliers with long-term relationships were more likely to collaborate as they understood the importance of sound relationships.

5.2.3 Process Improvements
At Supplier A the purchasing department was responsible for handling the matter of conflict minerals. Supplier B had an engineer collaborating with the purchasing department. Supplier C has an appointed person per region, i.e. one in Europe and in North America et cetera, with a coordinating and main responsible function at the headquarters within the purchasing function. At Supplier D the legal department was in charge, but in terms of working with vendors and suppliers the procurement department is responsible.

In terms of required resources needed to manage conflict minerals, no one emphasises financial resources, although Supplier D states that there clearly is a time implication in terms of man hours. Estimates vary around 30-50 percent of a full-time employee. Data management in terms of IT-solutions is mentioned by a majority (three out of four) as a required resource, with requirements (and thus costs) varying depending on the scope of the supplier base. Supplier B, C and D mention outsourcing the functions related to conflict minerals (e.g. mapping the suppliers, data collection et cetera), with Supplier C already having pursued this option. Supplier D elaborates and states that although it has not been a significant financial or IT implication for the company, as the law moves further and the requirements increase in terms of audits, the need to provide more detailed responses et cetera, they will likely revisit the idea of outsourcing this
function as they do not have the resources to deal with this in relation to third-parties who do it much more efficient to a lower cost.

Supplier B is currently developing a template with a third-party provider to handle their suppliers input. Supplier A is working with other organisations within the company group, suppliers, and an industry association to achieve responsible sourcing. Moreover Supplier A utilises a template provided by EICC (see section 4.1.4) to conduct the conflict minerals surveying process of their suppliers. Supplier C has outsourced the mapping activities to a specialised organisation in Eastern Europe as a form of controlling service that are in charge of the matter, utilising available databases to identify which of their suppliers that might be affected. If affected, Supplier C requests a report on their use of the potential conflict minerals and how they are undertaking the issue. This is currently done via a third-party provider. Supplier D conducts supplier surveys themselves due to a relatively small supplier base, but uses the Global Sustainability Initiative (GSI) protocol as guidance for their own protocol, and might consider outsourcing in the future.

All respondents to some extent mention the complexity of the supply chain as a major challenge. Supplier A mentions finding a solution for the entire supply chain as the largest challenge. Supplier B felt that the biggest challenge was behind them, which was to figure out how the conflict minerals issue affected them. Now the challenge was the time consumption of investigating and mapping the scope of affected products and components. Supplier C mentions the number of components and suppliers as the largest challenge for them, as well as the risk of suppliers providing incorrect information. Supplier D perceives ensuring diligence throughout the supply chain, in particular ensuring the diligence of their supplier’s suppliers, as the largest challenge. Moreover Supplier D mentions that there have been some problems with vendors not familiar with the regulations.

All suppliers mention taking social responsibility as positive. Supplier A sees it as an opportunity to prove that they are contributing to society, and think their company’s image will improve. Supplier B mention feeling good about themselves and also that they are unsure of potential financial benefits. Supplier C can see value in the fact that they are forced to investigate further upstream in the supply chain, hence they get a clearer and more structured view their supply
chain. This could potentially benefit them in situations such as when a suppliers’ supplier risk going into bankruptcy. Without knowledge about how their supply chain is structured upstream, investigating how Supplier C is affected could be very time consuming. Supplier D naturally sees complying with the Dodd-Frank Act Section 1502 as beneficial. They also mention not indirectly supporting civil war as positive.
6. Analysis

In this chapter the empirical findings will be discussed and analysed in relation to the theoretical framework. As the findings are analysed with the aid of the modified model in chapter 3.7, an automotive manufacturer’s opportunities to source in a more sustainable manner will be evaluated. Furthermore, this chapter underpins the arguments and the answers to the research questions that are given in the conclusion.

6.1 Specification and Supplier Selection

Requirements

In common for all of the respondents is that, in addition to various quality standards, they are all certified in accordance with ISO 14001 and require their first-tier suppliers to possess this certificate as well. All of the external respondents also mention that this is a common demand in the automotive industry. This corresponds to Seuring and Müller’s literature review (2008) that emphasise that management systems (e.g. ISO 14001) are one of the most frequent supporting factors for sustainable supply chain management (SSCM) and that focal organisations increasingly ask their suppliers to perform according to environmental standards. Policy and supplier requirements regarding conflict minerals could suggestively be incorporated into a code of conduct (CoC), which is common procedure among companies working with CSR (Björklund, 2010), and communicated with the request for quotation (RFQ). This is strengthened by the suppliers, who either have included requirements related to conflict minerals or are holding discussions to do so, in their CoCs. This is also mentioned internally at Volvo Cars (VC) as a possible approach. Virtually all of the internal respondents stated that being able to demand information from suppliers regarding conflict minerals, and require them to source from certified sources, would have an impact on performance. Consequently the management of conflict minerals is partially a matter of collaboration, which is acknowledged by Supplier A that sees supplier collaborations as a facilitator of environmentally and socially friendly procurement.

Influence

The external interviews mentioned that their focal organisations usually have a large influence on their suppliers. If they were to require their suppliers to source products or minerals originating from non-conflict areas, they regarded their influence as sufficient enough to make their suppliers alter their sourcing activities to adhere to the requirements as the supplier would
otherwise risk losing their customer. However, the organisations participating in the study are large multinational corporations with a generally high influence on their suppliers due to their sourcing volumes. Suppliers further upstream with less influence on their suppliers, due to their relative size, might therefore not have the same ability to in turn influence their suppliers. This might consequently have large effects on the entire supply chain’s performance (Beske et al., 2013).

**Relationships**

The importance of long-term relationships is emphasised by for example Lund-Thomsen’s (2008) who states that organisations interested in acting in more socially responsible manner must engage in long-term relations with their suppliers. With this in mind, the characteristics of the automotive industry have been identified as suitable for long-term relationships and collaborations (Caniëls et al. (2013). This is also supported by the respondents from Purchasing Powertrain at VC who mention that when they plan to source new components, they primarily search internal databases of existing suppliers first. The example brought up by SQM Powertrain (to require ISO 14001 certification from a second tier supplier even though this is not policy and also aid them in this process), is a fine example of influence and collaboration (Klassen & Vereecke, 2012). This also highlights that partner development and co-evolving may be pursued motivated by the fact that the overall performance of a supply chain can be limited to the performance of its weakest link (Beske, et al., 2013). In order to assure that a supply chain is conflict-free is a matter of supply chain transparency, i.e. traceability, reporting and sharing of suppliers’ information (e.g. certificates) (Egels-Zandén, 2014). It is therefore essential that the suppliers are well aware of the focal organisations policy and requirements. The affected suppliers will have to understand the focal organisation´s ambitions and how their organisation accordingly needs to undertake their own efforts. The suppliers could potentially be given a short tutoring if they lack knowledge regarding the matter, this study do however highlight that the supplier awareness is generally high.

All of the external respondents experience that their request to suppliers regarding the use of potential conflict mineral are generally adhered to, even though none had achieved a complete response rate, and that there is a high level of willingness both to provide information and collaborate. Supplier D for example mentions that their suppliers generally adhere to demands
and requirements, as they are keen to keep their existing business relations. Seuring & Müller (2008) concluded that there is a need for increased cooperation (e.g. company overlapping information) among partnering companies in SSCM, which evidently seems to be the case for the management of conflict minerals. This would also help mitigate some of the barriers for SSCM such as coordination complexity/effort and insufficient/missing communication (Seuring & Müller, 2008).

6.2 Evaluation

Monitoring

Three of the suppliers and the respondents from VC state that they conduct some sort of monitoring or evaluation activities of suppliers’ environmental and social aspects, which is another important supporting factor of SSCM (Seuring & Müller 2008), an important capability for managing social issues in supply chains (Klassen & Vereecke, 2012), and an important activity of CSR purchasing (Björklund, 2010). This was either done through self-evaluation systems or by conducting audits. However, none of the respondents are conducting any measures to validate supplier adherence to conflict minerals requirements and/or policies, and thus the compliance of their suppliers’ conflict mineral measures is up for questioning. This results in the notion that it to a high degree is a matter of trust between the buyer and supplier, and that it is the supplier’s responsibility to provide truthful information (Stuart et al., 2012). Moreover, both Supplier C and SQM Powertrain at VC stressed the fact that the risk of falsely provided information is always present.

The lack of monitoring activities may also be a result of the Dodd-Frank Act Section 1502 being as new as it is. For conflict mineral measures to be successful and achieve their desired intent (i.e. improving the current situation in the Democratic Republic of Congo (DRC) and adjoining countries), monitoring activities are fundamental. The respondents however acknowledged that there very well could be monitoring measures in the future. From a practical perspective it could therefore be beneficial to include a segment on conflict minerals in the already existing management, auditing, and monitoring systems (e.g. require suppliers to show their certificates at audits). The suppliers represented in this study are principally long-term suppliers to VC, i.e. there has been time to build up a business-relationship which favours trust, which could lower the cost of monitoring activities (Stuart et al., 2012).
**Compliance**

As witnessed in previous research (Egels-Zandén, 2007), violating supplier requirements have become a norm rather than an exception. As mentioned in the internal result, the further upstream one goes in the chain, the worse it gets and the less influence does VC possess. This is one of the more prominent challenges in assuring a supply chain free from conflict minerals, as it is more or less based on a certification system of smelters and there are currently no implemented measures by focal organisations to monitor and evaluate the suppliers’ information. Incorporating responsible procurement may therefore be problematic as it is not a matter of establishing supplier requirements, rather to verify if the requirements are in compliance to or not (Boström, 2012). This among other things has led to the questioning of whether CoCs are an effective way of improving suppliers operations (Egels-Zandén, 2007). CoCs alone will not solve anything but it is an important part of communicating what the focal organisations require of their suppliers.

Egels-Zandén (2007) also emphasised the suppliers’ economic incentives of non-compliance, meaning that complying with environmental and social demands of the customer, would also mean extra costs and thus decreased competitiveness. As the buying organisation at the same time demands lower prices, the supplier is forced to choose between staying competitive in terms of prices, or adhering to the environmental and social demands. This could pose a problem in the conflict minerals issue, where the minerals themselves are not prohibited substances, and there are currently no direct penalties except for brand-related issues inferred by media exposure and NGOs, and purchasing departments performance mainly is judged by their ability to lower costs. However an industry-wide collaboration (e.g. with ACEA, AIAG or EICC), where all actors decide and communicate the same requirements regarding conflict minerals together, would decrease the issue of lowered competitiveness due to price increases on minerals. For purchasing departments to prioritise cost reductions is no error by itself, rather the opposite, as the cost of purchased goods make up such a large part of the total cost of sold goods (van Weele, 2010) especially in the automotive industry (Caniëls et al., 2013). Epstein (2008) also emphasizes that the ultimate focus of organisational sustainability must be long-term corporate financial performance. However, with that said factors such as social performance can affect organisations
financial performance through e.g. reputational damage (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003) and must be taken into consideration as well.

**Role of Regulation and Initiatives**

The management of conflict minerals is a new area, and as witnessed in our empirical background and findings, industry collaborations and other initiatives such as the Conflict-Free Sourcing Initiative (CFSI) have grown to become an important part of conflict minerals measures. The recently proposed EU self-certification system has further strengthened the notion that certification of smelters is one of the more prominent components moving towards conflict supply chains free from conflict minerals. These certificates will impose demands on the smelters, but particularly for the organisations that will be responsible for certifying the smelters. As noted by Boström (2012) visits to suppliers facilities (related to auditing) require substantial resources and the necessary expertise in knowing what to look for, in essence this means that the persons conducting the audits will need to possess substantial knowledge of the smelting industry. Purchasing CSR also mentions this as a concern in relation to why social factors are not included in the MSA. This was partially explained by SQM that expressed a feeling of not having the competence to cover such issues during audits.

The OECD DD Guidance recommends all organisations to conduct third-party audits on identified point of the supply chain, i.e. the certified smelters and refiners. These audits are preferably conducted in collaboration with industry members. Moreover audits on first-tier suppliers and their due diligence are desirable to ensure that their supplied information is reliable, and the monitoring activities enable the organisations to evaluate the undertaken actions and assess if the measures are effective, or the measures need to be altered. However, before considering third party audits and certification, the initial focus for organisations should investigating the issue internally, e.g. to specify supplier requirements and investigate affected products.

**Performance**

As possessing ISO 14001 certification is considered as praxis within the automotive industry, this could be regarded as an order qualifier. It is important to note however that being ISO 14001 certified does not mean that the organisation performs well in environmental terms per se, but
that they know how to control their processes and environmental impact. Consequently it is important that processes and performance are measured, managed and constantly reviewed, both internally and externally. The phrase ‘what gets measured gets managed’ is often referred to in relation to monitoring activities and it is certainly applicable in the case of conflict minerals as well.

6.3 Process Improvements

The Purchasing Function

In regards to handling the conflict minerals issue, the purchasing function at the focal organisations were all involved as it to a large extent is a matter of supplier management. This to some extent support the argument that the purchasing function is in a key position to influence issues regarding social issues, and that the implementation of sustainable sourcing heavily relies on the same (Roberts, 2003; Schneider and Wallenburg, 2012). Purchasing Powertrain and both SQM respondents also comment that these divisions may ultimately be the ones handling the matter. As a part of the purchasing function is to manage the link to suppliers, it will have an important role for organisations that aim to be more sustainable (Leppelt et al., 2013; Seuring & Gold, 2013). Several authors (Koplin et al., 2007; Roberts, 2003) have further highlighted the importance of the purchasing function as they usually possess the ability to influence supplier and material selection. Furthermore Preuss (2001) argues that the purchasing function might be able to influence beyond the first-tier supplier, which in terms of the management of conflict minerals could result in that the focal organisation could influence its suppliers’ suppliers to source conflict-free minerals. However, Preuss (2001) example is related to product quality standards (see section 3.5) and when applying this logic to the issue of conflict minerals it gets more complicated, as it is rather a question of traceability which is hard to determine by the final product. Preuss (2001) also points to the fact that other departments within the organisation may have influenced the process prior the purchasing function (e.g. materials selection) and as such should be taken into consideration. This is relevant for functions such as R&D, who at VC state that they have the possibility to influence more yet are hindered by resource and possibly competence constraints.
Organisational Prerequisites

The respondents at VC highlighted that there is a need for a clear organisational policy and a strategy on how this will be translated into the daily operations, i.e. what to do, how to do it, and how to manage the suppliers. This is clearly a result of VC not yet working with the issue, but it highlights the need for a company-wide strategy from top management, with clear goals and objectives as well as responsibilities, i.e. making it more tangible. This relates to Epstein’s (2008) view on organisational sustainability, which acknowledge the fact that commitment from top management, sufficient strategies and goals are vital part of achieving organisational sustainability, which is also a core component of the OECD DD Guidance. As with all strategies and policies, one cannot stress the importance of well formulated and articulated goals that are understood, and a structured plan to get there enough. Otherwise, there is a risk of these measures being unfulfilled. Consequently, the measures targeting conflict minerals need to be incorporated in the focal organisations overall strategies and goals, and not left standalone (Björklund 2010; OECD, 2013). Furthermore, Seuring and Müller (2008) and Björklund (2010) emphasise the need for education of purchasing employees and suppliers as another important supporting function, which is consistent with the findings from the VC interviews which stress that there is a lack of knowledge regarding conflict minerals and to some extent social issues in general at functions such as supplier quality management. An interesting notion is that none of the respondents mentioned using neither the OECD DD Guidance or ISO 26000 guidance for social responsibility (with the exception of Supplier A who made use of ISO 26000). An increase in using such tools for improving performance related to conflict minerals and social issues in general.

Resource Requirements

Implementing management of conflict minerals in supply chains undoubtedly means implications in terms of resources, which furthermore is highly dependent on the size and complexity of the supplier base (Cramer, 2008), and was also mentioned by Supplier D. The external respondents emphasised the required financial resources as reasonable, and it is rather a question of allocating man hours. Outsourcing was either considered or commenced by a majority of the respondents, as a solution to the issue of not having the tools, competence or time to map, structure and trace their respective supply chains. Both the internal and external
respondents highlighted the need for appropriate IT-systems that are able to handle and structure the data supplied from suppliers, e.g. utilising IMDS or another cross-industry system. This further strengthens the notion that assuring a supply chain free from conflict minerals, and thus sustainable supply chains, is a matter of transparency and sharing of documentation (Egels-Zandén et al., 2014). It is the respondents’ view that for each organisation to trace the minerals origin is an overwhelming task, and a standardised IT-solution would be preferable. Furthermore one of the external respondents highlighted the fact that as regulation evolve; data management systems need to be tailored to the conflict minerals issue.

**Challenges**

Seuring and Müller (2008), Cramer (2008) as well as a majority of the respondents acknowledge the complexity of supply chains as a barrier for implementing SSCM. As an automotive manufacturer serves as the final producer of a long and thus complex supply chain, controlling their first-tier suppliers is a manageable task; but controlling the non-managed processes and sub-suppliers is a more difficult task. An automotive manufacturer’s ability to assure a supply chain free from conflict minerals is consequently determined by the authenticity and level of shared information. An automotive manufacturer might be able to gather information from their first-tier suppliers, but the further back the supply chain and the closer the smelter/mine, the less influence they possess. This clearly poses a problem, as it is in the non-manageable stages in the supply chain wherein the actual issues are, and unfortunately where an automotive manufacturer’s influence is the weakest. Ensuring the diligence of the suppliers’ suppliers is also mentioned by Supplier D as one of the biggest challenges related to conflict minerals. Consequently, a distant upstream-supplier’s working methods and potential deceitfulness may have severe consequences for a supply chain’s attempt to become free of conflict minerals, as a supply chain is no stronger than its weakest link (Beske et al. 2013). Thus, producers of the final product (automotive manufacturers) are most often the ones up for scrutiny, and are the ones that risk suffering reputational damage through their sourcing activities (Koplin et al., 2007; Leppelt et al., 2013; Roberts, 2003). This further strengthens the argument that final producers need to engage in these types of issues. As witnessed in the findings, a supply chain free from conflict minerals is a matter of enabling full transparency and traceability, and as the initial stage of setting up a robust process is both complex and time-consuming this will take time. Therefore it
to a large extent may be a matter of the level of maturity of the supply chain, something that will increase conflict minerals continue to raise questions and awareness. Initially it might be a question of prioritisation of suppliers and thus focus on the suppliers where there is the greatest opportunity for improvement and/or change is advantageous. Preferably this can be done with long-term suppliers whose parts contain large amounts of a potential conflict mineral, and where sound relationships promote collaborations.

**Benefits**

The benefits of a supply chain free from conflict minerals seem to be twofold. The external respondents highlight adherence to the laws as positive. This notion corresponds to Seuring and Müller (2008) that argue that legal demands are one of the more frequent triggers to engage in matters related to SSCM. The other benefits are linked to social responsibility and not contributing to the conflict’s progress and/or armed groups, which are acknowledged by the respondents as the main benefit of the taken measures. Engaging in the matter can thus improve the reputation and create a sense of moral liability. Epstein and Yuthas (2011) elaborates stating that leading organisations can recognise the relation between business and society to their advantage, and adopting a policy against purchasing conflict minerals demonstrates a commitment to sustainable sourcing and social responsibility. Thus it can enable the focal organisation to establish a reputation as a socially responsible organisation and create goodwill and legitimacy. However, to not risk being accused of greenwashing, there is a need for organisational transparency (Egels-Zandén et al., 2014). One of the responding organisations mentioned that an additional benefit was getting a better overview and structure of their supply chain, which could potentially benefit them in situations of supply chain disruptions (e.g. if a supplier goes into bankruptcy).

**6.4 The Future of Conflict Minerals**

Initially, an automotive manufacturer or any other industry’s organisation, will have to evaluate the pros and cons with engaging in the management of conflict minerals, especially if not affected by neither the Dodd-Frank Act Section 1502 nor the European Commission’s proposed legislation; as it consequently is a matter of a voluntary measure and thus a decision for strategic management. However, bearing in mind the current situation (i.e. the conflict, armed groups profiting through extortion and illegal taxation, children and women being abused et cetera)
first and foremost the DRC region, and that violations against human rights is a risk factor, the belief is that going beyond requirements and regulations to implement a strategy will benefit the organisation in the long term. Not undertaking any measures related to conflict minerals at all, would unmistakeably the easiest and economical way to deal with the issue, especially since there are no direct penalties associated with this way of action. However, acknowledging the relationship between business and society and engaging in the issue, demonstrates a commitment to sustainable sourcing and social responsibility. Being able to transparently communicate these efforts towards a supply chain free of conflict minerals would pose a strong statement as a socially responsible automotive manufacturer, and potentially result in an advantage over competitors that as of today not are affected by any requirements.

As many organisations today make grand statements of their social and environmental efforts, and how they are driven by values inspired by the UN Global Compact (e.g. not contribute to violations of human rights), they need to “walk the walk and not just talk the talk” (i.e. live up to the things they state in their sustainability reports). This type of glorifying of activities has been coined as greenwashing (Lane, 2013) and consequently may cause reputational damage if scrutinised by the public. Related to conflict minerals, organisations should act transparent and truthful when communicating their efforts.

One of the more prominent questions for the management will be whether to ban the minerals from the DRC region or not. There may be concerns whether there will be an adequate supply of certified minerals or if certification would increase prices. However, as the DRC region only accounts for a small portion of the total global production in this case the risk is regarded as insignificant. A neglected issue related to minerals benefitting armed groups in conflict zones, is that which the proposed EU legislation addresses by taking a global geographical perspective. That is, it addresses the fact that there are other neglected regions in the world where the same issues are ongoing. This raises the question if minerals outside of the Dodd-Frank Act Section 1502 scope can be considered to be conflict-free.

An interesting angle related to the critique of the narrow scope of the EU proposal, is that while being narrow, it is the researchers’ view that it still has the potential to contribute in solving the issue of conflict minerals. The Dodd-Frank Act Section 1502 seems to have functioned as a
catalyst for initiatives targeting the issue of conflict minerals, e.g. the certification systems (which also has been driven by EICC and the CFSI). As the EU’s proposal for a responsible trading scheme for minerals also is based on certification, it will complement the previously mentioned initiatives and thus could prove itself useful. As proven by the previously mentioned and somewhat related Kimberley Process, certification methods may be an effective way of decreasing the trade of illegally extracted minerals.

Another disadvantage of the law could be the cut and run response, i.e. the organisations take the easy way out and stop sourcing minerals from DRC and its adjoining countries which results in a de facto boycott or trade embargo. This is often mentioned as one the more prominent criticism of the Dodd-Frank Act Section 1502 (Levin et al., 2012; SEC, 2012). Banning minerals from this specific region is not as complicated, but will not improve the current situation. The certification systems targeting the smelters will hopefully increase the number of certified smelters and thus increase the number of legitimate mines and the regions stability. This is one of the final goals of the regulations and initiatives, as the lack of governance in the region is considered to be the main contributor to the present state (Seay, 2012). This is why supporting initiatives such as support to develop and aid governments in conflict zones are so important, which may be a part of forthcoming EU legislation. Moreover the EU’s proposed regulation suggests that a future requirement in public procurement may be adherence to the OECD DD Guidance, and this might be a sufficient incentive in itself if the focal organisation is interested in fleet sales to governmental entities.

Another criticism is that the current legislation related to conflict minerals does not impose any direct penalties. However imposing direct penalties could arguably lead to disadvantages for affected companies, because of the necessary time, effort, resources et cetera needed to investigate and/or map their long and complex supply chains. However, as there are no sanctions in relation to non-compliance with Dodd-Frank Act Section 1502, there is a risk that the law’s intent is unachievable. The first reports of the Dodd-Frank Act Section 1502 are due in the end of May 2014 and it will be interesting to see how the public will react to them. As have been witnessed in other cases, brand owners can have their reputation severely affected by social issues (e.g. Nike).
Lastly, the focal organisation should publicly report their actions in a transparent and trustworthy manner, which could be a catalyst for increased legitimacy if carried out properly (Bhaduri & Ha-Brookshire, 2011). Being transparent includes focusing on the improvements and accomplishments, but equally important is the awareness of the systems/measures drawbacks and shortcomings.
7. Conclusions

This chapter presents the answers to the research questions and most important conclusions that have been drawn based on the empirical findings, analysis and discussion. The thesis took a case study approach focusing on Volvo Cars and their suppliers. The study highlights that striving towards a supply chain free from conflict minerals in the automotive industry is a matter of collaboration and information sharing, whereas the complexity of the supply chain and the lack of monitoring constitutes barriers. Finally, propositions for future research are presented.

The purpose of this study was “...to investigate how automotive manufacturers can source components potentially containing conflict minerals in a socially responsible way”. This has been answered by analysing the different measures and actions that are available to organisations in the automotive industry, as well as existing legislation and initiatives.

Engagement in conflict mineral measures seems to be predominantly triggered by legal demands, which highlights the importance of legislative initiatives. In this study the main conclusions are that organisations in automotive supply chains take social issues into consideration, but they are not measured, monitored or evaluated systematically, neither are they integrated into all areas of the organisation. The same applies to the issue of conflict minerals. Furthermore, engagement in conflict mineral measures is predominantly triggered by legal demands. The complexity of conflict mineral supply chains has been highlighted as a major challenge due to the number of involved actors, and determining the minerals source of origin once they pass the smelters. In response to this, verification of conflict-free minerals through certification has developed to become one of the more prominent solutions regarding the issue. As this is the only existing measure for organisations to track the minerals back to the source, the traceability of the certificates will become crucial. Previous research has highlighted the importance of monitoring activities. However one of the key findings of this study is that there is a lack of such activities (e.g. audits), and currently most efforts regarding the issue are based on suppliers providing truthful information. This seems to apply for social issues in general, and constitutes a major barrier in the work towards sustainable supply chains free from conflict minerals. The absence of monitoring activities related to conflict minerals may be a result of the issue’s recent increase of attention. However this argument does not explain the lack of such activities for social issues in
general and as such must be attributed to something else. This may be due to the fact that up until today, many of organisations’ efforts regarding sustainability improvements have been largely focused on environmental aspects.

Previous research highlight that to successfully achieve organisational sustainability, the commitment of top management, monitoring and reporting of corporate social responsibility performance, and integrations of sustainability aspects (i.e. social and environmental) into the organisations overall strategy and daily operations are vital components. These notions are also strengthened in our findings and the lack of these elements may explain why social issues are not sufficiently present, measured or evaluated related to supplier requirements in the automotive industry.

To demand companies to solve environmental and social issues by themselves might be asking too much. As the root causes of many of these issues can be attributed to poor governance structures in their originating countries, as in the case of conflict minerals, more initiatives should reach out to and support development of local governments. With that said, it is imperative that companies realise their role and possibilities to influence improvements, and while not singlehandedly solving the issues, do their utmost to not contribute to them. It is therefore the researchers’ view that organisations within the automotive industry should incorporate conflict mineral requirements into their policies, communicate this properly throughout their own organisations and to their suppliers, and in addition try to make a difference. This can suggestively be conducted by supporting organisations and industry collaborations such as certified smelter programs, and setting targets to for example making sure that one or several components can be verified as conflict-free by ensuring the diligence throughout their respective supply chains.

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The importance of monitoring activities has been highlighted in previous research. The lack of monitoring activities related to conflict minerals may be a result of the issue’s recent increase of attention. However the same does not apply for social issues in general, and as such the lack of related monitoring activities in this case must be attributed to something else. This may be due to the fact that up until today, many of organisations’ efforts regarding sustainability improvements have been largely focused on environmental aspects.

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7.1 Recommendations for Future Research

As witnessed in the study’s findings as well as previous research, an automotive manufacturer may be able to influence their suppliers in terms of social aspects. There seems to be a lack of research regarding how far their influence stretches upstream the supply chain, i.e. how the focal organisation is able to influence beyond their first-tier suppliers. Are organisations in the automotive industry able to influence their second-, third-, and so on, -tier suppliers in terms of social issues?

Going upstream the supply chain is interesting from a resource perspective. The organisations in this study are large multinational companies, but what are the resource implications for smaller organisations further upstream?

This study has also highlighted that monitoring and evaluation activities are crucial to verify the non-existence of conflict minerals in supply chains, and that compliance currently to a large extent is a matter of trust between the focal organisation and it’s suppliers. However, as adherence to code of conducts and policies are commonly breached, will this also be the case for conflict minerals? Currently the management of conflict minerals lack monitoring activities such as audits and it would therefore be interesting to investigate how effective the current measures are without such activities.
As verified by the findings of this study, sustainability improvements up until today have primarily focused on environmental aspects in favour of social aspects. Therefore, a study on the drivers behind this trend and how social and environmental factors are prioritised against each other within organisations could potentially benefit future research in the field of sustainable supply chain management.

Additionally as with all qualitative research, this study’s finding has identified that some of the more common approaches regarding the issue of conflict minerals are incorporating requirements regarding conflict minerals into policies and code of conducts, and the lack of auditing and complexity of the supply chains is frequently mentioned as barriers. It would therefore be both beneficial and interesting to investigate if the findings can be validated and generalised by quantitative research. It could also be beneficial to investigate conflict minerals in other industries, both in terms of qualitative and quantitative research.
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Appendix

Appendix A: Interview inquiry

Date: April 2014

Request for interview participation regarding "conflict minerals"

Dear Sir/Madam,

Volvo Cars is currently investing and mapping our use of so-called "conflict minerals" in our products and supply chain. Doing so, we have engaged two students from the School of Business, Economics and Law at the University of Gothenburg, to conduct a master thesis Regarding Responsible sourcing and supplier relationships.

Legislation regarding conflict minerals has emerged in the form of U.S. legislation (the Dodd-Frank Act) as well as a proposed European regulation. The purpose of the study is hence to investigate how automotive manufacturers can source components potentially containing minerals defined as so called "conflict minerals" in a responsible way.

We are interested in your organization's view and level of knowledge regarding the topic. Furthermore this is an opportunity for your organization to increase your awareness regarding social issues in supply chains and also a possibility to share your view points regarding Responsible sourcing of conflict minerals.

We would highly appreciate your participation and would like to get into contact with a person within your organization to schedule a telephone interview, preferable during w16. It would be a great advantage if the interviewee has knowledge in your organization’s sourcing process, supplier and customer relationships, or the sustainability / CSR processes. The interview will take approximately 30-45 minutes. Information about the interviewee and organizational identity and information will not be disclosed without your consent.

Attached below you will find an interview guide line to simplify the interview and improve the discussion. If there are any questions, feel free to contact Henrik Samuelsson or Carl-Henrik Gustafsson (contact information below) for further information.

Contact information:

Carl-Henrik Gustafsson, MSc Student, University of Gothenburg
carl-henrik.gustafsson@volvocars.com

Henrik Samuelsson, MSc Student, University of Gothenburg
henrik.samuelsson.2@volvocars.com

Thank you for your cooperation.

Yours sincerely,

Martin Lidén
VP Car Purchasing
Volvo Car Corporation
Interview guide

Please note that these questions are examples with the purpose of improving the level of discussion and that additional questions will be asked.

1. Introduction
   - How does your organisation work with environmental and social aspects?

2. Conflict Minerals
   - Are you aware of current legislation and existing initiatives regarding conflict minerals?
   - Is your organisation currently working with the issue of potential conflict minerals?

3. Measures
   - How does your sourcing process look like in relation to environmental and social issues?
   - Do you request information from suppliers related to conflict minerals

4. Implications
   - What do you perceive to be the largest challenges/benefits with implementing and assuring a supply chain free of conflict-minerals?
   - What do you perceive to be the most suitable approach to develop conflict-free mineral supply chains, and why?
Appendix B: Interview Guide

Briefing

- Introduce ourselves, let the interviewees introduce themselves
- Explain the purpose of the study
- Interview will be recorded unless objected to, anonymous if preferred.

1. Introduction

- How long has your organisation been a supplier to Volvo Cars?
- Briefly, how does your organisation work with environmental and social aspects?
- What kind of demands, in relation to environmental and social issues, does Volvo Cars put on your organisation and how do they impact you?

2. Conflict Minerals

- Are you aware of current legislation and existing initiatives regarding conflict minerals?
  - If so, do you know how your organisation is affected?
- Is your organisation currently working with managing potential conflict minerals?
  - If so, please describe these efforts
  - Is there an appointed department/person in charge of the issue of conflict minerals?
    - Why this person/department?

3. Measures

- How does your organisation’s sourcing process look like in relation to environmental and social issues?
- Does your organisation request information from suppliers related to conflict minerals?
  - If so, how would you characterise the supplier’s level of engagement in providing information on responsible sourcing?
- Are there any efforts with suppliers, or other organisations, to address the issue of conflict minerals?
  - How do they look like?
- Does your organisation conduct any audits/monitoring activities to ensure that suppliers source conflict-free minerals?
- Does your organisation currently publicly report the use/non-use of potential conflict minerals, or plan to do so in the future?
- Will a Smelters decision on whether to certify themselves as a “conflict-free” smelter affect your organisation’s sourcing process?
  - How would you follow this up?
  - Should the supplier not comply, would you consider stopping sourcing from this supplier?
4. Process Improvements

- In your opinion, what are the required resources needed to manage conflict minerals?
- What do you perceive to be the largest challenges with implementing and assuring a supply chain free of conflict-minerals?
- What do you perceive to be the largest benefits with implementing and assuring a supply chain free of conflict-minerals?
- What do you perceive to be the most suitable approach to develop conflict-free mineral supply chains, and why?

Debriefing

- Explain that we are starting to finish, what we have learned during the interview.
- We have no further questions. Is there anything else you would like to bring up, or ask about, before we finish the interview?