ŠKODA AUTO UNIVERSITY

Sustainable Vehicle Design and Supply Chain Management

Report

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**Contents**

[Summary 2](#_Toc132804178)

[Introduction 3](#_Toc132804179)

[1 Sustainable Procurement 4](#_Toc132804180)

[1.1 Definition 4](#_Toc132804181)

[1.2 Importance 4](#_Toc132804182)

[1.3 Benefits 6](#_Toc132804183)

[1.4 Drivers and Barriers 8](#_Toc132804184)

[1.5 Key Elements 9](#_Toc132804185)

[1.6 Principles and Expectations 11](#_Toc132804186)

[2 Sustainable procurement strategy 14](#_Toc132804187)

[2.1 Mission, vision, goals 14](#_Toc132804188)

[2.2 Situation analysis 18](#_Toc132804189)

[2.3 Procurement strategy development 21](#_Toc132804190)

[2.4 Procurement stragedy implementation 23](#_Toc132804191)

[2.5 Continuous improvement 24](#_Toc132804192)

[3 Sustainable Supplier Management 26](#_Toc132804193)

[3.1 Sustainability Requirements Development 26](#_Toc132804194)

[3.2 Sustainable supplier evaluation and selection & Sustainable Supplier Relationship Development 29](#_Toc132804195)

[3.2.1 Theory of SCM 29](#_Toc132804196)

[3.2.2 Practical use 29](#_Toc132804197)

[4 SAQ 5.0 - Sustainability Assessment Questionnaire 35](#_Toc132804198)

[4.1 CSR Europe, collaborative platform Drive Sustainability, Drive Sustainability partners 35](#_Toc132804199)

[4.2 Development of SAQ and motivation 36](#_Toc132804200)

[4.3 SAQ 5.0 description and implementation principles 37](#_Toc132804201)

[4.4 Related certification standards 39](#_Toc132804202)

[4.5 Analysis of SAQ implementation in selected companies 42](#_Toc132804203)

[Conclusion 43](#_Toc132804204)

[References 44](#_Toc132804205)

[List of figures and tables 46](#_Toc132804206)

# Summary

This seminar work provides an overview of sustainable procurement and supplier management, which are used by organizations to make socially, environmentally, and economically responsible purchasing decisions. The work explains the benefits of sustainable procurement and supplier management. It also covers topics such as SAQ 5.0 and sustainabile procurement strategy.

The seminar work highlights the importance of metrics and reporting in sustainable procurement and supplier management and emphasizes the need for ongoing evaluation and improvement. Overall, this provides a comprehensive overview of sustainable procurement and supplier management and offers insights into how organisations can implement these practices effectively.

# Introduction

**"Sustainability is not a choice, it's a necessity, and sustainable procurement is a crucial component of achieving it." - (Yvo de Boer, 2014)**

This quote highlights the importance of sustainable procurement. It means that sustainability is no longer an optional or desirable concept but rather a vital and essential one for the survival and well-being of our planet and society. To an environmentally and socially resilient future sustainable procurement is fundamental.

Sustainability in the automotive industry is becoming increasingly important because of current trends, such as zero emission vehicles and carbon neutral manufacturing. It is important to note that these trends are not just driven by emissions regulations or quotas, but also by increased public awareness about environmental and sustainability issues and consumers' interest in sustainable vehicles.

# 1 Sustainable Procurement

## 1.1 Definition

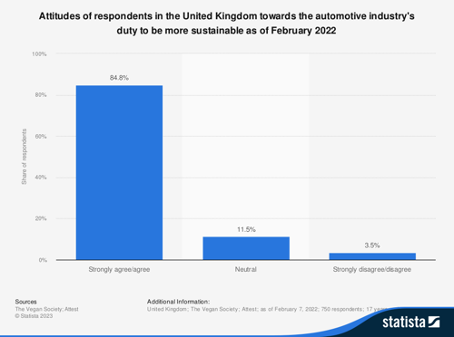
To understand what Sustainable Procurement means, we first need to take a closer look at the two words.   
"Sustainability" is the ability to maintain or support something over the long term, without causing harm or depleting resources. It refers to a way of living and operating that considers the long-term impact on the environment, society, and economy. These days the world is increasingly focused on sustainability. Most of the consumers want to know where the products they purchase come from and what they are made of. Also, the companies want to be seen as leaders in environmental stewardship. ([1]United States Environmental Protection Agency, 2022)

The act of obtaining or purchasing goods or services is called “Procurement”. Typically, procurement is associated with businesses because they need to solicit or purchase goods and services on a large scale. A company´s procurement process can also include the entire process leading up to the final purchase decision, which is critically important for a successful business. Companies can be on both sides of the procurement process as buyers or sellers. ([2]Young, 2022)

“Sustainable procurement is the pursuit of sustainable development objectives through the purchasing and supply process, and involves balancing environmental, social and economic objectives” ([3]Walker and Wendy, 2006).

Purchasing sustainably means buying products and services with as little environmental impact as possible. This concept has evolved rapidly from a "good to have" to a "must have" in recent years. Enterprises that incorporate sustainability into their procurement processes have a higher success rate with current and potential customers, not just for ensuring compliance and keeping it as part of corporate social responsibility. ([4]Walker and Wendy, 2006)

## 1.2 Importance



Source: ([5]The Vegan Society, 2022)   
***Figure. 1 Automotive Industry´s Duty to be more sustainable***

As you can see in this statistic from 7th of February 2022 from Statista sustainability in the automotive industry´s is becoming increasingly important. The younger generation, who will be buying cars in a few years, pays a great deal of attention to sustainability and feels it is the duty of the automotive industry to act sustainable. This is precisely why sustainability and especially sustainable procurement is very important in the automotive industry. The importance is particularly evident on the three sustainability pillars: Environmental, social, and economic.

The practice of sustainable procurement reduces the environmental impact of products and services by selecting suppliers that use sustainable practices such as reducing waste, conserving energy, and reducing greenhouse gas emissions. Many organizations have started looking at options such as re-purposing products or the reduction of single-use plastics. This way, the environment is the least polluted and at the same time the most protected.

As you can see the consumers are becoming more and more interested in the origin of the items they buy and the impact they have on our world. Innovation will be imperative for businesses in order to reach their sustainability goals, despite the current trend of procuring sustainable and renewable resources like bamboo or hemp. Also, industry plays a major role in causing food scarcity, global warming, and the effects of population on the environment. These industries and organizations can reverse this damage through sustainable procurement. It shows that the businesses are aware of future impacts and considers them when making purchasing decisions.

Sustainable procurement has also a social impact on our planet. It ensures that suppliers operate ethically and responsibly, regarding to labor rights, human rights and fair-trade practices. This can help to promote social justice and equality. Even more sustainable procurement avoids child labor completely.

As you can see, sustainable procurement not only has a social and environmental impact, but also an economic one. Companies need to source responsible with the materials if they want to save some money. Especially when companies focus on sustainable procurement, this increases customer loyalty and it can also help to enhance brand reputation. Of course, this also increases the profit of the companies.

Overall, sustainable procurement is important for creating a more sustainable future, by promoting environmental, social, and economic sustainability in the supply chain. Change does not happen instantly but with commitment, time and patience the companies can make a huge difference! ([5] Oxford College of Procurement & Supply, n. d.)

## 1.3 Benefits

There are many benefits of sustainable procurement for economic, society and the environment. Starting with the benefits for the businesses. Sustainable procurement supports the reputation of a company. Sustainable procurement can enhance an organization's brand reputation by demonstrating a commitment to sustainability and responsible sourcing practices. It can attract customers who are interested in supporting companies that are environmentally and socially responsible.   
On the other side a supplier who uses child labor or causes excessive pollution can negatively impact the organization's brand value and create a financial blowback.

Another important benefit of sustainable procurement for organizations is cost savings. Organizations can save money by reducing energy consumption, waste and other expenses associated with inefficient procurement practices through sustainable procurement. By choosing products and services that are energy-efficient, durable and have a lower total cost of ownership, organizations can save money over the long term. ([6] Oxford College of Procurement & Supply, n. d.)

But sustainable procurement is not only useful for the company itself, but also for the whole society. An important benefit is that sustainable procurement practices can promote social responsibility by ensuring that suppliers adhere to ethical labor practices, human rights standards, and fair-trade principles. As a result, working conditions will improve, social inequality will be reduced, and economic development will be promoted in disadvantaged areas. Also, child labor will be eliminated and people will get payed at least a living wage. Another important point are the health and safety benefits for the society. Sustainable procurement can help ensure that products and services are safe for consumers and workers by promoting the use of non-toxic materials, reducing exposure to hazardous chemicals and ensuring proper disposal of waste. Therefore, public health and safety can be improved, and environmental disasters can be reduced.

Last but not least the environmental benefits of sustainable procurement. Because of sustainable procurement it is possible to reduce greenhouse gas emissions by promoting the use of renewable energy and improving energy efficiency. This can help mitigate climate change and its associated impacts. It also helps to conserve natural resources by supporting the use of recycled materials, reducing water consumption and minimizing waste. This can help protect ecosystems, preserve biodiversity and ensure long-term availability of critical resources. ([7] Toikka, 2023)

As you can see by explaining these benefits organizations can become more sustainable, reduce their environmental impact and contribute to a more socially responsible and equitable world.

## 1.4 Drivers and Barriers

As with any topic there are always Driver and Barriers.

Drivers of sustainable procurement are forces which create positive pressure to implement and develop sustainable procurement strategies by creating opportunities or threats which must be addressed by the procurement function in any company. These drivers must enable the creation of conditions favorable to the effective implementation, introduction and acceptance of sustainable procurement processes and practices. There are three key drivers for sustainable procurement: The social factors, the environmental factors and the financial factors. These are the most common drivers for sustainable procurement:

* **Cost Reduction:** Reduced total cost of ownership is linked to reduced energy costs, reduced over-specification, reduced consumption, as well reduced social and environmental compliance costs.
* **Risk Reduction:** By following sustainable procurement practices risks are reduced because you will no longer face the financial impact on your brand value due to bad supplier practices like child labor and local pollution. Also, you would be saved from the economic costs of sustainable procurement disruptions, like non-compliance with environmental regulations.
* **Revenue Growth:** You can earn additional revenue through eco-friendly product innovations, price premiums, and income from recycling programs if you follow sustainable procurement processes. ([8]Meehan and Bryde, 2010)

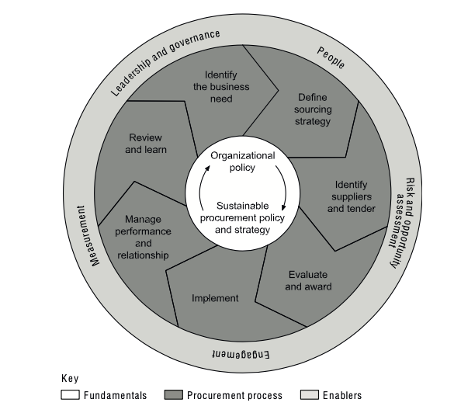
Despite the benefits of sustainable procurement, there are still some barriers that organizations may face when trying to implement it. Some of these barriers include:

* **Higher perceived Costs of Products**: Often are sustainable products more expensive than products which are not in a sustained manner. Because of that the companies need a big capital investment. The total cost of ownership and full life cycle costs are not considered by many public sector organizations when they purchase products or services. This can lead to companies deciding against buying sustainable products in order to save costs.
* **Lack of Resources:** Additional resources such as personnel and time are often required to implement sustainable procurement. If companies do not have the necessary resources, this can make it difficult to implement sustainable procurement.
* **Complexity and lack of Transparency in Supply Chains:** A lack of transparency in supply chains can make it difficult to engage in sustainable procurement. If companies don't have information about the sustainability of products, they can't make informed decisions. Even more so, in many industries, supply chains are very complex and it can be difficult to monitor all suppliers and ensure they are following sustainable practices.

Overall, addressing these barriers requires a comprehensive approach that involves education, stakeholder engagement, measurement and reporting. ([9]Ezzati, Jamejam, Bhatia, 2020)

## 1.5 Key Elements

The key elements of sustainable procurement can vary depending on the specific context and goals of the organization. In this assignment, we look at the key elements of sustainable procurement in the automotive industry. Sustainable procurement in the automotive sector refers to purchasing products, services and materials in a way that minimizes environmental and social impacts and promotes long-term value creation for the company.



Source: (The Sustainable Procurement Guide, 2011)   
***Figure 2 Key Elements of Sustainable Procurement***

As shown in Figure 2, the key elements are classified as follows:

* **Fundamentals:** In order to guide sustainable procurement practices and decision-making, these policies and strategies should be in place at the higher levels of an organization and procurement. The first step should be to establish what sustainability means for the company and which key priorities they have. They need to create a clear link back to the key purpose of the company.

* **Procurement process:** As part of a generic procurement process, BS 8903 specifies the sustainability considerations and activities that should be addressed throughout the procurement process. From identification of the business need to supplier performance management and final review at the end of a contract, BS 8903 examines a generic procurement process from start to finish. It discusses the sustainable procurement considerations that arise in this process. Public sector procurement rules and their impact on sustainable procurement are not discussed.

* **Enablers:** Enablers are the last theme covered within the standard's sections on sustainable procurement. As you can see the BS 8903 schematic shows them as the outer rings.It includes ways of working, competencies, practices, and techniques that managers or purchaser should use continuously or periodically. The procurement process is supported by these enablers.

To achieve these goals, the automotive industry must develop a sustainable procurement strategy that takes these three criteria into account. This includes identifying sustainable suppliers, introducing standards and certifications, monitoring supply chains and implementing sustainability criteria in tenders and contracts. ([10] The Sustainable Procurement Guide, 2011)

## 1.6 Principles and Expectations

Essentially, sustainable procurement is about ensuring that purchasing of goods and services is in line with the principles of sustainability. This includes making sure that products and services are produced in a socially just and environmentally friendly manner and that economic efficiency is guaranteed.

There are some primary prinicples of sustainable procurement which every company should follow:

* **“Sustainable supply” not “Sustainable supplier”**  
  The emphasis of the standard should lie on ensuring a sustainable supply, rather than solely on sustainable suppliers. This entails employing procurement strategies that enable the buying organization to achieve its corporate responsibility objectives or public sector policy outcomes. The primary focus should not be on scrutinizing the sustainability practices of suppliers within their own organizations, unless this poses a potential risk to the purchasing organization, such as inadequate labor standards or child labour.
* **Develop a competitive, sustainable supply chain**  
  It is crucial to prioritize the preservation or enhancement of a competitive market. For instance, if a supplier with limited sustainability capabilities is chosen based on other commercial or technical considerations, they should be obligated to establish a plan to enhance their sustainability performance throughout the contract duration. This will expand the range of competitive suppliers who are capable of delivering sustainable results.
* **Prioritise, prioritise, prioritise**  
  It's important to prioritize the supply categories that are most relevant to achieving their sustainability goals. To guide the category managers and their suppliers towards meaningful actions, they must consider creating a priority heatmap that highlights key issues. The depth of the supply chain analysis should be determined by where the impact is likely to be the most significant. ([11] McCarthy, 2014)

The fundamentals of sustainable procurement are a systematic approach to the purchase of goods and services that considers human rights and working conditions, environment and business ethics in order to achieve a long-term and sustainable impact.

Following the global automotive sustainability practice guide, there are three essential pillars which describe the minimum expectations for the suppliers as well as their subcontractors:

|  |  |  |
| --- | --- | --- |
| Human Rights and Working Conditions | Environment | Business Ethics |
| * Child Labor and Young Workers * Wages and Benefits * Forced Labor * Health and Safety | * Energy Consumption & Greenhouse Gas Emissions * Water Quality and Consumption * Natural Resources Management and Waste Reduction | * Responsible Sourcing of Materials * Anti-Corruption * Export Controls and Economic Sanctions |

Source: (Automotive Industry Action Group)   
 ***Figure 3 Global Automotive Sustainability Practical Guidance***

This illustrates that sustainable procurement has a huge impact on human rights and working conditions, the environment and business ethics. ([12] Drive Sustainability, n.d.)

# 2 Sustainable procurement strategy

## 2.1 Sustainable procurement strategy

Defenition sustainable procurement strategy:

Sustainable procurement strategy is an approach to procurement that integrates sustainability considerations into the entire procurement process, from selecting suppliers to the delivery of goods and services. It is a strategic approach that aims to minimize negative environmental, social, and economic impacts, while maximizing positive benefits. A sustainable procurement strategy goes beyond the traditional focus on price, quality, and delivery to include sustainability factors, such as reducing carbon emissions, promoting social equity, and supporting local economies. It involves setting sustainability criteria for suppliers, assessing suppliers' sustainability performance, and working with suppliers to improve sustainability performance. Overall, a sustainable procurement strategy aims to create a more sustainable supply chain that supports long-term economic, environmental, and social well-being.

Here are some examples of sustainable procurement strategies that organizations can adopt:

1. Setting sustainability criteria: Organizations can define sustainability criteria that suppliers must meet in order to be considered for procurement contracts. These criteria may include environmental performance, social responsibility, and ethical sourcing.
2. Supplier assessment: Organizations can assess the sustainability performance of their suppliers using a range of tools and methods, such as sustainability questionnaires, audits, and site visits. This can help identify areas for improvement and support supplier development.
3. Collaboration: Organizations can work collaboratively with suppliers to develop sustainability goals and strategies, and to jointly identify and address sustainability risks and opportunities.
4. Innovation: Organizations can encourage suppliers to develop and provide innovative products and services that have lower environmental impacts and contribute to sustainable development.
5. Local sourcing: Organizations can prioritize local sourcing of goods and services to support local economies and reduce transportation-related carbon emissions.
6. Life cycle analysis: Organizations can assess the environmental and social impacts of goods and services throughout their entire life cycle, from raw material extraction to end-of-life disposal. This can help inform procurement decisions and identify opportunities for improvement.
7. Performance monitoring: Organizations can monitor supplier sustainability performance over time to ensure that sustainability criteria are being met and to identify areas for improvement.

Overall, a sustainable procurement strategy involves a range of activities and approaches that aim to minimize negative environmental, social, and economic impacts, while maximizing positive benefits.

## 2.2 Sustainable procurement development

As a company it’s important to have a good procurement strategy. Good means something different for every company out there. In order to figure out what good means for a certain they will need to ask themseves what they are trying to acheve. Before a stategy is developed or rewriten it’s important to know what direction the company is going to take. These day you cannot just develop a strategy that purely bases on making as mutch money as possible, especially if we are talking about sustainable procurement strategy’s. Focus will need to be split to also account for the enviromental and humanitarian impact.

* Current state analysis:

Now the company is aware of the direction they want to take ist important to know what exactly is happening so the week spots can be found and improvements can be made.

* Engage stakeholders:

If big changes are about to be made it’s important to look at everyone that will feel the impact of these changes. This ofcourse means everyone within the company but we cannot forget about suppliers, customers and manely stakeholders. Stakeholders can ruin a strategy if they are not on board but some may have additional insights and business requirements you haven't taken into account. This shows the importance of clear communication with the stakeholders.

* Align strategy with organizational goals:

The strategy must align with the overall strategic intent of the business. Fact-based spend analysis will help align and prioritize a strategy to corporate goals across all functions. Inputs to the strategy should include:

* corporate vision and mission
* corporate medium-term plans
* annual budgets and projected revenue
* economic forecast
* commodity indices
* Adopt the tools for succes:

Adopting a new system often isn’t easy so adopting the right systems will make life lots more enjoyable. Some elements to cosidder are:

* Data: the internal and external data that touches every aspect of the organization
* Technology toolbox: the software tools out there to leverage data for insights
* Intuitive user experience: the magic that makes those tools user-friendly and accessible
* Skills and talent: the critical knowledge and skills that team members bring to the table inside and outside of procurement
* Policies, procedures, and operating model: the nitty-gritty details of how responsibilities will be enacted.
* Define procurement pryorities:

When the most business-critical areas of spend are covered in action plans, sub-categories that are underperforming can be identified and addressed. Certain low value/high volume transactions can be highlighted for attention.

Align and agree on a set of priorities with stakeholders, so you have a shared understanding and license to operate.

* Renewable procurement policy

Since renewabilaty is a more and more important subject it’s important to implement it into the strategy. A close relationship with suppliers can makt this a lot less difficult. In order to inform the customer of everything surrounding your product you must first know the impact your purchased goods have on an environmental en humanitarian scale. If you find out some of your purchased goods have an impact linked to values you as a company don’t want to stand for you need to work this out with your supplier or considder changing supplier.

Customers these days value the renewabliaty of a product so having a renewable procurement policy can improve your company’s image which in turn can improve revenue.

In some places renewability can be written into law and therfore will not onely be for the immage off the company any more but also be necessary in order to obtain a business license. Even when it’s not a law where you operate implementing a renewable strategy might still be a good idea since it can open up a new market from company‘s that require it in order to do buisiness with you.

* Agree on procurement policy:

At this point everyone involved needs to come to an agreement. The party’s need to conclude witch specific changes will be made and how they will be implemented. Later changes can always be made but its important to establish a base plan that can be implemented en be built upon.

Here we find a different approach to developing a sustainable procurement strategy:

Step 1: Understand What Is Important to Your Stake holders It is vital to understand what is important to the key stakeholders of a division or department and what they value the most. For procurement, the focus should be on elements beyond purchasing. For instance, providing support to make product or service portfolios more sustainable will in turn help to drive sustainability at a corporate level. Understanding the core values of stakeholders requires an intense self-assessment that involves measuring current impacts and identifying potential pain and gain points. Take a careful look at the daily activities of procurement and where these activities can have the highest impacts in reducing the pains of stakeholders or adding to their gains. Conducting a self-assessment will reveal if the purpose is going in the right direction. While focusing on key stakeholders, it is important to keep in mind that a purpose statement for procurement has to be in step with the overarching corporate purpose. Any discrepancies between the two should be addressed and the purpose statement for procurement adjusted accordingly.

Step 2: Focus on Your Key Strengths Understand where procurement can have the biggest impacts. What is it that procurement is already doing well and how does this support the company in achieving its overall goals and objectives? What steps are needed to ensure that procurement can create value and facilitate the journey to corporate sustainability? It is important to think beyond costs and to focus on procurement activities that can drive sustainability, such as product innovation, supplier management, waste reduction, and the use of alternative materials.

Step 3: Communicate Your Purpose—Internally and Externally Once a purpose has been defined, it must be integrated into the core of procurement’s activities. This requires clear and constant communication so that everybody understands why it is being done. Try to find alternative and non-conventional ways to communicate the purpose—treating it as an internal marketing campaign could lead to some creative and compelling communication activities that will help to get people to act according to the new purpose. In addition, make sure elements such as creativity, enthusiasm, and cross-functional collaboration are encouraged when communicating the new purpose. These elements are crucial when it comes to connecting the corporate or divisional purpose with peoples’ individual purposes. And keep in mind that good communication is a two-way process—it is not just top-down but also bottom-up, so listen to any feedback and act on it when appropriate.

Step 4: Act Accordingly and Reassess Regularly Defining a purpose in itself alone does not automatically lead to success. Everybody should understand the purpose and act accordingly. Managers should check regularly that their teams truly support the purpose since stringency and compliance with it are crucial for successful operations. Without these checks, there is a risk that the purpose exists as nothing more than a written statement rather than an everyday practice. In the end, defining a purpose is not a once-in-a-lifetime activity but a series of iterations based on stakeholders’ needs. In this respect, it is important to regularly collect feedback from stakeholders to ensure that a particular purpose still fits with their needs. When this is no longer the case, the process of assessing stakeholder needs should be repeated so that a new purpose can be created.

No matter the approach when developing a sustainable procurement strategy there a couple of basic principles to take into account:

1. Optimise the use of natural resources
2. Effectively manage waste in the supply chain
3. Effectively manage the delivery of goods and services
4. Support the management of our carbon impact
5. Work with suppliers and departments to raise awareness of sustainability
6. Ensure that ethical considerations and a living wage are considered

# 3 Sustainable Supplier Management

Before we dig deep into the topic, we must understand the topic what we are handling and issues of it. Supplier management means that corporation that buys their components from the supplier, and in that corporation, there is people, mainly sales engineers who makes contacts to suppliers and keeps that relationship straight.

Even though sustainability is shown everywhere to people, there is still big issues that sets our development back. Here are some issues that is actual now. For example, many nations lack political will to do politics sustainability minded way. Then there are economic incentives, that may support the agenda, or in worst case it may cause hindering for development. For example, policies that help companies providing subsidies or tax breaks for using renewable energy can give companies some thought to move for green energy, while some policies prioritize economic growth with expense of environment can make it hard to reach our goals for the sustainability. Next there is difficulties with advanced technology, because it may not be widely available, or the cost of equipment is too high. Sustainability requires engagement and pressure from people, otherwise policymakers might not prioritise sustainable development.

Overall, seeing these issues and creating active environment for sustainable development will take some collaboration and action all the way to the stakeholders, governments, businesses, civil society organizations and individuals.

## 3.1 Sustainability Requirements Development

**Defining Sustainable development**

WCED (1987) is the most widely cited definition describes sustainable development as: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.

The definition of sustainable development put forth by the WCED has three key components. Firstly, it involves meeting the needs of both present and future generations in terms of geographical space and time. Secondly, it implies that development should be equitable and just for everyone. Lastly, it is anthropocentric in nature, with a focus on human needs rather than ecological needs.

The IUCN's definition, on the other hand, emphasizes the importance of maintaining ecological systems, while still improving human quality of life. These two definitions were combined by MONET to create a definition that incorporates the protection of biodiversity, social and economic resources, and environmental sustainability. The Triple Bottom Line (TBL) approach to sustainability is based on balancing these three aspects.

Within the TBL approach, there is a distinction between weak and strong sustainability. Weak sustainability suggests that environmental resources can be substituted for human resources, as long as the sum of resources remains constant. Strong sustainability, on the other hand, suggests that different forms of resources are complementary but not interchangeable.

The Natural Step (TNS) definition of sustainable development is based on scientific theory, emphasizing the elimination of concentrations of materials and substances that are harmful to the environment. Despite this scientific basis, TNS has been criticized for making emotional judgments and using "science" to attract followers.

There are numerous definitions of sustainable development, with differences in what is to be sustained, what is to be developed, and the length of time involved. While some definitions prioritize environmental concerns over human needs, others prioritize human needs over environmental concerns. However, all definitions recognize the importance of the complex interactions between human and environmental systems.

**Models of sustainable development**

**The prism model** of sustainability proposes a set of interlinked components, including human-made capital, social capital, human capital, and natural capital. However, like the three-pillar model, the prism model assumes that these components are independent and do not consider the time dimension, which is a critical component of the World Commission on Environment and Development (WCED) definition of sustainability.

Moreover, other four-pillar models, such as Nurse's (2006) model and Scerri and James' (2010) circles of sustainability, also suffer from similar limitations. While Nurse's model separates social capital into social and cultural capital and Scerri and James' model includes economics, ecology, politics, and culture, these models still do not adequately capture the time dimension and the interdependence of the various components.

In contrast, the MAIN prism model (i.e., environmental, economic, social, and institutional) attempts to address some of these limitations by including institutional capital as a separate component. However, it still does not fully capture the complexity and interdependence of sustainability, and critics argue that it is too focused on the institutional aspect and neglects other critical components.

Overall, while these models can provide a useful framework for understanding sustainability, they need to be viewed critically and should not be seen as the definitive model for sustainability. Instead, a more comprehensive and holistic approach that considers the interdependence of the various components and incorporates the time dimension is needed to address the complex challenges facing sustainability today.

**The egg of wellbeing model** and the concentric circles model are both responses to the limitations of the three-pillar and prism models of sustainability. These models recognize the interdependence between the different subsystems and emphasize the importance of a healthy ecosystem in achieving wellbeing. However, like the previous models, they do not consider the time dimension, which is an essential aspect of sustainable development.

It is important to note that no single model can fully capture the complexity of sustainable development. Each model provides a different perspective on the relationship between the different subsystems and can be useful in guiding decision-making and policy development. However, to fully address the challenges of sustainable development, it is necessary to consider the multidimensional and dynamic nature of the concept.

**The two-tiered sustainability equilibria model** proposed by Lozano (2008) is a relatively new model, and as such, there may not be many systematic critiques of it. However, some criticisms may be raised regarding the model's emphasis on achieving a balance between the economic, social, and environmental subsystems. Critics might argue that other factors, such as cultural or political considerations, should also be included in any comprehensive model of sustainability.

Additionally, some might argue that the model's focus on achieving a balance across time may not fully account for the potential impacts of long-term environmental degradation or resource depletion. While the model recognizes the importance of considering the future impacts of present decisions, it may not fully account for the potential consequences of irreversible damage to natural systems.

Overall, while the two-tiered sustainability equilibria model offers a novel approach to understanding sustainability, it is not immune to criticism, and further research and discussion may be necessary to fully evaluate its strengths and limitations.

**Conclusion**

In summary, it is important to define human factors and sustainable development in order to better understand their intersection. A key criterion for this definition is an anthropocentric approach, as human factors emphasizes the importance of the human in sustainable development. Additionally, the definition should include complex systems thinking, an acknowledgement of the dynamic nature of the entire system, and equitable and ethical decision-making. The MONET definition and the two-tiered sustainability equilibria model of sustainable development are seen as the most complete and balanced, but more work is needed to demonstrate how they articulate with human factors and ergonomics. It is also debated whether the issue of sustainable development should only apply to the sub-discipline of 'Human Factors and Sustainable Development' or to the whole field of human factors and ergonomics.

**Intro**

In development of sustainability requirements, we take look into our products and how they are developing towards sustainability. Identify sustainability aspects and impacts of company activities. The aspects of sustainability are determined for the respective activities in the supply chain. Information about the activities of sustainability aspects is provided directly from suppliers and sub-suppliers. This way we can see actual and potential impacts for environment but also for company itself. With this action we can get rough picture of the sustainability aspects and effects.

Kuva, joka sisältää kohteen diagrammi

Kuvaus luotu automaattisesti

***Figure. 6 Impact chain with examples***

Next thing to do is to assess and prioritise sustainability risks. By the analysis and determination of sustainability aspects and impacts, the company assesses and prioritises the risk of negative effects on the environmental and people, as well as risks that arise for the company meaning reputation, liability, etc.

After that, we must determine sustainability topics and action areas. The business “translates” its knowledge about negative impacts to sustainability and risks to the questions of which sustainability topics and action areas are relevant to optimize and develop a sustainable supply chain. Focusing on specific topics and action areas of sustainability is important for the company to be able to effectively use its own limited human and financial resources.

Kuva, joka sisältää kohteen pöytä

Kuvaus luotu automaattisesti

***Figure. 7 Example chart of connections between aspects and negative impacts***

The next picture shows, how company should start to determine their sustainability impacts for every step of their supply chain, especially when the supply chain is complex.

Kuva, joka sisältää kohteen pöytä

Kuvaus luotu automaattisesti

***Figure. 8 Example overview of (potential) sustainability impacts***

## 3.2 Sustainable supplier evaluation and selection & Sustainable Supplier Relationship Development

# 3.2.1 Sustainable supplier evaluation & selection

Supplier selection is usually based on estimated total cost of ownership, product quality, supplier capabilities, consistency and supplier risk. And if we want to cut it even more into basics, to three factors: price, delivery and quality.

Nowadays, sustainability rises it’s head and we are in a situation, where we are made to evaluate our suppliers and their actions from a new angle.

While traditional supplier evaluations focuses places that was mentioned above, word „sustainability“ makes companies take action and assess sustainable behavior to their business models. About those sustainability steps to take, you can rewind back to chapter 1.6.

When company is adapting sustainability criteria in their supplier evaluation, it is helpful if the company explains its intentions with sustainability to their suppliers. Supplier evaluation is very much similar to Vag Group S-rating , where you evaluate your supplier’s sustainability with points that is set between 0 to 100. This means, that closer you are to 0, the more unfulfilled you are with companys sustainability targets, and when you get closer to the 100, the more fulfilled you are. [27] Sievo.

## 3.2.2 Theory of SCM

Before we look development practically, we need to understand the theory of the topic. There is five different theories that we have taken a look into:

Resource-based view (RBW), Stakeholder theory (ST), Institutional theory (IT), Transaction cost theory (TCT), Resource dependence theory (RDT). These theories and views are proposed by several authors to have the potential for explaining various aspects of SCM.

**Resource-Based View**

The resource-based view (RBV) of firms suggests that firms engage in competitive behavior in order to gain a competitive edge. Parties in the supply chain aim to gain control over the elements of production that can provide them with an advantage over their competitors.

The RBV is a dominant theory in strategic management literature. The implementation of value-creating strategies can provide a sustainable competitive advantage if the strategy cannot be easily imitated by competitors. Resource diversity and immobility are two key assumptions of the RBV.

Resource diversity refers to the ownership of unique resources or capabilities that provide a competitive advantage, while resource immobility refers to the difficulty and high cost of obtaining, improving, acquiring, or using a particular resource.

The RBV suggests that human capital management, technology management, innovation, and R&D practices can significantly contribute to maintaining a competitive advantage that is difficult to imitate. In supply chain relationships, the RBV suggests that the creation of trust-based collaborative value forms the basis of resource pooling to form supply chain relations.

The RBV highlights the importance of creating resources that possess immobility, inimitability, and sustainability to improve supply chain alliances. Structural opportunities in the form of key types of supply chain alliances can be determined by the resource profiles of partnering firms. Resources that offer advantages have three specific characteristics: they create value for the firm, are organization-specific, and require accumulation of inputs over time.

**Stakeholder Theory**

The passage describes the stakeholder management approach to supply chain formation, which emphasizes the importance of considering the interests of all stakeholders involved in a company's operations. Stakeholders are defined as any group that can have an impact on or be impacted by the company, including investors, suppliers, employees, customers, competitors, local communities, and regulatory agencies.

The passage notes that stakeholder relationships are constantly at risk, either voluntarily or involuntarily, and that effective stakeholder management requires giving simultaneous attention to the valid interests of all relevant stakeholders in operational and strategic decision-making. However, the passage also points out that not all stakeholders are considered equal and that identifying which stakeholders’ matter most is an essential starting point in effective stakeholder management.

The passage suggests that organizations are cooperative systems by nature and may form coalitions with stakeholders to achieve common objectives. These cooperative relationships, which are variously referred to as constellations, networks, and strategic networks, can be a powerful mechanism for aligning stakeholder interests and reducing environmental uncertainty.

**Institutional Theory**

Institutional theory provides a useful framework for understanding why companies may be motivated to engage in supply chain relationships. The theory suggests that companies are subject to pressures from their institutional environments to comply with prevailing social norms and appear valid. By participating in supply chain relationships, companies can increase their visibility, reputation, image, and legitimacy, which may open the door to other relationships that provide access to essential resources and expertise.

Institutional pressures may motivate companies to conform to the environment as a means of survival, which may involve imitating or mimicking industry norms. Mimetic isomorphism suggests that managers of companies may consciously or unconsciously mimic the strategies of successful firms, leading to the pervasiveness of supply chain relationships in some industries. The formation of supply chain relationships may also be explained by a population ecology perspective, where companies without partnerships are becoming rare, and the generic firm has multiple partnerships.

Overall, institutional theory provides a valuable lens for understanding why companies may engage in supply chain relationships and the potential benefits that these relationships can provide in terms of legitimacy, reputation, and access to resources and expertise.

**Transaction Cost Theory**

The Transaction Cost Theory (TCT) is a popular concept in supply chain management that focuses on how a company should organize its boundary spanning activities to reduce production and transaction costs. The theory identifies two modes of organizing, markets, hierarchies, and suggests that the most efficient option should be chosen for any given transaction. The make or buy decision is a classic example of this theory, where it is often cheaper for a company to purchase a product from a specialist rather than producing it themselves.

However, TCT has its limitations and may not always explain the formation of supply chain relationships. For example, alliances can be formed for reasons other than cost-minimization, such as learning and legitimacy. TCT also neglects other crucial criteria for alliance formation, such as the perceived fairness of a potential partner, and assumes that all parties involved in the partnership will get along and have compatible corporate cultures. Human beings do not always get along, and cultural clashes can occur between alliance partners.

Furthermore, TCT may not accurately reflect the decision-making process of real executives. In a study conducted by Faulkner (1995), executives involved in forming supply chain alliances did not indicate that transaction costs had influenced their decision-making.

In conclusion, while TCT provides valuable insights into the organization of boundary spanning activities in supply chain management, it has its limitations and may not always explain the formation of supply chain relationships. Other factors, such as learning, legitimacy, perceived fairness, and cultural compatibility, should also be considered in alliance formation.

**Resource Dependence Theory**

Resource dependence theory (RDT) is a theoretical perspective that focuses on how companies can effectively manage relationships with exchange partners when they become reliant on each other for needed resources. RDT suggests that inter-firm governance can be a strategic response to conditions of uncertainty and dependence between exchange partners. In the supply chain context, RDT is a dominant explanatory power as supply chain contributors often work together to acquire common goals and become increasingly more dependent on each other.

One common reason for the formation of supply chain relationships that fits the resource dependence paradigm is that companies enter partnerships to take advantage of complementary assets. However, RDT has limitations regarding explaining supply chain alliance formation as it does not explain why companies may pursue other strategies besides alliances to meet perceived resource deficiencies.

While RDT has trustworthy appeal, it does not shed much light on how organizational competencies are developed. The concept focuses on the need for critical resources and the need for social exchange, as opposed to the more complicated theoretical challenge of describing how skills are developed and how inter-company transfers of talents take place. Therefore, other theories are required to determine how companies develop organizational competencies.

**Summary of these five theories**

**RBV:**

Focuses on how a company's resources and capabilities, including intangible assets such as knowledge, skills, and relationships, can contribute to its competitive advantage. RBV suggests that resources that are valuable, rare, inimitable, and non-substitutable (VRIN) can provide a sustained competitive advantage. RBV is widely adopted in supply chain management (SCM) literature to understand how a firm can leverage its resources and capabilities to gain competitive advantage in the supply chain context.

**ST:**

Emphasizes the importance of considering the interests of all stakeholders, not just shareholders, in business decision making. It aims to create value for stakeholders, including suppliers, through various business decisions such as outsourcing, make-or-buy decisions, and supplier strategies. Stakeholder theory is closely related to supply chain management (SCM) decision making.

**IT:**

Suggests that external factors such as social norms, regulations, and institutional pressures can affect a firm's organizational structure and practices. The theory emphasizes the importance of legitimacy and how conforming to institutional norms can enhance a firm's legitimacy in its environment. In the context of supply chain management, institutional theory suggests that organizations should conform to industry standards and regulations to enhance their legitimacy and gain a competitive advantage.

**TCT:**

explains why firms exist and aims to reduce costs associated with carrying out a transaction in the context of SCM. It focuses on the make-or-buy decision and is influenced by the frequency of transactions, asset specificity, and uncertainty. TCT suggests that firms choose the governance structure that minimizes transaction costs, and it has implications for supply chain design and the choice of suppliers.

**RDT:**

explains that firms often rely on other firms for resources and how companies can effectively manage such relationships. It focuses on the need for vital resources and social exchange, as opposed to describing how organizational competencies are developed. RDT suggests that companies should create exchange relationships to get access to complementary and heterogeneous resources to survive and thrive. This theory has significant implications for supply chain management as supply chain participants often work together to acquire common goals and become increasingly more dependent on each other.

Kuva, joka sisältää kohteen pöytä

Kuvaus luotu automaattisesti

Obrázek 1 Comparison of SCM Theories

**Limitations and applications of SCM Theories**

Kuva, joka sisältää kohteen pöytä

Kuvaus luotu automaattisesti

Obrázek 2 Applications of SCM Theories

Kuva, joka sisältää kohteen pöytä

Kuvaus luotu automaattisesti

Obrázek 3 Limitations of SCM Theories

**Summary**

In summary, here is told shortly five broadly used SCM theories and how they function.

## 3.2.3 Practical use

First, we take look into company Volkswagen AG and its Code of Conduct for Business Partners. These are the requirements that VAG group follows when they are evaluating and choosing their suppliers.

**Fundamental sustainability requirements**:

The Volkswagen Group has established sustainability requirements for its business partners and expects them to integrate these values into their daily business practices. The Volkswagen Group expects its business partners to have competent management practices that are structured to support sustainability.

Furthermore, the business partner management is expected to identify and assess legal and other requirements related to sustainability and ensure that their employees are trained to comply with those requirements. This suggests that Volkswagen Group values sustainability and expects its business partner to share this commitment and responsibility. Business partners complies with applicable law, so if requirements goes further than the requirements of applicable law, they must me observed.

**Creation and application of management systems**:

Those business that has production locations bigger than 100 employees must demonstrate certification for these locations according to the international standard ISO 14001 or the EMAS Regulation of the European Union. Therefore, if business partners have operations larger than 1000 employees, they must additionally obtain certification for these locations according to the international standard ISO 45001 or a comparable standard.

Every business partner must prepare a corporate statement, or in other words, their own code of conduct, which commits them to social, ethical, and environmental standards. Statement is meant to do in every language that is understood by local employees.

Business partners are encouraged to name a sustainability officer or similar officer who reports to the management of the respective business partner. The officer should be the one developing sustainability objectives and measures inside the company. For this cause, The Volkswagen Group offers to their business partners several different kinds of training programs for free. They might be obligated to do some kind of training program if they can not prove to have already undergone by something similar program by third parties.

**Emissions and environmental impact**:

It appears that the Volkswagen Group requires its business partners to take appropriate measures to reduce air emissions that pose a risk to the environment and health, including greenhouse gas emissions. The business partners are expected to reduce them along the whole supply chain, for example using carbon neutral energy sources. Moreover, Volkswagen Group requires its business partners to give this information upon request, showing overall energy consumption and carbon emissions related to the products supplied to the group. This is because Volkswagen Group can use the data to improve their performance indicators of its products.

Overall, these requirements tells that the Volkswagen Group values sustainability and experts its business partners to give in to the reduction of environmental impact throughout the supply chain.

The Volkswagen Group expects business partners to prioritize the efficient use of energy, water and raw materials, while also minimizing harm to the environment and public health. They are encouraged to use renewable recourses wherever possible to achieve these goals.

Partners must implement appropriate measures to avoid or refrain from using substances and material with adverse effects on the environment or health within the framework of the respective applicable law and with due regard for applicable regulations of the Volkswagen group. They are also obliged to act in conformity with the requirements of the international conventions and other legal instruments. Partners need to take look into disposal of certain substances (in particular including the requirements of the Minamata Convention of 10 October 2013 on mercury, the Stockholm Convention of 23 May 2001 on persistent organic pollutants (POPs)) as well as the related applicable implementing legislation at the national and supranational level.

They take part to minimize water consumption at their sites along their supply chains in water stressed regions. Partners of Volkswagen group must still give in information of total water consumption on their product level. Protection of natural ecosystems, especially the ones of the endangered wild animals and sustainable use of natural resources are required to be ensured.

**Circular economy and waste management:**

Business partners needs to take proper hold to aim avoiding waste, re-using resources, recycling as well as the safe environmentally friendly disposal of residual waste, chemicals, and wastewater. “Thereby, the business partners comply with international agreements on the cross-border transport of hazardous waste, in particular the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal of 22 March 1989 as well as with the corresponding, applicable implementation rules at national and supranational level.” – ([24]Volkswagen Group/01/2023)

**Sustainability requirements in human rights and employment law of employees**:

Business partners are obliged to eliminate child labor and use the minimum employment age in their business activities and their supply chain. Partners must take action to prevent or eliminate debt bondage, forced and compulsory labor, as well as all forms of modern slavery. Employment relationships must be ensured to be voluntary and need to take care that they don’t mislead or defraud potential employees about the nature of the work. Corporation must not share any kind of physical punishment to their employees. Also, any type of crimes against humanity is prohibited. Any kind of discrimination of employees is absolutely prohibited, everyone is meant to be treated equally.

**Sustainability requirements for business ethics:**

Partners of Volkswagen Group must always act appropriately and take action to end violations if they are identified. They must not allow themselves to be influenced by any irrelevant interest or relationship. Business partners must prevent all forms of corruption, for example facilitation payments. Also, partners must ensure that any kind of bribes, kickbacks, improper donations, or other payments are not taken or offered by their employees or subcontractors. Competition must be done fair between contractors.

**Sustainability requirements for responsible supply chains:**

Business partners are obliged to follow legal obligations named by Volkswagen Group, and show corresponding disclosure obligation to their supplier, which they in turn are required to do so to their suppliers. This may need that suppliers disposes their supply chain to Volkswagen Group down to the material origin and provide evidence of management systems or third party telling their risks in the supply chain. Raw material suppliers and their supply chains requires a lot more effort from all actors along the supply chain because they have so high impact on people and planet. “Therefore, business partners comply with their due diligence obligations as described in the “OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas” regarding relevant raw materials.” – ([25]Volkswagen Group 01/23). Volkswagen Group have over 15 000 suppliers over 60 countries.

Volvo Cars have a lot of variety in their global supply chain. Most of the component manufacturing is made by suppliers, so Volvo Cars suppliers environmental and also social impact is very important to Volvo Cars. They have aimed to adapt sustainability requirements to their day-to-day processes and tools.

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Kuvaus luotu automaattisesti

***Figure. 9 Volvo suppliers***

Volvo Cars depends global, wide network of suppliers to source raw materials to manufacture parts and components to their cars. Suppliers, that are only provider for certain component, are included in definition of critical suppliers.

Volvo Cars is members of the RBA ([26]Responsible Business Alliance), and they are using RBAs Risk Model to seek out inherent/potential risks to supply chain sustainability. Risk factors include generic risks like country risks, geographical related to labor rights, business ethics, health and safety, environmental and commercial risks, meaning supplier dependency. The goal is to optimize supply chains and give suppliers proper training and guidance about sustainability.

To be sure that suppliers comply with Volvo Cars sustainability objectives, they are given variety of tools to work with.

SEMAT – Supplier Evaluation and Manufacturing Assessment Tool is a tool developed by Volvo Cars to see how their suppliers are capable to manufacture. It is used to tell that how supplier would fulfill their customer expectations in quality and delivery. It determines if manufacturer satisfies Volvo Cars Quality of Excellence (VQE) requirements, giving a look for any improvements.

SEM – Supplier Evaluation Model on new suppliers evaluates potential suppliers completely, including working conditions, business ethics and environmental impact. It can also be used to evaluate current suppliers.

SAQ – Sustainability Self-Assessment Questionnaire evaluates that how good suppliers have complied to Volvo Cars sustainability objectives set by Purchasing Agreement.

Volvo Cars Supplier Sustainability Audit is based on Volvo Cars Code of Conduct for Business Partners, which is contractual agreement with suppliers. It includes everything that is above-mentioned. If non-conformities are identified during the audits, Volvo Cars will take action and work with concerned supplier to improve and verify corrective actions.

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***Figure. 10 Activities for ensuring suppliers's compliance.***

Big corporations have very similar management processes, as we can see. Last picture is Valmet’s management process, and it follows the same line as other large automotive industries do.

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Kuvaus luotu automaattisesti

***Figure. 11 Valmet's global supplier sustainability management process***

# 4 SAQ 5.0 - Sustainability Assessment Questionnaire

## 4.1 CSR Europe, collaborative platform Drive Sustainability, Drive Sustainability partners

CSR Europe is the leading European business network for Corporate Sustainability and Responsibility.

**CSR vision**

Business is key in providing innovative solutions for today’s challenges. In Europe, business is uniquely placed to help create a world in which everyone can thrive through social, environmental, and economic progress ([28] CSR Europe, 2023).

**CSR mission**

1. Increase the integration of sustainability into business models and management of companies.
2. Be a platform for collaboration with stakeholders and a catalyst for innovation to build a sustainable and inclusive society in Europe and beyond.
3. Engage with the European institutions about policy to drive the global sustainability agenda.
4. Be a business network that is recognised as a global leader ([28] CSR Europe, 2023).

**Drive Sustainability**

Drive Sustainability is an Automotive Partnership between BMW Group, Daimler AG, Fiat Chrysler Automobiles, Ford, Honda, Jaguar Land Rover, Scania CV AB, Toyota Motor Europe, Volkswagen Group, Volvo Cars and Volvo Group. The Partnership, facilitated by CSR Europe, aims to drive sustainability throughout the automotive supply chain by promoting a common approach within the industry and by integrating sustainability in the overall procurement process ([27] Drive Sustainability, 2023)

It is of great importance to these 11 responsible automotive manufacturers that the people making vehicles, components, or providing services are afforded decent working conditions and are treated with dignity and respect, while minimising the environmental impact of their industry and promoting business integrity. The Partnership builds upon and takes on the previous work carried out by ‘The European Automotive Working Group on Supply Chain Sustainability’ – started in 2012-, with the ambition to evolve from a group of companies working together to a leadership industry initiative, pushing for innovative and impactful approaches to enhance supply chain sustainability. In the process of collaboration, the partners strongly agreed to work together in compliance with competition law ([27] Drive Sustainability, 2023).

## 4.2 Development of SAQ and motivation

**Vision**

Vision of Drive Sustainability is to lead the transformation towards a circular and sustainable automotive value chain. They endeavour to achieve excellence, innovation, and performance in a sustainable manner. For them, people and the environment are the automotive industry’s most important resources. It is of great importance for them that the individuals making vehicles, components, or providing services are afforded decent working conditions and are treated with dignity and respect, while minimising the environmental impact of the industry and promoting business integrity ([27] Drive Sustainability, 2023).

**Mission**

Their mission is to drive sustainability throughout the automotive industry by leveraging a common voice and by engaging with suppliers, stakeholders, and related sectors on impactful activities. They are a leading partnership that is based on strong collaboration, innovation, and impact. Drive Sustainability brings together global automotive companies that commit to improve both their own performance and that of their supply chain by integrating sustainability in the overall procurement process ([27] Drive Sustainability, 2023).

**Direction**

1. Have a common and unified position, understanding and commitment on supply chain sustainability towards suppliers, other partners and stakeholders
2. Develop and implement common activities & tools that can drive changes and impact
3. Encourage, promote and work together to have a common approach and process on supply chain sustainability throughout the industry
4. Strive to embed sustainability into company procurement processes throughout the industry ([27] Drive Sustainability, 2023)

**History**

In 2011 several companies dedided to formalise into a group. In 2012 CSR Europe was selected to be a group facilitator. In April of 2013 there was an official public launch of the "European Automotive Working Group on Supply Chain Sustainability". Next year in March there was the official public launch of Guiding Principles followed next month by the SAQ (Self-Assessment Questionnaire). In 2017 the European Automotive Working Group became the now used Drive Sustainability. In April of 2020 long-term strategy was released and in October of that year SAQ 4.0 was released. The next year there was a kick-off for a supplier engagement platform Drive +. In December of 2022 the SAQ 5.0 was released ([27] Drive Sustainability, 2023).

## 4.3 SAQ 5.0 description and implementation principles

Corporate Social Responsibility (CSR)/Sustainability is a process for companies to integrate environmental, social, and governance (ESG) topics into its corporate strategy, operations, and supply chain. Drive Sustainability has a set of common guidelines (the Guiding Principles) outlining minimum expectations for Automotive Industry suppliers on key CSR/Sustainability areas. These are based on fundamental principles of social, environmental and governance responsibility that are consistent with applicable laws and international standards, which may include the UN Guiding Principles on Business and Human Rights, ILO Conventions, OECD Guidelines for Multinational Enterprises, the Rio Declaration on Environment and Development, as well as the Paris Agreement. In line with the Guiding Principles, this Sustainability Assessment Questionnaire (SAQ) is designed to indicate and verify supplier compliance on CSR/Sustainability topics through the assessment and verification of implementing a management system/s. They are defined as a combination of policies, processes, functions, tools, and internal controls that help an organisation to control its operations, reach objectives and ensure continuous improvement ([27] Drive Sustainability, 2023).

The questionnaire was developed in 2014 and revised in 2022 by the members of Drive Sustainability – The Automotive Partnership. These are BMW Group, Daimler Truck AG, Ford, Honda, Jaguar Land Rover, Mercedes-Benz AG, Scania CV AB, Stellantis, Toyota Motor Europe, Volkswagen Group, Volvo Cars and Volvo Group. Currently it is used by thirteen of the members also including Geely and Polestar, excluding Stellantis ([27] Drive Sustainability, 2023).

The questionnaire has 26 pages and is divided into 8 parts that are Company management (general), Human rights and working conditions ,Health and safety, Business ethics, Environment, Responsible supply chain management, Responsible sourcing of raw materials and Additional information. Each part has a number of questions and according to the answers there is a scoring system ([27] Drive Sustainability, 2023).

After you submit your answers and sent them in the supplier assurance team will review the evidence that you have uploaded to ensure that the documents are acceptable and cover the answers that you have selected. Once the SAQ answers and evidence are reviewed the results are send via email ([27] Drive Sustainability, 2023).

**Approach of Drive Sustainability**

**Obsah obrázku diagram

Popis byl vytvořen automaticky**

Source: (Drive Sustainability, 2023)

***Figure. 12 Drive Sustainability Approach***

The Drive Sustainability approach consists of 3 interconnected workstreams that complement each other. These are Guidance to provide on their sustainability expectations, Compliance to assess the adherence to sustainability standards and Capacity building to support suppliers to improve their sustainability performance with useful training offers ([27] Drive Sustainability, 2023).

## 4.4 Related certification standards

There are other certifications that companies can get on their own with which they can show that they are continuably working on sustainability and other good things.

**ISO 26000**

ISO 26000 is about social responsibility. It exists for organizations and businesses that are committed to operate in a socially responsible way. It provides guidance to those who recognize that respect for society and environment is a critical success factor. As well as being the “right thing” to do, application of ISO 26000 is increasingly viewed as a way of assessing an organization’s commitment to sustainability and its overall performance. Unlike other ISO standards it cannot be certified since it provides guidance rather than requirements. It was launched in 2010 after a development by about 500 experts ([29] ISO, 2023).

**SA 8000**

The SA8000 Standard is the world’s leading social certification program. The SA8000 Standard and Certification System provide a framework for organizations of all types, in any industry, and in any country to conduct business in a way that is fair and decent for workers and to demonstrate their adherence to the highest social standards. Created by SAI in 1997 as the first credible social certification, it has led the industry for over 20 years. The SA8000 Standard is based on internationally recognized standards of decent work, including the Universal Declaration of Human Rights, ILO conventions, and national laws. SA8000 applies a management-systems approach to social performance and emphasizes continual improvement—not checklist-style auditing. Among the elements of the standarts are Child Labor, Forced or Compulsory Labor, Health and Safety, Freedom of Association & Right to Collective Bargaining, Discrimination, Disciplinary Practices, Working Hours, Remuneration and Management Systemrmance with useful training offers ([30] Social Accountability International, 2023).

**ISO 45001**

For organizations that are serious about improving employee safety, reducing workplace risks, and creating better, safer working conditions, there’s ISO 45001. According to the International Labour Organization, more than 7 600 people die from work-related accidents or diseases every single day. That’s why an ISO committee of occupational health & safety experts set to work to develop an International Standard with the potential to save almost three million lives each year. Structured in a similar way to other ISO management systems, the approach will be familiar to users of standards such as ISO 14001 or ISO 9001. ISO 45001 builds on the success of earlier international standards in this area such as OHSAS 18001, the International Labour Organization’s ILO-OSH Guidelines, various national standards and the ILO’s international labour standards and conventions ([29] ISO, 2023).

**ISO 14001**

ISO 14001 sets out the criteria for an environmental management system and can be certified to. It maps out a framework that a company or organization can follow to set up an effective environmental management system. Designed for any type of organization, regardless of its activity or sector, it can provide assurance to company management and employees as well as external stakeholders that environmental impact is being measured and improved. ISO 14001 provides requirements with guidance for use that relate to environmental systems. Other standards in the family focus on specific approaches such as audits, communications, labelling and life cycle analysis, as well as environmental challenges such as climate change. There are more than 300 000 certifications to ISO 14001 in 171 countries around the world ([29] ISO, 2023).

**ISO 14064**

The ISO 14064 standard provides businesses and organisations but also governments and regions with a complementary set of tools for programs to quantify, monitor, report and verify greenhouse gas emissions. The standard supports organisations to participate in both regulated and voluntary programs such as emissions trading schemes and public reporting using a globally recognised standard ([29] ISO, 2023).

**ISO 50001**

ISO 50001 is based on the management system model of continual improvement also used for other well-known standards such as ISO 9001 or ISO 14001. This makes it easier for organizations to integrate energy management into their overall efforts to improve quality and environmental management. ISO 50001 provides a framework of requirements for organizations to

* Develop a policy for more efficient use of energy
* Fix targets and objectives to meet the policy
* Use data to better understand and make decisions about energy use
* Measure the results
* Review how well the policy works
* Continually improve energy management ([29] ISO, 2023)

## 4.5 Analysis of SAQ implementation in selected companies

The SAQ questionnaire is currently used by these companies, BMW Group, Daimler Truck AG, Ford, Honda, Jaguar Land Rover, Mercedes-Benz AG, Scania CV AB, Toyota Motor Europe, Volkswagen Group, Volvo Cars, Volvo Group, Geely and Polestar.

While the SAQ processes are used in all of them, these informations are private. All of them are trying to incorporate SAQ principles.

There are also supporters of SAQ which are Stellantis, UD Trucks, Volta Trucks and GWM.

# Conclusion

Sustainable procurement and supplier management are critical practices for organizations looking to create long-term value for their stakeholders while also addressing social and environmental challenges. This seminar work has highlighted the benefits of sustainable procurement and supplier management, including reducing environmental impact, supporting social and economic development, supporting social and economic development and reducing risks. We have brought up the key principles of sustainable procurement and supplier management. The seminar has also explored the strategies involved in sustainable procurement, including supplier selection based on sustainability objectives, monitoring and improving supplier relationships and collaborating with suppliers to promote sustainable practices.

In this light, sustainable procurement and supplier management should be core part of any sustainable business strategy. As such, it is essential for organizations to continue to learn, adapt and improve their practices in their field of industry.

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# List of figures and tables

**List of figures**

Figure. 1 Automotive Industry´s Duty to be more sustainable 6

Figure. 2 Key Elements of Sustainable Procurement 10

Figure. 3 Drivers for sustainable procurement 14

Figure. 4 Sustainable development goals 15

Figure. 5 Sustainable procurement structure 19

Figure. 6 Impact chain with examples 26

Figure. 7 Example chart of connections between aspects and negative impacts 27

Figure. 8 Example overview of (potential) sustainability impacts 27

Figure. 9 Volvo suppliers 31

Figure. 10 Activities for ensuring suppliers's compliance. 33

Figure. 11 Valmet's global supplier sustainability management process 33

Figure. 12 Drive Sustainability Approach 38

*CSR Europe* [online]. 2023 CSR Europe [cit. 2023-03-19]. Dostupné z: https://www.drivesustainability.org/our-approach/

**List of tables**

Table. 1 Global Automotive Sustainability Practical Guidance 11

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