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**STRATEGIC IMPACTS OF SDGS IN THE FINNISH MACHINERY AND  
MANUFACTURING INDUSTRY**

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## **ABSTRACT**

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The business sector is encountering vast demands from multiple stakeholder groups regarding sustainable development and companies have begun increasingly to acknowledge the importance of sustainability and sustainable development for their businesses. For this, they have a wide repertoire of different sustainability tools, frameworks, and guidelines to manage sustainability. In this equation, UN's Sustainable Development Goals (SDGs) is a framework providing a global agenda for the implementation of sustainability work.

In this master's thesis I study the strategic impacts of the SDGs in Finnish companies by adapting a qualitative case study as a research method. The purpose of this thesis is to give a broader understanding about the impacts of SDGs in the companies' processes and practices and illuminate why companies have adopted SDGs. In addition, this thesis seeks to research what kind of advantages and challenges they have identified and encountered from utilizing SDGs in their own operations and how the framework improves performance and creates value for various stakeholder groups. To answer this, five sustainability directors from machinery and manufacturing industry were interviewed to get empirical and practical relevance for the thesis.

The findings indicate that interviewed companies are adopting SDGs much narrower than anticipated. The role of the framework in companies' sustainability processes and practices is more a reporting and communication tool than strategic. Additionally, companies seem to acknowledge only a few of the advantages that the framework provides in practice.

## TIIVISTELMÄ

<b>Tekijä:</b>	Sami Raatikainen
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Yrityksiin kohdistuu valtavia odotuksia kestävään kehitykseen ja vastuullisuuteen liittyen useilta eri sidosryhmiltä. Yritykset ovatkin huomanneet vastuullisuuden tärkeyden ja merkityksen liiketoiminnalleen, jonka hallitsemiseen heillä on useita eri työkaluja ja viitekehystä käytössä. Tässä yhtälössä, YK:n kestävä kehityksen tavoitteet tuovat globaalin agendan vastuullisuus työlle.

Tässä pro-gradussa tutkin YK: n kestävä kehityksen tavoitteiden strategisia vaikutuksia suomalaisissa yrityksissä laadullisin tutkimusmenetelmin. Pro- gradu tutkielman tavoitteena on antaa laajempi näkemys ja ymmärrys YK:n kestävä kehityksen tavoitteiden roolista yritysten prosesseissa ja käytännöissä, erityisesti liittyen siihen, miksi kyseinen viitekehys otettiin käyttöön, minkälaisia kilpailuetuja ja haasteita yritykset ovat tunnistaneet ja kohdanneet käyttäessään viitekehystä sekä kuinka kestävä kehityksen tavoitteet lisäävät yrityksen tehokkuutta ja vastaavat eri sidosryhmien odotuksiin. Vastatakseni näihin kysymyksiin, haastattelin viittä vastuullisuus johtajaa antamaan käytännön näkemyksiä tähän tutkimukseen.

Tulokset viittaavat siihen, että haastateltavat yritykset käyttävät kestävä kehityksen viitekehystä hieman kapeammin kuin mitä oli ennakoitu. Viitekehysten rooli yritysten vastuullisuus prosesseissa ja käytännöissä on enemmän raportointiin ja kommunikointiin liittyvä kuin strateginen. Lisäksi haastateltavat yritykset näyttävät tunnistavan vain osan viitekehysten tarjoamista hyödyistä käytännössä.

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## Table of Contents

<b>1 Introduction .....</b>	<b>8</b>
1.1 Research background.....	8
1.2 Research gaps in SDGs, sustainability and strategic management.....	11
1.3 Research questions and objectives of the study .....	12
1.4 Research context.....	13
1.5 Research method.....	16
1.6 Study delimitations.....	17
<b>2 Theoretical framework.....</b>	<b>19</b>
2.1 Strategic management.....	20
2.2 Stakeholder theory and strategic management .....	21
2.3 Sustainable development in business and management research .....	25
2.4 Sustainability and strategy .....	28
2.5 Sustainable Development Goals (SDGs).....	29
2.6 Research framework.....	35
<b>4 Research design and method .....</b>	<b>38</b>
4.1 Qualitative Research.....	38
4.2 Data collection .....	39
4.3 Data analysis methods: pattern matching and grounded theory .....	42
4.4 Reliability and validity.....	45
<b>5 Empirical Results .....</b>	<b>46</b>
5.1 SDGs in Machinery and Manufacturing industry .....	47
5.2 Advantages of SDGs .....	51
5.3 Integration of SDGs into a strategy.....	53
5.4 Challenges of SDGs .....	55
5.5 The role of SDGs in the future .....	59
<b>6 Discussion .....</b>	<b>60</b>
6.1 mRQ: How SDGs are impacting to companies' strategic sustainability processes and practices? .....	61
6.2 sRQ1: What types of possible impacts do SDGs provide? .....	64

6.3 sRQ2: What are the possible challenges occurring when adopting/ implementing SDGs? .....	66
6.4 Theoretical contributions .....	69
6.4.1 SDGs and stakeholder theory .....	70
6.4.2 SDGs and resource-based view theory .....	72
6.5 Practical implications .....	76
6.6 Future research and directions .....	77
<b>7 Conclusions.....</b>	<b>79</b>
<b>References.....</b>	<b>80</b>
<b>Appendices.....</b>	<b>89</b>
Appendix 1. Interview questions .....	89
Appendix 2. Sustainable Development Goals .....	90
Appendix 3. Interview request letter.....	91
Appendix 4. Discovered benefits .....	92

## List of Figures

Figure 1. Integration level of SDGs in large Finnish enterprises in between 2017- 2019 (FIBS 2020e).....	15
Figure 2. SDG integration level by companies (3bility Consulting & FIANT Consulting Oy, 2020, 5) .....	16
Figure 3. Delimitations of the study .....	18
Figure 4. Stakeholder groups (Adapted from Freeman and Reed, 1989, 89; Ioannou & Hawn, 2016, 21-22) .....	23
Figure 5. Three dimensions of Sustainable Development.....	27
Figure 6. Sustainable Development Goals (Partnership for Action on Green Economy. 2020) .....	31
Figure 7. Benefits of SDGs (Adapted from SDG Compass, 2015; SDG Challenge, 2019).....	33
Figure 8. Research framework.....	37
Figure 9. Process of analysis .....	43

Figure 10 Analyzing procedure of qualitative data (adapted from Saunders et al. 2016, 596).....	44
Figure 11. Adoption timeline of SDGs .....	47
Figure 12. Adopted SDGs in total. (United Nations. 2020) .....	49
Figure 13. Empirical findings in research framework.....	62
Figure 14. Proposed model.....	73

## List of Tables

Table 1. Business opportunities of SDGs (Business & Sustainable Development Commission. 2017, 14). .....	34
Table 2. Description of the interviewed companies and persons .....	42
Table 3. Summarized benefits of SDGs .....	66
Table 4. Summarized challenges of SDGs .....	69

## **1 Introduction**

The focus of this thesis is to study the strategic impacts of UN's Sustainable Development Goals (SDGs) for Finnish companies in machinery and manufacturing industry. In this thesis I study how the SDGs improve companies' sustainability processes and practices and create value for various stakeholder groups. The following chapter introduces the main idea of the study by shedding light into the research background, research gaps, research questions, the context of the research, objectives, and limitations of the study.

### **1.1 Research background**

The ongoing discussion circulates regarding sustainability, in particularly what kind of role business sector have in the age of sustainability in societies (Porter and Kramer 2006; Porter and Kramer, 2011). No wonder, since the humankind is facing massive environmental challenges such as the climate crisis, the depletion of natural resources, the loss of biodiversity and degradation of the global ecosystem reaching the limits of planetary boundaries (Heikkurinen and Bonnedahl, 2012; Rockström et al., 2009; Ioannou and Hawn, 2016) and social challenges regarding digitalization, increasing wealth disparity, growing population and increased life expectancy of the people (Heikkurinen and Bonnedahl, 2012; SDG Challenge, 2019; Ioannou and Hawn, 2016). In this equation, business sector and governments act a huge role by promoting these challenges and the development of societies (Heikkurinen and Bonnedahl, 2012). In the middle of fast evolving environmental and social issues, business leaders are finding it difficult outlining their strategies with sustainability issues (Ioannou and Hawn, 2016).

Increased awareness towards environmental and ethical issues around the world has highlighted the role of business sector in societies in these matters (Hargett and Williams, 2009; Caiado et al., 2018), because businesses have a large impact on economy and sustainable development cannot be advanced without their efforts at it (Schaltegger et al., 2012). Today, companies are facing more pressure from

various stakeholders such as customers, employees and NGOs to address the social and environmental dimensions as a part of the business in addition to economic dimension (Michelon et al., 2013) and during a few past years, institutions have been also demanding companies to adopt sustainable practices to solve social and environmental issues (Ioannou and Serafeim, 2019).

Integrating sustainability into a strategy so that it would create more value for the stakeholders is challenging for business leaders due to the lack of clear guidance (Ioannou and Hawn, 2016; Linnenluecke and Griffiths, 2010), which can be argued to be one of the key challenges for companies (Caiado et al., 2018; Govindan et al., 2013; Hargett and Williams, 2009). Now and in the future, companies are expected to create social, environmental, and ethical value in addition to financial value for stakeholders (Ioannou and Hawn, 2016). In order for the business sector to be able to respond to these increased demands and stakeholder expectations on socio-environmental issues, sustainability should be integrated into the business strategies and day-to-day operations from top down (Porter and Kramer, 2006; Luring and Thomsen, 2009; Linnenluecke and Griffiths, 2010). Fortunately, companies have started to voluntarily integrate sustainable development in their strategies during the last two decades (Eccles et al., 2014; Ioannou and Serafeim, 2019). Since 2015, one piece of evidence about the voluntariness of companies is the UN Sustainable Development Goals (SDGs) guideline that companies have recently begun to adopt in Finland (3bility Consulting & FIANT Consulting Oy, 2020; FIBSry, 2020e) to address the above-mentioned expectations.

In the fall of 2015, a new framework for sustainable development was passed called Sustainable Development Goals (SDGs) by the General Assembly of at the headquarters of United Nations in New York (Stafford-Smith et al. 2017; Persson et al., 2016). The SDG framework has 17 goals (see appendix 2.) and 169 targets that intended to address social, economic, and environmental dimensions all together by the end of 2030 (Stafford-Smith et al., 2017; Van Vuuren et al., 2015; SDG Compass, 2015).

SDGs provide a framework for governments, societies, public and private sector to address some of the above-mentioned issues (SDG Challenge, 2019). For businesses in the private sector, SDGs provides a sustainable strategy regardless of the industry or size of the company (SDG Compass, 2015). However, applying SDGs to the business sector is easier said than done, since the guideline was initially designed for governments. Therefore, the framework cannot be applied as such by the companies (SDG Challenge, 2019), which can be considered one of the challenges.

SDG guidelines have been said to have various benefits, in other words competitive advantages to companies. Throughout the SDG framework, companies can crystalize their strategy, objectives and activities in a more sustainable direction (SDG Compass, 2015). Additionally, the framework enables companies to communicate and report these aspirations to their stakeholders more clearly (SDG Compass, 2015). Moreover, for companies the benefits of SDGs relate to identifying new business opportunities, developing sustainable value, building stronger relationships with various stakeholders and policy makers, stabilizing societies and markets, and most importantly develop a much needed common language and meaning for sustainability (SDG Compass, 2015). Common language has been one of the pain points for companies causing confusion due to the vague definition of sustainable development with its various meanings (Heikkurinen and Bonnedahl, 2012; Gladwin et al., 1995; Ioannou and Serafeim, 2019; Caiado et al., 2018). In order all actors such as businesses, science, and governments to work together toward sustainability, a common language and more importantly a common definition for sustainability is needed (Broman and Robert, 2017). Additionally, SDGs give guidelines for companies to measure their own sustainability progress and set targeted KPIs, so whole industries can benefit from adopting the best practices of SDGs (SDG Challenge, 2019).

## **1.2 Research gaps in SDGs, sustainability and strategic management**

SDGs is a novel framework, created only five years ago in 2015 (Stafford-Smith et al., 2017; Persson et al., 2016; United Nations, 2015). To this date, SDGs have been studied in various contexts such as the interlinkages of SDGs between industry, societal and country level via multiple examples (Stafford-Smith et al., 2017), from water, energy and food nexus perspective and how to achieve the placed target in those areas by 2050 (Van Vuuren et al., 2015) and implementation and measuring processes of SDGs on a national level (Persson et al., 2016; Allen et al., 2018). Last year in 2019, the research focus of SDGs was on measuring the performance of countries on these goals (Sustainable Development Report, 2019). From here can be discovered, that company level research from strategic perspective is still lacking, even though companies are utilizing the framework already in their day-to-day operations.

As noted earlier, companies are facing multiple issues related to sustainable development varying from global megatrends to increased stakeholder requirements to which SDGs attempts to give clarity. In addition, the framework provides a common language and guideline for the sustainable development. Today companies are with an accelerating pace adopting SDGs as part of their core functions. According to 3bility Consulting & FIANT Consulting Oy (2020) analysis, level of SDG integration in Finland among the largest 120 companies increased by 9% from 44% to 56% between the years 2018 and 2019. However, there is relatively little research on why companies decide to choose SDGs framework, what kind of competitive advantages companies gain from SDGs in practice, and what is the role of SDGs in the future from companies' perspective. This is an important topic to be researched, because it has been argued that the decade of 2020 will be the timeline for companies to deliver SDGs to meet the expectations of stakeholders in terms of solving inequality challenges and climate change for example (SDG Challenge, 2019).

To give a wider perspective of researching sustainability in management science, Ioannou and Serafeim (2019) suggest that future research could focus on the reasons of why some sustainability practices are more common ones than others, what kind of role sustainability practices have in decision making process and what kind of impacts applied sustainability practices have on corporate performance. Strategic management literature in turn has been focusing on researching empirically linear causalities in between financial performance and social, environmental, and ethical performance which is why research of how these are integrated into strategies is very narrow (Ioannou and Hawn, 2016). Future strategy research according to Ioannou and Hawn (2016) should focus on exploring social, environmental, and ethical issues from competitive advantage perspective when integrated into the company's strategy. Another avenue of research suggested by Ioannou and Hawn (2016) is to explore the existing school of thoughts in strategy literature and mirroring it against real-life cases.

Taking all above-mentioned suggestions into account, this qualitative case study focuses on scrutinizing the business sector regarding SDGs, since companies are required to contribute of implementing the sustainable development framework to do their part in solving environmental and social issues. Therefore, this study seeks to address Ioannou and Serafeim's (2019) suggestions of the decision making processes and impacts of sustainability practices on business through the SDG framework. Moreover, as Ioannou and Hawn (2016) recommends, this study investigates what kind of competitive advantages integrating sustainability into business strategy brings for the companies for utilizing SDGs. Lastly, in order to explore the topic in real-life, the study is conducted as a qualitative case study as Ioannou and Hawn (2016) recommend.

### **1.3 Research questions and objectives of the study**

The objective of this study is to gain a broader understanding why companies adopt SDGs into their businesses, what kind of strategic impacts they generate from using

SDGs for their own strategies, what kind of challenges have occurred along the way adopting SDGs and how the framework is integrated into the company business strategy. Finally, this thesis produces managerial insights about what the role of SDGs among companies is in the future.

To find answers to the role of SDG guidelines in Finnish companies' strategies and sustainability practices are explored in detail. To form a coherent understanding about UN's Sustainable Development Goal guidelines in companies' strategies and sustainability agenda, the theoretical background relates to the strategic management literature, Sustainable Development (SD), Corporate Sustainability (CS), Sustainable Strategy (SS), Stakeholder Theory (ST) and UN's Sustainable Development Goal guideline (SDG).

In order to find answers to this thesis, the main research question (mRQ) is:

mRQ: How SDGs are impacting to companies' strategic sustainability processes and practices?

The following sub-research questions (sRQs) fulfill the answers to the main research question:

sRQ1: What types of possible impacts do SDGs provide?

sRQ2: What are the possible challenges occurring when adopting/ implementing SDGs?

#### **1.4 Research context**

The SDGs provide a framework for governments, businesses, and societies to solve problems regarding social, economic, and environmental issues (SDG Challenge report. 2019). To give a larger perspective regarding SDGs, on a national level, Finland was ranked as one of the top three countries in the world committed to follow SDG guidelines (Sustainable Development Report Dashboards, 2019a; Sustainable Development Report Dashboards, 2019b). Furthermore, SDG targets were adapted

by the Finnish government to the National Implementation Plan (SDG BusinessHub, 2019; Prime Minister's Office Publications, 2017) which gives a sense of importance of SDG targets in overall. The latest positive output from Finland was at the beginning of July 2020 at UN's annual High-Level Political Forum (HLPF), where every country presented a report of their progress on agenda 2030 (kestävähelyitys, 2020). According to the report, Finland is one of the most successful nations in the world driving the goals forward (FIBS, 2020e).

It is argued in the *SDG challenge report* published by PWC (SDG Challenge, 2019) that the decade of 2020 will be the timeline for companies to implement SDGs. Fortunately, interest towards SDGs has increased especially among larger Finnish companies (FIBS, 2020e; Voluntary National Review, 2020). In Finland, companies have begun to clarify possibilities of how to apply SDGs to their own business (FIBS, 2020e; Voluntary National Review, 2020). 72% of the large enterprises advocate that it is the companies' responsibility to solve societal challenges such as environmental or economic challenges and over 90% of the companies in Finland believe that sustainability provides a competitive advantage to their businesses (OP:n suuryritystutkimus, 2020). Large enterprises have been particularly interested in participating to follow SDGs, while small and medium-sized enterprises (SMEs) are still exploring their options to integrate SDGs into their operations (FIBS, 2020e). According to FIBSry (2020e), the number of Finnish companies acknowledging SDGs is constantly increasing. In 2017, 32% of the respondents of FIBS' sustainability survey in Finland adopted SDGs as part of the business, and in 2019 the number was increased up to 52% indicating a clear trend towards SDGs (FIBS, 2020e). Opinions among companies' responsibility solving societal issues increased by 16% from 2018 (OP:n suuryritystutkimus, 2020) indicating a clear need for sustainability. Importance of sustainability issues shows also on the agenda of board of directors in Finnish companies where forerunner companies have already named a responsible person to address sustainability issues (FIBS, 2020c). Figure 1 below shows the positive trend of Finnish companies towards SDGs in recent years.

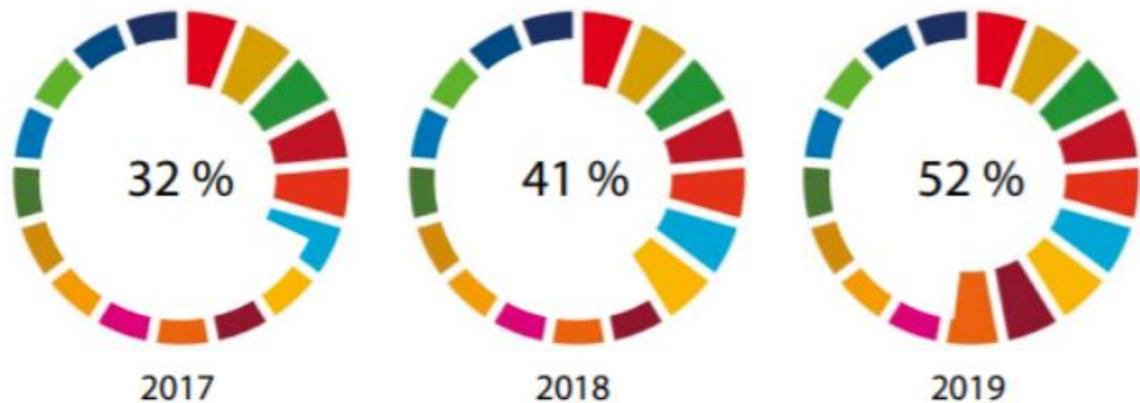


Figure 1. Integration level of SDGs in large Finnish enterprises in between 2017-2019 (FIBS 2020e)

Based on figure 1 companies are adopting SDGs with an accelerated pace and integrating the goals for their business operations. The various colors in figure 1 symbolizes global goals, where every SDG has its own color (see Figure 7).

According to 3bility Consulting & FIANT Consulting Oy (2020) analysis from the largest 111 companies in Finland, 56% of the companies have adopted SDGs in 2019 and the level of SDG integration increased by 9% from 2018 to 2019. From this sample of companies, 14% had integrated SDGs already into their strategies, 23% were in progress of integration, 20% of the companies had made a general level of commitment to the goals and interestingly 44% (49 companies) had not mentioned the goals at all in their website, annual reports or sustainability reports (3bility Consulting & FIANT Consulting Oy, 2020).

When taking a closer look at the industry differences regarding SDG adaptation, one can discover that the integration level of SDGs in company strategies differs vastly depending on the ranking of the companies in the TE500 list, see Figure 2 below (3bility Consulting & FIANT Consulting Oy, 2020). In the figure, the green color means that the SDGs are fully integrated into companies' business strategies, yellow illustrates that SDGs have been applied but the work is still in progress, the orange color indicates that the company has committed to SDGs only namely, and

finally the red color refers to companies that have not mentioned SDGs at all in their operations (3bility Consulting & FIANT Consulting Oy, 2020).



Figure 2. SDG integration level by companies (3bility Consulting & FIANT Consulting Oy, 2020, 5)

The figure above shows every ranking category having red pillars illustrating the level of unintegrated SDGs. By limiting out the red pillars, it leaves 62 companies in total that have noted SDGs at some level indicating the novelty of the framework within four-years timespan. When the total number of committed companies are divided by industries, real scale for this thesis is acquired. According to 3bility Consulting & FIANT Consulting Oy (2020), 13 companies are committed to SDGs at some level in machinery and manufacturing industry. The second largest industry has seven companies committed to SDGs in finance and insurance sector and third the largest industry three firms from electronic and ICT sector (3bility Consulting & FIANT Consulting Oy, 2020). Because machinery and manufacturing industry had the most of the companies in every pillar category, it was selected as a target industry for this thesis.

### 1.5 Research method

The objective of this thesis is to shed light into the strategic impacts of Finnish companies in machinery and manufacturing industry in terms of the SDGs guideline.

The idea is to research corporate performance and value creation for various stakeholder groups throughout adopted SDG guidelines.

In this thesis, qualitative research methods were utilized to exam and gather in-depth knowledge about the issue at hand (Saunders et al., 2009), and case study as a research approach to investigate a novel topic (Eisenhardt, 1989) with qualitative data which is a common way due to the descriptiveness of the data (Eisenhardt, 1989; Yin, 2009; Eisenhardt & Graebner, 2007). This kind of in-depth information about a novel topic is more difficult to be researched with quantitative methods, therefore qualitative methods were selected as a research methodology for this thesis.

## **1.6 Study delimitations**

Next, the delimitations of the study are discussed in detailed. Finland was selected for this thesis as the target market, Since Finland is a forerunner in the studied issues, it makes sense to study Finnish companies (Sustainable Development Report Dashboards, 2019a; Sustainable Development Report Dashboards, 2019b; BusinessHub, 2019). Moreover, the Finnish government adapted SDGs as a part of the national implantation plan (Prime Minister's Office Publications, 2017) which demonstrates leadership and an example in this matter both for other nations and business sector. The latest positive output from Finland was at the beginning of July 2020 at UN's annual High-Level Political Forum (HLPF), where every country presented the progress of their agenda 2030 (kestävähelyty, 2020). Due to industry and geographical limitations, the results cannot be directly generalized to other industries or countries.

Although, SDGs were initially created for nations, also companies can apply the targets to their own needs. From here, the business sector and more specifically machinery and manufacturing industry was selected for this thesis as a case industry, because it seems that companies in that particular industry have adopted

SDG guidelines more than alternative industries on average (3bility Consulting & FIANT Consulting Oy, 2020) making it more fruitful to be studied. Another limitation to be considered is the sample-in other words-companies within this particular industry that have adopted the SDG framework. By focusing only on these companies, it limits out other companies that could be very advanced in sustainability work, but due to lack of adaptation of SDG framework, they are not included in this thesis.

From all the corporate levels such as strategic, tactical and operational, the first tier is at the focal point in this thesis, because SDGs should be placed at the core of the business strategy (SDG Challenge, 2019; Business & Sustainable Development Commission, 2017) providing value for the various stakeholder groups considering their demands and expectations. Therefore, my idea is to research how and why SDGs were adopted and what kind of competitive advantages the framework provides for the companies in machinery and manufacturing industry on a strategic level. Due to strategic-level the approach in this thesis, less emphasis is put on operational and tactical levels of the companies which can be considered also one of the limitations. In the figure below is described the delimitations of this thesis.

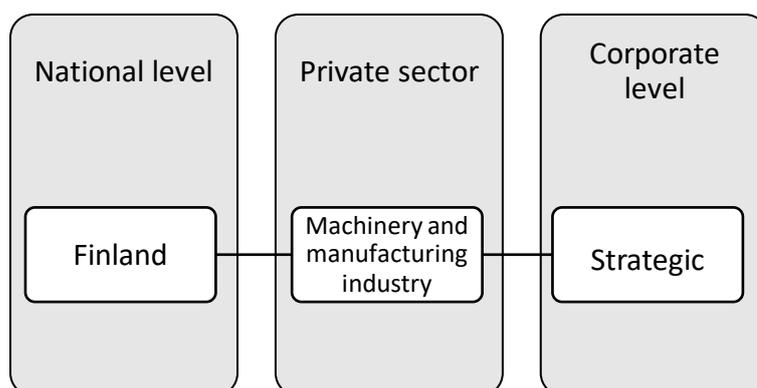


Figure 3. Delimitations of the study

As this thesis focuses on interview only sustainability directors it might create a bias for the interviewed data set, because answers are gathered only from sustainability perspective. This can be considered as one of the limitations since it excludes other

staff members' viewpoints and opinions out of the thesis. Another limitation is the small sample of interviews (five interviews), which is why the topic, nor the industry cannot be generalized based on the results of the study.

Finally, this thesis focuses only on listed companies. Here, the size of the companies acts also as one of the limitations, since larger non-listed and small and medium enterprises (SMEs) are scaled out from this thesis. Because of the focus on larger listed companies, the outcomes cannot be necessarily applied as such by SMEs.

The structure of the thesis goes as follows. Section two comprises the theoretical framework of the thesis by opening up the key theoretical concepts. Third section focuses on SDGs in general and in the fourth section in turn, the research methods of the thesis are discussed in detail. After that, findings of the study are covered by the main research themes and discussed further both from practical and theoretical perspectives in the sixth section ending up on conclusions which is the last section of the thesis. Next, the theoretical framework is reviewed.

## **2 Theoretical framework**

This chapter reviews literature regarding the key concepts in a logical order starting from the high level moving on to lower tiers. The theoretical framework is based on the strategic management literature regarding the fundamentals of strategy, resources, and capabilities, adopting Stakeholder Theory and Resource-based View theory that are outlined in detail. Also, the concept of Sustainable Development (SD) and the ongoing issues about the world are introduced. The third-dimension addresses how strategy and sustainability are combined by taking a view on Corporate Sustainability (CS) and later on deep diving into more detailed Sustainable Strategy (SS).

## 2.1 Strategic management

Strategic management has been researched in various contexts including marketing, psychology, sociology, economics as well as finance (Nag et al., 2007). Despite a wide research context, academics have not been able to find a common ground for the definition of strategic management to this date, but rather the definition seems to be missing (Nag et al., 2007; Ronda-Pupo & Guerras-Martin, 2012). Even though, there is no one formal definition for the term, there is a common understanding what strategic management means, since according to Nag et al. (2007) the term has commonly identified elements that are performance, resources, environment, strategic initiatives, internal organization and companies. Depending on which perspective the strategic management is scrutinized, above-mentioned elements are weighted and prioritized differently (Nag et al., 2007). Also, Ronda-Pupo & Guerras-Martin (2012) discusses about various definitions of strategic management whether it is achieving long-term goals, allocating resources, creating plans to meet the strategic objectives, acknowledging environment in the company's operations, seeing strategy from competitive advantage or company's performance perspective. Ronda-Pupo & Guerras-Martin (2012) in their article concludes the definition of strategy constituting from four key terms that are: **actions**, **environment**, **company** and **resources**. Moreover, it is important to acknowledge that the focus of the strategy is more about improving the performance of the company than achieving the objectives of the company.

However, strategic management in all its essence is making decisions that result in achieving long-term targets that are based on a company's mission and vision (Baumgartner, 2014; Neugebauer et al., 2016; Ioannou & Hawn, 2016). In order to achieve set targets, company resources must be allocated in the most efficient way (Ioannou & Hawn, 2016). Strategic planning on the other hand, has two main steps; setting targets that are derived from the company's vision and implementing the strategy achieving set targets (Neugebauer et al., 2016; Broman and Robert, 2017). In addition, other aspects such as scanning the external environment, own strengths

and weaknesses are also closely related to the planning stage in order to identify opportunities and risks (Baumgartner, 2014).

The purpose of a company is to increase performance where strategy and operational effectiveness acts a key role (Porter, 1996). Porter (1996) introduces a **competitive strategy** in which the company choose the right resources that cannot be imitated easily to create and deliver unique value for their stakeholders. The competitive strategy model distinguishes two different strategies: **differentiation** strategy where unique products or services are delivered and **cost leadership** where the company competes with the lowest price (Baumgartner & Ebner, 2010). In competitive strategy, the value must be created in a systematic and long-term way in order to beat competitors (Porter, 1996). Stakeholders in this context are key groups at stake to whom the value is created by meeting their demands and expectations (Hörisch et al., 2014; Ioannou & Hawn, 2016). They can be described as any group or an individual who has ability to affect the performance of the company (Hörisch et al., 2014; Ioannou & Hawn, 2016). Strategic management has been studied by multiple theoretical frameworks. Next, stakeholder theory is reviewed from strategic perspective followed by a chapter where the resource-based view is scrutinized strategically.

## **2.2 Stakeholder theory and strategic management**

**Stakeholder Theory** (ST) refers to the set of construct, concepts and propositions that study the importance of multiple stakeholders in relation to company strategy, management, performance and operations. Here the company is responsible to their stakeholders and interest groups by meeting their expectations and demands (Salzmann et al., 2005; Ioannou & Hawn, 2016) in other words it describes the relationship between the company and its stakeholders (Hörisch et al., 2014). By focusing on fulfilling the expectations of stakeholders, more value can be created (Hörisch et al., 2014). Stakeholders can be engaged by using reporting practices or other communication tools disclosing information about company' performance

(Morioka et al., 2016). One channel to do so is sustainability reporting where sustainability information is disclosed for stakeholders in order to engage employees, harness the brand image or give signals about competitiveness (Hahn et al., 2013). Due to the wide range of stakeholders and their ability to affect company's performance, stakeholders must be considered from a strategic perspective (Freeman & Reed, 1983).

According to Freeman and Reed (1989) stakeholders can be divided into different groups that are employees, suppliers, shareholders, financiers, and societies. Here **primary stakeholder** in short are internal actors such as investors, suppliers, customers and employees (Hillman et al., 2001) that have a direct effect on company's operations. **Secondary stakeholders** in turn are external actors that do not have direct influence on company's operations such as non-governmental organizations (NGOs) and communities (Thijssens et al. 2015).

Moreover, in broader terms, stakeholders can be sorted into three different categories: broad environment, operating environment, and internal stakeholders (Ioannou & Hawn, 2016). Here, the first category refers to larger forces of the environment such as changes in laws or technologies, the operating environment in turn relates to external stakeholders such as competitors, banks, suppliers and customers whereas internal stakeholders refer to staff inside the organization such as employees and managers (Ioannou & Hawn, 2016).



Figure 4. Stakeholder groups (Adapted from Freeman and Reed, 1989, 89; Ioannou & Hawn, 2016, 21-22)

## 2.2 Resource-based view in strategic management

**Resource-based view** (RBV) in strategic management refers to generating economic profits for the company by utilizing certain type of resources that are valuable ( V ) and rare ( R ) from their nature, cannot be imitated ( I ) or substituted ( O ) by other resources easily (Barney, 2018; Ioannou and Hawn, 2016; Hart and Dowell, 2011). Moreover, RBV has two different schools of thoughts; first, competitive advantage where the focal company has better financial performance than its rivals; and second, sustained competitive advantage where the acquired competitive advantages cannot be copied by competitors (Barney, 2018). By using above-mentioned **VRIO resources**, a company may gain competitive advantages (Hillman et al., 2001). However, some of the resources such as the brand image, the relationship with customers and employees or knowledge can be argued to be socially complex and difficult to prove when finding causalities between which resource led to certain advantage (Hillman et al., 2001). Since, a lot of discussion is about resources and capabilities, it is necessary to clarify the terms. The resource can be considered either a tangible or intangible asset that the company utilizes to produce something (Helfat and Peteraf, 2003) basically it can be anything in

between physical, financial, skillsets of employees or processes of an organization (Hart and Dowell, 2011). Capability on the other hand is a way to utilize these resources coordinately to accomplish wished results (Helfat and Peteraf, 2003; Hart and Dowell, 2011).

RBV can be also aligned with stakeholder theory by viewing stakeholders as a valuable resource increasing company's financial performance by giving an access to important resources that would otherwise be difficult to acquire without their effort (Barney, 2018). When combining stakeholder theory and RBV, stakeholders can be considered as **VRIO resources** in terms of human and social capital when engaged correctly, which may result in sustained competitive advantage (Zollo et al., 2013). By meeting the expectations of stakeholders, reputation and legitimacy can be improved providing access to resources (Zollo et al., 2013) and helps gain trust that can later on turn out to be a valuable asset in terms of greater demand and innovation levels or increased efficiency (Harrison et al., 2010). Meeting the expectations and demands of external stakeholders is argued to be one of the core issues for companies, because the initiatives and business models of the company should be changed so that these interests are fulfilled (Zollo et al., 2013). Therefore, key for long-term success is to incorporate expectations and needs of various stakeholder groups into a strategy (Harrison et al., 2010). The importance of creating better relationships with primary stakeholders refers to gaining competitive advantages such as better customer and supplier relationships, increased the loyalties of employees or the harnessed brand image, that can in turn lead to improved financial performance (Hillman et al., 2001).

Companies that possess VRIO resources acquired over a long period of time and had access to new resources that competitors do not have, can expect to generate additional revenues (Barney, 2018). The **Natural Resource-Based View** (NRBV) in turn is an extended version of RBV, taking into account environmental aspects from three strategic perspectives; (i) pollution prevention (reducing waste and emissions), (ii) the stewardship of products (focused on the decreasing life-cycle

costs of products), and (iii) sustainable development standpoint, where a company finds growth opportunities from resource efficiency (Hart, 1995). The latter one concerns third world development issues such as poverty, resource depletion and population growth (Hart, 1995), essentially the same themes as SDGs (United Nations, 2015). It acknowledges, not only environmental, but also social and economic dimensions as seen above (Hart and Dowell, 2011). Therefore, SD can be argued to provide competitive advantages throughout company centric rare resources, a big picture of the current state of the world, new focus areas in terms of technological advancement and development of competencies (Hart, 1995).

The goal is to connect the literature review with the research framework in terms of Stakeholder Theory and RBV theory by researching how the SDGs help to meet the expectations of stakeholders regarding sustainability issues. From RBV point of view is researched what kind of resources is needed fulfill these expectations and on the other hand how SDGs help to either sustain or gain resources that can in the long-term result in competitive advantages.

### **2.3 Sustainable development in business and management research**

The most commonly accepted definition for **sustainable development** comes from Brundtland's (1987) *Our Common Future* the World Commission on Environment and Development (WCED) report defining SD as making "*sustainable development to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs*".

By following the definition of sustainable development closely the life can be maintained indefinitely with reasonable natural resource consumption (Bansal, 2002). Utilization of resources on the other hand relates to ecosystems' carrying capacity where one should utilize only resources that can be reproduced (Aras & Crowther, 2009). The newest way to demonstrate sustainable development is a model of planetary boundaries introduced by Rockström et al. (2009) which is a framework for safe operating space with its nine clear thresholds. It is crucial to

acknowledge sustainable development in terms of carrying capacity and planetary boundaries, since every company has impacts on environment and societies at some level, which is why they should take the ownership of their own actions by compensating the impacts some way for example by applying sustainability practices into their businesses (Quinn and Dalton, 2009). Also, Hargett and Williams (2009) argues that business in overall has vast effects on planet's wellbeing both socially and ecologically, which is why it is companies' responsibility to make sure not to harm the planet.

After the launch of the definition in 1987, companies have started to adopt sustainable development practices (Gladwin et al., 1995; Stoughton & Ludema, 2012). Pressure to do so comes from various stakeholder groups such as customers, employees, NGOs (Michelon et al., 2013), institutions (Ioannou and Serafeim, 2019) and from public interests and changes in laws (Galpin & Whittington, 2012). In overall, people are increasingly interested in sustainability issues and companies' role in solving these issues (Hargett and Williams, 2009; Caiado et al., 2018) because, we are encountering unprecedented the number of different challenges ranging from climate change, the depletion of natural resources, poverty, gender equality, longer life expectancies of people to name a few (George et al., 2016; Ferraro et al., 2015). These kinds of global challenges also called as "Grand Challenges" (GC) that are uncertain, complex, and unpredictable world-wide problems that even if solved, can expose another problem (Ferraro et al., 2015). Tackling grand challenges requires collaboration of the multiple and diverse group of stakeholders (George et al., 2016). Also, SDGs addresses Grand Challenges and is thereby the most used framework for that purpose (George et al., 2016).

Sustainable Development (SD) consists of three dimensions; social, environmental, and economic (Bansal, 2002; Stoughton & Ludema, 2012). In corporate sustainability the dimensions of sustainable development are integrated at the core of the business strategy (Baumgartner & Ebner, 2010; Hahn et al., 2015), where all the three dimensions must be acknowledged equally (Baumgartner & Ebner, 2010)

which has been trending during the past few years (Hahn et al., 2015) and argued to have positive financial impacts on companies' performance (Hahn et al., 2015; Schaltegger et al., 2012; Ioannou and Serafeim, 2019).

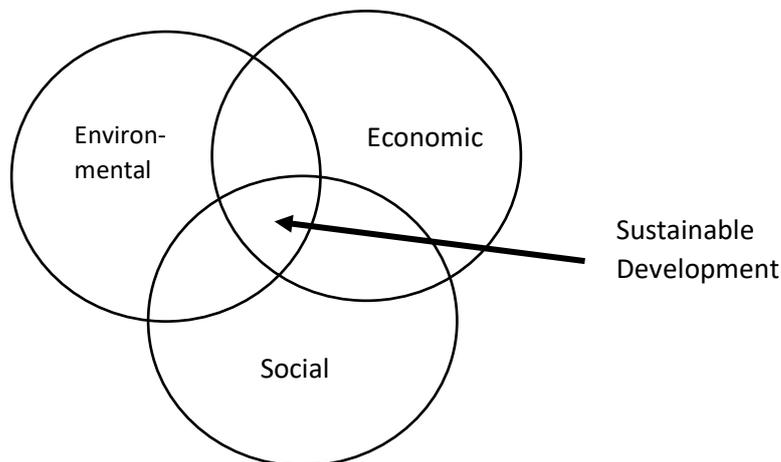


Figure 5. Three dimensions of Sustainable Development

Sustainability in business context is a challenging task for companies to address, due to the complex and long-term nature of the challenges that additionally have societal impacts (Neugebauer et al., 2016). Specific sustainability challenges might become topical for companies in case stakeholders are really demanding for them (Neugebauer et al., 2016), because stakeholders are more interested in the sustainable development challenges the larger impacts those have on their daily lives (Ferraro et al., 2015). Despite the challenging task of addressing sustainability, it is worth acknowledging them, because corporate sustainability (CS) has been argued to increase competitive advantages throughout new business opportunities that sustainable development brings along (Baumgartner, 2014).

The bottom line of sustainability in a business context is to think long-term by securing the profitability of the business while simultaneously acknowledging social and environmental aspects (Porter & Kramer, 2006). In order for companies to thrive they need a well-working society to operate and vice versa, in order for societies to provide the needed safe operating space, successful companies are needed (Porter

& Kramer, 2006). This kind of mutual dependence where both sides benefit from each other economically by solving societal challenges is called shared value (Porter & Kramer, 2006; Porter & Kramer, 2011). In addition to produced economic value, shared value acknowledges also environmental aspects such as wasted resources or social aspects regarding advancing education (Porter & Kramer, 2011). From the identified societal challenges, companies must choose which to focus on, because one company can do only so much solving challenges alone with limited resources and capabilities (Porter & Kramer, 2006). Furthermore, the identified business opportunities must be at the company's core business so that it can be sustained over time and scaled up if necessary, with existing resources (Porter & Kramer, 2011). In order for a company to create shared value, the societal needs and challenges must be identified, which may result in discovering new business opportunities or new markets and this way reposition or differentiate strategically from competitors (Porter & Kramer, 2011; Porter & Kramer, 2006).

## **2.4 Sustainability and strategy**

The growing attention of sustainability and strategy can be seen as a new topic of research and subfield. There are different approaches that must be emphasized when taking into account the analysis of SDGs.

In strategic CSR as Porter and Kramer (2006) put it, companies can position themselves differently either by lowering costs or creating more value for stakeholders. This enables to harness the brand image, differentiate from others or decrease the cost structure (Galpin & Whittington, 2012). As an end result, sustainability enables companies to create a strategy that cannot be imitated so easily (Ioannou and Serafeim, 2019). This way a company may differentiate clearly from competitors facing less competition (Ioannou and Serafeim, 2019). However, integrating sustainability into a strategy might be easier said than done, which can be argued one of the challenges for the companies (Galpin & Whittington, 2012).

In **corporate sustainability strategy**, environmental and social dimensions are incorporated into strategy (Baumgartner & Ebner, 2010; Baumgartner, 2014) where expectations and demands of all stakeholder groups are considered improving the performance of the company on sustainable development dimensions (Eccles & Serafeim, 2013). For a sustainability strategy it is characteristic to make a sustainability commitment internally and externally (Baumgartner & Ebner, 2010) and companies that follow corporate sustainability practices closely in their daily operations are so called “high sustainability companies” (Eccles et al., 2014). They disclose non-financial information voluntarily, engage better with their stakeholders, measure their practices by using indicators related to sustainability, and overall act with a long-term orientation (Eccles et al., 2014).

Baumgartner (2014) summarizes four different corporate sustainability strategies; i) risk mitigation strategy (focusing on managing social and environmental aspects through different standards), ii) Legitimizing strategy (seeking to acquire license to operate), iii) efficiency strategy (puts more focus on production facilities and eco-efficiency matters) and iv) holistic sustainability strategy where all the business operations are scrutinized from sustainability perspective to gain competitive advantages (Baumgartner & Ebner, 2010; Baumgartner, 2014). A company that follows the latter one in a systemic way, pursues to convince both the stakeholders and the market for its commitments to sustainability (Baumgartner & Ebner, 2010). In these kinds of strategies, the sustainability issues must be identified by the companies and then implemented in order to achieve the sustainability targets (Baumgartner & Ebner, 2010).

## **2.5 Sustainable Development Goals (SDGs)**

In this chapter, Sustainable Development Goals (SDGs) are explored in detailed starting from the historical perspective and fundamentals of the framework ending up in benefits that the SDGs provides for the business sector.

The idea for Sustainable Development Goals (SDGs) was initiated by the member states of United Nations in the Rio+20 summit in 2012 to enhance human rights, environmental sustainability and help both poor populations and developing countries in their conditions (Caiado et al., 2018; Kumi et al., 2014).

In the fall 2015, a new novel framework for sustainable development called Sustainable Development Goals (SDGs) was approved by 193 countries at the United Nations' headquarters' in New York (Stafford-Smith et al., 2017; Persson et al., 2016; Caiado et al., 2018). SDGs was published in the document called *Transforming Our World: The Agenda for Sustainable Development* which replaced former Millennium Development Goals (MDGs) by extending the scope of the guideline from social issues also to cover ecological issues even more broadly (Gupta and Vegelin, 2016; United Nations, 2015). MDGs contains eight goals in total and was ratified in 2000 by 189 countries that are members of United Nations (Wysokinska, 2017). The goals in the MDG framework relate to ending hunger and extreme poverty, improving education and gender equality, the decreasing mortality rates of children, increasing the health of mothers, fighting against different diseases such as malaria, enhancing environmental sustainability and partnerships globally (Wysokinska, 2017).

The SDG guideline, also known as Agenda 2030 or Global goals has 17 and 169 targets that pursue to address social, economic and environmental dimensions all together by the end of 2030 (Stafford-Smith et al., 2017; Van Vuuren et al., 2015; SDG Compass, 2015; Caiado et al., 2018; Hak et al., 2016; Jayasooria, 2016; United Nations, 2015). All the 17 SDGs are listed in Figure 7 below. SDGs have five focus themes also known as five Ps that are people, planet, prosperity, peace and partnership (Jayasooria, 2016). The goals can be found Appendix 1 in their full form and sub-targets from United Nation's document (2015).



Figure 6. Sustainable Development Goals (Partnership for Action on Green Economy. 2020)

Initially, SDGs were formed as guidelines for governments for solving challenges related to sustainable development by the end of 2030 (Caiado et al., 2018; Hak et al., 2016), but also private sector is called to take an action for solving SD challenges (United Nations, 2015; GRI & UNGC, 2018). Therefore, SDGs provides a framework also for the businesses sector to address above-mentioned issues (SDG Challenge, 2019) and a sustainable strategy regardless the industry or size of the company (SDG Compass, 2015) as seen above. Global goals not only help companies solving and framing SD challenges, but also provides new market opportunities worth of 12 trillion dollars in various sectors such as health and well-being, energy, food, and agriculture and in materials (Business & Sustainable Development Commission, 2017). For this reason, this thesis has a business centric – approach. However, applying SDGs for the business sector is challenging since the guidelines were initially designed for governments. Therefore, the framework cannot be applied as such by the companies (SDG Challenge, 2019) requiring a lot of effort and understanding from company’s end. This can be considered one of the challenges for companies.

According to PWC's SDG Challenge report (2019) SDGs provide a great framework for governments, businesses, and societies to solve SD challenges. Luckily, governments all around the world have acknowledged the importance of these challenges and approved the use of SDGs (SDG Compass, 2015) as we have seen already in Finland (Prime Minister's Office Publications, 2017). However, solving global challenges cannot be done only by governmental actors although the majority of the responsibility is theirs, therefore organizations and business in overall has a crucial role in achieving the targets and solving the issues as well (SDG Challenge, 2019). The responsibility to take the next step is on businesses' shoulders (SDG Compass, 2015) to which companies have responded already in Finland by companies adopting SDGs (3bility Consulting & FIANT Consulting Oy, 2020).

SDGs provides a framework for sustainable strategy for all companies regardless the industry or size of the company (SDG Compass, 2015). Throughout the framework, companies can crystalize their strategy, goals and activities in the more sustainable direction and to communicate and report these aspirations to their stakeholders more clearly (SDG Compass, 2015). Other benefits relate to identifying new business opportunities, developing sustainable value, building a stronger relationship with various stakeholders and policy makers (Business & Sustainable Development Commission, 2017), stabilizing societies and markets and most importantly much needed common language and meaning for sustainability (SDG Compass, 2015). Additionally, SDGs provides a guideline for a business sector to measure its own sustainability progress and set targeted KPIs and the whole industry can benefit from adopting the best practices of SDGs (SDG Challenge, 2019). More sustainable reputation of companies can engage various stakeholder groups such as employees, investors, consumers, and customers in business- to – business sector (Business & Sustainable Development Commission, 2017).



Figure 7. Benefits of SDGs (Adapted from SDG Compass, 2015; SDG Challenge, 2019)

Companies can utilize the SDG targets by mirroring them against their own business objectives and from there create new indicators that help measure and report progress (SDG Challenge, 2019). This means that SDGs should be integrated into every layer of a strategy (Business & Sustainable Development Commission, 2017). There are 60 different business opportunities (see Table 1) that can be gained through SDGs regarding food and agriculture, cities, health and well-being and energy and materials that are worth of 12 trillion US dollars (Business & Sustainable Development Commission, 2017). Identifying new business opportunities throughout SDGs makes it a strong business case for companies due to several new possible revenue streams that would be otherwise challenging to discover.

	 Food and Agriculture	 Cities	 Energy and Materials	 Health and Well-Being
1	Reducing food waste in value chain	Affordable housing	Circular models - automotive	Risk pooling
2	Forest ecosystem services	Energy efficiency - buildings	Expansion of renewables	Remote patient monitoring
3	Low-income food markets	Electric and hybrid vehicles	Circular models - appliances	Telehealth
4	Reducing consumer food waste	Public transport in urban areas	Circular models - electronics	Advanced genomics
5	Product reformulation	Car sharing	Energy efficiency - non-energy intensive industries	Activity services
6	Technology in large-scale farms	Road safety equipment	Energy storage systems	Detection of counterfeit drugs
7	Dietary switch	Autonomous vehicles	Resource recovery	Tobacco control
8	Sustainable aquaculture	ICE vehicle fuel efficiency	End-use steel efficiency	Weight management programs
9	Technology in smallholder farms	Building resilient cities	Energy efficiency - energy intensive industries	Better disease management
10	Micro-irrigation	Municipal water leakage	Carbon capture and storage	Electronic medical records
11	Restoring degraded land	Cultural tourism	Energy access	Better maternal and child health
12	Reducing packaging waste	Smart metering	Green chemicals	Healthcare training
13	Cattle intensification	Water and sanitation infrastructure	Additive manufacturing	Low-cost surgery
14	Urban agriculture	Office sharing	Local content in extractives	
15		Timber buildings	Shared infrastructure	
16		Durable and modular buildings	Mine rehabilitation	
17			Grid interconnection	

Table 1. Business opportunities of SDGs (Business & Sustainable Development Commission, 2017, 14).

One of the main challenges for companies to address SDGs is that guidelines were designed for governments meaning that the framework cannot be applied as such (SDG Challenge, 2019; Caiado et al., 2018; Hak et al., 2016). For this reason,

companies need to pick the most relevant goals to their core business (SDG Challenges, 2019). In addition to future business growth opportunities for businesses, SDGs help companies to increase the value in all of their business functions and layers whether it is a matter of supply chain, the brand image, business models or human resource management (SDG Compass, 2015). According to SDG Compass Guide (SDG Compass, 2015) responsibility factors and sustainability aspects are highly valued by future generations. Also, consumers weight the same principles on their purchasing decisions (SDG Challenge, 2019; SDG Compass, 2015). By addressing SDGs companies are able to meet the demand and fulfill the needs (SDG Compass, 2015).

Expectations of stakeholders (such as customers and employees) will be more demanding in the future and also tightening regulation puts companies into tight positions. Therefore, sustainability will be an important factor for companies' success in the decade of 2020 (Business & Sustainable Development Commission, 2017). By following SDG guideline companies can significantly increase the trust of stakeholders, retain license to operate more easily or be prepared better for future regulations (SDG Compass, 2015; SDG Challenges, 2019; Business & Sustainable Development Commission, 2017). One group of stakeholders are investors who are already today ranking and rating companies based on ESG performance (Ioannou & Serafeim, 2019) giving companies one more reason to consider sustainability aspects.

## **2.6 Research framework**

**For the corporate sustainability strategy, SDGs give assistance by visualizing sustainable development and clarifying strategy.** Figure 6 below describes the above-mentioned theory in the form of a value creation model where sustainability is integrated into a strategy. The idea in the value creation model is to first acknowledge the needs and demands of stakeholders and then create a strategy for to meet the needs. Sustainable development is added and integrated into the

strategy in an early stage in order to establish corporate sustainability perspective to meet sustainability expectations. From the CS view, a company chooses sustainability strategy for example a holistic strategy following, which creates competitive advantages. Through competitive advantages, a company can create more long-term value for the stakeholders.

In order for a company to integrate, follow and enhance sustainability strategy, a blueprint for sustainability is needed to address sustainable development challenges (Baumgartner, 2014). There are various sustainability tools and frameworks for companies to manage sustainability (Baumgartner, 2014; Baumgartner & Ebner, 2010; Michelon et al., 2013; Hallstedt et al., 2009) such as Global Reporting Initiative – GRI (GRI 2020), Dow Jones Sustainability Index (DJSI. 2020), FTSE4 Good Index (FTSERussel. 2020) and ISO Standards (ISO. 2020) to cite a few. This thesis focuses on UN's Sustainable Development Goals that is a global agenda for nations, societies as well as private sector. The next section dives into SDGs more closely.

The research framework of this thesis is presented in Figure 6 below. In the framework previous strategic management theories, stakeholder theory and resource-based view are combined to illustrate how value is created by the companies. The framework begins from two theories that are **stakeholder theory** which takes into account the various expectations and demands of stakeholders towards a company and **resource-based view** where needed **VRIO resources** are utilized to gain or sustain advantages in order to fulfill these expectations. Second tier moves into a strategy whereas expectations are acknowledged through competitive strategies such as cost leadership and differentiation strategies. Next, in order to take into account environmental, social and economic perspectives, sustainable development is embedded in the strategy forming corporate sustainability enabling to acknowledge stakeholder's expectations regarding sustainable development issues. Simultaneously with other sustainable development practices, SDGs should be integrated also into strategy in order to

acquire the full potential of the framework. Here SDGs are marked as blue SDG – box, highlighting the right adoption time. Fourth tier describes the sustainability strategy which is the best-selected way to improve both financial and sustainability performance. Through certain sustainability strategy, a company can be able to create competitive advantages that in the long-term create more value or sustain existing value for the shareholders while simultaneously addressing the most pressing sustainable development issues.

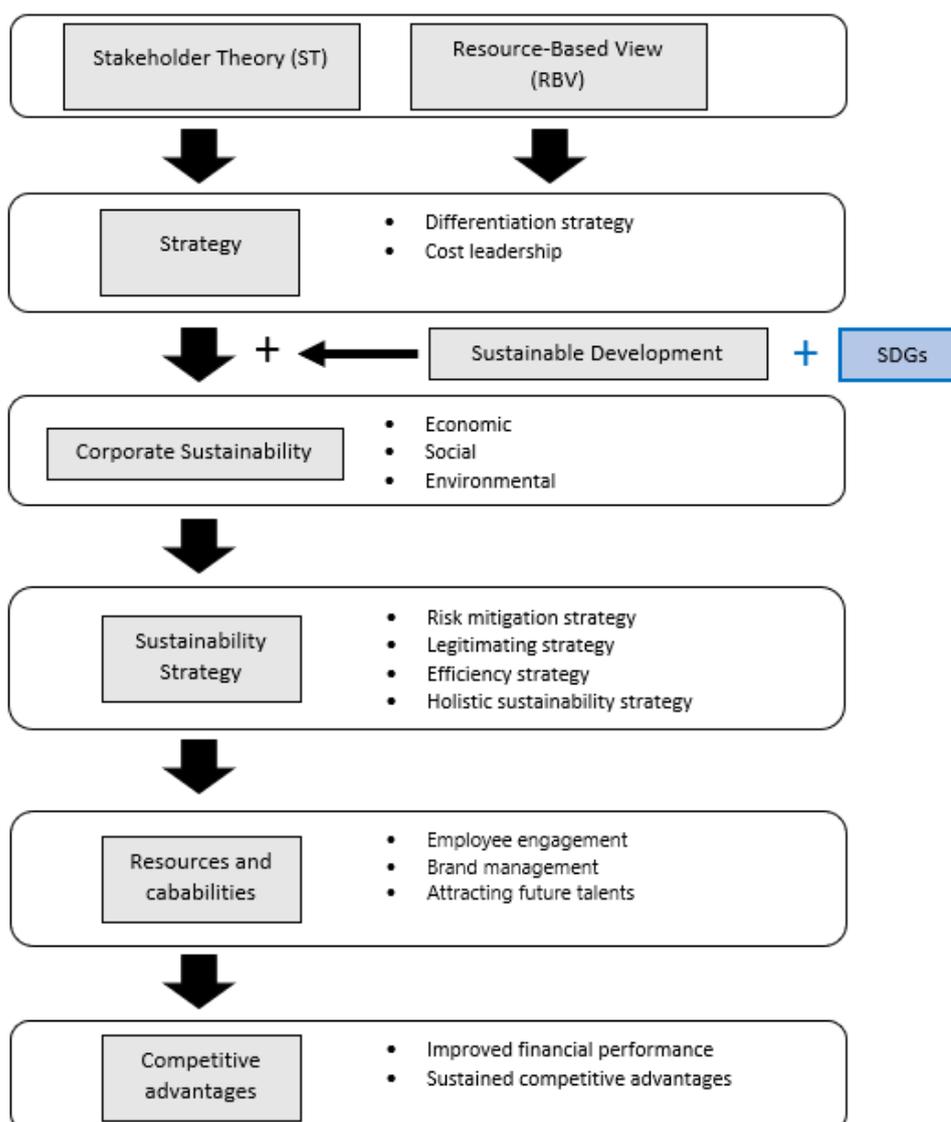


Figure 8. Research framework

## **4 Research design and method**

In this chapter, the research method is explained comprehensively. It includes methodology, data collection and analysis methods, and the target group of the research. Finally, issues related to reliability and validity of the research are discussed in detail.

### **4.1 Qualitative Research**

Qualitative research method is used to conduct this thesis in order to understand the reasons for certain decisions, perceptions, or attitudes of the respondent regarding SDG implementation (Saunders et al., 2009). In this thesis, qualitative research methods were utilized to exam and gather in-depth knowledge regarding the competitive advantages of the novel Sustainable Development Goals (SDGs) guideline of Finnish companies in machinery and manufacturing industry.

The qualitative method is based on case study (Yin, 2009). I selected the machinery and manufacturing industry, because it has most companies committed to SDGs according to 3bility Consulting & FIANT Consulting Oy research (2020). Case study is based on in-depth semi-structured interviews to understand the implementation of SDGs in each case company more accurately (Saunders et al., 2009). Hence, primary data with in-deep interviews and secondary data with reports are the most important sources of data in case studies (Yin, 2009).

I conducted this thesis by using case study as a qualitative data collection and the research method, because case study as a research approach enabled researching new topics or issues (Eisenhardt, 1989) for example providing descriptions, testing or generating new theories (Eisenhardt, 1989). Moreover, it is a suitable method examining a single phenomenon of a certain topic in a real-life context (Eisenhardt, 1989, 534; Yin, 2009; Eisenhardt & Graebner, 2007) by utilizing open-ended questions such as *why* and *how* (Yin, 2009). For these reasons, case study is

selected as method conducting this thesis, because SDG guideline is a relatively novel topic applied only a small number of companies in Finland that has not been researched comprehensively in a real-life context with qualitative methods to this date.

The main methodology to collect data in case studies is in-depth semi-structured interviews, questionnaires of a different kind, the observations of field or the archives (Eisenhardt, 1989; Yin, 2009; Eisenhardt & Graebner, 2007). In depth semi-structured interviews in this case enables gathering rich empirical data about the ongoing phenomenon (Eisenhardt & Graebner, 2007). For this reason, interviews are at the focal point in this study gathered from five sustainability directors from five different companies.

#### **4.2 Data collection**

To apply case study, both primary data and secondary data was utilized. The primary data was collected by interviewing five sustainability directors that represent Finnish companies in machinery and manufacturing industry. For this, a semi-structured interview method was used to ask open-ended questions such as “*what, how and why*” (Saunders et al., 2009; Yin, 2009) by having a pre-set list of questions and themes for the respondents (Saunders et al., 2009), because it enables the exploration of the phenomenon and the answers of respondent in-depth (Saunders et al., 2009). Questions in semi-structured interviews can vary slightly from each other in different interviews (Saunders et al., 2009) allowing the researcher to ask additional questions and change the order of the questions if needed, thereby making the interview more flexible. In this thesis I asked questions from four different themes that related to integration level of SDGs to company’s strategy, the identified advantages of SDGs, occurred challenges when using SDGs and finally about the role of SDGs in the future among companies. Interview questions applied in this thesis are presented in Appendix 1 in their basic format.

Sustainability directors were selected as the target group for this thesis for two reasons. First, this thesis investigates SDGs that is a novel guideline for the sustainability agenda and SDGs among many other tools and frameworks is utilized by these sustainability professionals. Second, sustainability directors typically have broad knowledge about sustainability in their industry and a wide understanding of the business functions and operations of their company.

As a secondary data, I used annual reports and sustainability reports of the interviewed companies to verify which SDGs they have reported and applied in public. Moreover, I used secondary data to confirm on which year the companies adopted the SDG framework, because not all the interviewees could not recall the exact dates or applied SDGs. This was done by browsing the reports backwards starting from the newest one to discover when SDGs appeared for the first time on some of the reports. The secondary data was used for two different purposes in this thesis. First, to form a timeline at which years the framework was adopted by the companies illustrating the adoption pace of the SDGs after the launch, and second, to form a table of the applied SDGs by the companies to point out which themes and SDGs are the most prioritized in machinery and manufacturing industry. Secondary data also was used to validate the emergence of novel strategies and firm performance.

The industry for the thesis was selected based on the research of the 3bility Consulting & FIANT Consulting Oy (2020), where machinery and manufacturing industry was ranked the number one industry having the most of the companies adopting the SDG framework, 11 companies in total. To find the target companies adopting SDGs, a list of companies operating in Finnish machinery and manufacturing industry was utilized from the website of the Largest Companies (Largest Companies, 2020). From there, every company's website in the list were browsed through trying to find which of the companies have adopted SDGs to their businesses. Signals about SDGs were looked from companies' website, annual reports or sustainability reports. In case SDGs were announced clearly by the

company in one of the above-mentioned premises, then attempts to search for contact information of a sustainability director was done. The correct person and contact details for the interview were searched from LinkedIn, the companies' own websites, and annual and sustainability reports based on sustainability director titles. After confirming SDG adoption, the sustainability directors were reached out to schedule an interview. This was done by sending invitation requests for the interviewees. In case, the contact person did not answer the email within a week, new contact was made via phone, which turned out to be an efficient way of scheduling interviews.

All of the interviews were conducted remotely due to at the time ongoing Covid-19 crisis. Also the limited time resources of respondents and challenging geographical distances were part of the reason for remote interviews. Due to the limited number of companies adopting SDGs in machinery and manufacturing industry, 11 in total, eight invitation requests were sent out from which five interviews were finally scheduled and held during June of 2020. Two of the eight candidates did not want to give an interview for personal reasons and one of the interviewees did not respond at all to the interview requests. From 8 emails 5 interview appointments were scheduled from which three of the interviews were conducted by telephone and another two by using remote application such as Microsoft Teams. All interviews were held on a one-to-one basis and audio recorded accordingly. Finally, the interview recordings were transcribed. The duration of the interviews varied between 26 minutes and 45 minutes.

<b>Date of the interview</b>	<b>Title of interviewed person</b>	<b>Interview channel</b>	<b>Duration of the interview in minutes</b>
12.6.2020	Sustainability director	Online	40 min
12.6.2020	Sustainability director	Phone	35 min
16.6.2020	Sustainability director	Phone	26 min
22.6.2020	Sustainability director	Online	45 min
1.10.2020	Sustainability director	Phone	32 min

Table 2. Description of the interviewed companies and persons

#### **4.3 Data analysis methods: pattern matching and grounded theory**

Data in this thesis is analyzed by utilizing an abductive approach, because it enables analyzing qualitative data by constantly interacting with the theories and research framework, and the collected data with each other to generate advanced theory (Saunders et al., 2016; Van Maanen et al., 2007; Suddaby, 2006). The abductive approach can be used when there is no large body of theory or prior data available that would explain the researched issue at hand relating to, for example, sustainable development (Saunders et al., 2016). For this reason, the abductive method is suitable for exploring novel ideas that would otherwise be very difficult to research. Because of the novelty of the topic, no hypotheses can be formulated either (Saunders et al., 2016). The idea of the approach is to find the best explanation for the researched issue in between theory and data (Ketokivi & Mantere, 2010). In abductive reasoning, first a topical issue is noted and observed, then a theory is created around that issue of how it could have happened (Saunders et al., 2016; Van Maanen et al., 2007). Next the issue at hand is explored through collected data in order to identify patterns and explain themes regarding the issue (Saunders et al., 2016). Finally, the identified explanations from the collected data are combined with theory in order to build a new logical theory about the topic (Saunders et al.,

2016). The used data in the abductive approach can be already existing or it can be new recently collected (Saunders et al., 2016).

Grounded theory is typically used to build theory from the data (Eisenhardt et al., 2016; Suddaby, 2006) and analyzing qualitative data (Eisenhardt, 1989; Suddaby, 2006). The idea of grounded theory is to create a theory by trying to find similarities and patterns from the collected data (Eisenhardt and Graebner, 2007, 30; Urguhart et al., 2010; Saunders et al., 2016; Suddaby, 2006) and constantly comparing the collected data with theory (Eisenhardt, 1989; Eisenhardt and Graebner, 2007; Saunders et al., 2016). Although, grounded theory is typically used with the inductive approach as Eisenhardt and Graebner (2007) suggest, but it can be also utilized for abductive reasoning (Saunders et al., 2016). In this thesis, the abductive approach is utilized to research a topic that to the best of my knowledge has not been researched in this context before, because the topic is so novel and adopted by the companies only recently. Analyzing the data is thereby done by using grounded theory methodology in order to discover certain patterns related to competitive advantages and challenges that companies in machinery and manufacturing industry have identified for adapting SDG targets as part of their strategies. These patterns—in other words the findings of the thesis—are then mirrored against the strategic management literature such as Stakeholder Theory (ST) and the Resource Based-View (RBV) in order to explore value creation, increased performance, or new discovered business opportunities.



Figure 9. Process of analysis

In order to ease the data analysis process, data can be categorized by creating a table into which the relevant data is placed (Yin, 2009). For the analyzing procedure in grounded theory, Saunders et al. (2016) suggests a four-step model: i) initial

sampling, ii) initial coding, iii) focused coding and iv) grounding theories. The analyzing procedure model is described in Figure 10 below. First step in the analyzing process is to choose only the relevant data that relates to the researched topic (initial sampling) (Saunders et al., 2016). Then, the relevant data is divided into different categories and labelled with keywords or short sentences (initial coding) to ease the analyzing process (Saunders et al., 2016). In the third step, categorized data is grouped underneath larger themes (focused coding) in order to smaller number of categories (Saunders et al., 2016). Finally, the findings are mirrored against the theory to generate new a theoretical framework (grounded theory). In this case, the data was first transcribed accordingly, after that the first two steps (initial sampling and initial coding) were done simultaneously by sampling all the answers of the interviewees by interview questions. This was done to ease the analyzing process when all the answers of different interviewees are gathered together underneath of that specific questions. Then, all the fulfilled interview questions were grouped by themes (focused coding) such as the advantages of SDGs, integration level of SDGs, the challenges of SDGs and the future role of SDGs.

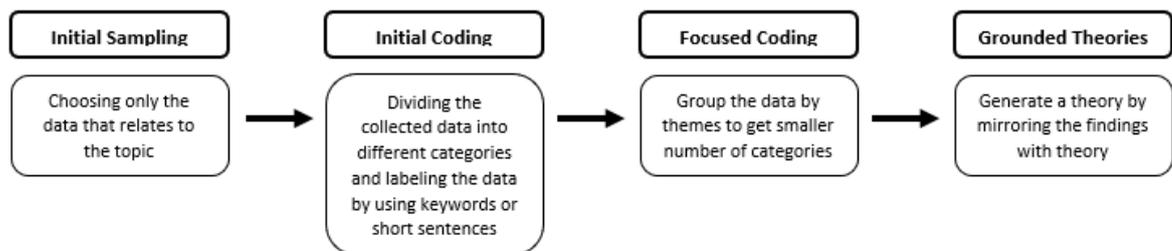


Figure 10 Analyzing procedure of qualitative data (adapted from Saunders et al. 2016, 596)

As another analyzing procedure, pattern matching was used to derive certain assumptions from the theory and explained comprehensively (Saunders et al., 2009; Yin, 2009). The logic of this procedure is also to create an analytical framework from the theory, reflect the data on the theory and explain the findings (Saunders et al., 2009). In this thesis, the analytical framework is derived from SDGs guidelines combined with strategic management literature developing a value creation model

(Figure 6). The perceptions and answers of the sustainability directors (data) regarding the advantages and challenges of SDGs are mirrored against the theoretical framework to explore which of the advantages and challenges are highlighted in a single-market, to discover why the SDGs were applied to their businesses and finally where the development of SDGs is heading in the future.

#### **4.4 Reliability and validity**

According to Yin (2009) *construct validity, internal validity, external validity, and reliability* should be considered when designing and conducting a high-quality case study. To improve *trustworthiness, credibility, confirmability, and the data dependability* of a such case study Yin (2009) suggests focusing on the design of the case in terms above aspects.

Construct validity can be improved by acquiring evidence from multiple sources (Yin, 2009). Although interviews are the only source of primary data in this thesis, the interviews are gathered from five different individual sources by interviewing applicants who strengthen the construct validity. For case studies, there are no exact number of cases that must be included, however somewhere between four to ten cases are recommended for one case study (Eisenhardt, 1989). This thesis has only the bare minimum, including five interviews due to the novelty of the topic and on the other hand scarce number of companies in machinery and manufacturing industry that have applied SDGs. According to Yin (2009) interviews act one of the most important data sources in case studies and they are usually guided discussions rather than very structured one-way interviews. Since interviews are used as the main data source, it is noteworthy that the data might suffer from various biases such as weakly repeated questions, respondent biases or reflexivity, meaning that the interviewee may answer the questions the way interviewer wishes for (Yin, 2009). In this thesis, the names of the respondents, firms and their geographical locations are anonymized to protect their privacy and to give an impartial and objective view of the research.

Internal validity in turn seeks to explain the causal relationship of why the certain event led to another event and possibly acknowledging a third factor as well (Yin, 2009). In this thesis, internal validity is reinforced through pattern matching by seeking similarities between the answers of the interviewees and by mirroring the collected data against theory regarding the strategic management literature and advantages and challenges of SDGs.

External validity in turn pursues to generalize the results of the thesis to another context (Yin, 2009), thereby being irrelevant to this thesis due to the narrow scope of the thesis. As the scope of the thesis is very narrow and specific examining unique characteristics of SDGs within a single industry, the results cannot be applied to another industries or countries. Although, the results are not applicable to another context, the theoretical part of the thesis can be applied to different industries and cases, since it has no connections to the specific case, but rather being global and general framework. Nonetheless, above-mentioned aspects can be interpreted as the limitations of this thesis.

Reliability refers to data collection methods and repeating the case study with the same methods, procedures and questions and acquiring the same findings that result in the same conclusions (Yin, 2009). To improve the reliability of this thesis, procedures and steps are documented accordingly and thus described in detail in the chapter “Data collection methods”.

## **5 Empirical Results**

This chapter illuminates the empirical results of the thesis. First, a broader view is formed about SDGs in a machinery and manufacturing industry. Then, the identified advantages of SDGs are scrutinized from the perspective of respondent companies. The third section focuses on the level of integration of SDGs in companies’

strategies. The fourth section in turn sheds light into occurred challenges regarding SDGs and finally some thoughts about the role of SDGs in the future are offered.

### 5.1 SDGs in Machinery and Manufacturing industry

SDGs were introduced in 2015 by United Nations (Stafford-Smith et al., 2017; Persson et al., 2016; Caiado et al., 2018). Since then, companies have started to adopt the framework actively in Finland (3bility Consulting & FIANT Consulting Oy, 2020; FIBS, 2020e; Voluntary National Review, 2020). Data shows that five interviewed companies for this thesis had adopted the framework at different years. The timeline of when the SDGs were adopted by the companies is presented below.

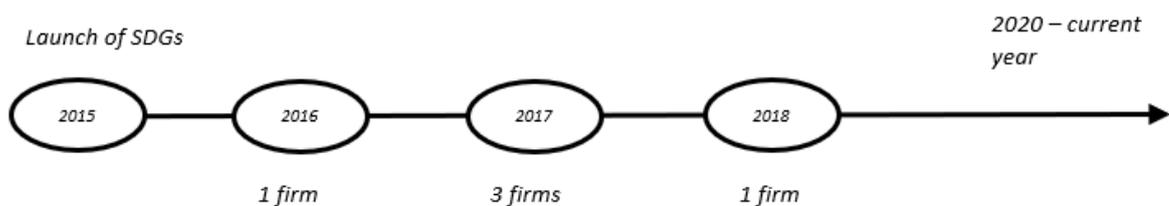


Figure 11. Adoption timeline of SDGs

The companies in Figure 11 above are anonymized in order to avoid their identification. Data points out several interesting facts about when the SDGs were adopted. First, SDGs were adopted rather quickly after the launch within a few years. This kind of quick response can indicate of a high importance towards either the framework or the topic in general. Second, companies have adopted the framework at different years, which gives a sense of awareness, and on the other hand it indicates about first mover and fast follower tactics. Third, the first company adopted SDGs only one year after the launch in 2016. This company can be argued a first mover among these candidates. Three companies adopted the guideline two years after the launch in 2017 and one company three years from the launch in 2018.

The answers revealed a wide range of reasons why companies decided to adopt the SDG framework. Three out of five replied one of the reasons being pressure

from different stakeholders, namely investors and owners. This is no surprise since investors are rating and ranking companies by their ESG performance (Ioannou & Serafeim, 2019). One of the companies told the reason being that since others had applied the goals as well, they needed to do the same. Interestingly, one of the main reasons was that all of the interviewed companies were already utilizing UN's Global Compact framework before the adoption of SDGs, which in short pursues to make business more responsible throughout the ten principles that relate to human rights, anti-corruption, environment and labour (United Nations Global Compact, 2020). According to respondents, SDGs were a logical and easy sequence after Global Compact principles.

According to the data, all sustainability directors had taken the initiative to adopt SDGs and introduce the framework for the executive team. Today, it is also sustainability team's or unit's responsibility to drive SDGs forward in their company. In some of the companies—where there are scarcer resources available—communication, marketing and sustainability are combined, but in general, sustainability cuts across every business function in these companies. However, in some of the cases, next step after the adoption of SDGs is to introduce the framework to other functions as well starting from HR continuing to finance in order to widespread SDGs broader into organizations and to engage more employees to use it.

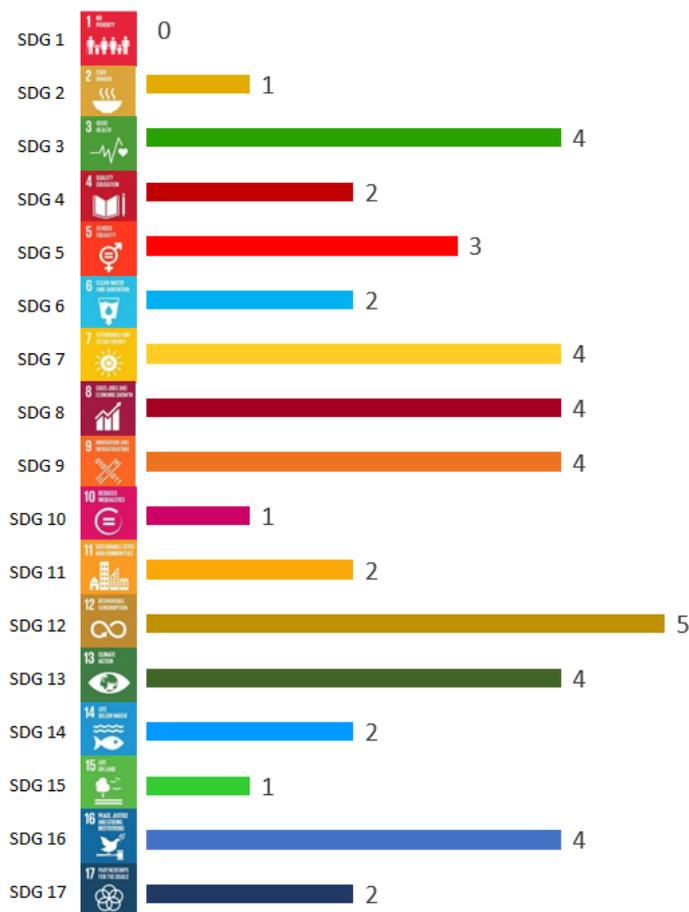


Figure 12. Adopted SDGs in total. (United Nations. 2020)

Figure 12 above presents the adopted goals by the companies. The idea of the figure is to illustrate which goals are the most weighted and utilized in the machinery and manufacturing industry. The utilization rate of the goals varied significantly from 6 goals to 13 goals by companies. From the picture can be seen that only SDG 12 (responsible consumption) was used by all of the companies and six goals—SDG 3 (good health and well-being), SDG 7 (affordable and clean energy), SDG 8 (good, jobs and economic growth), SDG 9 (innovation and infrastructure), SDG 13 (climate action) and SDG 16 (peace, justice and strong institutions)—were most agreed by the companies on average giving a sense of the themes that are the most weighted in this industry. Focus being on these themes is natural, because in the manufacturing industry safety and employee’s wellbeing can be argued highly prioritized due to physical work and operating in manufacturing lines with machines

where extreme cautions must be followed. In addition, manufacturing products consumes a lot of energy, hence renewable energy sources are most probably very welcomed. Following SDG 8 relates doing profitable business since it is about production business and new innovations that must be constantly produced in order to stay competitive. Climate change has been also highly prioritized by the companies. The public discussion has been related to greenhouse emissions where the emissions should be decreased rapidly by 2030 in order to avoid the 1,5 Celsius increase which can cause irreversible changes environmentally as well as for our societies (IPCC, 2018). From these goals can be seen that the majority had adopted SDG 13 (climate action). One of the respondents commented on their selected goals:

*Firm 3: "Our largest spearhead is SDG 13 climate action, and I would assume that every company has it, it is quite self-evident."*

When it comes to how many goals it is reasonable to adopt, there is no right or wrong answer. **Companies need to pick the most relevant goals to their core business** (SDG Challenges, 2019). This same aspect about selecting only relevant goals was brought to light by one of the interviewees:

*Firm 3: "... when looking at these goals, every goal has some kind of link, and I do agree that one must really choose which goals can be impacted, not trying to embrace the whole world, because otherwise concrete actions are neglected or the actions can't be focused."*

When discussing whether the companies have adopted sub-targets and indicators of the SDGs, the answer was surprisingly negative from all the respondents. The reason for this was ambiguity. Firstly, they have **multiple tools in use, which is why time working with sub-targets might be scarce**. Secondly, **sub-targets and indicators do not seem to serve every company's needs in sustainability work**, which is why goals are adopted only on a high level. However, for some, the next step is to set new sustainability targets by utilizing sub-targets and one had just started SDG work which is why they have not gotten that far yet.

Majority, four out of five of the companies had applied SDGs without further noticing sub-targets. One of the interviewed companies browsed started their SDG work from sub-targets, because the goals do not give the full impression of what it holds inside:

*Firm 4: “We have checked them and through the sub-targets we have found the goals... because if you look at only the goal it doesn’t tell much until one has read the sub-targets.”*

On the contrary, another respondent did browse the sub-targets at some level, but decided to use only the main goals by arguing the following:

*Firm 5: “I think that we have browsed more large goals... because some of the sub-goals can be quite far from what one is actually doing.”*

## **5.2 Advantages of SDGs**

According to the interviewees, few advantages were found when companies mirrored the goals against their own business and sustainability agenda. By mirroring the SDGs, **companies confirmed being on the right track with their sustainability agenda**. One of the benefits related to harnessing the employer brand image. By adopting SDGs, it is **easier to engage employees when the company acknowledges environment and social issues and attempts to solve them**. This is important, because employees are well aware of what is happening in the surrounding world, therefore showing what kind of role the company has in this equation acts a crucial role. Another important aspect was creating and harnessing the brand image by attracting future talents. The brand image must be intact in every way because sustainability is seen to be remarkably important for future generations.

*Firm 1: “In the bigger picture, SDGs support our brand and employer brand image, that we are a responsible actor for existing personnel and also for future employees.”*

Firm 2: *“In case a young professional has an opportunity to pick from two good options, choosing the company according to one’s own values really does matter a lot when making a decision.”*

Firm 3: *“Definitely, pressure for sustainability comes from future employees, but also through consumers, because then companies are forced to take sustainability as part of the strategy. If no clear business advantages can be found from using the framework, then it can be used to engage employees, because competition about good employees is fierce. So, in this sense sustainability is a way to differentiate from others either positively or then end up as a company where nobody wants to work.”*

Other mentioned benefits related to reporting practices where **SDGs helps to structure the sustainability agenda and provides a guideline for annual reports**. Moreover, SDGs gives a to do list for sustainability in other words what needs to be taken care of by 2030. Also, responding to ever increasing investors’ sustainability expectations, getting cheaper loans or even an access to certain type of funds by using the framework appeared to be one of the recognized benefits. Businesswise, SDGs can help to identify new business opportunities from circular economy and in case one is seeking to enter new markets, SDGs may increase positive and a trustworthy brand image.

Firm 4: *“It might be that SDGs can give a certain type of trustworthiness for the company, comparing with GRI reporting, which is known for quite a small circle compared working to advance SDG agenda. It would be a stronger message on a national level. Not necessarily for an individual customer...”*

Firm 5: *“Our approach here has been more reporting related reasons, meaning that we try to describe our contribution of our actions to specific SDGs.”*

Firm 5: *“I would see that it is starting to become such a common habit that companies have started to mirror SDGs in their annual reports.”*

Interestingly, two respondents’ opinion was that SDGs do not provide first mover advantage nor pioneering anymore, since today the **SDGs begins to be more an**

**industry standard** than a voluntary tool giving a strong signal to others if one is not using the framework yet.

*Firm 2: "It is a bit like if you have ISO standard in use or not in factories, which is kind of a hygiene factor, not quite, but almost. It is the same thing with Global Compact, if you are a large company and you are not committed to principles, it tells you something."*

*Firm 5: "It is difficult to assess whether SDGs has brought any advantages. It's a bit like Global Compact that it starts to be the starting point for everything, and when it's has been around for a long time, it's difficult to say what the pros and cons would be."*

In overall, several benefits were identified by the interviewees, but according to one of the respondents, **competitive advantages can occur only if the goals are integrated into business strategy.**

*Firm 3: "... But then of course, if one is able to integrate sustainability and SDGs into business strategy, I surely think that it brings competitive advantages. Especially other way around, if you don't do it, you will definitely fall out of the competition."*

SDGs are extremely helpful when **creating a strategy and deciding where to invest**, then the goals give a clear direction and agenda for the work. According to one of the respondents, the greatest advantages from using SDGs would be for companies that are in the early stages of sustainability.

*Firm 5: "An organization that don't have a clear sustainability agenda, SDGs might benefit more by providing a framework from which to choose the right themes for itself, because SDGs are the globally accepted framework and it has a low risk to failure."*

### **5.3 Integration of SDGs into a strategy**

According to interviewees, **companies had not integrated Sustainable Development Goals into their business strategy.** The same thing was with sustainability in general, except with one company, although sustainability was on

every company's leadership agenda. However, integrating sustainability was on a to do list when creating the next strategy for the two to four-year timespan.

*Firm 3: "if you read our strategy, SDGs are not mentioned there than only on a theme level, but SDGs and various similar commitments are guiding our strategy as well as our actions."*

*Firm 4: "At the moment, sustainability is not integrated into strategy, only into the sustainability agenda. When I think of our strategy, sustainability strategy has been a little bit on the sidelines to this date, but for the next strategy it will be integrated more strongly."*

*Firm 4: "I would say that now we are at a point, where sustainability is on everyone's discussions and it will be also prioritized very high when creating new strategy."*

*Firm 5: "SDGs are not directly in our strategy, but sustainability had been integrated into our strategy for a long time."*

In order to integrate sustainability or SDG framework into strategy, **the causality relationship in between business and its benefits must be clearly pointed out.** According to the interviews, sustainability is a guiding principle behind the business strategy, and sustainability directors wish that SDGs show more clearly in the strategy and KPIs with the right terminology. Although the goals are not integrated yet, SDGs do show up in companies' day-to-day operations, mostly in internal and external communication. Moreover, by setting tangible goals relating to SDGs makes the actual work transparent for example regarding measuring the carbon footprint.

All of the respondents are highly skilled and professional in the field of sustainability. According to the interviewees, **no special skills, capabilities, or external help such as consultancies are needed** to use the SDG framework. However, it was mentioned that on an individual level, using SDGs requires a certain type of mindset and general understanding from the person about the surrounding world. In this case, it is preferable if the person is a generalist in the field of sustainability.

Firm 3: *“Well, it calls for a broader understanding of sustainability, and if you think about over 160 sub-targets, one must understand what those mean. Also, a holistic understanding and broad knowledge is required, and where the goals aim for... maybe it is more about the mindset and worldview question rather than some technical capability what is needed.”*

Firm 5: *“If some company start the sustainability agenda from the scratch by browsing SDGs, then most probably some capabilities are required, because sustainability is very complex and there isn't one right way globally.”*

#### **5.4 Challenges of SDGs**

Based on the interviews, there seems to be various challenges regarding not only SDGs but also to sustainability in overall. As seen above, neither of SDGs nor sustainability were fully integrated into the strategy by all the companies. Therefore, the first mentioned challenge was **getting support from the top management for SDGs** and second, **executive teams are not prioritizing sustainability highly enough although it is shown on the strategy agenda**. This can be considered also a challenge for adopting the framework since without a full support or acceptance of a leadership team, SDG will not get the required attention. First thing needed to advance **SDGs is to get acceptance from leadership team or top management**, so that the tool has full support.

Firm 1: *“...It requires buy-in from the top management and leadership team, so that it isn't a compulsory task for people, but rather it would be important enough and integrated into business in order to avoid the framework becoming a separate and sidelined function.”*

Firm 2: *“...it requires commitment from the executive team, and I am sure that everyone thinks that sustainability is a good thing, but it is a different thing to put into strategy than to execute and communicate in practice.”*

Firm 4: *“Top management does not ask after it, the framework has been hyped in our company, because it has not been seen that our stakeholders would make a big deal out of it and require reporting.”*

One of the respondents raised one very relevant and important point regarding integrating SDGs and sustainability into strategy. As a framework SDGs alone does not generate any profit meaning the return on investment is low, therefore there must be a driver behind using the goals.

*Firm 4: "At the end of the day, company's purpose is to do business and generate profit, and SDGs as such don't fill that gap alone. It must always come from the customers in order to sell them, it must be at least something that they have thought about or just don't know needing it yet."*

Another challenge that has been acknowledged for a long time in the sustainability field and that is **lack of common language for sustainability**. Many companies have their own sustainability agenda, and they tend to frame or express their agenda with different words, although the end goal would be the same. This can end up typically confusing on the customers-end when they do not see the message in the same way that it is meant.

*Firm 1: "People don't necessarily think about things the same way, that these are the things when we are talking about sustainability such as energy efficiency, which really benefits our customers businesswise."*

*Firm 4: "The issue is that the companies don't always use similar language when talking about life on land, poverty or zero hunger, because they are more national words and global objectives."*

**SDGs provide a common framework for sustainability which is easy and simple to understand by all stakeholders.** However, this requires a lot of work to increase its familiarity level among the business sector and various actors. The challenge is not only communicating the benefits of SDGs to external stakeholder groups, but also internal communication is at a focal point sharing the knowledge and interest within the organization.

*Firm 3: "...how to increase awareness and interest inside our organization so that it would be a real thing, not just one page in an annual report, but more a solid part of doing."*

Next challenge relates more on the adaptation work of SDGs on company's end. The practical part of **choosing the right goals by mirroring them against own business** where the impact can be considered the largest can sometimes be daunting.

*Firm 3: "The challenge is to be able to select the right goals, in particularly where we can make an impact, because some of the goals are a little bit overlapping, so we must choose what are the most important goals for us."*

However, utilizing and mirroring SDGs against own business was not challenging to all interviewees:

*Firm 5: "In our scale how we have been utilizing SDGs, we haven't encountered direct challenges. But of course, if every part of the framework would be integrated and thought through, there could be many practical challenges."*

In case one browses only the goals on an upper level, without focusing on sub-targets and indicators, there is a risk of getting sidetracked, because the sub-targets describe the goals more precisely. Also, one concern brought up regarding how well SDGs fit for companies, since the framework was initially designed for nations.

*Firm 4: "...sub-targets are not the best fit for the business sector, they sound more suitable for nations and what others can do with those."*

*Firm 4: "... framework designed by UN are often far from the business world, because they aren't either concrete enough or made for companies."*

*Firm 5: "In my opinion, it has been the design criteria that the Global Compact is a tool for companies and SDGs a tool for nations."*

Sustainability as any other business function should be measurable. It is argued that **SDGs do not have as clear measurements** than other frameworks have for

example GRI, making it more difficult and in some of the cases unpopular to use by the companies.

*Firm 4: “Many other frameworks have more suitable targets than SDGs, maybe that is one reason why is not so popular among the companies’ in sustainability work.*

*Firm 5: “... there are many reporting frameworks in place already and soon there is dedicated frameworks for the finance sector. There are also frameworks for ratings meaning that it would require a lot of effort from SDGs to go further.”*

The challenges vary a lot as we can see. Not only acceptance of top management or the difficulties of the framework are the only challenges. Also, the fact that sustainability scheme has many different tools that can be used, making it hard to pick the right ones by sustainability professionals for right purpose. Mentioned tools and frameworks by the interviewees were Global Reporting Initiative (GRI), Task Force on Climate-Related Financial Disclosures (TCFD), Green Deal, Global Compact, and different sustainability rankings. Additionally, larger companies that have had an agenda for sustainability for a long time already, adjusting new tools that would fit existing agenda and the tool stack can be challenging.

Perhaps a larger challenge, that was brought to the light regarding utilization rate of SDGs is the low demand for the framework from other stakeholders than investors. **Investors seemed to have the biggest expectations for SDGs**, but other stakeholder groups such as clients and customers not so much. In a broader sense, it was mentioned that industry as whole affects greatly using certain type of frameworks, such as SDGs. In this case, respondents mentioned that since, their industry is very conservative in comparison with some other industries that are for example more consumer driven. In addition, it was mentioned that there seems to be a difference between Business-to-Business (B2B) or Business-to-Consumers (B2C) business. The argument for this was, that in the latter case, the pressure comes from concerned and vigilant customers who are well of aware of megatrends

such as climate change that they perceive has an effect on their lives. This group has the power to vote with their feet giving pressure to communicate and report results clearly for the audience. In this sense, the B2B sector seems to be different.

*Firm 3: "This is quite a conservative sector where we operate. In order to get sales representatives involved using such a framework, it requires that it resonates strongly with their customers... but the timing must be right, in order to take off on the sales side"*

*Firm 2: "One must consider that we are in the B2B business, not in the customer interface, unlike Nokia, S-Group or Kesko that are in the B2C business. These companies are also pioneering, because of consumers demanding much more than B2B customers."*

*Firm 5: "I don't directly remember that there was pressure from customers."*

Respondents did not have clear ideas how to overcome these challenges. However, one suggestion for this was that if companies began to use SDGs more, then it would create a sense of urgency for other companies to adopt the framework as well and accelerate driving sustainable development challenges both in the private sector as well as among nations.

## **5.5 The role of SDGs in the future**

Sustainability directors believe that **in the future, individual companies will begin to drive SDGs on their agendas and discussions**, so that their customers and value chains would benefit more from it. In order to get SDGs for a wider audience, it would require deeper collaboration between UN, private sector and the third sector all together. Also, SMEs in the **private sector have a big role driving the SDGs**. In case, SMEs think that adopting SDGs is difficult, for them it was suggested that they can start small by selecting only on a single goal and expanding the goal repertoire one by one whenever they can. Hence, the situation is **different for smaller companies** according to the data. For smaller companies it is easier to start sustainability work from the scratch than change everything to match SDGs. Therefore, **SDGs is argued to work better for SMEs** that are looking at the right

direction for the sustainability agenda. As noted earlier, SDGs is considered as a large to do list for sustainability aspects. From this it is easy to begin building on by smaller companies. **Larger companies** on the other hand utilize SDGs mostly for **communication, marketing, and brand image purposes**.

Overall, SDGs are seen as one of the frameworks in companies' toolbox in the future, that can be utilized in sustainability work, especially in external communication since company already uses the framework.

**Investors seem to be in a central role driving SDGs** forward, because if they base investment funds on SDGs then it can have a large impact on how many companies would adopt the framework. **Regulators** such as EU were seen another driving force by the interviewees that could accelerate the development by putting more pressure for investors. In this sense, the change would come most efficiently from top to down. Finally, one of the largest driving forces behind of SDGs is **constantly growing common concern about global challenges** (Heikkurinen and Bonnedahl, 2012; SDG Challenge, 2019; Ioannou and Hawn, 2016), which effect will be the most likely to be reinforced in the future.

In time, the role of SDGs might increase among companies, especially for those that try to enter new markets. SDGs are seen as a trust factor in business, that can help entering new markets, when local actors see that global challenges are truly on company's agenda pursued to be solved, instead causing any more harm.

## **6 Discussion**

In this chapter, the key findings of the thesis are discussed in broader terms both from theoretical and practical standpoints. First, research questions are answered thoroughly, next theoretical and practical contributions of the thesis are discussed in light of strategy and competitive advantages and finally, some suggestions for future research are provided. The following sub-chapters answers to the main research question and the two sub-research questions.

### **6.1 mRQ: How SDGs are impacting to companies' strategic sustainability processes and practices?**

To summarize, based on the findings it can be argued that SDGs in machinery and manufacturing industry are in their early stages at the moment. A one reason for this might be the novelty of the framework because the framework was launched only five years ago in 2015 (Stafford-Smith et al., 2017; Persson et al., 2016: United Nations, 2015) and adopted by the interviewed companies in between the years 2016 to 2019. SDGs have been argued to offer various benefits for companies in business sector (SDG Compass, 2015; SDG Challenge, 2019) but, only a few of the benefits was mentioned by the interviewed companies. In this regard, companies are benefitting from SDGs mostly in terms of reporting practices, enhancing the brand image regarding sustainable development, meeting the expectations of stakeholders and a common language for some of the parts.

Our results show some novel dimensions in the research framework. The main results show how stakeholder demands and expectation are important of SDG, mainly by investors and regulators.

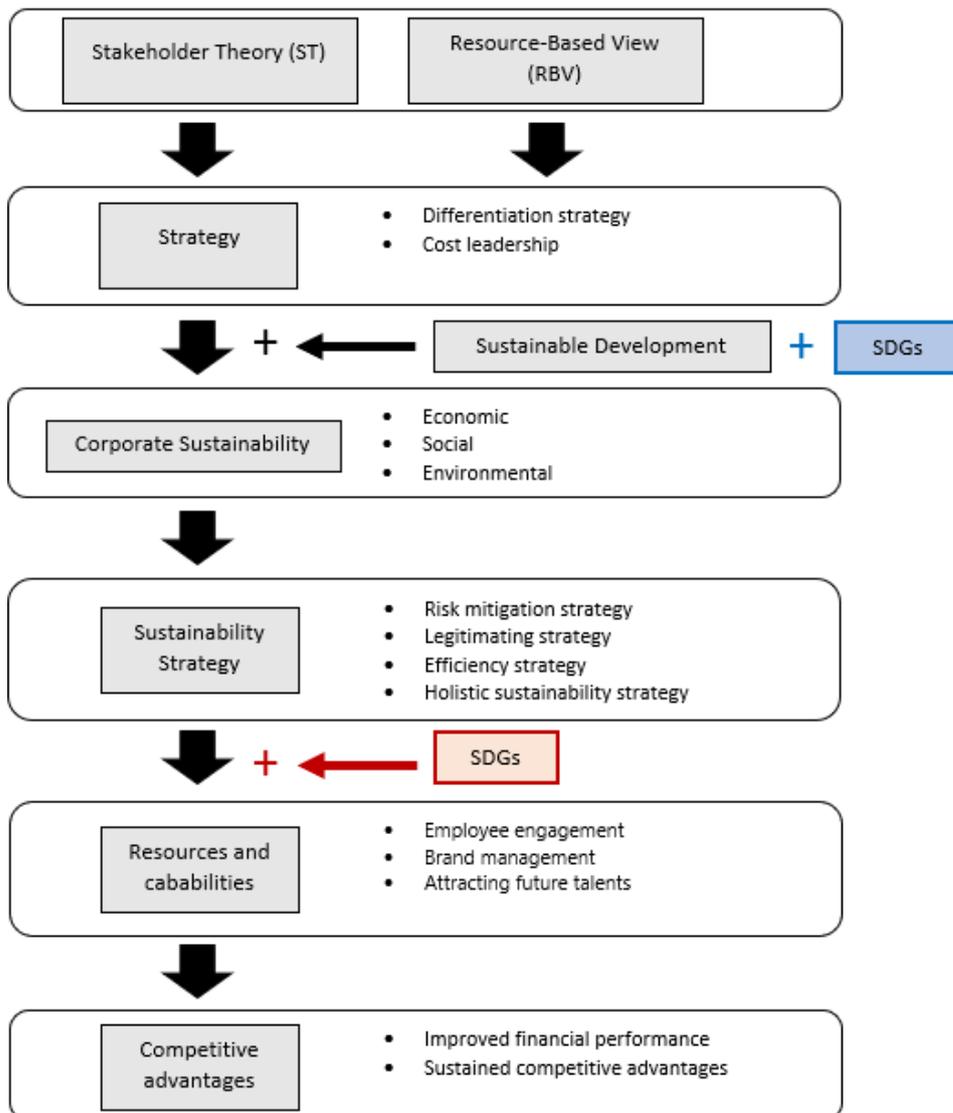


Figure 13. Empirical findings in research framework

Figure 13 is formed based on theory and collected data. It describes the value creation process for stakeholders where sustainable development is integrated and considered in strategy. According to my interpretation of the data, sustainability was not integrated into the business strategy by majority of the interviewed companies at this moment and the same thing was with SDGs. Only one out of five of the companies had integrated sustainability into the strategy, but none of them had considered SDGs in the strategy. For this reason, I formed a Figure 13 to depict my interpretation of the research framework based on theory and the empirical findings

how SDGs could be used. In the model above, SDGs (marked as blue box) are integrated into strategy at the same time with other sustainable development practices enabling to identify more possible benefits regarding risk management and new business opportunities to mention a few. Another SDG box further down (marked as red) in the model illustrates my interpretation of the data at which stage interviewed companies are utilizing SDGs at the moment. From the answers can be interpreted that companies have adopted SDGs after they have formed their sustainability agenda for their company. Therefore, Figure 13 above also illustrates the timing of SDG adoption meaning that SDGs are in most of the cases matched to the existing sustainability agenda to see which of the goals are achieved already and then using those goals from that point onwards. As was seen in Figure 12 (Adopted SDGs in total), there are six SDGs prioritized by three companies and only one goal prioritized by all of the companies showing which sustainability themes are prioritized in machinery and manufacturing industry. This illustrates how companies are able to visualize better their top priorities in the sustainability agenda by selecting certain goals which is one of the ways how SDGs is providing value.

Other benefits of SDGs relate to brand management and stakeholder management purposes after the framework is mirrored against the existing sustainability agenda. This can be discovered from the Figure 13, where SDGs are placed before competitive advantages to gain benefits such as harnessing the brand image, enhance reporting practices and managing the stakeholder relationship in other words to gain reputational benefits to engage certain stakeholder groups such as exiting employees, future employees, owners and investors to some extent. According to Morioka et al. (2016) sustainable development information can be disclosed via reports and other communication tools for relevant stakeholder groups. In this case SDGs were one way used to disclose sustainability information in the annual reports of the interviewed companies.

Findings in the empirical section points out SDGs having various benefits and challenges for the companies. However, based on the interviews, SDGs are utilized

more as a communication tool and used for marketing purposes by the companies, limiting out the majority of the benefits. The discovered benefits from Figure 8 based on the data are summarized in Appendix 4.

## **6.2 sRQ1: What types of possible impacts do SDGs provide?**

According to Galpin & Whittington (2012), companies are adopting sustainability practices because it enables harnessing the brand image and differentiation from others. Also, Ioannou and Serafeim (2019) advocate that sustainability can be seen as a strategy or strategic differentiator generating competitive advantages throughout enhanced the employer brand image by focusing on practices provides a unique purpose. When discussing about the type of advantages that SDGs provide, attention focused on two entities: brand management and stakeholder management. The first entity of brand management relates more on internal and external communication practices and marketing activities. In internal communication, the weight was more on the employee engagement by showing that own company do acknowledge global challenges and share the same values with employees throughout SDGs.

External communication and marketing activities on the other hand related to two aspects, harnessing the brand image through the very same reason as in the employee engagement, but to attract future talents, because competition about young professional sharing sustainable values is tough and companies cannot afford to risk being unattractive employers in the eyes of potential candidates. As the answers show, SDGs are applied by some of the respondents to the employee engagement to show employees that ongoing issues are important for the firm to retain existing workers but also to attract new employees from younger generations such as Y and Z generations. The second aspect of external communication related more on reporting practices since SDGs is argued to give a guideline and structure for the sustainability agenda and reports.

Stakeholder management was mainly managing prior stakeholders as mentioned above, because machinery and manufacturing industry has low demand for SDGs from customers and investors end. However, despite the lack of demand for SDGs from industry perspective, whether it is due to the conservatism of the industry and customers or unfamiliarity of the framework among customers, interviewees saw it is important to be proactive in this matter by still adopting the framework. Some of the interviewees saw SDGs becoming as an industry standard in the future. Moreover, global goals were considered an important framework from investors' perspective for companies in the future in terms of getting loans or an access to certain type of sustainability funds. Companies that have applied SDGs into their business, might get easier public or private investments (Business & Sustainable Development Commission, 2017). This perception seems to be in line with Khan et al. (2015) and Ioannou and Serafeim (2019) that large investors have started to make decisions regarding asset allocation based on sustainability integration. Also, disclosing non-financial information (NFI) e.g. information about sustainability, has been on the rise among companies (Khan et al., 2015). By following SDG guidelines companies can significantly increase stakeholder trust, retain their license to operate, or be better prepared for future regulations (SDG Compass, 2015). Above mentioned aspects in turn, is fully aligned with one of the interviewee's notes that SDGs can help companies to expand the business to new markets when the company is showing a trustworthy and sustainable brand image by sharing the values and concerns regarding global challenges. When it comes to identifying business opportunities, only circular economy was mentioned twice, but it was not discovered due to SDGs, rather before SDGs was taken in use. Circular economy seemed to be an interesting opportunity more from sustainability perspective, due to the long value chains and manufacture nature of the industry. Table 4 summarizes the identified benefits of SDGs for the companies.

<b>Benefit of SDGs</b>	<b>Impacts</b>
Enhanced employer image	Engaging existing personnel and attracting future talents.
Better reporting practices	Helps to structure sustainability agenda, provides a guideline for annual reports.
Meeting stakeholder expectations	Responding to investors' sustainability demands, cheaper loans and access to different sustainability funds in the future
Mentioned business opportunity	Circular Economy
Helps entering new markets.	Increased trustworthiness

Table 3. Summarized benefits of SDGs

### **6.3 sRQ2: What are the possible challenges occurring when adopting/ implementing SDGs?**

Interviewed companies have encountered challenges when utilizing SDGs. Interestingly, literature does not recognize that many challenges regarding SDGs in the business sector. Reasons for this can be ambiguity, and one reason can be because the private sector has been researched the topic only a little to this date. Therefore, there is a research gap regarding SDGs in the private sector in this sense.

However, one of the identified challenges by literature is that the framework was initially designed for nations (Caiado et al., 2018; Hak et al. 2016; United Nations, 2015), to which also the private sector is called to take an action addressing SDGs (United Nations, 2015). For this reason, companies have difficulties adopting the framework for their own sustainability agenda, because the goals are large entities including various topics and sub-targets. Many of the companies have similar topics in their sustainability agendas as SDGs, but in different words. The similarities in the

sustainability agendas are due to the fact that the sustainability targets must be industry specific and relevant so that it appeals to the target audience i.e. investors. Therefore, selecting the right goals where the impact is the largest for own business and which fits the own sustainability agenda were noted challenges. In other words, adjusting the framework to own business is challenging. However, to this must be noted that interviewed companies have not fully utilized sub-targets of the goals in the implementation process, which can hinder proper goal selection and crystalizing sustainability agenda.

Last decade, most companies had some kind of sustainability program in use including various sustainable practices and indicators (Eccles & Serafeim, 2013). Successful sustainability implementation requires strong support and commitment from senior management (Hallstedt et al., 2006), a systematic approach to implementation and a tool that would help companies to understand the benefits of sustainability for the business especially regarding social dimension (Hallstedt et al., 2006; Hart, 1997). This same applies to adopting and integrating SDGs into business functions and strategies where acceptance is required from top management. Although, sustainability is on every company's agenda, adopting and prioritizing the framework is argued to be one of the challenges in this case. Low support of senior management for SDGs can be due to various different reasons why it is not prioritized that high. As Eccles and Serafeim (2013) explains, the company must first understand the most crucial sustainability issues for own business and then evaluate what kind of impact it has on financial performance for example cost reduction or growing revenues. When it comes to SDGs, the framework alone does not generate profits meaning that no clear business benefits or opportunities were not easily identified from it, except circular economy from sustainable development in general. Second, it seems that machinery and manufacturing sector has no real demand for SDGs from customers and investors side, only minor part of them is requesting it according to interviewees. Although, according to Morioka et al. (2016) stakeholders such as investors and shareholders have high expectations for companies to adopt sustainability performance, it does

not show as a high demand for SDGs. However, they might have different kind of expectations or very specific need, for example amount of CO2 emission in value chain that cannot be measured through SDGs. Third, the industry seems to be very traditional on some of the parts, appreciating different values than sustainability which can be one of the reasons why sustainability is not fully integrated to business strategy. Luckily, interviewees strongly believe that change is around the corner in this matter.

Other identified challenges related to the familiarity of the framework among stakeholders both internally and externally. It can well be that stakeholder groups cannot demand something that they do not know exists. Therefore, a lot of communication is needed in this matter to understand the role and meaning of the SDGs although the framework is well visualized, and the goals are organized together. There are multiple sustainability tools and frameworks for companies to manage sustainability (Baumgartner, 2014; Baumgartner & Ebner, 2010; Michelin et al., 2013; Hallstedt et al., 2006). Hence, sustainability professionals in companies have a wide tool stack in use where SDGs provides a global agenda for the sustainability work. Since sustainability as any other business function should be measurable, SDGs was found to be challenging due to lack of clear KPIs compared with the GRI guideline for instance. Table 5 below attempts to summarize identified challenges by the companies.

<b>Challenges of SDGs</b>	<b>Impacts</b>
Lack of full support from top management	Weak integration level to strategy.
Lack of business case for SDGs	SDGs do not generate profits directly.
Lack of common sustainability language	Every company has their own agendas and terms for sustainability.
Low familiarity level of SDGs in the industry	SDGs is not known by stakeholders
Adopting SDGs to own business	Selecting the rights goals is challenging, because goals might overlap each other, the framework is designed for nations, and difficult to adopt to existing sustainability agenda
Difficultness to measure SDGs	Increases unpopularity
Low demand from stakeholders for SDGs and sustainability e.g. conservatisms of the sector	No sense of an urgency to adopt the framework

Table 4. Summarized challenges of SDGs

#### **6.4 Theoretical contributions**

By comparing theory to practice, one can discover that SDGs are not used as a strategic tool for sustainable development to gain competitive advantages as anticipated, but more as a reporting and communication tool. In this chapter, I discuss the various benefits and challenges both from practical and theoretical perspective.

#### **6.4.1 SDGs and stakeholder theory**

**In terms of stakeholder theory**, it seems that SDGs do not help to meet expectations of every stakeholder group regarding sustainability issues. According to my understanding about the data, customers as one stakeholder group do not seem to value or demand SDGs at the moment. This can be interpreted so that the framework does not provide extra value for them, they value other sustainability related aspects that are more practical and closer their core business or they do not know the framework yet. In case customers or clients are not requiring SDGs, it cannot be used for example as a sales argument that easily by the companies. In sum, lack of demand among customers is troublesome, since as long as there is no real request for the framework in the markets, it slows down the adoption and diffusion of SDGs in the whole industry. This is because companies do not have external pressure to adopt the framework despite the fact that many companies are doing great work exceeding compulsory environment requirements for example as one of the interviewees mentioned. Another identified stakeholder group was investors. In their case SDGs provides information about sustainability in the format of annual and sustainability reports clearly illustrating the main focus areas of sustainability.

One interesting aspect derived from the data was, that all companies had sustainability considered into the strategic agenda, but it was not fully integrated to strategy and neither was SDGs. This lack of integration can be argued to be one of the hindering aspects of generating advantages from sustainability in my opinion. In order to be able to integrate SDGs into strategy, it requires strong commitment and understanding about the SDGs from the top management. My interpretation here is that if SDGs are not integrated into business strategy, it hinders identifying strategic impacts for example new business opportunities or risks. In this sense, failing to prove clear advantages and strong business case for the framework may lead to a situation where full support is not given resulting in the unintegrated framework. Of course, it is not that simple, since interviewed companies have been working with

sustainability for years and the most advanced ones for decades gathering a lot of insight and knowledge about sustainability from their industry. This might be why the initial idea of the interviewed companies was to mirror SDGs to the existing sustainability agenda to see which of the current targets and themes already match the global goals. For this reason, SDGs do not provide anything new for larger companies at the moment that have worked with sustainability for a long time already, but rather it helps to visualize the current sustainability agenda and objectives more clearly. However, would the situation be different if SDGs or sustainability would have been integrated at the heart of strategy? It would definitely require a lot of resources and workshopping from company's end, but then again, I argue that integrating both sustainability and/ or SDGs into the strategy would bring some advantages in the long-term. This is because, by placing sustainability at the heart of strategy where the most pressing and critical sustainability issues for the business must be scrutinized from company's perspective really carefully, say, by utilizing SDGs for example, what does climate change mean for our business? What kind of opportunities or challenges climate change brings for the company and how the company can benefit or tackle those with existing resources or is there something more what is needed to succeed such as partnerships and collaboration? The same goes with other issues such as clean water or renewable energy. In this case SDGs and sustainability can be a source of innovation when solving some sort of sustainability issue. The situation might be totally different for smaller companies that do not possess the sustainability agenda. In their case, SDGs might be an easy starting point for the sustainability agenda providing a clear framework. Here, SDG Compass – guide (2015) proposes five step model integrating SDGs into business – i) understanding the SDGs, ii) defining priorities, iii) setting goals, iv) integrating and v) reporting and communicating – helping companies to begin their integration work, which might be beneficial especially for companies in their early stages of sustainability work.

The short timeline of how long SDGs have been available in the markets and how long companies have been able to use the framework – only two to four years so

far depending on the company – might have an effect on the number of identified impacts and challenges among companies. Additionally, short timespan might have an effect on the diffusion of the framework in the markets as well. Although the number of companies applying the SDGs is constantly on the rise, the minority of the businesses have still adopted the framework.

#### **6.4.2 SDGs and resource-based view theory**

When it comes to **resource-based view** the SDGs cannot be considered as a rare or non-imitable resource as such nor providing direct strategic impacts or competitive advantages for larger companies that have the sustainability agenda already in place. This due to the fact that framework can be adopted by any company free of charge without specific resources or capabilities needed for using the framework for reporting and communication practices. To integrate sustainability or SDGs might require more resources as discussed in the previous chapter. The only thing that is preferred according to the interviewees in terms of resources and capabilities is general information, authentic interest towards sustainability challenges and certain type of mindset from personnel about the sustainability themes. Thereby, more relevant question is how the SDGs are utilized by the companies to meet expectations of stakeholders regarding sustainability issues, because through SDGs companies might be able to acquire or retain VRIO resources that helps sustain or gain needed competitive advantages indirectly creating more value for the stakeholders which is communicated to them via annual and sustainability reports by using SDGs. This process is described below in Figure 14. The key aspects of the model are discussed in more detail in the following chapters.

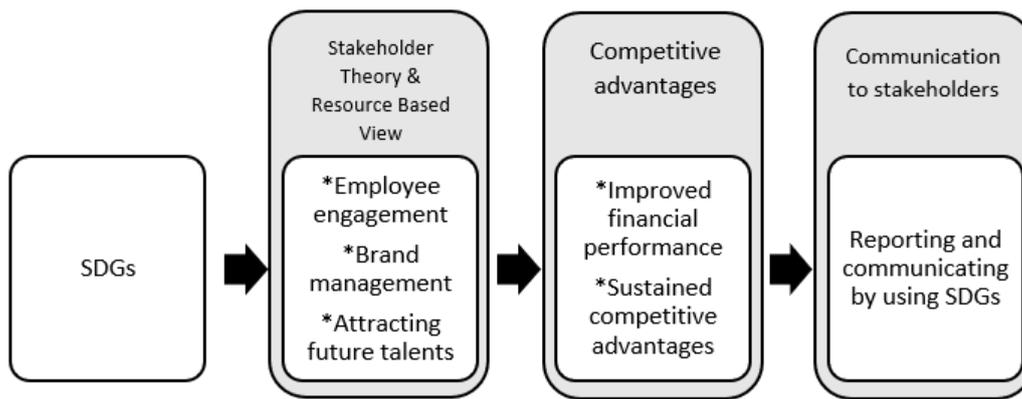


Figure 144. Proposed model

Interviewed companies in this thesis connected SDGs to reputational benefits, more sustainable brand image, clearer reporting and communication practices engaging and informing stakeholders about sustainable development issues. SDGs were not used for measuring sustainability performance at the moment, instead the Global Reporting Initiatives (GRI) framework was used for that purpose, because GRI and SDGs are totally different frameworks and cannot be compared as such. This is because for measuring sustainability with quantitative basis SDGs is troublesome, because the sub-targets are so generic and large themes.

Notably, interviewed companies did not mention any specific **new business opportunities** from using SDGs. However, circular economy was mentioned by two of the interviewees relating to sustainable business models, but according to interviewees the circular economy opportunities were not identified through SDGs. Circular economy was considered more as a model that can be easily related to the SDGs afterwards. According to research of Business & Sustainable Development Commission (2017) SDGs provides 60 different new business opportunities including circular models in automotive and electronics (see table 1) opening up new markets worth of trillions of US dollars. However, interviewed companies saw sustainable development in overall as an important way to innovate new products and services, even though new business opportunities were not identified through SDGs at that moment. According to one of the interviewees, the best knowledge

about the products and nature of business of how sustainable development could be improved or developed further lies in the different business units especially in bigger corporations. There are constant discussions held within business units by thinking about how to innovate something new. In parallel with new business opportunities was mentioned that SDGs might open doors for market entries due to the increased reputation and trustworthy brand image that SDGs provides. This might well be the case since, according to Schaltegger et al. (2012) sustainability in company's strategy can help in entering new markets. That said, SDGs might provide long-term competitive advantage for companies that have applied SDGs and are pursuing to conquer new markets.

In some of the cases, SDGs was thought **to enhance both the reputation and brand value**, in particularly among primary stakeholders such as employees. Using SDGs is a way to engage employees by showing that own company acknowledges global challenges and shares the same values with them. Shared sustainable values with employees are argued to have a positive impact on their reactions according to Luring and Thomsen (2009). For younger generations such as millennials it is important to have a purpose of their work from employer's side (Business & Sustainable Development Commission, 2017). One of the pitfalls in this is the gap between what is done and what is said, therefore sustainability should show on day-to-day operations actively (Luring and Thomsen, 2009). This same was mentioned also by one of the interviewees that SDGs must show in practice. Building a stronger relationship with employees is a wise thing to do in the long-term, because the employee engagement is seen as an intangible and valuable resource that can be considered as competitive advantage through increased employee loyalty that in turn relates to the better reputation, better stakeholder management and ultimately, if done systematically, leads to increased economic performance (Hillman et al. 2001). This leads us back to Figure 14 describing how SDGs turns indirectly to competitive advantages.

**Attractiveness of an employer** is closely related to the employee engagement, the enhanced reputation, and increased brand value. Some of the interviewees saw SDGs not only supporting companies existing values, but also as an advantage attracting the young workforce. As an example was mentioned a candidate that has two companies to choose from. The underlying assumption was that candidate would pick the one which follows sustainable practices, if all the other things such as the wage, the position etc. remains the same. In this case, the SDGs would be one of the aspects supporting sustainable practices when making the difference. According to Schaltegger et al. (2012) the attractiveness of an employer brand image has been seen as one of the most important aspects driving the sustainability engagement having an indirect impact on economic performance through for example recruiting and selection processes. Especially younger generations are expecting sustainable values and actions from companies to which they can commit to (Ehnert, 2009; Business & Sustainable Development Commission, 2017). More sustainable value of younger generation can be argued to be a valid point since, especially social sustainability from human resource management perspective in terms of recruiting, engaging, and motivating employees has been a trending topic during the recent years (Ehnert, 2009). A need for a skillful workforce increased during the past years due to globalization and technological development and the same trend has been estimated to continue in the future (Ehnert, 2009). In Finland for example older generations are retiring with an accelerating pace and younger workforce is stepping in with higher demands in terms of sustainability as seen above. As mentioned by one of the interviewees, this workforce is competed for fiercely and the same is argued by Ehnert (2009) noting that talented workforce has become a competitive advantage for larger companies. Concurrently, when looking at ongoing megatrends regarding climate change and what kind of climate anxiety it is causing for young people, SDGs might well turn out to be an effective tool in the hiring process supporting companies' sustainability strategy. To summarize, it is as important to engage existing employees as future employees. By seeing future employees, a valuable resource, it can be considered as a competitive advantage

on the later phase and thereby being a valuable resource for company's future success as illustrated in Figure 14.

**In reporting and communication** the global goals were used in annual and sustainability reports by visualizing the existing sustainability objectives. Although SDGs helps to visualize the sustainability agenda and objectives, the goals were not easily adjusted to existing sustainability agendas mainly for four reasons. First, the goals are described on a high level and companies need to disclose information about very specific issues for investors such as CO2 emissions or water treatment. For this, they have their own terminologies and measurements that do not easily fit to the SDG framework. Second, selecting the right goals that fit and support core business, were found to be challenging for the companies. Third, SDGs do not provide clear metrics to measure sustainability performance and fourth, interviewees acknowledged that the above-mentioned aspects underline the issue that global goals were initially designed for nations, which is why companies are struggling adjusting to them (SDG Challenge, 2019). However, adjusting the goals might be easier by utilizing sub-targets that describes the goals in detail (GRI & UNGC, 2018). So far, sub-targets of the framework have not been utilized by the interviewed companies thoroughly. In the future, it is interesting to see what kind of changes will occur if sub-targets will be utilized.

## **6.5 Practical implications**

The key take away from the thesis for practitioners is that SDGs can be used differently by different companies depending on at which stage of the sustainability work they are at. This thesis attempts to research SDGs both from theoretical and practical perspective, so it is practitioners' decision about how to use the ideas provided in this thesis.

For companies that possess a sustainability agenda and have worked with the themes earlier for a long time, SDGs stands for more as a visualization tool for the

existing agenda at the moment which is a good starting point adopting the framework. More importantly, companies using SDGs shows that they have acknowledged the most pressing sustainability issues for their core business and industry and that they are driving the themes forward. This in turn, relates to brand management and stakeholder management when thinking of this matter from strategic perspective.

Later on, depending on the focus of the companies in sustainability, it might be worth to consider the strategic approach and process the idea of integrating sustainability and/or SDGs into the business strategy more broadly. Using the framework as a source of innovation or new ideas in addition to reporting and communication might be worth even though the framework is not easily adjustable by the companies. In particular if there are so vast new potential revenue streams to be achieved in businesswise as the report of Business & Sustainable Development Commission (2017) emphasizes. In the future, the most pressing sustainability issues are not disappearing anywhere, vice versa, climate change is accelerating, a need for fresh water is increasing and societies are in need for more renewable energy solutions to cite a few. Here, business leaders have a choice to be made whether to utilize sustainability or SDGs or as a source of innovation solving the issues while simultaneously generating new advantages or managing risks.

For practitioners that are taking first steps with sustainability work SDGs can be considered a good framework providing the right direction, the focus areas and structure for the sustainability agenda. Remembering that the first steps does not need to be large leaps, but rather begin the journey with small steps from one goal at a time.

## **6.6 Future research and directions**

As noted above, SDGs have been studied mostly on a national level (Stafford-Smith et al., 2017; Sustainable Development Report), from resource perspective (Van

Vuuren et al., 2015) and scrutinizing the implementation processes of SDGs (Persson et al., 2016). Moreover, Ioannou and Serafeim (2019) suggests that future research could focus on the reasons of why some sustainability practices are more common ones than others, what kind of role sustainability practices have in decision making process and what kind of impacts applied sustainability practices have on corporate performance. Therefore, an interesting avenue of research could be to investigate which sustainability tools or frameworks companies tend to have in general in addition to SDGs. This could give insights into whether SDGs is the primary tool or just an add-on to the tool stack in sustainability work.

As noted when sustainability is integrated to strategy it brings various competitive advantages for companies. Therefore, companies that have integrated SDGs into strategy and have utilized sub-targets, it could be an interesting target group for future research yielding more insights about the benefits that SDGs provides at large.

This thesis revealed an interesting aspect that large companies are adopting SDGs to their existing sustainability agenda. However, for SMEs the purpose of the framework could be different since they have ability to build their sustainability agenda from scratch based on SDGs or pick only one or two goals to focus on. SMEs could be an interesting research field also, especially if they are starting or have recently started to create the sustainability agenda by using SDGs to see how the framework is utilized and what kind of results they have gained.

Suggestions for future research could focus taking a larger sample of interviews in order to get a broader sense about the current condition of SDG benefits and implementation in the machinery and manufacturing industry. Since every industry is unique and different, the research could be extended to other industries as well as to compare industries with each other. To this, a global view could be involved in addition to national view. Another suggestion would be to conduct a single case study of one company, researching only how SDGs shows in practice on different

levels of an organization in other words operational (employee), tactical (manager) and strategic (board and executive) levels and additionally how it shows in different business operations. When taking suggestions further down to brand image perspective, future research could focus on how the stakeholders such as employees and future talents i.e. young generations are valuing SDGs and if they are, at what level.

Finally, the diffusion of SDGs among companies could be researched with quantitative data and methods seeing how rapidly SDGs have diffused on a yearly basis among companies starting from 2015 and what is the ambition level of integration to strategy at that point of time.

## **7 Conclusions**

To conclude, SDGs do not provide direct strategic impacts for companies such as new business opportunities or identifying and managing risks, but rather might be a way or tool helping to acquire such impacts or sustain acquired advantages over a long-term. At the moment, SDGs are used by companies for the stakeholder engagement through reporting to disclose non-financial information (NFI) to their key stakeholder groups in a visualized format and brand management, especially when building long-term advantages in engaging existing employees while simultaneously attracting new talents. Interviewed companies in machinery and manufacturing industry do acknowledge pressing sustainable development challenges to which they use various different frameworks. However, only one out of five had integrated sustainability into business strategy, but none of the companies had integrated SDGs into the strategy, and neither were the sub-targets of the framework fully utilized. Therefore, the main purpose of the SDGs for the companies is sustainability reporting and communication practices at the moment to engage various stakeholder groups. Only the future will tell, if hidden and other non-discovered advantages become unlocked when sustainability and perhaps also SDGs are integrated into the business strategy.

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## **Appendices**

### **Appendix 1. Interview questions**

#### Background questions regarding SDGs

- When did your company adopt SDGs?
- Why your company decided to adopt SDG framework?
- Who made the decision to adopt SDGs?
- Whose responsibility is to drive SDGs in your company?
- What are the most relevant goals for the company and why? What about targets?

#### Competitive advantages

- SDGs have been argued to provide different type of competitive advantages for companies. How does SDGs provide competitive advantages for your company?
- What type of competitive advantages does SDGs provide?
- How did you find the most relevant competitive advantages?

#### Integration to strategy

- In order to create sustainable value, sustainability should be placed in the strategy, how SDGs are integrated to strategy?
- How SDGs are utilized on a daily basis in your company/ how SDGs shows in day-to-day practices?
- What kind of resources and capabilities are needed to utilize SDGs?

#### Challenges of SDGs

- What are the most common challenges or difficulties when adopting SDGs? (e.g. time, cost, available resources, lack of knowledge, common understanding about the SDGs)
- Why do you think these challenges/ difficulties occur?
- How and when (at which stage of the implementation process) these challenges occurred when implementing SDGs?
- How you have managed to overcome occurred challenges?

#### End questions

- What do you think is the role of SDGs in your industry in the future?
- Is there something you would like to add, that was not mentioned during this interview?

## Appendix 2. Sustainable Development Goals

### **Sustainable Development Goals**

- Goal 1. End poverty in all its forms everywhere
- Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- Goal 3. Ensure healthy lives and promote well-being for all at all ages
- Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- Goal 5. Achieve gender equality and empower all women and girls
- Goal 6. Ensure availability and sustainable management of water and sanitation for all
- Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all
- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- Goal 10. Reduce inequality within and among countries
- Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable
- Goal 12. Ensure sustainable consumption and production patterns
- Goal 13. Take urgent action to combat climate change and its impacts\*
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
- Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

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\* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

(Source: United Nations. 2015, 14).

### **Appendix 3. Interview request letter**

Hello,

My name is Sami Raatikainen and I am studying at the Lappeenranta University of Technology in Strategy, Innovation and Sustainability master's program. In my thesis, I study what kind of benefits UN's Sustainable Development Goals (SDGs) provides for companies in machinery and manufacturing industry and what kind of challenges have occurred during the implementation process. SDGs is a very novel framework, and only a few forerunners have adopted it to this date. Therefore, because the number of these companies is so very low and your company has adopted the framework already, I would like to ask if I could interview you to my thesis.

Empirical part is a crucial part of the thesis. The target group of the interviews are sustainability professionals with some background about SDGs. The answers to the final work are processes anonymously. The duration of the interview is approximately 20 minutes and would be preferably held during June in weeks 23-27. For my part July is also possible. Time of the interview doesn't matter to me, it can be for example early in the morning before the workday, during the workday or later in the evening, depending on your schedules. During a Covid-19 epidemic, the interview can be arranged for example, by phone or using video tools such as Microsoft Teams, Google Meet Hangouts, or Skype For Business. In case the works for you, could you give me a few appointment times?

Thank you so much for your help in advance!

Best regards,  
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#### Appendix 4. Discovered benefits

<b>Benefits of SDGs</b>	<b>Identified advantages by the interviewees</b>
Sustainable value	
Risk management	
Identified business opportunities	
Identified business models	
Enhanced internal processes	
Common language	X
Brand image	X
Differentiation	
Reporting and communication	X
Meeting expectations of stakeholder groups	X