Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Engineering
Department of Mechanical and Industrial Engineering

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Leading a sustainable transformation of an entire industry

Master's thesis in Engineering & ICT
Supervisor: Nora Johanne Klungseth
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Abstract

The importance of transforming into more sustainable practices is increasingly critical for industries worldwide. This master thesis explores the topic of sustainable transformation, with desire to suggest measures to make industries more sustainable. The master thesis was developed in collaboration with the Confederation of Norwegian Enterprises (NHO), and uses NHO and the Confederation of Danish Industry (DI) as case examples. This is done to investigate the service industry as an example to illustrate how a sustainable transformation of an industry can be carried out. The thesis includes DI and the Danish market to extract valuable findings and insights from already successfully implementations of sustainability. The master thesis focuses on identifying the driving forces, barriers, essential factors for success, and opportunities in the transition to a sustainable, climate-ready industry.

The thesis uses a qualitative research methodology, with a triangulation consisting of a literature review, document analysis, and interviews with key stakeholders from both the Norwegian and Danish service industries. Both NHO and DI provide crucial case studies to understand how sustainable transformations can be effectively implemented. Denmark's position in sustainable industry practices serves as valuable, offering insights and strategies that can be adapted to the Norwegian market.

Three primary research questions guide this study; *What are the forces driving and hindering sustainable transformations? What factors are essential in succeeding with the transformation? Where are the service industry's opportunities in transforming?* The findings reveal that regulatory pressures, market demands, and technological advancements are significant drivers for the sustainable transformation. Critical success factors include robust project and change management strategies, strong leadership commitment, effective stakeholder engagement, social equity, work inclusion, labor standards, and the integration of digital technologies to improve operational efficiency.

The master thesis emphasize the importance of a holistic approach to sustainability, where environmental, economic, and social dimensions are considered together. It highlights the necessity for collaboration across industries and organizations, the role of innovation in driving sustainable practices, and the benefits of learning from leading examples such as the Danish service industry. Practical recommendations are provided for service organizations to develop and facilitate for effective sustainability strategies, including actionable steps to overcome common barriers and leverage existing opportunities.

By offering a roadmap and strategic framework, this thesis aims to support the service industry in its work towards sustainability. The collaboration with NHO and the input from various industry representatives in Norway and Denmark have been crucial in shaping the research and ensuring its practical relevance. The insights gained from this study contribute to the broader discussion on sustainable development and provide a foundation for future research and practical applications in various service industries. The thesis concludes with recommendations and practical steps that can help service industries achieve its sustainability goals. This also include how they may apply to other industries as well, thereby contributing to broader environmental and economic objectives.

Keywords: *Sustainable transformation, Sustainability, Service industry, Project management, Change management, Digitalization, Regulations, Confederations, NHO, DI*

Sammendrag

Viktigheten av å transformere til mer bærekraftige praksiser blir stadig mer kritisk for industrier verden over. Denne masteroppgaven utforsker temaet bærekraftig transformasjon, med et ønske om å foreslå tiltak for å gjøre industriene mer bærekraftige. Masteroppgaven ble utviklet i samarbeid med Næringslivets Hovedorganisasjon (NHO), og bruker NHO og Dansk Industri (DI) som case-eksempler. Dette gjøres for å undersøke tjenestesektoren som et eksempel for å illustrere hvordan en bærekraftig transformasjon av en industri kan gjennomføres. Oppgaven inkluderer DI og det danske markedet for å trekke ut verdifulle funn og innsikter fra allerede vellykkede implementeringer av bærekraft. Masteroppgaven fokuserer på å identifisere drivkreftene, barrierene, essensielle suksessfaktorer og muligheter i overgangen til en bærekraftig, klimaklar industri.

Oppgaven bruker en kvalitativ forskningsmetodikk, med en triangulering bestående av en litteraturgjennomgang, dokumentanalyse og intervjuer med nøkkelinteressenter fra både den norske og danske tjenestesektoren. Både NHO og DI gir viktige casestudier for å forstå hvordan bærekraftige transformasjoner effektivt kan implementeres. Danmarks posisjon innen bærekraftige industripraksiser er verdifull, og tilbyr innsikter og strategier som kan tilpasses det norske markedet.

Tre primære forskningsspørsmål styrer denne studien: Hva er kreftene som driver og hindrer bærekraftige transformasjoner? Hvilke faktorer er essensielle for å lykkes med transformasjonen? Hvor ligger tjenestesektorens muligheter i transformasjonen? Funnene viser at regulatoriske press, markedskrav og teknologiske fremskritt er betydelige drivere for bærekraftig transformasjon. Kritiske suksessfaktorer inkluderer robuste prosjekt- og endringsledelsesstrategier, sterk lederforpliktelse, effektiv interessentengasjement, sosial rettferdighet, arbeidsinkludering, arbeidsstandarder og integrering av digital teknologi for å forbedre operasjonell effektivitet.

Masteroppgaven understreker viktigheten av en helhetlig tilnærming til bærekraft, der miljømessige, økonomiske og sosiale dimensjoner vurderes sammen. Den fremhever nødvendigheten av samarbeid på tvers av industrier og organisasjoner, innovasjonens rolle i å drive bærekraftige praksiser, og fordelene ved å lære av ledende eksempler som den danske tjenestesektoren. Praktiske anbefalinger gis til tjenesteorganisasjoner for å utvikle og tilrettelegge for effektive bærekraftsstrategier, inkludert konkrete skritt for å overvinne vanlige barrierer og utnytte eksisterende muligheter.

Ved å tilby en veikart og strategisk rammeverk, har denne oppgaven som mål å støtte tjenestesektoren i sitt arbeid mot bærekraft. Samarbeidet med NHO og innspill fra ulike industrirepresentanter i Norge og Danmark har vært avgjørende for å forme forskningen og sikre dens praktiske relevans. Innsiktene fra denne studien bidrar til den bredere diskusjonen om bærekraftig utvikling og gir et fundament for fremtidig forskning og praktiske anvendelser i ulike tjenestesektorer. Oppgaven konkluderer med anbefalinger og praktiske trinn som kan hjelpe tjenestesektoren med å nå sine bærekraftsmål. Dette inkluderer også hvordan de kan anvendes på andre industrier, og dermed bidra til bredere miljømessige og økonomiske mål.

Nøkkelord: *Bærekraftig transformasjon, Bærekraft, Serviceindustri, Prosjektledelse, Endringsledelse, Digitalisering, Reguleringer, Organisasjoner, NHO, DI*

Preface

This master thesis represents the culmination of five years of dedicated study within the integrated Master of Science program in Engineering & ICT at NTNU, with a specialization in ICT and project management. As two students who have shared this academic journey, we are proud to present our master thesis, which accounts for 30 ECTS points, equivalent to one semester's worth of effort.

Our thesis, conducted within the course TPK4920 - Project and Quality Management, is a contribution to the Project and Quality Management research group at NTNU. The process has been structured over two parts. In the fall of 2023, we wrote a specialization project about sustainable transformations in general. This project laid the foundation for our master thesis by providing us with an overall understanding around the topic.

We owe a significant debt of gratitude to our supervisor and Associate Professor, Nora Johanne Klungseth, who has guided us through both phases of this project. Her encouragement, positivity, and readiness to assist at any time have been truly valuable. Her dedication to our success has been very inspiring, and we are deeply appreciative of her efforts.

Additionally, we extend our many thanks to NHO, with whom we collaborated closely on this project. Our NHO representative played a key role in facilitating connections with various individuals for interviews, a task that would have been significantly more challenging without their support. Their helpfulness, positivity, and commitment to the project's success were greatly appreciated.

We are also grateful to all the interviewees who took time out of their busy schedules to meet us. Their willingness to engage, share insights, and contribute to our research was vital for the results. This includes representatives from various organizations within the Norwegian- and Danish service industry, among them; Norwegian Federation of Service Industries and Retail Trade, Asplan Viak, and DI Service. All of whom demonstrated remarkable enthusiasm and cooperation.

Finally, as we reflect on this thesis, we recognize it as the culmination of five years of hard work and studies that comes to an end. The years have been filled with hard word, remarkable experiences and lifelong friendships. We therefore extend our gratitude to NTNU and its academics, and the exciting study environment the university and Trondheim city facilitates for. All of this has provided us with an exceptional educational and social journey, and the years have prepared us well for the next exciting chapter in our lives.

Frederik A. Jomaas and Phillip B. Myhre, NTNU Trondheim, 5th June 2024

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List of Abbreviations

AI Artificial intelligence

CRM Customer Relationship Management

CSRD Corporate Sustainability Reporting Directive

DI The Confederation of Danish Industry

ESG Environmental, Social and Governance

EU European Union

GHG Green House Gas

IoT Internet of Things

MSME Micro Small Medium Enterprises

NHOSH The Norwegian Federation of Service Industries and Retail Trade

NHO The Confederation of Norwegian Enterprise

NTNU Norwegian University of Science and Technology

SDG Sustainable Development Goals

SKI Staten og Kommunernes Indkøbsservice

SME Small Medium-sized Enterprises

UN United Nations

1 Introduction

This master thesis investigates how to lead a sustainable transformation of an entire industry. The thesis aims to culminate into a guide presenting valuable suggestions to how industries and confederations can implement more sustainable operations. Such transformation is extensive and consists of multiple elements that needs to be taken into consideration in order to be successful. This thesis will therefore use the service industry as example to illustrate this transformation process. This introduction chapter will introduce some of the elements and topics that are applicable throughout the transformation. The chapter starts with a background, including topics on what sustainable transformation is, how project- and change management plays an important role, what the service industry is defined as, and the regulations behind sustainable development. The introduction will end by presenting the research questions, the scope, limitations and structure for the master thesis.

1.1 Background

In a evolving society, the ability to adopt to changes is crucial, as they occur more frequently now. The global society has gone through many big changes the past decades that has caused great impact. Technological advancements is one of the most influential. This involves transferring into- and implementing continued advancements in technology. The creation of internet, converting to smartphones, and now the rise of a huge digitalization process with artificial intelligence and automation to optimize processes, are examples. These factors are affecting and reshaping every industry (Schwab, 2017).

The development into industrial nations that society consists of today, combined with increased population, has also caused a big, threatening change, that is the climate change. Increased awareness and concern about climate change has appeared due to cases like overproduction and overuse, too much wastage and too little circular economy. These events, and utilization of fossil energy and other environmentally harmful materials, are among the factors that are driving changes in environmental policies and sustainable practices (Loughlin, 2023; Rockström et al., 2013).

To propose suggestions and a guide towards sustainability for industries, there will be used two confederations throughout the master thesis as example cases. These will be the two Confederations of Norwegian Enterprises (NHO) and Danish Industry (DI), and we will analyze how they work with sustainable transformations within the service industry. DI is being used as an example where extracting insights, specific measures and other findings from a more sustainable market, can help build transformation strategies for other industries and confederations. The next two chapters will follow up on this and give an introduction to what confederations are defined as, and also what defines the service industry.

1.1.1 Confederations

A national confederation typically refers to a union or alliance of people, groups or organizations that work together for a joint interest, on a national level (Merriam-Webster., n.d.). National confederations support their members and influences policy-making by often engaging in dialogue with the government to ensure that the interests of their respective industries are taken into account. Additionally, these confederations play a key role in negotiating labor agreements and standards, which can have an impact on the working conditions and rights of employees across industries. Examples include national trade union confederations, which represent labor interests across multiple industries, and national business confederations, which represent the collective interests of the business community and organizations at a national level. The effort provided

by confederations can be influential for the member organizations to be able to drive growth, development and to stay competitive. National business confederations provide a platform for organizations to collaborate and coordinate their efforts to address common challenges, and share best practices. This collaborative approach can lead to the development of initiatives aimed at creating innovation and sustainable economic growth (FH, n.d. NHO, n.d.-c).

1.1.2 Service industry

The service industry consists of a wide range of activities that deliver intangible value, which is an act of doing something for others. This could be customer service, cleaning, consulting, banking, insurance, and more. In other words, this is an industry consisting of a lot of human interactions, rather than the production and sale of tangible goods (Menon Economics, 2019). To provide an understanding of the service industry's dynamics and characteristics, the Norwegian service industry is introduced as a representative example in the following paragraph. This is to help illustrate the broader trends and factors that influence the service industry, offering insights that are applicable across various countries and not only in Norway.

Service industries now dominate the Norwegian economy, accounting for 78 percent of total employment (Menon Economics, 2019). This industry has seen market growth, way surpassing primary and secondary industries. The services that have the highest growth rate of all the service industries are the services that (Menon Economics, 2019) define as "hjelpetjenester". These are services that helps other businesses and households with activities such as cleaning, security and cafeteria services. Over the last 20 years these services have grown by 300 % and the growth rate is expected to accelerate. Key factors driving this transformation include specialization through division of labor, globalization, technological advancements, and increased prosperity, which collectively enhance productivity and shift labor and economic resources towards service-oriented roles (Menon Economics, 2019).

1.1.3 Sustainable transformations

The need for preserving the environment and society while responding to the rapidly evolving climate change has developed the widely known term *sustainability*. Being sustainable is what Brundtland (1987) define as meeting current needs without negatively impacting future generations. Sustainability can be defined in several ways, but it is often split into the three pillars; environment, social, and economic (Brundtland, 1987). The economic and social pillar include that there must be economic growth while contributing to social development by improvement of life-quality and reduction of inequalities (Baines & Morgan, 2004; Elliott, 2005). Sustainability is incorporating these two pillars while preserving the environmental pillar of reducing negative impacts on climate by less usage of natural capital, decreased pollution and more circularity (Sutton, 2004).

Transformations refer to a transition in the strategies, structures, and operations of organizations to adapt to or drive change (Madsen & Szyliowicz, n.d.). In connection to sustainable development, transformations involve rethinking business models, processes, and products to align with environmental and social goals, as described in the three pillars above. The service industry is as mentioned an industry consisting of mostly human-interactions and not physical products causing direct emissions in regards of production, making the social pillar especially affected. Sustainable transformations can therefore focus on good working conditions, fair terms and work inclusion to contribute to social equity (Menon Economics, 2019). Other areas where the service industry could contribute to sustainable development are for example reduction of food waste, use of more

climate-neutral products, align for more repair and reuse, optimize processes and controlling the sustainability level of the suppliers in the industry (DI Service, n.d.-h; NHO SH, 2021-c, 2021-a, n.d.-c).

Digitalization also contributes to more sustainable transformations with the rapidly evolving technology providing ability for greener practices. New technology opens up for new production and consumption methods that are more sustainable (Schwab, 2017). Technology such as Artificial Intelligence (AI) and Internet of Things (IoT), facilitates for new ways of operating that are both time- and resource effective. This can be AI to predict and calculate the amount of resources needed for a cleaning assignment, or sensors to optimize resource- and energy usage by only operating when needed (DI Service, n.d.-h; NHO SH, 2021-a).

The need for sustainable development is also a result of constantly increasing development of regulations from authorities. In Europe, the European Union (EU), pushes forward several initiatives and regulatory processes to gain a more sustainable society. These regulations demands more transparency, reporting and structure on how work is conducted in regards to sustainability (Danish Industry, n.d.-c). Among the many regulations, this master thesis will focus on three. The first one is the European Green Deal. This regulation involves multiple initiatives and strategies that is needed to address the evolving climate changes and guide Europe towards climate-neutrality by 2050 (Publications Office of the European Union, 2019). The second one is the EU-taxonomy, which is a system that contains environmentally sustainable economic activities, making investment in sustainable organizations to meet the objectives of the European Green Deal, easier (European Commission, 2020-b). The last one is the Corporate Sustainability Reporting Directive (CSRD). This is a directive that demands companies to report on different sustainability parameters, called European Sustainability Reporting Standards (Danish Industry, n.d.-c).

1.1.4 Project- and change management as key elements in the strategy for a successful sustainable transformation

The transformation into a sustainable industry or organization is a comprehensive implementation process. It can involve changing the way an organization operates with the implementation of new technology, changed products, a change in regulatory reporting, or a change in the work environment for the employees. There are many elements to manage throughout the whole value chain. In such processes, the two dimensions, project management and change management, will play an important role in the strategy towards sustainability, with change management being important for project management success (By, 2005; Kuster et al., 2015). A sustainable transformation is a type of project where the strategic objective is to change from an initial state to a new one. To achieve this goal, project management is a strategic way of ensuring that the project succeeds, involving planning, strategy development, and control, all the way from idea to execution.

The project management strategy is divided into two types: procedural structure and organizational structure, each playing a distinct role. The procedural structure involves the methodologies and phases that guide the planning, execution, monitoring, and completion of projects. The organizational structure defines the roles, responsibilities, and reporting relationships within the project team. This is where the change management element appears, influencing how changes are communicated, resources are allocated, and stakeholder engagement is managed (Kuster et al., 2015).

A transformation demands changing the way an industry operates, thereby also changing how people work. The service industry, being an industry consisting of a lot of human interactions, makes this especially important. Change management will handle the challenges around changing

people's habits and work methods. Effective change management methodologies, such as John Kotter's 8-Step Change Model, which emphasizes building urgency, creating and communicating a vision, supporting employees, and integrating new practices into the culture, help manage this transition by providing a structured approach to guide organizations through the complexities of change and ensure that the changes are embraced and sustained over time (Davis, 2017). Effective change management is also about presenting achievable goals that the employees and organization can accomplish without losing the willingness to change. Having top-management that is able to anchor and communicate the strategy and vision for change throughout the organization is therefore important (Hornstein, 2015; Lauer, 2021).

1.2 Project aim and research questions

The aim of this master thesis is to guide industries towards sustainable transformations. Among them is the Service industry which is a large industry in the Norwegian market and needs development. To present solutions, the thesis aims to develop an understanding of how the situation in the service industry is today, in regards to how organizations are operating, where the opportunities are, and what the strengths are. In order to drive successful transformations, correct strategies and management is crucial, and the project is going to look into what these success factors are, and how change and transformations should be performed.

The master thesis is a qualitative paper with a project aim and related research questions a seeking to research the desired topics deeper. As Creswell (2018) states; in a qualitative study, inquirers state research questions, not objectives or hypothesis. The research questions assume two forms; a) a central question and b) associated subquestions. In this master thesis the following central question will be applicable:

How can the service industry strategically transition into a sustainable, climate-ready industry?

This involves recommending specific initiatives national confederations can implement to lead service organizations on the way. In order to find these initiatives, we have chosen the following sub questions which addresses central themes in sustainable transformations:

1. ***What forces are driving and hindering sustainable transformations?***
   Driving forces and barriers of the service industry's road towards sustainable practices will be identified and discussed. This involves looking from the perspectives of the two confederations, NHO and DI, and discovering how public procurement and regulations affect the transformation.

2. ***What factors are essential in succeeding with the transformation?***
   Factors important for succeeding with a sustainable transformation will be identified and discussed. Including what role management play in the transformation. This involves how project- and change management affect the process, and looking into how anchoring in the top-management is important to drive sustainable success.

3. ***Where are the service industry's opportunities in transforming?***
   The master thesis will analyze and research where the service industry and NHO stand as of now, and how successful implementation and sustainable strategies in DI Service look like. The aim is then to present what opportunities the service industry in Norway have to develop more sustainable practices.

1.3 Scope

This master thesis has been developed in collaboration with NHO with the desire to find solutions for how confederations can help industries succeed with sustainable transformations. We started the process around the thesis the fall of 2023, writing a specialization project around the same topic, helping us gain an overall understanding and knowledge on topics around sustainability, transformations, and project- and change management. Figure 1 illustrates the whole process. This master thesis is a continuation of the common knowledge gained earlier, but containing more detailed and specific strategies and approaches towards the service industry.

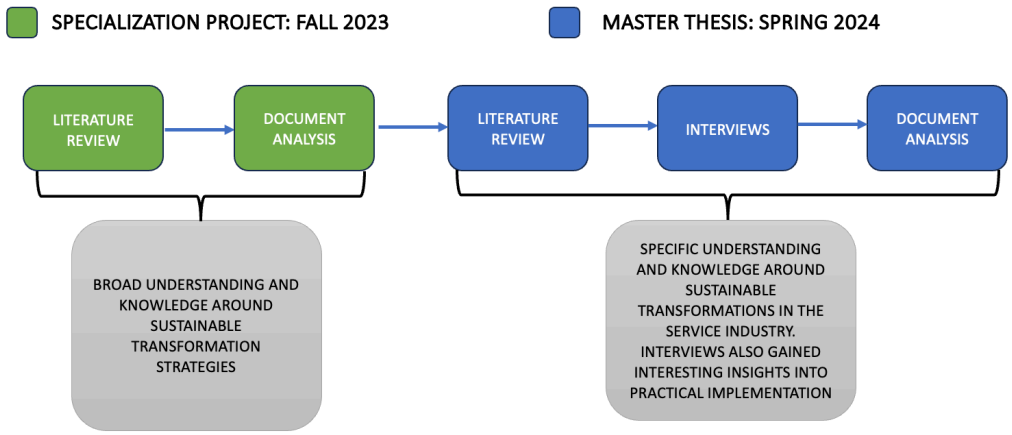

Figure 1: Self-made illustration of the pipeline of this master thesis.

This master thesis will investigate how industries and confederations, can implement and align for more sustainable practices. That include presenting what a sustainable transformation is, what it takes to implement such strategies in the service industry, and the importance of it. A way of meeting these objectives is to review and analyze successfully implemented practices and how other confederations work with sustainability. Among them is the confederation of Danish Industry Service and its "Climate Ready Service Organization" project mentioned by Menon Economics (2019). This also includes looking into how DI Service further works with sustainable development for the future. The desire of the research is to see how different visions, strategies and specific actions has been implemented, to provide valuable insights and suggestions for further sustainable development and adaption of actions to others.

1.4 Limitation

Given the extensiveness of the service industry, including multiple sub-industries, conducting a detailed analysis across all areas would be challenging. The master thesis will therefore focus on specific segments within the service industry, such as cleaning, damage restoration, and cafeteria and food services. This targeted approach allows for more detailed research and specific findings. Our master thesis is also done in collaboration with NHO, and the collaboration with the representative in this confederation began within these specific areas. That contributed to guiding our scope in this direction as well. Therefore, the results extracted from interviews and document analysis primarily reflect the practices and perspectives within these focused areas from organizations and representatives connected to the two confederations NHO and DI.

While narrowing the scope enables a more thorough investigation, it may also exclude relevant findings from other areas within the service industry. Additionally, conducting interviews with

representatives from the confederation we have collaborated with could introduce bias, as participants might provide responses that favor their respective organizations. Despite these potential biases, we believe our focused approach provides a precise and actionable set of recommendations for sustainable transformation within the service industry, for other confederations and industries to use as well.

1.5 Thesis structure

The structure of this master thesis will be divided into eight chapters. The essence of this introduction chapter was to create an overall understanding of what this master thesis is about. It was also meant to introduce some of the important and central topics relevant for this master thesis to find the desired answers to the research questions.

The next part of the thesis will consist of six chapters, gradually diving deeper into the topics. Starting with Chapter 2, we introduce a background theory chapter. We chose to separate this chapter from the other theory chapter from the literature search, because it involves theory that lays the foundation of this thesis. In Chapter 2 there will be presented two topics, Sustainability and Service Management. Chapter 3, the methodology, will describe the methods used for each part of the triangulation in this master thesis. This is a triangulation consisting of a literature review, interviews and document analysis. The next three chapters will therefore be presenting the tree parts from the triangulation. Chapter 4, the theory chapter, will present theory on Digitalization, Project management and Change management, which was found through the literature review described in the method. Chapter 5 will present the findings from our interviews. Chapter 6, presenting the document analysis and will further uncover interesting and important documents in three different parts. The first one will present regulations from the European Union related to the service industry. The second one will illustrate how the Confederation of Norway is working towards sustainability with different strategies and actions. The third and last will present sustainability implementations and strategies from the Confederation of Danish Industry.

All these parts will culminate into the last part of this master thesis, consisting of three chapters. The first one is the discussion chapter, Chapter 7, which combines and discuss our findings in regards to the research questions and research aim. This will lay the foundation for Chapter 8, the conclusion, were we conclude on what confederations should do. Lastly, Chapter 9, future research, will suggest how other researcher can move forward if based on our investigation.

2 Background Theory

The background theory chapter will contextualize the reason for this master thesis. It will further elaborate on the necessity of sustainability in business and societal operations, presenting relevant themes like sustainability transition and service management. The aim of this chapter is to lay the foundational theories that will guide the exploration of sustainable transformation within the service industry.

2.1 Sustainability

Sustainability is a complex and evolving term impacting society daily, and its challenges are increasing by the day. Problems related to climate change, population growth, and economic inequality all indicate a need for change to not affect future generations (Hansen & Gundelach, 2020, p. 3). The concept of sustainability first appeared from environmental movements gaining significance during the 20th century. The year 1987 stands as a milestone, due to the publication of the "Brundtland Report" by the World Commission on Environment and Development that introduced the term "sustainable development". They defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987). This definition underscores the long-term perspective of sustainability, emphasizing the importance of resource management. Sustainable development can therefore be defined as development aiming to achieve sustainability (Diesendorf, 2000). The concept has later expanded beyond environmental concerns to include economic stability and social well-being, reflecting a more holistic approach (Kuhlman & Farrington, 2010).

The master thesis define sustainability as the ability to maintain and develop different systems and processes - environmentally, socially, and economically - in a manner that does not deplete the associated resources or cause severe ecological damage. This definition builds on the Brundtland (1987) report's definition of sustainable development, incorporating the importance of the three main pillars of sustainability: economic, social and environmental. Each of these pillars is essential and interdependent, requiring balanced development strategies to achieve long-term sustainability goals.

- **Economic sustainability** involves practices that support stable economic growth without causing harm to the environment or society. It requires developing economic activities that are not only profitable but also ensure fair distribution of economic benefits and reduce risk and vulnerability in economic systems. Sustainability and economic perspective have become interrelated because of the limitation of natural capital in the world. There is not infinite of critical natural capital and it should be dealt with accordingly, given that it's needed for future generations (Elliott, 2005). Sustainable economic practices include promoting entrepreneurship, creating jobs that offer fair wages, and developing products and services that contribute to sustainability. Moreover, it emphasizes the importance of long-term financial investments that support sustainable industry practices and technological innovation, ensuring that economic growth can continue without depleting natural or human resources.
- **Social sustainability** involves ensuring that the benefits of growth and development are equitably shared across society. It addresses issues of human rights, labor rights, and community development, aiming to improve quality of life, reduce inequality, and ensure that development is inclusive. It requires businesses and governments to adopt fair practices, support diversity and inclusion, and engage actively with communities to address their needs and challenges. Education and empowerment are important tools in this pillar, helping to build

informed communities that can contribute to sustainable development (Baines & Morgan, 2004).

- **Environmental sustainability** focuses on the impact that human activities have on the natural world. Its goal is to manage natural resources and ecosystems in ways that do not degrade them but maintain the natural cycles and conditions for future generations. Key practices in environmental sustainability include the conservation of resources, reduction of pollution, and mitigation of climate change. It also involves mitigating negative impacts on the environment through technologies and strategies that reduce pollution, enhance energy efficiency, and promote the use of renewable resources (Sutton, 2004).

Together, these pillars form a comprehensive framework for understanding sustainability. Sustainability cannot be achieved through isolated efforts but through the integration of environmental conservation, economic viability, and social equity, as shown in figure 2. This holistic approach ensures that development is balanced and inclusive, supporting a healthy planet and society for future generations.

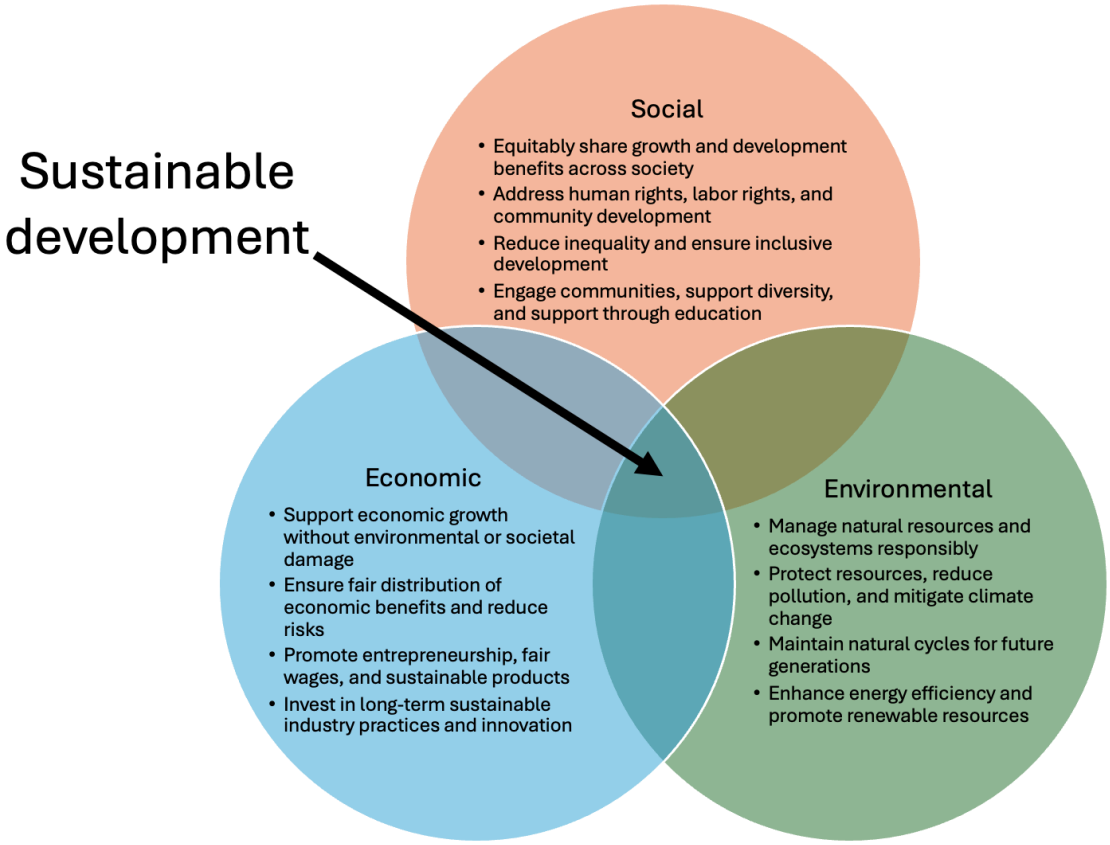

Figure 2: The dimensions of Sustainability and the intersection creating sustainable development. Source: Own creation with inspiration from Eadie, McKeown and Anderson (2011)

Triple bottom line

The Triple Bottom Line is an approach to sustainability that broadens the focus from single-dimensional profit metrics to three equally important components, equalling the three sustainability pillars. Proposed by Elkington (2004), Triple Bottom Line encourages organizations to commit to measure and report their impact on the three P's: people (social sustainability), the planet (environmental sustainability), and profit (economic sustainability). The idea is to promote

accountability and transparency, encouraging businesses to pursue profits with purpose. By evaluating performance in these three areas, businesses and governments can work towards achieving a balance that supports long-term sustainability.

2.1.1 Sustainable transformations

Transformations has become increasingly relevant for businesses due to rapid changes in today's world. The term refers to the process of changing something significantly (Loorbach, Frantzeskaki & Avelino, 2017). The fast-paced evolutions in the business landscape from technological advancements, climate change and global interconnectivity force businesses to undergo strategic transformations to stay sustainable and competitive. Such transformations, including outsourcing processes, evolving business models and organizational restructuring, are essential for embracing sustainability and responding to the shifting market demands. The success of these changes are dependent on effective change management, skilled personnel, and a culture that supports innovation (Uhl & Gollenia, 2016). External factors like environmental regulations and market competition significantly influence the need to transform. McKinsey (2023) notes that the essence of a successful transformation lies in using data-driven insights to pinpoint improvement areas, clearly communicating the need for change, and strategically allocating top talent to key initiatives.

To ensure that a transformation supports sustainable development there are several principles that should be followed. Intergenerational equity emphasizes the central concept from the Brundtland Report, that the actions of the present generation do not diminish the prospects for future generations to enjoy similar or improved resources and opportunities. Socio-economic inclusion is about similar opportunities for all to participate in and benefit from economic growth, regardless of gender, race, ethnicity, or economic status. The most prominent principle historically are the conservation of resources, which promotes efficient use of resources, recycling, and renewable energy sources to reduce environmental impacts. Encouraging public participation and transparency through inclusive decision-making processes can enhance democratic governance and accountability. Recognizing the interconnectedness of all development activities and their impacts on social, economic, and environmental conditions, are important to make this process as transparent and sustainable as possible. This requires holistic planning of the purpose of change and in what way changes can be implemented without affecting the environment and maintain other sustainability factors like economic growth and social perspective (Mitlin, 1992).

Sustainability Transition

Sustainability transition is a concept that focuses on the need to shift from less sustainable socio-technical, socio-ecological and socio-institutional systems toward more sustainable ones through substantial changes in technology, strategy, organization, and policy. Socio-technical transitions studies the interaction between technology and society. It focuses on how technological innovations can drive systemic changes and how these innovations are influenced by, and in turn influence, societal structures. Socio-ecological transitions explores how resource limitations or environmental degradation interact with social processes, and how these interactions could lead to sustainable outcomes. Lastly, socio-institutional transitions examine the institutional and organizational changes necessary for transition, like the roles of policies, norms, and institutional frameworks in facilitating or hindering sustainable transitions (Loorbach et al., 2017).

Loorbach et al. (2017) highlights the importance of understanding transitions at various levels, from local to global, and how governance strategies can manage them in the right direction. Each level involves different actors, from individual communities to global organizations, which interact and influence one another. It recognizes that large-scale changes are needed to address global challenges

such as climate change. Leading these changes requires creating policies and frameworks that support innovative practices and guide systemic change. It is important that different actors, like governments, businesses, and society, work together in transdisciplinary collaborative approaches toward common goals. Transition governance can incorporate experimental methods, such as real-world testing of policies and technologies, to adapt strategies that lead to desired changes. This concept emphasizes the role of innovation and governance in driving the transition to sustainability, including the transformation of existing practices.

Sustainability frameworks and models

Sustainability frameworks and models are essential tools that help organizations, governments, and communities conceptualize, plan, and implement sustainable practices. Three of the more well-known are presented below.

Global conferences and agreements, such as the adoption of the **Sustainable Development Goals** (SDG) by the United Nations in 2015, have solidified the importance of sustainability as a global priority. The development illustrate how sustainability has evolved from conservation efforts to encompass broader themes of holistic growth and responsible governance. The growing need to find solutions to evolving climate change and societal problems like poverty, harmful living conditions and global warming, has led to the creation of UN's 17 SDGs for organizations and nations to follow for global improvements. These 17 goals create a blueprint for addressing a wide range of issues like poverty, hunger, health, education, climate change, gender equality, water, sanitation, energy, urbanization, environment, and social justice. Countries are encouraged to adopt sustainable development practices in a way that suits their specific economic, social, and environmental contexts. Implementation strategies involve regulatory frameworks and partnerships between public and private sectors. Innovations in technology and collaboration at all levels of governance are also critical to achieving them. The SDGs are intended to help nations prioritize their agenda, allocate resources, and implement and monitor strategies that promote global sustainability (United Nations, n.d.).

The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products. This model extends the life cycle of products, significantly reduces waste, and decreases the environmental impact of production and consumption. The Circular Economy contrasts with the traditional linear economy, which has a 'take, make, dispose' model of production. By designing out waste and minimizing the use of resource inputs, circular economy is an influential framework for achieving sustainability in business practices and policies (Nikolaou, Jones & Stefanakis, 2021).

Corporate Social Responsibility (CSR) is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. By practicing corporate social responsibility companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental. CSR goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by law. CSR practices encourage a vision of business accountability to a wide range of stakeholders, besides shareholders and investors (Fontaine, 2013).

These three frameworks and models are all tools that can help plan, implement and monitor sustainable practices. However, they are suitable at different levels. The SDGs is a framework that promote global sustainability through addressing issues on global and national levels. Circular economy is more suited for helping actors to adopt sustainable practices on local and regional levels. CSR help companies be conscious on their economic, environmental and social impact on society, thereby contributing to sustainable practices on the lowest level.

2.2 Service management

The concept of service management originated from marketing and operations management and has evolved significantly with the rise of the service sector in the global economy. As economies have shifted towards service-based industries, the importance of service management has grown (Klungseth & Danivska, 2021). Businesses began to recognize the distinct characteristics of services compared to goods. This included differences in intangibility, perishability, heterogeneity, and simultaneity. Services could neither be seen or touched, stored, they varied in quality, and could often be produced and consumed at the same time. Scholars developed models and frameworks to address these unique challenges, such as the SERVQUAL model (Wang, Tainyi, Luarn & Lu, 2015).

Service management refers to the activities, procedures, and responsibilities involved in designing, delivering, and improving services to ensure that they meet the needs and expectations of customers. A service is defined as "the action of helping or doing work for someone" and a customer as "a person who buys goods or services from a shop or business" (Stevenson, 2010). Service management is moving beyond the traditional metrics of customer satisfaction to considering the entire service process as a continuous interaction between the provider and the customer. This interaction not only involves the actual service delivery but also pre-service and post-service engagements that collectively define the customer experience. By integrating insights from marketing, operations management, human resource management, and organizational behavior, service management creates a holistic framework for managing and delivering services (Klungseth & Danivska, 2021).

Key concepts

Gummesson (1994) identifies three key management paradigms that have influenced service management: the manufacturing paradigm, focused on goods and production; the bureaucratic-legal paradigm, governed by regulations and equality; and the emerging service paradigm, which prioritizes customer interaction and value creation. The shift towards a service-focused paradigm moves the focus away from traditional production metrics, emphasizing new concepts like service design and delivery, and customer relationship management (CRM).

Service design involves planning and organizing people, infrastructure, communication, and material components of a service to improve its quality and the interaction between the service provider and its customers. Good service design not only meets the needs of customers but also creates an experience that exceeds their expectations. It requires time and systematic approaches, and, unfortunately, many services are launched without having been properly designed and tested. Inadequate designs can cause continuous problems with service delivery (Gummesson, 1994). Implementing a design continually seeking to improve is important for service providers to have the ability of adapting to changing customer needs and market conditions. Continuous improvement involves ongoing efforts to improve services, processes, or products, thereby maintaining relevancy and quality of service (Klungseth & Danivska, 2021).

Service delivery and *service quality* are interlinked. Service delivery is the process of providing a service to customers, where as service quality refers to the comparison between customer expectations and the service provider's performance. The delivery is the execution phase of service management, and requires managing resources such as labor, technology, and processes to ensure that the service is delivered as intended. If done correctly, this will have a favorable impact on the service quality. High-quality service leads to greater customer satisfaction, loyalty, and positive word-of-mouth, which are crucial for the competitiveness and profitability of a service organization. Klungseth and Danivska (2021) highlights breaking down organizational silos and promoting collaboration across different departments and with external partners to achieve effective service

management. This integration can help align goals and streamline service delivery to enhance customer satisfaction. The quality of both the internal processes and the external service delivery is important. This aspect of service management involves continuous improvement and adherence to quality standards to ensure that services are delivered efficiently and effectively.

CRM is a strategic approach that recognizes the long-term value of customer relationships and extends communication beyond intrusive advertising and sales promotional messages. It involves gathering customer data to provide tailored services to individual customer needs and preferences, aiming to build deeper and more profitable relationships. Both Klungseth and Danivska (2021) and Gummesson (1994) talks about the latest shift in service management emphasizing customer interaction and the development of long-term customer relationships. Klungseth and Danivska (2021) takes this further by identifying employees as internal customers, and highlights the necessity of treating them well to ensure they, in turn, treat the external customers well. The concept of employee empowerment is mentioned as crucial for enabling them to perform their roles effectively, which directly impacts the overall service quality delivered to external customers.

Green service management

Traditionally, environmental concerns were mostly associated with manufacturing sectors due to visible pollution sources like smoky chimneys and chemical dumps. However, service operations also contribute significantly to ecological issues, with examples including the emissions from transportation services, waste from retail products, and energy consumption from IT services reliant on power sources like nuclear plants. Leading to the development of traditional service management and 'Green Service Management' as a crucial framework for integrating ecological and health considerations into service delivery and operations management. The concept of 'green service quality' was introduced at the QUIS 3 conference in 1992, highlighting the need to include ecological aspects as a core dimension of service quality. Redefining quality to include ecological dimensions and adopting holistic sustainability strategies can help services foster economic, social, and environmental value (Gummesson, 1994).

Law driven firm	Public relations driven firm	Value driven firm
Defensive strategy	Utilizing an occasional opportunity	Offensive strategy
Cost to be avoided	Image enhancement	Basis for revenue
Consumers do not really care	Consumers want it to some extent	Consumers demand it
Resistance	Cosmetic add-on	Inherent in their business mission
Threat	Faddish	Opportunity for sustaining competitive advantage
Let the court decide what is a good citizen	Efforts to be perceived as a good citizen	Genuine desire to be a good citizen

Source: Gummesson (1993b)

Figure 3: Companies categorized based on their motivations for addressing environmental issues. Source: Gummesson (1994)

Integrating green principles into service management represents a critical step towards sustainable development in the service industry. Historically, neither individual consumers or businesses have viewed environmental issues as personal responsibilities, often putting off action to governmental levels. This perception is changing slowly with increased awareness and demand for environmentally responsible products and services from customers. Difference of opinion has led to a three-parted division of businesses, as shown in table 3 (Gummesson, 1994). Here, companies are categorized based on their motivations for addressing environmental issues. Law-driven busi-

nesses operate on a defensive basis, primarily driven by compliance to avoid legal repercussions. Public relations-driven businesses use environmental initiatives for image enhancement, reacting to consumer demand to some extent without fully integrating these practices into their core operations. Value-driven businesses view environmental considerations as essential to their business missions, leading to sustained competitive advantages and aligning closely with their core values. Gummesson (1994) highlights that implementing these practices requires a shift in managerial mindsets and the development of operations that turn ecological challenges into business opportunities. This involves educating consumers and innovating in service delivery, because green service management will not be an option in the future, but a necessity for survival.

SERVQUAL

SERVQUAL (Service Quality) is a diagnostic tool designed to capture and measure the quality of service provided by organizations. Developed in the 1980s, the model identifies five key dimensions of service quality that affect customer perceptions:

- Tangibles: Physical facilities, equipment, and appearance of personnel.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help customers and provide prompt service.
- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: Caring, individualized attention the firm provides its customers.

It measures service quality by comparing customer expectations before a service encounter and their perceptions of the actual service delivered. Using a survey-based approach where customers evaluate both the expected and perceived levels of service across the five dimensions (Wang et al., 2015).

Although the tool was developed back in the 1980s, Wang et al. (2015)s research shows that there has been a notable increase in SERVQUAL-related research from 1998 to 2013. Its peak between 2009 and 2011 demonstrates the model's relevance and adaptation to changing service dynamics. It has been widely adopted by organizations to identify specific areas where improvements can be made to enhance overall customer satisfaction and loyalty. Applying it comes with challenges, including the time-consuming nature and potential costs, which can be particularly apparent in large organizational structures. However, the model's flexibility and comprehensive nature have allowed it to remain a preferred method for evaluating service quality despite evolving market conditions and technological advancements.

2.3 Synopsis

This chapter explores the evolution of sustainability, from the Brundtland Report, which emphasized the necessity of meeting today's needs without compromising future generations, to the three pillars: economic, social, and environmental sustainability. Economic sustainability focuses on practices that foster economic growth without depleting natural or human resources. Social sustainability aims to ensure equitable benefits from growth and addresses human rights and community development. Environmental sustainability concentrates on managing natural resources and ecosystems to avoid degradation. It further discusses the necessity for businesses to adapt to

rapid changes in technology, climate, and global connectivity through sustainable transformations. The concept of Sustainability Transition, focusing on shifting from less sustainable socio-technical, socio-ecological, and socio-institutional systems to ones that are more sustainable. It underscores the role of governance, innovation, and collaborative strategies in facilitating these transitions.

Additionally, the chapter addresses service management, originating from the rise of service-based economies. It discusses the distinct characteristics of services such as intangibility and perishability and introduces frameworks like SERVQUAL for improving service quality and customer satisfaction. It highlights the evolution of service management towards incorporating sustainability into service delivery and operations, transitioning to 'Green Service Management.' This chapter provides an overview of sustainability and emphasizes its integration in service management fostering a sustainable future.

3 Method

The methodology chapter serves as an important foundation for understanding the approaches, techniques, and procedures employed in the pursuit of answering the research questions and achieving the study's objectives. This chapter explains the framework guiding the entire research process, from the selection of appropriate methods to the collection and analysis of data. Methodology is critical in ensuring the validity and reliability of the study by offering transparency and clarity about the research design and procedures (Saunders, Lewis & Thornhill, 2023). In addition to describing the approaches used, this chapter discusses the reasoning behind their selection, addressing issues of feasibility, and appropriateness with the research objectives. The researcher's commitment to upholding ethical standards and integrity throughout the research is underscored by discussing any ethical considerations, constraints, or limitations inherent in the chosen methodology. By providing a detailed review of the methodological framework, this chapter allows readers to evaluate the robustness and credibility of the study's findings, fostering confidence in the research outcomes and contributing to the advancement of knowledge in the field (Creswell, 2018).

This is a multi-method qualitative study using a three-piece research strategy, including a systematic literature review, document analysis, and qualitative interviews, with the purpose of making it easier for readers to replicate the findings and perform additional research. To compensate for each of the aforementioned approach limitations, a triangulation was carried out by comparing the findings from the literature review and interviews using relevant documents for support. The methodology chapter is structured into four parts explaining our research design, then the processes of the performed literature review interviews, and document analysis. Our research design starts by explaining the decision of methodological approach, before introducing NHO and DI. An introduction of these confederations are included because they are applied in both the interviews and document analysis. Further, theory concerning validity and reliability in qualitative research are introduced. This theory will later be applied when evaluating each of the qualitative methods processes. The research design ends with explaining the benefits of triangulating the findings of each method. The literature review, interview and document analysis parts all consist of an explanation of our process and evaluation of the processes' validity and reliability. As explained, this evaluation is based on the theory introduced in our research design.

3.1 Research design

Research design acts as the blueprint for conducting a study, establishing the framework within which data will be collected, analyzed, and interpreted. It provides specific direction for procedures, and includes the selection of research methods, sampling techniques and data collection tools, all aimed at addressing the research questions effectively (Saunders et al., 2023). A well-crafted research design not only ensures the reliability and validity of the findings but also guides researchers in navigating ethical considerations, logistical constraints, and potential biases. Whether using quantitative, qualitative, or mixed methods approaches, the design of a study is critical in shaping the course of inquiry and determining the robustness of the research outcomes. Careful planning are required to create a research design that is both methodologically sound and aligned with the overarching goals of the study (Creswell, 2018).

There are three types of methodological approaches

When beginning a research project there is important to consider which methodological approach that is most appropriate with the research objectives. Choice of approach will affect research

outcomes, as well as their credibility and robustness (Creswell, 2018). Now, the three possible approaches; qualitative, quantitative and mixed methods, will be presented and then we will explain our choice of approach.

Qualitative methods in research emphasizes the exploration of text and image data. Central to this methodology is the process of data analysis, which involves unique steps to uncover patterns, categories, and themes. Conducted within natural settings, qualitative research facilitates an up-close understanding of participants' experiences through face-to-face interaction. The researcher serves as the primary instrument engaging in various activities such as document examination, literature reviews, behavioral observation, and participant interviews to gather and interpret information (Saunders et al., 2023). With a focus on multiple sources of open-ended data, qualitative inquiry often adopts an inductive approach, progressively constructing patterns and themes through iterative interactions with the data. The emphasis lies on understanding participants' perspectives and meanings concerning the researched problem, rather than imposing preconceived notions. The methodology adopts emergent designs, allowing flexibility for the research processes to evolve organically as data collection unfolds. Reflexivity is integral as the researcher's role, background, and experiences in advancing biases and shaping the direction of the study might affect the holistic account qualitative methods strive for. This approach attempts to capture the complexity of the studied issue by integrating multiple perspectives and outlining all factors involved, painting a nuanced and insightful picture of the subject (Creswell, 2018).

Quantitative methods have similar processes as qualitative, but prioritize numerical data collection and mathematical analysis over descriptive insights. This approach is grounded in the use of tools like surveys, experiments, and statistical techniques to collect and analyze data, aiming to identify patterns, relationships, and findings that can be generalized. Creswell (2018) identifies two primary quantitative designs: surveys and experimental research. Survey research aims to quantitatively describe trends, attitudes, or opinions within a population by analyzing a subset of that population, while experimental research seeks to determine the impact of a specific treatment on an outcome. Quantitative research excels in exploring cause-and-effect dynamics, enabling predictions. Morrell and Carroll (2010) highlights the significance of meta-analysis within quantitative research, underscoring its focus on demonstrating the likelihood that a particular intervention caused a change in its target group. The methodology is underpinned by a deductive theory-testing framework, trying to mitigate biases, control for alternate variables, and enhance the reproducibility and generalizability of the research findings (Saunders et al., 2023). Through its methodical collection and analysis of numerical data, quantitative research facilitates objective, reliable, and impactful studies across disciplines.

Mixed methods research is an integrative approach merging the analytical precision of quantitative methods with the contextual richness of qualitative techniques, thereby offering a more comprehensive understanding of complex research questions. This methodology advocates for the concurrent or sequential employment of quantitative and qualitative data collection and analysis strategies. It aims to leverage the distinct advantages of each to enhance the depth and breadth of research findings. The dual approach can enhance the validity of the research through a triangulation of data from multiple sources (Saunders et al., 2023). Specifically, mixed methods research facilitates a robust examination of research phenomena by combining numerical data and statistical analysis with detailed, qualitative insights gained from interviews, observations, and similar methodologies. The versatility and adaptability of this approach ensure that findings are not only multifaceted but also grounded in a rigorous analytical framework. According to Creswell (2018), mixed methods involve the integration of qualitative and quantitative research techniques and data, employing rigorous methods for data collection, analysis, and interpretation. This approach is characterized by its flexibility in design, including convergent, explanatory sequential, and exploratory sequential designs, each tailored to address specific research objectives. By leveraging

the strengths and mitigating the limitations of both qualitative and quantitative methods, mixed methods research could stand as a formidable strategy in the pursuit of nuanced and substantiated findings.

Quantitative Methods	**Mixed Methods**	**Qualitative Methods**
Pre-determined	Both pre-determined and emerging methods	Emerging methods
Instrument based questions	Both open- and closes-ended questions	Open-ended questions
Performance data, attitude data, observational data, and census data	Multiple forms of data drawing on all possibilities	Interview data, observation data, document data, and audiovisual data
Statistical analysis	Statistical and text analysis	Text and image analysis
Statistical interpretation	Across databases interpretation	Themes, patterns interpretation

Table 1: The table summarizes each methods' main characteristics. Source: (Creswell, 2018)

The preliminary research for the master thesis included evaluating the different methods of research to identify the most suitable for our research aim, namely "How can The Norwegian service industry strategically transition into a sustainable, climate-ready sector?". Exploring the different options provided us with a holistic view on how to approach our research. We identified that quantitative methods through surveys could help us describe attitudes and opinions on sustainable transformations from employees within the service industry. However, this might fail at capturing the complexity of a sustainable transformation and not provide us with the whole picture of how to actually transform the industry. We found that implementing qualitative methods like interviews could solve this issue by providing us with multiple perspectives and richness to each perspective. On the downside, qualitative interviews are comprehensive work and getting in touch with the right people is crucial to ensure the master thesis' credibility. Combining these methods was also an option to leverage the strengths of both. From meeting our industry contact we had received access to certain industry documents and was told that he would help us get in touch with the right people in both Norway and Denmark. In addition, both researchers had more experience with qualitative methods such as interviews, literature reviews and document analysis from our study. With this in mind, we decided that quantitative methods like a survey would be both insufficient for our research aim and outside our expertise. In collaboration with our supervisor, we determined that combining qualitative interviews with a literature review and document analysis would be most effective for gaining insights into the service industry and how to help it in a sustainable transformation. For future research, considering quantitative or mixed methods could help address the potential limitations of the qualitative approach we used. For instance, conducting a survey among industry employees or integrating it with additional qualitative interviews could help pursue more substantiated findings.

3.1.1 The national confederations NHO and DI are used in our methods

NHO and DI are the two national confederations used in this master thesis as examples to see how national confederations can help the service industry in a sustainable transformation. Therefore, these have affected the process of gathering data in the document analysis and interviews. For example, all interviews are conducted with people from member companies of NHO and DI that work with either cleaning, damage restoration, or cafeteria and food services, which the master thesis focuses on. The following section will introduce both confederations, and how they work with

sustainability and the service sector, to provide understanding of the methodological processes.

NHO

NHO brings together Norway's largest community of businesses. It is the largest and most important player on the employer side in the tripartite collaboration between the employers' and employees' main organizations and the political authorities. NHO carry out collective bargaining negotiations with the employee organizations on behalf of its member companies. The Norwegian model is characterized by the parties in working life being able to coordinate development, and establish common rules across industries and between the private and public sectors. This collaboration gives us predictability, establishes dialogue, and creates mutual trust and respect. Employees with professional weight in the NHO community are at the members' disposal for advice and guidance on employer issues. Sustainability is a big part of NHOs vision to strengthen businesses and shape the future. They recognize the critical role of sustainability in ensuring long-term business competitiveness and societal well-being by anchoring it to their mission to enhance profitability and contribute to an economically healthy and sustainable society (NHO, n.d.-a). They assist member companies through political advocacy, negotiations, development of strategies and action plans, and adaptation to new government requirements. These initiatives align with their values of being courageous, collaborative, accessible and credible, and drives the role of business in addressing major global challenges. By promoting policies for a greener transition and supporting their members in developing sustainable solutions, NHO contributes to shaping the future in the direction of increased social, economic and environmental sustainability (NHO, n.d.-b).

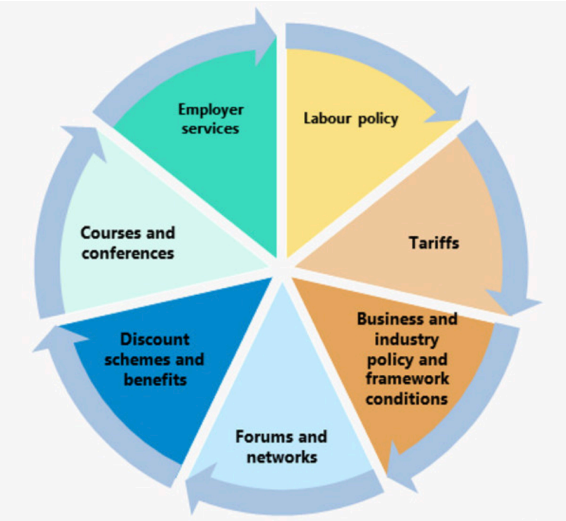

Figure 4: The different services provided by NHO SH to its members. Source: NHO SH (n.d.-a)

The Norwegian Federation of Service Industries and Retail Trade (NHO SH) represents service and retail companies in Norway, organizing 7,100 member companies that employ 154,735 people as of 2024. They are responsible for larger parts of industries defined under "hjelpetjenester", including cleaning, damage restoration, and cafeteria and food services. NHO SHs mission is to enhance the competitiveness and profitability of its members by promoting their interests, offering tools for development, and facilitating access to markets, as shown in figure 4. They actively engages in policy influence, maintains strong media and political connections, and provides a range of services such as legal aid and industry-specific consultations, while also hosting events and managing a robust digital presence (NHO SH, n.d.-a).

DI

DI is Denmark's largest employer and business organization. There are over 20 000 member organizations and they cover 11 industries (Danish Industry, n.d.-b, n.d.-a). DI is dedicated to improving and strengthening Danish organizations daily, driven by a clear vision;

> Make Denmark an open, prosperous society in growth and balance (Danish Industry, n.d.-b).

DI's work focuses on creating the best conditions for entrepreneurs, established companies and foreign organizations planning to expand their operations in Denmark, contributing to job creation, increased tax revenues, and overall welfare (Danish Industry, n.d.-b).

DI deeply engage in sustainable development through all their efforts (Danish Industry, n.d.-a). The commitment to sustainability is driven by a desire to take responsibility to meet UN's sustainability goals, while there is an increasing feeling that the member organizations have a desire for more sustainable operations (Danish Industry, 2023). In 2023, DI released a sustainability report about how the confederation works towards a greener future. The confederation is increasingly focusing on sustainability as a core aspect of its operations, recognizing the importance of further development of production and consumption methods that protect the environment, as society evolves and new methods and technology are available. DI believes it is crucial for Denmark to contribute both nationally and globally to positive environmental and climate change, advocating for initiatives that support the global sustainable development goals (SDGs). Since joining the UN Global Compact in 2001, DI has committed to take responsibility, support and reporting on the UN's ten principles for human rights, labor, environment, and anti-corruption. DI's work towards sustainability involves developing frameworks that simplify compliance with these international standards, and to provide the necessary tools and knowledge to successfully implement sustainability practices in each organization (Danish Industry, 2023). Working closely with new regulations and to succeed with all the initiatives coming from the European Green Deal is also central for DI. They play a key role in helping Danish companies align with the objectives, including the European Pillar of Social Rights aimed at improving conditions for people through social and environmental focus. Social sustainability is very important for DI, as they consider humans to be companies' most important resource (Danish Industry, 2023). Securing employees well-being is therefore of high importance so there are several measures for that and there is a great focus on competence development to maximize the value for society and future development (Danish Industry, 2023).

DI Service represents the same part of DI as NHO SH does in NHO, including cleaning, damage restoration, and cafeteria and food services as well. DI Services support for its members spans a wide range of services from advising and membership services to political advocacy and networking across industries and borders. That can be guidance in various areas such as law, environmental regulations, export, and digitalization, emphasizing the importance of networking both locally and globally, and making sure Danish companies become more competitive on a global scale (DI Service, n.d.-a).

3.1.2 Validity and reliability

In qualitative research, the terms validity and reliability are reinterpreted to align with the paradigm's emphasis on understanding complex human behaviors, social processes, and the subjective meanings individuals ascribe to their experiences. Validity refers to the accuracy, truthfulness, and appropriateness of the research findings, aiming to authentically represent the participants' realities and the contexts of the study. Reliability addresses the consistency and dependability of

the research process, considering the evolving nature of qualitative inquiry. These principles are critical in ensuring the credibility, transferability, dependability, and confirmability of qualitative studies (Saunders et al., 2023).

Validity is categorized into internal and external, known in qualitative terms as credibility and transferability, respectively. Credibility refers to the trustworthiness of the findings within the specific context of the study, achieved through methods such as triangulation and member checking. External validity, or transferability, concerns the applicability of the study's findings to other contexts. The researcher can enable others to judge the relevance of the results to different settings through rich descriptions. Threats to validity include past or recent events, testing, intrumentation changes, mortality, and ambiguity about casual direction (Saunders et al., 2023). Strategies to mitigate these threats and enhance a study's validity include clarifying researcher bias, and presenting discrepant information, all contributing to a comprehensive understanding of the phenomenon under study (Creswell, 2018).

Reliability in qualitative research, referred to as dependability, focuses on the researcher's ability to account for the changing contexts and interpretations that might affect the study. This is often achieved through creating a detailed record of the research process. The distinction between internal and external is also applicable for reliability. Here, internal reliability refers to ensuring consistency during a research project, whereas external reliability considers whether your procedures and analysis would produce the same findings if repeated on another occasion or replicated by another researcher. Threats to reliability include participant error, participant bias, researcher error, and researcher bias (Saunders et al., 2023). To counter these threats and increase reliability, thorough documentation of the study's procedures, double-checking transcripts for accuracy, ensuring consistent coding, and maintaining coordination among research team members can be implemented. Techniques such as detailed documentation of the research focus, triangulation, and comprehensive reporting of data collection and analysis strategies ensures the study's methodological consistency (Creswell, 2018).

Validity and reliability in qualitative research are interconnected, with each enhancing the robustness and integrity of the findings. While validity ensures that the research accurately captures and interprets the participants' experiences and the study context, reliability underscores the consistency of these interpretations over time. Employing multiple methods can improve both validity and reliability, as the strengths of one approach can mitigate the limitations of another. This synergistic relationship ensures that qualitative research produces findings that are both credible and dependable, enabling a deeper understanding of complex phenomena within their natural contexts (Turner, Cardinal & Burton, 2017). Through this nuanced approach to validity and reliability, qualitative research offers valuable insights that are contextually grounded, thereby contributing to the broader field of inquiry.

3.1.3 Triangulation

Both methods, whether it is quantitative or qualitative, have limitations. Using just one method may leave out the bigger picture. A way to avoid this is the use of triangulation. As a concept, triangulation refers to using multiple, different approaches to develop deeper understanding of a given theory (Turner et al., 2017). It involves using more than one method of collection to confirm the credibility of the research data, and can be achieved through either a multi-method quantitative study, multi-method qualitative study or mixed methods study (Saunders et al., 2023). The application of multiple research methods allows higher quality of conducted research and limits measurement errors that may occur if using a single method. Gaining a more comprehensive and reliable picture of the research will help avoid the risk of biases and results not completely consistent

with economic and social reality (Dzwigol, 2022).

Turner et al. (2017) considers three ways of linking multiple methodologies together; convergent triangulation, holistic triangulation, and convergent and holistic triangulation. Convergent triangulation emphasizes knowledge development in the search for agreement. An example of this is using mathematical modeling as a method to develop theory, and then conducting regression analysis on archival data to provide evidence that supports the generality of the developed theory. The holistic form asserts that divergence can be just as important in the collection of information. An example can be selecting accuracy over generality as first priority, and using both computer simulation and case studies to develop and test theory. Since both methods offer unique insights, they create a holistic perspective into the developed theory. The third process, that is convergent and holistic triangulation, focuses on using several research strategies for both developing and testing theory. By using convergent and holistic triangulation researchers aim to uncover areas with consistent results across the methods, but also expect at least one method to provide unique insight that will develop a more complete understanding of the phenomenon. An example is using surveys and interviews to look at how knowledge sharing lead to the creation of competitive advantage, by first checking if the survey results and interviews support this and then use the interviews to understand how that advantage is sustained.

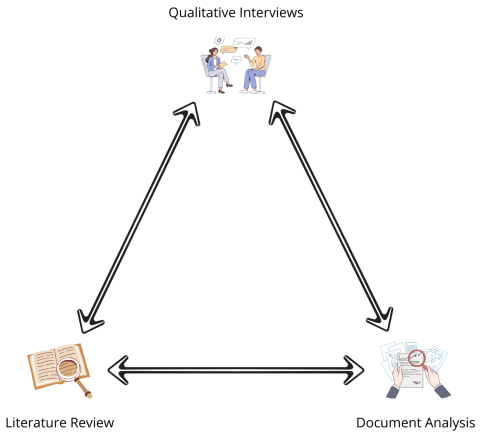

Figure 5: Self-made illustration of the conducted triangulation.

The master thesis conducted qualitative interviews, combined with a comprehensive literature review and document analysis, as shown in figure 5. The literature review is an analysis of academic research within relevant themes, such as sustainable and digital transformations, strategy, and change management. Interviews provide a qualitative study of primary data, whereas the document analysis evaluates secondary data. The document analysis is a review of reports from both NHO and DI examining their current practices and organizational structure, as well as EU regulation. The documents are found through the web and our interview objects. Interviews are performed with representatives working within or towards the industry sector in Denmark and Norway. We classify the master thesis as a convergent and holistic triangulation. Convergent through examining the extent of agreement between findings in the document analysis, literature review and interviews, while seeking holisticity through the unique insight from qualitative analysis of the interviews and literature review. We began by searching for convergence across the three methods on how the service industry can transform in a sustainable way, before using the interviews to gain unique perspectives on the service industry today and moving forward. Compiling several methods results in more accurate representations of reality and increases the study's credibility, as the various methods can complement, check, and contrast one another (Saunders et al., 2023).

3.2 Literature review

A systematic literature review is a repeatable process to locate existing literature, evaluate the contribution, and analyze and synthesise the findings (Saunders et al., 2023). It aims to identify gaps in knowledge or to provide and overview of a field. Characteristics include the use of an explicit study protocol, screening of publications for inclusion in the review against a prior criteria, and that it addresses a formal, pre-specified question. Often highlighted benefits of the systematic review include synthesizing bodies of available evidence and making the processes of summarizing data across multiple studies explicit and systematic (Silverman, 2021). Some argue that the method addresses potential research bias common in other forms of literature reviews. However, others contend that it remains inherently subjective, influenced by politics, values, and interests (Saunders et al., 2023). Systematic reviews have faced criticism for their allegedly positivist and reductionist leanings, as well as the limited nature of their conclusions. Critics argue that these reviews may exclude potentially relevant data and historically offer little space for the inclusion of qualitative research findings. (Silverman, 2021).

3.2.1 Our process

The online database Scopus was used to perform the systematic literature review in this master thesis. Scopus is an academic database featuring abstracts, references, and citations from nearly 18,000 titles across over 5,000 international publishers, focusing on natural sciences, engineering, medicine, and social sciences, with coverage of more than 16,500 journals. Annually, thousands of titles are proposed for inclusion in Scopus, yet only 33% fulfill its stringent technical criteria. Of those, approximately 1,200 titles, only half are ultimately accepted following evaluation by the independent Content Selection Advisory Board (Elsevier, 2024).

Low relevance	**Medium relevance**	**High relevance**
European union law	Strategy	Sustainable transformation
Transformation	Change management	Service management
Industry transformation	Project management	Sustainable development
Digital transformation	Confederations	Service industry
Circular economy	Digitalization	Sustainability

Table 2: Identified keywords sorted relatively to each other by relevance.

The systematic literature review follows a detailed five-step process, which includes reviewing the scope and research questions, searching for literature, selecting and evaluating the relevant studies, analyzing and synthesizing the information, and reporting the findings (Saunders et al., 2023). We started by identifying keywords that best fit the research's focus and goals, and sorted them by relevance. Table 2 shows the result. All keywords presented in the table are of great importance to the research aim, which is to help confederations guide industries towards sustainable transformations focusing on service industries. To initiate our literature search, we ranked their relevance relative to each other from " Low relevance" to "High relevance". As the table shows, the keywords under "High relevance" are considered more fundamental in our search than those under "Medium relevance" or "Low relevance". These keywords were applied later in the process where possible.

"Sustainable transformations" and "Service management" were picked as the two most important keywords, guiding our search for literature. The first goal of the literature review was to narrow down the search to a manageable amount of relevant documents for an initial review. This is Phase

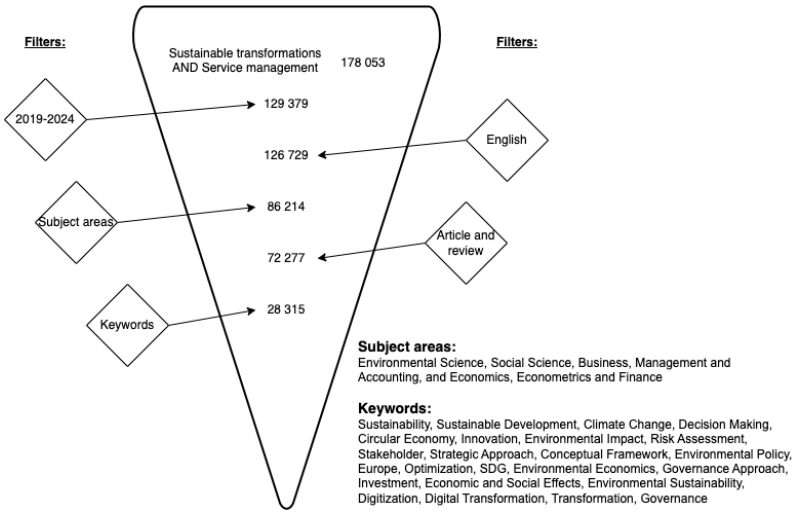

Figure 6: Self-made illustration of Phase 1 in the literature review.

1 of the review and is shown in Figure 6.

It started with an initial search for ”Sustainable transformations AND Service management” on Scopus that resulted in 178,053 documents. Applying a filter for articles published between 2019 and 2024 resulted in 129,379 documents. This specific date range was selected in response to the introduction of the European Green Deal in 2019. By excluding articles not in English, as well as other document types than articles and reviews, and focusing the search on specific subject areas — namely ”Environmental Science”, ”Social Science”, ”Business, Management and Accounting”, and ”Economics, Econometrics and Finance” — the pool of relevant documents was further reduced 72 277. To conclude phase 1, the search was refined using relevant keywords, as represented in the bottom right of Figure 6. Scopus provided a list of all possible keywords, and the selection of our keywords was based on their relevance to the identified keywords in Table 2.

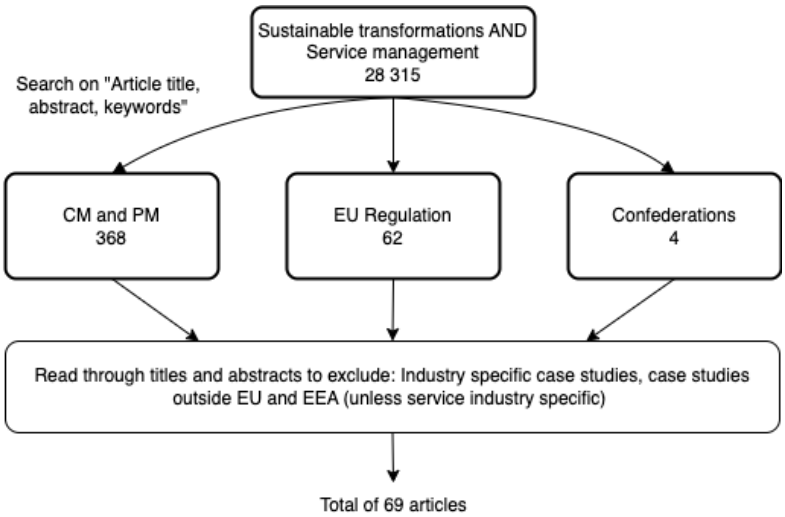

Figure 7: Self-made illustration of Phase 2 of the literature review. CM and PM is shortened for the figure and stands for Change Management and Project Management.

Phase 2 is illustrated through Figure 7. It involved conducting separate searches building upon the results from Phase 1. As illustrated searches were performed specifically within ”Article title, abstract, keywords” for three distinct terms: ”Change Management and Project Management”, ”EU Regulation”, and ”Confederations”. These terms were chosen on the background of which import-

ant keywords that were left in the identified keywords table, table 2, after excluding the keywords added through Scopus in Phase 1. These targeted searches halfway completed Phase 2 of the literature review, resulting in a collection of 368 (Change Management and Project Management) + 62 (EU Regulation) + 4 (Confederations) = 434 articles.

The second half of Phase 2 entailed conducting an initial review of the literature. This involved examining the titles and abstracts of all 434 articles identified in the first half of Phase 2 to ascertain their relevance based on specific pre-defined criteria (Saunders et al., 2023). Two key criteria were established for this selection process: articles were to be excluded if they featured case studies outside the European Union (EU) or European Economic Area (EEA) - unless they were specific to the service industry, or if they were highly specific to industries not related to the service sector. This was because we are using Denmark's and Norway's service industries as examples and found it relevant to look at countries with similar economy and governance. However, as most articles were not specific to the service industry, articles outside of EU and EEA specific to the service industry were included. In instances where there was uncertainty about an article's relevance after the initial review, the researchers also examined the conclusions to make a final determination. These pre-defined criteria, tailored for each search - "CM and PM", "EU Regulation" and "Confederations", are detailed in Figure 7. Following the initial review, 69 articles remained for further analysis.

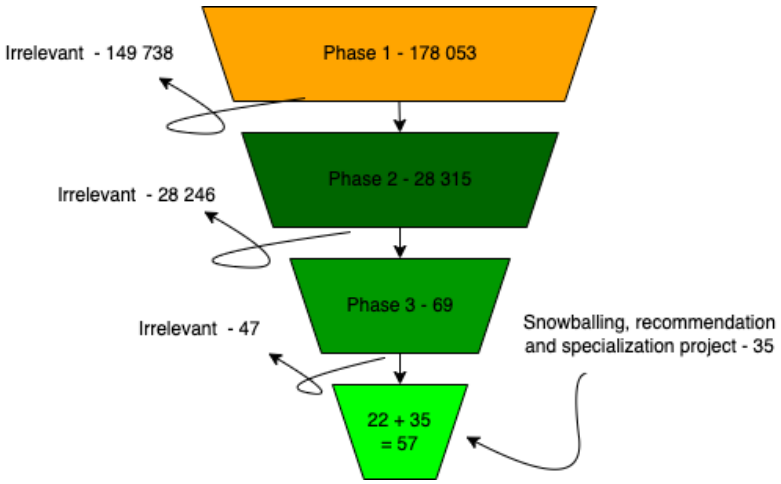

Figure 8: Self-made illustration of the whole literature review.

After the initial review, phase 3 - a further review and data extraction - were conducted to finalize the systematic literature review. All 69 articles were read by both researchers in order to determine which were irrelevant and to extract data from those we found relevant. This data were then coded in themes and sorted to determine which subchapters to include in the theory chapter. This resulted in the following themes being included in the theory chapter:

1. Digitalization
2. Project Management
3. Change Management
4. Working towards better environmental performance

Phase 3 resulted in the exclusion of 47 articles, meaning we ended up with 22 relevant articles from the literature review on Scopus.

In addition to these 22 articles found through the systematic literature review, 7 articles have been included through snowballing, 7 articles by recommendation from our supervisor, and 21 articles

we found relevant from our specialization project. This totaled an additional of (7 + 7 + 21 =) 35 articles that also were read and coded in themes. All together resulting in a total of (22 + 35 =) 57 articles that were analysed by both researchers. Figure 8 shows the whole process of the systematic literature review, concluding in 58 articles of relevance for the master thesis. Appendice C shows a full overview of which articles that belong to the literature review and from what end of the review, in addition to which articles are from academics (those used in the methodology chapter), and which are from the document analysis.

3.2.2 Validity and reliability

Validity in the context of a literature review refers to the extent the methods and processes used capture the relevant literature relating to the research questions (Saunders et al., 2023). The literature review process was validated through a detailed, five-step methodological approach that included defining the scope, searching for literature, selecting, and evaluating studies, analyzing and synthesizing information, and reporting the findings. This structured approach ensured that the review was comprehensive and focused, minimizing the risk of omitting relevant studies. Keywords were carefully selected based on their relevance to the research focus, and the search was narrowed down using specific inclusion and exclusion criteria, such as the publication date range and subject areas, to manage the scope effectively.

Reliability in a literature review is demonstrated through the consistency and reproducibility of the review process (Saunders et al., 2023). The systematic approach employed, detailed in the documentation of each step from initial keyword selection to the final inclusion of articles, provides a clear audit trail that other researchers can follow. This process transparency ensures that the review could be replicated. The initial screening of titles and abstracts followed by a more detailed review of selected articles allowed for a consistent evaluation of relevance and quality. The use of predefined criteria for article selection further strengthened the reliability of the process. Each article was evaluated based on its direct applicability to the research themes, such as its geographical focus on the EU or its relevance to the service industry. This was crucial for maintaining a high standard of review consistency.

Bias in literature reviews can significantly affect both validity and reliability. One potential weakness occurs from the exclusive reliance on the Scopus database for sourcing literature. Scopus is comprehensive and reputable with stringent inclusion criteria that ensures only high-quality publications available for review. Even though this supports the authenticity and applicability of the research findings, limiting the search to a single database may overlook relevant studies published in journals not indexed by Scopus or available in other academic repositories. The database selection bias can restrict the breadth and depth of the literature review, potentially ignoring significant perspectives or recent developments published elsewhere. To mitigate selection bias, the literature review complemented the systematic search strategy with snowballing techniques and recommendations from our supervisor. This helped identify additional relevant studies that might not have been captured through database searches. The independent reading and evaluation of articles by both researchers helped to counteract individual biases, providing a balanced interpretation of the data. This dual-review approach ensured a more objective assessment of each article's relevance and contribution to the research themes. Still, the selection bias could affect the generalizability and comprehensiveness of the literature review, impacting the overall validity and reliability of the research findings.

3.3 Interview process

Qualitative interviews are typically semi-structured, featuring a series of pre-defined themes accompanied by suggested questions. The approach has the advantage of allowing changes of sequence and questions in order to follow up on relevant answers from the interviewees (Kvale, 2007). Determining the correct sample size in qualitative interviews is difficult. Research states that it correlates with cultural factors, such as journal of publication and number of authors, practical issues, including the level of degree, the time available and institutional committee requirements, and purpose of research, whether the focus of the analysis is on commonality or difference or uniqueness or complexity (Baker & Edwards, 2012; Marshall, Cardon, Poddar & Fontenot, 2013). Still, qualitative studies are recommended to generally contain between 15 and 30 interviews (Marshall et al., 2013). We have conducted 18 interviews with representatives from the Danish and Norwegian industry. The aim was to explore the approaches these industries take towards sustainable transformations, assess their current progress, and identify strategies to expedite their advancement.

3.3.1 Our process

A total of 18 interviews of approximately 60 minutes each have been carried out. Initially, a certified selection was chosen in collaboration with our supervisor and primary industry contact. Following this, the snowball sampling method was employed to identify additional interviewees who could offer valuable insights, ensuring a diverse mix of experts (Sustainability consultant, HR managers and ESG managers) and business leaders (Directors and head of different departments) related to the research theme. This strategic selection resulted in a group comprising 11 interviewees from Norway and 7 from Denmark, reflecting the study's objective. The emphasis on Norwegian participants was deliberate, aiming to capture a deeper understanding of the Norwegian industry and market characteristics. This understanding was considered crucial to enable comprehensive learning from Danish experiences. The Norwegian interviews were conducted first, followed by an analysis, before we continued with the Danish interviews.

Country	Job title	Number
Norway	Director	4
	ESG Manager	1
	Project Owner	1
	Head of Department	1
	Vice President	1
	Head of Strategy and Business Development	1
	Head of Contracts	1
	HR Manager	1
Denmark	Consultant	1
	Director	1
	ESG Manager	1
	Head of the Secretariat	1
	Communications Manager	1
	HR Manager	1
	Sustainability Consultant	1

Table 3: Interview selection based on job title.

The selection of interviewees was based on their association with the service industry, affiliations with NHO SH or DI Service, or involvement in the "Klimaklar Servicevirksomhed"-project. Individuals possessing expertise in areas highlighted in Table 2, such as sustainability or transforma-

tions, were deemed of particular interest. In Norway, interviews were conducted with four directors overseeing different departments, including innovation, sustainability, service industry operations, and digitalization. Engaging with individuals across different levels and sectors, especially those with extensive experience, was vital for examining the change dynamics within transformational projects. The Norwegian cohort of interviewees consisted of ESG and HR managers, along with leaders of various business units, as detailed in Table 3. Some of the Norwegian job titles are similar among the Danish Interviewees, like ESG Manager, HR Manager and Director. Even though the rest of the Danish interviewees have different job titles than the Norwegians, they represent similar experience and knowledge.

Table 4 categorizes the companies of the interviewed individuals from both Norway and Denmark. In each country, five representatives from national confederations were interviewed, though the specific branches of these confederations have been omitted to maintain the anonymity of the participants. The Norwegian interviews offered additional insights from the Cleaning" and "Damage control" sectors, along with a perspective from an individual outside the industry. This approach provided a comprehensive overview of the current situation in Norway, showcasing a broader spectrum of industry conditions compared to Denmark.

Country	**Company type**	**Number**
Norway	National Confederation	5
	Cleaning	2
	Damage control	2
	Cafeteria	1
	Consulting	1
Denmark	National Confederation	5
	Cleaning	1
	Damage control	1
	Cafeteria	1

Table 4: Interview selection based on company type.

Invitations for interviews were formally extended via email, including an introduction to ourselves, our research project, and what participation in an interview implied. Each email was accompanied by two attachments: an interview guide and an informational letter containing a consent form, providing comprehensive details for those interested in learning more. These documents are available for review in Appendices A and B, respectively. The Norwegian University of Science and Technology (NTNU) adheres to privacy and data handling standards set by Sikt, the Norwegian Agency for Shared Services in Education and Research, which demand the correct management of personal and sensitive information in research. Our master thesis has received Sikt's approval, ensuring compliance with these standards, as detailed in the informational letter. Participants were required to return a signed consent form prior to their interview to confirm their agreement to use the information provided. In instances where technical issues prevented signing, alternative forms of consent were obtained: two participants sent email confirmation, and another verbally consented at the beginning of the recording, both methods having received prior approval from our supervisor.

The shift towards online interviews has become more pronounced in the post-Covid-19 landscape, with an increase in both the adoption of this methodology for research and participants' comfort with digital platforms like Zoom and Microsoft Teams. While online interviews may lack the visual cues present in face-to-face settings, they significantly reduce logistical challenges associated with distance and travel costs. Nevertheless, ensuring the security of online platforms and the availability of necessary technical resources remains crucial (Saunders et al., 2023). Our interviews were conducted exclusively through Microsoft Teams. We offered participants a choice between

online and physical interviews based on their location; however, all participants preferred the online format. This flexibility likely facilitated greater willingness among potential interviewees to take part. Microsoft Teams also enabled the recording of sessions for subsequent analysis, with these recordings securely stored on NTNU's servers until their scheduled deletion, in alignment with Sikt's guidelines. At two occasions Microsoft Teams split up the video recording in two during the interview by itself. The second time it resulted in losing 1 minute and 30 seconds of the interview. A technical problem prevented it from restarting the recording automatically and the researcher did not notice immediately. As this was our last interview no actions were taken to prevent it from happening again.

The interview guide set the tone for the interviews, which took different directions based on the interviewees' responses. The interview guide ensured a even data foundation despite the semi-structured nature of the interviews. We divided the guide in five parts;

1. Introduction; a short introduction to themselves, their work experience, and relevant experience with sustainability.
2. General; about a sustainable transformation of the service industry, barriers, driving forces, and planning and execution of transformational projects.
3. Strategy; the importance of strategy in a sustainable transformation and which elements are vital for a good strategic framework.
4. Change Management; how employees and organizations are included in the transformational process and how they perceive it.
5. Conclusion; summing up and allowing the interviewee to talk about uncovered topics.

These sections, and the associated questions, were decided based on the research aim. All questions were reviewed several times in the construction of the guide to ensure neutrality. Every interview went through the sections chronologically, starting with introduction and ending with conclusion. Minor adjustments were made based on the unique nature of each interview. Some interviewees had shorter responses to questions while others talked until stopped by the interviewer. In reality, the interviews ranged from 45 to 75 minutes. If necessary, when approaching the allocated time of 60 minutes, we asked if the interviewee had any extra time to conclude all the questions. If not, we jumped straight to the last section, making sure every interviewee could include what they found the most important.

For the initial two Norwegian interviews and the first Danish interview, we adopted a two-on-one approach, with both researchers present and one interviewee. The interview guide was divided into two sections, one for each researcher. The first section covered the introduction and general topics, while the second addressed strategy, change management, and conclusion. The two-on-one method differs from the more common one-on-two or group interviews (Saunders et al., 2023). Our arrangement provided both researchers with practical experience and the chance to learn from one another. Conducting the first Danish interview together secured an alignment during the interview process, as well as allowing for further learning from each other after each researcher had gained more experience. Subsequently, the remaining 15 interviews were conducted on a one-to-one basis, with the tasks evenly distributed between the researchers.

Following each interview, we dedicated around 30 minutes to summarizing key insights, noting down notable quotes, and reflecting on lessons for future interviews. This pause to gain a broader perspective was a strategic choice, aimed at facilitating the composition of the interviews' narrative later on. The next step involved transcribing the interview. Utilizing Microsoft Teams for the

interviews offered the benefit of automatic transcription, significantly streamlining the transcription process. Nevertheless, we needed to review, organize, correct, and anonymize all transcripts to prepare them for further analysis. Once a transcription was complete, the associated video recording was deleted to comply with Sikt's guidelines. Drawing from the initial summaries, the interview guide, and insights gained throughout the research, we identified several primary themes under which to categorize our findings:

1. What sustainability entails
2. A sustainable transformation of the service industry
3. What forces are driving the need for a sustainable transformation?
4. Digitalization is underrated
5. Correct strategy framework and change management will always be crucial
6. Denmark, what can Norway learn from your transformation process?

From the refined transcripts, we produced new summaries for each theme derived from each interview. The findings from Denmark and Norway were compiled separately, given that the Norwegian interviews were completed prior to commencing with the Danish ones. Once the interviews from both countries had been summarized by theme, we integrated these summaries to construct a cohesive narrative of all the interviews.

3.3.2 Reliability and validity

Validity and reliability are particularly important in the context of semi-structured interviews, where the interaction between interviewer and interviewee can significantly impact the data collected. During each interview, it was crucial to maintain neutrality by not dominating the conversation or influencing the participant's responses through leading questions or the introduction of personal experiences, ideas, or views. A wrong approach both before and during the interview might increase the chance of biases, such as interviewer bias, response bias, or participant bias (Saunders et al., 2023). Therefore, carefully planning how to get the right participants and how to execute the interviews are important.

Credibility of the data was addressed using a semi-structured format that allowed us to dig deeper into the participants' responses, uncovering more nuanced insights of their experiences and meanings (Saunders et al., 2023). This approach was particularly beneficial in capturing the subjective meanings individuals ascribe to their roles and practices within sustainable business. To increase credibility we could have sent the respective transcripts back to each interviewee for a proof read and approval. This would ensure that their intended meanings came across and prevent any misunderstandings.

Transferability was facilitated through detailed documentation of the interview process and the selection criteria for participants. This detailed recording of the research design and execution provides other researchers with a clear blueprint for assessing the applicability of the findings to other contexts. The rich descriptions of the industrial contexts of Denmark and Norway help in evaluating the relevance of the study's insights beyond the immediate settings of the research (Saunders et al., 2023).

Reliability was addressed through several methodological choices. Dependability was ensured by creating a detailed account of the research process, including the development and use of the

interview guide, participant selection, and data handling procedures. Each step of the process was documented, providing a clear audit trail that illustrates the decision-making process and the adaptations made during the research. To minimize interviewer bias, care was taken in phrasing questions neutrally and allowing interviewees to lead the conversation into areas of significance to the research topic. This approach reduced the potential for leading questions and enriched the data with interviewee-driven insights. Response and participant biases were mitigated through diverse participant selection and careful question design.

Consistency was strengthened by the participation of multiple researchers in several interviews, which helped in aligning the interview approach across different sessions. This team approach ensured that biases or variations in interviewing style were minimized, and learnings were quickly integrated into subsequent interviews to maintain a uniform quality and depth of data collection. The use of Microsoft Teams for conducting interviews added a layer of consistency, as it facilitated the recording and transcription of interviews, ensuring that data were captured and processed uniformly. Technical issues such as the interruption and loss of recording during one session posed a risk to data integrity, which was partly mitigated by the note-taking during interview and immediate reflection after the interview.

While online interviews offer logistical convenience and enable cross-geographical research, they restrict the ability to observe and interpret crucial non-verbal cues such as body language, gestures, facial expressions, and eye contact, which are essential for fully understanding the context of verbal responses and the depth of an interviewee's feelings (Saunders et al., 2023). This limitation can diminish the richness and nuance of data, as pauses, changes in tone, and emotional expressions that are evident in face-to-face interactions may not be as detectable in a virtual format. This challenge highlights a significant weakness in the study's design and necessitated the use of additional strategies like detailed follow-up questions or to enhance data richness and interpretative quality. Although this may not fully compensate for the loss of non-verbal information.

3.4 Document analysis

The aim of this document analysis was to gather and examine data to identify relationships and patterns in society concerning the issue under investigation (Johannessen, n.d.). The document analysis carried out was a qualitative content analysis of publicly available secondary data, divided into three parts. The first one includes three major regulations and directives from the EU. The second one applies to NHO, including websites and three strategic guides for different service industries and a project report on a new climate ready service organization initiative. These were all given by our NHO representative. The third part regards DI, and consists of multiple web pages on DI's website showcasing the work towards sustainability, and a roadmap from DI illustrating the climate-ready service initiative mentioned by Menon Economics (2019). While the web pages was found through google search, the roadmap was suggestions by some of the interview objects from DI.

3.4.1 Our process

The aim of the document analysis was to gather insights in how The Confederations of Norway and Denmark are operating now in regards to sustainable development. Successful implementations and procedures from DI will be useful to further develop NHO's current strategies to make the service industry Climate-Ready. The document analysis was divided into three parts to meet this objective: The first one was to look at EU regulations. Following that was two separate analysis of how the two confederations NHO and DI works with sustainability, respectively. A total of

28 documents, reports or web pages was reviewed, and table 5 shows these documents and their respective lengths, to substantiate how extensive the foundation for the different analysis were.

The first part involves analysing EU and several sustainable initiatives within the union. Getting an holistic view over the regulations and initiatives from authorities are key to develop and present suitable sustainability actions. The documents reviewed in this part of the analysis are the European Green Deal, the EU-taxonomy and CSRD. These were found by a google search. The first search was "what sustainable development regulations are relevant". From this search string, the first link that appeared was a Deloitte article, presenting different key regulations for sustainable development, among these was the Corporate Sustainability Reporting Directive (CSRD) and the EU-taxonomy (Deloitte, 2021). These regulations also appeared during the specialization project conducted fall 2023, so they were worth paying attention to. To get a deeper understanding of what CSRD was the search string "csrd regulation" was applied. Among the results was the Euopean Commision webpage about CSRD (European Commission, 2021). On this page it was stated that CSRD was facilitating for the European Green Deal, making this regulation highly relevante to review as well. From these three regulations there appeared a couple more documents relevant for the analysis through snowballing.

The second part of the document analysis involve covering how the Confederation of Norwegian Enterprises currently work with sustainability in the service industry. NHO Service og Handel, the service branch of the confederation, has created a project that they want to implement in the near future. The project is called Climate-Ready Service Industry and is not published yet, so we got the document sketch from our industry contact within NHO. The initiative is a collaborative effort involving NHO Service og Handel, NHO Drift og Service, Klimapartnere, and Asplan Viak aimed at improving sustainability efforts within the service industry. This project focuses on developing standardized methodologies for carbon accounting, offering customized tools, and fostering knowledge exchange to meet industry-specific needs. Participants undergo a series of steps, resulting in a "Climate-ready" certification that signifies their commitment to reducing carbon footprint (Solheim & Nistad, 2023). After getting an overview over NHO Service og Handel, the document analysis proceeds to part applicable for this master thesis, NHO Drift og Service. To get an overview of how this organization facilitates for a sustainable transformation for their service industries, we chose to review three of the sustainability guides, also suggested by our industry contact from NHO. These sustainability guides were outlined in 2020 and presents opportunities and possible actions to capitilize on, to achieve sustainable development. The three industries involved are; Cleaning, Cafeteria and food services, and Damage restoration.

The third part consist of analysing how the Confederation of Danish Industry apply sustainable practices in their operations within the service industry. In this case as well it was beneficial to get an overview of the confederations work towards sustainability. The first step was therefore to google DI, review sustainable aspects of the organization in general to get an understanding before going more specifically into the relevant part, DI Service. From the Danish Industry Service's web page, there appeared especially two focus areas and documents to review for sustainable development; DI Service's work towards Social sustainability and labor, and DI Service's work towards A digital and sustainable service industry. We also knew from Menon Economics (2019) that Danish Industry Service has succeeded with a initiative called Climate-Ready Service organization, so searching up this project to analyze it was the next step. The document reviewed was a webpage illustrating a roadmap for green transformations of service organizations (DI Service, n.d.-h). A couple more articles and documents appeared due to snowballing in this part as well.

NORWAY		DENMARK		EU	
Documents	**Page count**	**Documents**	**Page count**	**Documents**	**Page count**
NHO SH (n.d.-b)	1.5 page	DI Service (n.d.-g)	1 page	Publications Office of the European Union (2019)	24 pages
NHO SH (n.d.-c)	2 pages	DI Service (n.d.-a)	1 page	European Commission (2020-b)	3.5 pages
Solheim and Nistad (2023)	19 pages	DI Service (n.d.-i)	2 pages	Doyle (2021)	3 pages
NHO SH (n.d.-d)	1.5 page	DI Service (n.d.-h)	16 pages	Danish Industry (2023)	52 pages
NHO SH (n.d.-e)	1 page	Danish Industry (n.d.-e)	1/2 page	European Commission (2020-a)	4 pages
NHO SH (2021-a)	25 pages	DI Service (n.d.-b)	1 page	European Commission (2023-a)	5 pages
NHO SH (2021-b)	27 pages	DI Service (n.d.-c)	1/2 page	PwC UK (n.d.)	4 pages
NHO SH (2021-c)	28 pages	DI Service (n.d.-d)	1 page	Danish Industry (n.d.-d)	1.5 page
		DI Service (n.d.-e)	1/2 page	European Commission (2021)	3 pages
		DI Service (n.d.-f)	1 page	Danish Industry (n.d.-c)	1.5 page
Total:8	**Total:105**	**Total:10**	**Total:24.5**	**Total:10**	**Total:101.5**

Table 5: List of the documents in the document analysis and how many they have, counted in two ways. **1)** If the documents were PDF- or docx formats, the number of pages was available. **2)** A lot of the documents were web pages with no page count. To get an page estimate, the number of words was counted using the link "https://wordcounter.net/website-word-count", or pasting into a word document because the link did not work on all documents. Using the master thesis Word-template from NTNU, and filling the page with text in the correct format, made 1 page about 500 words. A web page consisting of up to 250 words is therefore set to equal 1/2 page. The number of words were rounded up to nearest 250, and then the pages was summed.

3.4.2 Validity and reliability

The credibility of this document analysis was enhanced through triangulation. For instance, multiple sources were used to gather data about the European Green Deal, the EU-taxonomy, and the Corporate Sustainability Reporting Directive (CSRD). Initial information was sourced from a Deloitte article, which was corroborated with additional searches leading to official European Commission documents. This triangulation method helps confirm the accuracy and relevance of the documents reviewed, thereby strengthening the credibility of the findings. However, the initial selection of documents through Google searches may introduce selection bias. The search engine algorithms prioritize certain sources, which might not represent the full spectrum of available doc-

uments. This reliance on readily available sources could exclude less prominent but potentially relevant documents. This has a negatively effect on the credibility of the findings. In addition, outdated documents will negatively effect the credibility. As sustainability regulations and initiatives are continually evolving. Documents reviewed at a particular point in time might become outdated quickly, affecting the relevance and accuracy of the findings. Continuous updates and reviews are necessary to maintain the validity of the analysis. For example, some of the sustainability strategies from NHO dates back to 2020.

To address transferability, descriptions of the document analysis process and the contexts of the documents reviewed were provided. This allows other researchers to assess the applicability of the findings to other settings. For example, the analysis included regulatory frameworks and practical implementation guides and initiatives specific to the service industry in Norway and Denmark. The account of how documents were selected and analyzed, including snowballing techniques, enables other researchers to judge the relevance and potential applicability of these findings to different contexts. The analysis heavily relies on documents from a few key organizations and regulatory bodies, such as the European Commission and the industry contact. This narrow scope limit the diversity of perspectives and potentially overlook alternative or critical viewpoints on sustainability practices. Also, while snowball sampling helps uncover additional relevant documents, it can lead to a narrow focus if the initial documents have a limited perspective. Relying on the initial document's references, can limit the applicability of the findings to other contexts.

The dependability of the document analysis was ensured by maintaining a record of the research process. Each step, from the initial Google searches to the snowballing technique used to discover additional relevant documents, was documented thoroughly. This includes the search strings used, such as "what sustainable development regulations are relevant" and "csrd regulation," and the sources of the documents, such as industry contacts and official websites. This documentation ensures that the process can be followed and replicated to a certain level, enhancing the dependability of the research. As the industry contact is anonymous and we got a document handed specifically that is not published, it will be difficult to replicate the whole process. Also, despite efforts to maintain objectivity, the researcher's background, perspectives, and prior knowledge may influence the document selection and interpretation process. This could affect the neutrality of the analysis and the conclusions drawn.

Confirmability was addressed by maintaining objectivity and transparency throughout the document analysis. This involved cross-referencing information from different sources and clearly presenting the rationale for selecting specific documents. For example, the choice to include the CSRD and the European Green Deal was based on their relevance to the European sustainability framework and their prominence in the initial search results, together with knowledge from the previous specialization project. By documenting these decisions and the data collection process, the study ensures that the findings are based on the data rather than researcher bias or subjectivity. As it might be a section bias through the initial google search, the selection process might not be entirely free from subjective influence.

3.5 Synopsis

The master thesis employs a multi-method qualitative approach, including triangulation through systematic literature review, document analysis, and qualitative interviews to ensure comprehensive data collection and analysis. Triangulation enhances the validity of the findings by cross-verifying information from different sources. The literature review, conducted using the Scopus database, involved a detailed five-step process to identify relevant literature, resulting in 61 key articles. The interview process included 18 semi-structured interviews with industry representatives from

Denmark and Norway, selected for their relevance to the study's focus areas. Document analysis examined EU regulations and sustainability initiatives, as well as specific projects and guides from the Confederation of Norwegian Enterprises (NHO) and the Confederation of Danish Industry (DI), providing insights into current sustainable practices and successful implementations.

The validity and reliability of this master thesis were ensured through detailed methodological planning and execution. Triangulation increased validity by confirming findings across multiple sources, while the systematic literature review process minimized the risk of omitting relevant studies and ensured comprehensive coverage of the research themes. The interview process maintained credibility and transferability through careful participant selection, neutral question design, and detailed documentation. In document analysis, credibility was strengthened by triangulating information from various sources and maintaining detailed records of the analysis process. Overall, the study's methodological rigor and transparent documentation enhance its reliability and validity, ensuring robust and credible research findings.

4 Theory

The theory chapter explores the impact of digitalization, project management, change management, and environmental performance on organizations. As businesses navigate the complexities of sustainability, these themes become crucial for driving innovation, achieving strategic goals, and fostering sustainable development. This chapter explores the historical context, current trends, and strategic implementations, providing a comprehensive framework for understanding their interconnections and implications.

4.1 Digitalization

The history of digitalization can be traced back to the mid-20th century with the transition from analog to digital technologies. The concept of digitization first emerged as a technical necessity, allowing for the conversion of information into digital formats for easier management and accessibility. Over the decades, these efforts expanded beyond mere data conversion to include automation of processes and integration of digital technologies across different business operations (Savić, 2019). Historical milestones include the arrival of the Internet and mobile technology, which dramatically transformed how information is processed and consumed, highlighting the increasing interconnection between digitalization and everyday business practices.

Digitalization, as defined in present-day contexts, refers to the process of using digital technologies to change a business model and provide new revenue and value-producing opportunities. Regarded as a sociotechnical process applying digitizing techniques to analyze, interpret, and shape changes in social, institutional and cognitive contexts, it creates a transformative effect upon the organization (Warner & Wäger, 2019). It is essentially about transforming business operations with digital advances (Savić, 2019). It involves the integration of digital technologies into all areas of a business, changing how businesses operate and deliver value to customers. It is about automating existing business processes to create a digital-first corporate culture.

The relationship among digitization, digitalization, and digital transformation represents a continuum of integrating digital technology into all aspects of society. Digitization refers to the conversion of analog information into digital forms. Digitalization takes this a step further by using digital data to simplify and enhance operations, integrating technology to make businesses more efficient. Digital transformation, the most comprehensive of the three, involves a radical rethinking of how an organization uses technology, people, and processes to fundamentally change business performance, as shown in figure 9. It is a cultural shift that requires organizations to continually challenge the status quo, experiment, and get comfortable with failure, potentially leading to substantial changes in business models and ecosystems (Savić, 2019).

4.1.1 Strategic implementation of digitalization

Digitalization is crucial for businesses aiming to stay competitive in a fast-evolving market. It is fundamentally about strategy and not technology. Senior leadership must find ways to capitalize on new business models to optimize customer needs and experiences (Warner & Wäger, 2019). A strategy for digital change involves more than the adoption of new technologies. It requires a holistic approach to reshaping how an organization operates and delivers value. This strategic change is driven by the need to enhance core business processes, meet changing customer expectations, and remain ahead of competitors. By integrating advanced technology companies can improve efficiency and foster innovation. This transformation is not only about technology, but also demands significant investment in human capital. Training and development are essential for employees to

	DIGITIZATION	DIGITILIZATION	DIGITAL TRANSFORMATION
Focus	Data conversion	Information processing	Knowledge leveraging
Goal	Change analog to digital format	Automate existing business operations and processes	Change company's culture, the way it works and thinks
Activity	Convert paper documents, photos, microfilms, LPs, films, and VHS tapes to digital format	Creation of completely digital work processes	Creation of a new digital company or transformation to a digital one
Tools	Computers and conversion/encoding equipment	IT systems and computer applications	Matrix of new (currently disruptive) digital technologies
Challenge	Volume *Material*	Price *Financial*	Resistance to change *Human resource*
Example	Scanning paper-based registration forms 	Completely electronic registration process 	Everything electronic, from registration to content delivery 

Figure 9: Difference of technolgy implementations. Source: Savić (2019)

effectively leverage new tools and adapt to the digital workplace. Additionally, the strategy must address the integration of digital and human labor, ensuring that automation complements the workforce (Grab, Olaru & Gavril, 2019).

Implementing a digital change strategy involves several key steps. First, it requires creating a scalable framework that allows the business to adjust to digital challenges and evolving market conditions effectively. This includes fostering a culture of innovation and collaboration, updating management methods, and promoting a mutual understanding of the changes across the organization. For employees, this means adopting new leadership structures and skill sets, and for customers, it involves benefiting from greater transparency and enhanced value propositions. Moreover, companies need to effectively manage and analyze large volumes of data to maintain a competitive edge. Standardizing and automating processes to improve cost-efficiency and maintain competitive market share can lead to this much needed adaptability in a more transparent and innovation driven market. Additionally, measuring digital maturity is vital for assessing the success and progress of digital change efforts, providing insights into how well a company adapts to digital challenges and opportunities (Grab et al., 2019; Manyika et al., 2015).

Enhancing digital capabilities

Training and development of the right capabilities is key to enable technology's benefits. Whole industries and markets have been digitally transformed within a very short period of time. These changes require building new and complementary capabilities to remain competitive and responsive to the continuously evolving market dynamics (Volpentesta, Spahiu & De Giovanni, 2023). Warner and Wäger (2019) outline the importance of developing dynamic capabilities - focusing on sensing, seizing, and transforming - to effectively integrate and exploit digital technologies. These describe the company's capacity 1) to sense opportunities and threat, 2) to seize opportunities, and 3) to maintain competitiveness through improving and adjust the business' intangible and tangible assets. He states that building and integrating these capabilities allow firms to harness the generative potential of digital technologies, transforming them into significant assets for strategic change and sustainability.

1. *Sensing Capabilities* involves digital scouting, digital scenario planning, and digital mindset crafting. This is about utilizing digital technologies to proactively perceive and interpret market trends and consumer needs. It emphasizes the importance of employing advanced digital tools such as artificial intelligence, analytics, and IoT platforms, to uncover valuable insights from large datasets. This enables firms to anticipate market movements and adapt their strategies to meet emerging demands, especially those aligned with sustainability objectives.

2. *Seizing Capabilities* focus on the deployment of agile methodologies and rapid prototyping, which facilitates fast development and launch of new services. This involves strategic agility and the balancing of digital portfolios, enabling firms to pivot quickly in response to new opportunities or threats to either seize or avoid them. The accelerated development cycles supported by cloud computing and social media tools allow companies to enhance customer centricity and scale new products or services with minimal incremental costs.

3. *Transforming Capabilities* deals with navigating innovation ecosystems, redesigning internal structures, and elevating digital maturity. For established organizations, digital transformation requires the management of tensions between internal and external collaboration. This includes building flexible and manageable governance structures and fostering a workforce that is adept both technically and adaptively. These changes are essential for organizations to effectively integrate and leverage digital technologies, improving their overall digital maturity and strategic responsiveness.

This framework is a powerful tool to analyse strategic change in organizations. The purpose of building these dynamic capabilities becomes more important for an increasing range of organisations due to the convergence and generativity of these digital technologies, and the external triggers shown in figure 10. These triggers explain the reason to build the company's dynamic capabilities, while internal enablers and barriers highlight factors that affect the effectiveness of them. The disruptive digitalization wave necessitates the development of new and complementary digital capabilities. These capabilities are crucial for capturing and delivering value in digitally transforming markets (Warner & Wäger, 2019).

4.1.2 Digitalization as a driver for sustainability

The integration of digital technologies into several aspects of society has emerged as a powerful catalyst for advancing sustainable development goals. Recognized by the United Nations as a key enabler of sustainable development, the adoption of information and communication technology infrastructure is important in driving progress towards a more sustainable future (Ceynowa, Przybylowski, Wojtasik & Ciskowski, 2023). The integration of digital tools not only streamlines operations but also enhances energy and resource efficiency, thereby contributing to broader sustainability objectives (Warner & Wäger, 2019).

Digitalization leading to operational and organizational benefits

Efficiency impacts of digitalization have reshaped modern business practices fundamentally. Digital tools play an important role in enhancing operational and organizational efficiency. New digital technologies, such as mobile and the Internet of things, streamline processes and reduce waste, leading to a direct contribution to sustainability goals (Warner & Wäger, 2019). For example, using an application to allow users to shop for suppliers in catering can make the purchasing process more efficient and streamlined. The use of information and communication technologies in organizational innovation can also play a role in improving the efficiency and effectiveness of

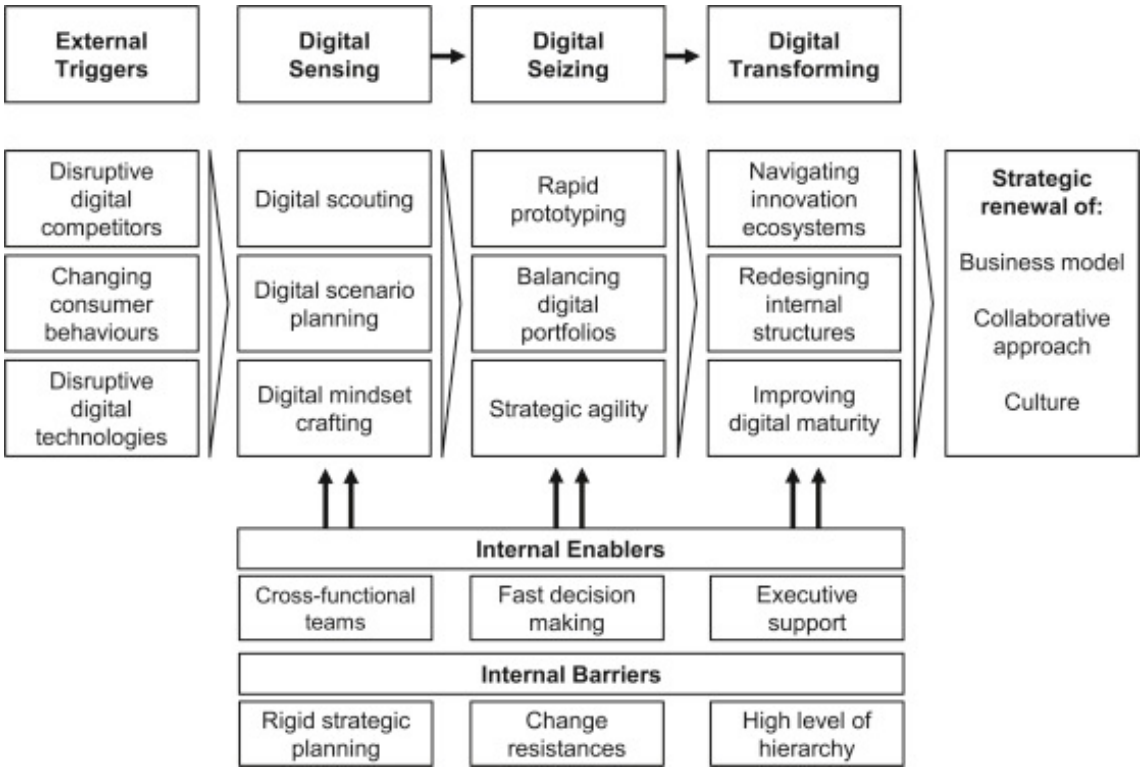

Figure 10: A process model for building dynamic capabilities in a digitally transformative market. Source: Warner and Wäger (2019)

decision-making processes by facilitating real-time data processing. This will speed up operations while minimizing errors, leading to cost-savings (Ceynowa et al., 2023). By enabling more precise tracking and reporting of operations, digital tools help firms make better and quicker decisions, while streamlining operations.

Digital tools can also lead to more efficient use of resources. Management of resources are crucial in the transformation towards sustainable operations. Saura, Ribeiro-Soriano and Palacios-Marqués (2022) identifies that adopting a digital reservations system can increase efficiency of resources. By improving the efficiency of the internal and external organization, entrepreneurs within the organization are enabled to focus on creating knowledge and green resources. Also, leveraging digital tools for tracking and analytics can improve service prediction and demand forecasting. Managing our resources more efficiently through digital tools are important to stay competitive in a changing market.

On the structural front, digitalization significantly disrupts traditional organizational hierarchies. The adoption of digital technologies fosters more flexible organizational forms that are better suited to the dynamic market environment of today. Tools such as collaborative platforms and project management software break down communication barriers, fostering a more networked organizational structure where information flows more freely. This shift enhances the informal networks within businesses, which are crucial for spontaneous innovation and cross-departmental collaboration. A study shows that many employees take informal roles as go to people for advice and information exchange about digital technologies (Bonanomi, Hall, Staub-French, Tucker & Talamo, 2020). Digitalization can increase communication and collaboration through breaking down hierarchies, leading to a more agile and innovation ready business.

Green information systems (Green IS)

Green IS are increasingly recognized as a crucial tool in the sustainability efforts within organizations. These systems are designed to reduce the environmental footprint of information technology itself, but also to enable and enhance the sustainability of business practices across industries. Green IS refers to the design and implementation of information systems that contribute to sustainable business processes, enhancing a company's ability to achieve its environmental sustainability objectives. These systems are central in using IT to transform businesses towards sustainability at both strategic and operational levels. For instance, strategic Green IS includes carbon management systems and sustainable supply chain management, while operational systems might focus on promoting sustainable behaviors among employees through educational and motivational tools (Kirchner-Krath et al., 2024).

Adopting Green IS presents challenges in several areas. Technologically, the integration of Green IS with existing systems can be complex and costly. Psychologically, there is often resistance among employees who may be reluctant to change established workflows. Organizationally, the lack of support from top management can impede the implementation and effectiveness of these systems. Overcoming these barriers requires a concerted effort to engage all levels of the organization, ensuring that Green IS align with user needs, are integrated into daily operations, and support organizational objectives (Kirchner-Krath et al., 2024).

According to Kirchner-Krath et al. (2024), organizations must foster a culture that values sustainability to effectively adopt Green IS. This involves educating and motivating employees about the benefits of Green IS and how these systems support the company's sustainability goals. Engaging top management to champion these initiatives is crucial as their support can significantly influence the success of the adoption process. Furthermore, designing user-friendly Green IS that seamlessly integrate into existing workflows can enhance user acceptance and reduce resistance.

Successful implementations of Green IS demonstrate their potential impact. For example, the e-Genie tool has shown that providing employees with real-time feedback on energy consumption can lead to significant reductions in energy use and increased sustainability awareness. Additionally, gamification elements in Green IS, such as those used in an interactive climate chatbot, have been effective in promoting sustainability-related behaviors like energy conservation and waste reduction (Kirchner-Krath et al., 2024).

Digtialization of MSMEs driving sustinability

Micro, small, and medium-sized enterprises (MSMEs) represent a significant portion of the global economy, often serving as the backbone of local and national economies. Digital transformation presents a unique opportunity for MSMEs to enhance their sustainability practices, align with global sustainability goals, and improve their competitive edge. Martínez-Peláez et al. (2023) emphasize how digital technologies can drive sustainability in MSMEs by optimizing processes, reducing environmental impact, and fostering a culture that embraces innovation and responsible business practices.

Digital technologies offer MSMEs tools to improve their operational efficiency, expand market reach, and develop sustainable business practices. Technologies like big data analytics, artificial intelligence (AI), and cloud computing enable MSMEs to harness significant efficiencies and innovation potential. These technologies provide MSMEs with the capabilities to analyze large amounts of data, leading to better decision-making and enhanced ability to identify market needs (Martínez-Peláez et al., 2023).

One of the primary benefits of digital transformation in MSMEs is the enhancement of operational efficiency and resource use. AI-driven tools, for example, allow for predictive maintenance

that minimizes equipment downtime and extends asset lifespans, reducing the need for resource-intensive replacements. Furthermore, digital platforms can streamline operations, from inventory management to customer engagement, reducing waste and energy consumption (Martínez-Peláez et al., 2023).

Digital transformation supports the adoption of circular economy principles by enabling MSMEs to improve their recycling and waste reduction practices. By leveraging digital tools, MSMEs can track and manage their resource flows more efficiently, promoting recycling and the use of recycled materials in their production processes. This aligns with environmental sustainability goals and helps MSMEs reduce costs and increase profitability (Martínez-Peláez et al., 2023).

Despite the benefits, MSMEs face several barriers to digital adoption, including limited resources, lack of technical expertise, and resistance to change. To overcome these challenges, MSMEs must prioritize strategic planning for digital transformation. This involves identifying key technologies that align with their business goals and sustainability objectives, investing in skills development, and fostering a culture that values innovation and adaptability. Martínez-Peláez et al. (2023) highlights several strategic areas to successfully implement digital technologies:

- Develop a culture that encourages experimentation and is open to change. This involves training and empowering employees to adapt to new digital tools and processes.
- Collaborate with customers, suppliers, and other stakeholders to create shared value and enhance sustainability efforts. Stakeholder engagement can provide insights into market needs and sustainability concerns, which can drive innovation (Salamzadeh, Hadizadeh, Rastgoo, Rahman & Radfard, 2022).
- Select technologies that are most relevant to the business's specific needs. For example, adopting cloud-based solutions can reduce upfront costs and scale with the business as it grows.
- Utilize big data and analytics to make informed decisions that enhance sustainability. This includes everything from optimizing supply chains to improving product design to reduce waste.

4.1.3 Managing digitalization challenges

Transforming digitally has become increasingly important for organizations, but it comes with high failure rates and complex challenges. Research indicates that incumbent organizations face failure rates of up to 70% in their digital change initiatives. These failures often result from internal silos, resistance to change, and inadequate integration between digital initiatives and core business functions. This brings paradoxical challenges that require organizations to manage conflicting demands, such as maintaining robust traditional business practices while innovating with digital technologies. This balancing act is crucial for reducing failure rates and fostering sustainable transformation (Volpentesta et al., 2023).

The literature suggests that digital transformation is infused with paradoxical tensions that must be managed to achieve success. These paradoxes include balancing digital advancement with existing physical operations, aligning short-term profits with long-term sustainability goals, and maintaining organizational flexibility while ensuring operational efficiency. For example, organizations must navigate the tension between leveraging advanced digital tools and maintaining the efficacy of their traditional operational processes. The paradox theory offers a view in which these tensions can be understood and managed. It advises that embracing paradoxes rather than choosing between

opposing strategies can lead to more sustainable and innovative outcomes. This involves adopting a ”both-and” mindset rather than an ”either-or” approach, where digital and physical resources are integrated, and sustainability is aligned with profitability (Volpentesta et al., 2023).

Volpentesta et al. (2023) emphasize that to effectively manage these paradoxes, organizations need a mindset that seeks integration and balance. Successful transformation requires leaving the traditional organizing logic and adopting a paradox-informed mindset. This mindset enables organizations to build momentum in their initiatives and facilitates the renewal process, crucial for sustaining change over time. Managers play a critical role in this process. They must foster an environment that encourages innovation and learning, supports flexibility and resilience, and unleashes human potential. By embracing a paradoxical approach, managers can help their organizations navigate the complexities more effectively, reducing the risk of failure and enhancing the organization's ability to adapt to digital changes.

Leadership and data governance

As organizations navigate through digitalizations, the roles of leadership and governance become increasingly critical in steering these initiatives towards success. Research demonstrates that effective leadership within governance teams significantly enhances stakeholder participation in digital initiatives. Governance Team Leadership is crucial in fostering active involvement from Line-of-Business Stakeholders, which subsequently drives innovation in data compliance projects. The leadership acts as a catalyst in enforcing compliance and in transforming compliance into a competitive advantage through innovative customer engagement strategies (Vojvodic & Hitz, 2019).

Vojvodic and Hitz (2019) highlights strong leadership in digital change initiatives, particularly in overcoming the challenges that accompanies organizational change. Leaders are tasked with aligning digital change initiatives with business strategies and ensuring that these changes resonate well within the organizational culture. This involves managing the delicate balance between maintaining operational efficiencies and integrating new digital innovations. The leadership framework should promote agility and adaptability, allowing the organization to respond swiftly to market changes and emerging technologies.

Identifying and developing the right leadership archetypes is essential for managing digital transformation effectively. Korherr, Kanbach, Kraus and Mikalef (2022)s research outlines four key managerial archetypes - Analytical Thinker, Coach, Guide, and Strategist - each playing a vital role in different aspects of the transformation process. These archetypes help in enhancing data literacy, promoting innovation, aligning projects with business strategies, and fostering an adaptable organizational culture. These leadership styles are crucial for navigating the complexities of digital transformation and for driving the organization towards a sustainable competitive edge.

Effective data governance is central in managing and utilizing data within organizations, especially as they undergo digital change initiatives. Brous and Janssen (2020) emphasizes that data governance is crucial for establishing trust in data science outcomes, making it a foundational element for any organization looking to leverage data science for strategic decisions and operations. A robust data governance framework ensures high data quality, maintains compliance with relevant laws and standards, and aligns data management with organizational strategies, thus enhancing the trustworthiness and usability of data science outcomes. Furthermore, it is pointed out that data governance serves as a critical boundary condition for trustworthy data science. It dictates how data is managed, accessed, and used across different parts of the organization, ensuring that data practices are consistent and reliable. By establishing a strong data governance framework, organizations can ensure that their data assets are not only protected but also effectively harnessed to drive innovation and operational efficiency.

4.2 Project management

Modern project management as a structured discipline began to take shape in the mid-20th century with the establishment of formal project management processes and methodologies, culminating in the creation of the Project Management Institute in 1969. Project Management Institute, with its nearly 300,000 members, promotes the growth and development of project management through various channels including conferences, chapter meetings, and publications (Haugan, 2010). With them at the forefront of documenting and spreading best practices, project management has continued to evolve, incorporating technological advancements and different methodologies to effectively plan, execute, and control projects across industries worldwide.

Kuster et al. (2015) defines project management as covering the whole process of implementing a workload to achieve specific objectives. This includes planning, monitoring, coordinating and controls, which are all required when developing systems or processes. A project can be defined as a temporary effort initiated to create a unique product, service, or result, emphasizing the temporary nature of projects, meaning it has an end date, and each project's uniqueness. Managing projects involve different management functions like planning, organizing, staffing, directing, and controlling. Combining these with the right knowledge, tools and techniques balances the project goals, scope, time, cost, stakeholder needs, and resource availability (Haugan, 2010). Examples of a project can vary from developing a web page to transforming an entire industry, where project management is essential to succeed.

Project management operates within six constraints: scope, schedule, cost, risk, quality, and resources, as shown in figure 11. The scope defines what is and is not included in the project, schedule includes the project's timeline, cost concerns the project's budget, risk revolves around potential problems that can harm the project, quality refers to required standards the project's outputs must meet, and resources include human, material, and technological resources needed for the completion of the project. Together they form a system where changing one will impact the others, and managing them correctly involves understanding how they are interlinked (Haugan, 2010).

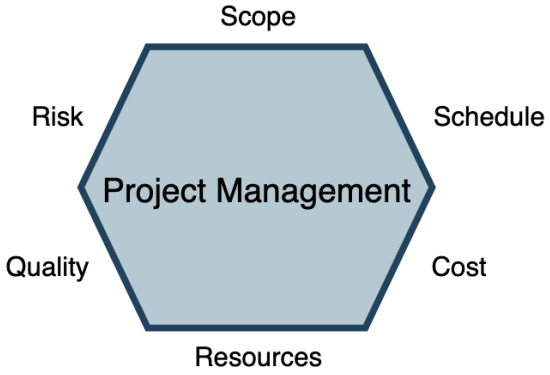

Figure 11: The six project management constraints. Source: Jomaas and Myhre (2023)

Project management is grounded in basic management principles. Project portfolio management involves managing groups of projects, making sure each project contributes to the organization's strategic objectives. Project management office is a framework for managing large projects, providing the support, governance and oversight necessary to align the projects to the same objectives. As management focuses on complete tasks through people, a deep understanding of the organizational culture and environment is crucial to succeed with a project. Different types of projects requires different set of approaches and tools, because they are affected by each project's nature.

Recognizing this is important to find the appropriate management techniques (Haugan, 2010).

4.2.1 Project management methodologies

Project management methodology standardize and organize project management activities through a range of tools and techniques. The aim is to enhance the probability of project success (Pace, 2019). It is fundamental in managing budget, resources, and schedule constraints, and its effectiveness depends on the chosen methodology related to the organizational context (Fernandes, Ward & Araújo, 2015).

The traditional project management methodology follows a linear and sequential approach (Saynisch, 2010). It originated from industries like manufacturing and construction, where projects often had predictable outcomes and linear processes (Haugan, 2010). This approach involves distinct phases shown in 13 and includes initiation, planning, execution, monitoring and controlling, and closing, with a strong emphasis on upfront planning and documentation (Haugan, 2010). It aims to provide predictability and order, adhering to a set pattern of steps (Saynisch, 2010). The linear approach enables early detection and resolution of errors, optimizing efficiency (Pace, 2019).

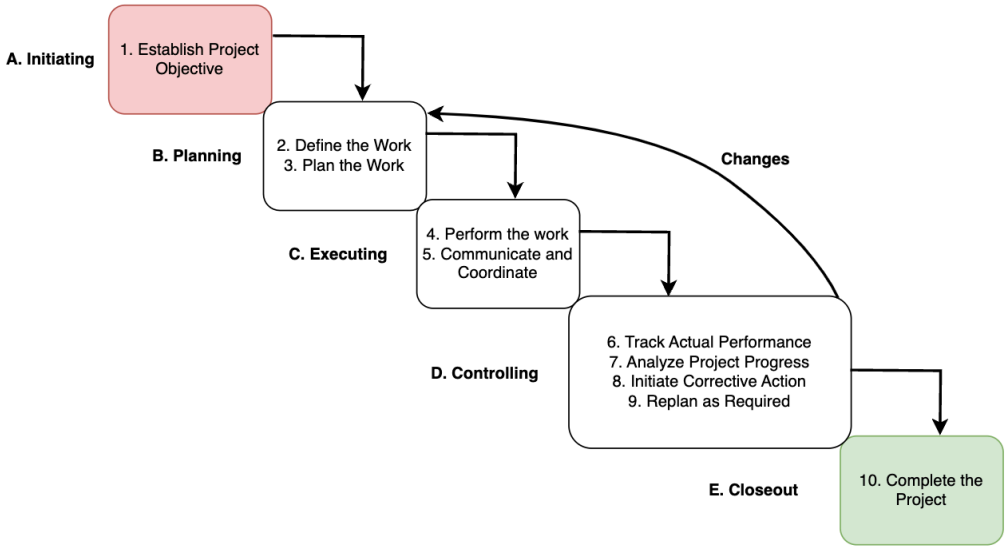

Figure 12: The linear process of traditional project management methodology. Source: Jomaas and Myhre (2023)

Traditional project management methodologies, while advantageous in providing organization and clarity, face several drawbacks (Špundak, 2014). The extensive planning phase can be time-consuming and delay project commencement, and the rigid adherence to initial plans may lead to increased costs if changes become necessary (Špundak, 2014). Moreover, this approach may overlook ongoing stakeholder input or changing needs, particularly in later project stages, posing risks of schedule delays and cost overruns (Špundak, 2014). Recognizing the limitations of traditional project management is essential, especially in dynamic project environments, where flexibility and adaptability are important considerations for project success.

Agile project management stands as a major shift from the traditional project methodology, promoting flexibility and adaptability as its core principles. Rooted in the software development industry of the 1990s, Agile's evolution culminated in the Agile Manifesto of 2001. This prioritized individuals, interactions, and responsiveness to change over rigid processes and plans (Pace, 2019; Špundak, 2014). Agile is characterized by iterative cycles, co-located teams, minimal upfront plan-

ning, and a deep integration of customer involvement throughout the project lifecycle, as shown in figure 13. Unlike traditional methods, Agile thrives on iterative progress, continually refining and adapting to evolving project needs and market dynamics.

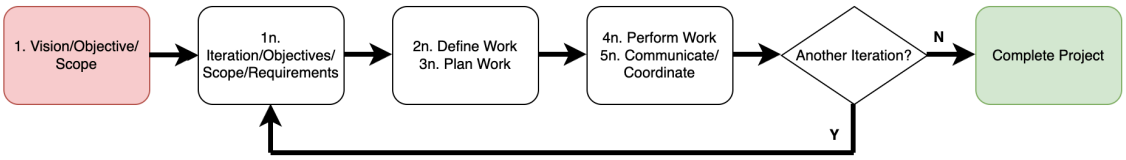

Figure 13: The iterative cycle of agile project management. Source: Jomaas and Myhre (2023)

Agile project management offers many advantages, particularly in its ability to respond quickly to changing requirements ensuring enhanced customer satisfaction and project control (Pace, 2019; Špundak, 2014). By fostering frequent feedback loops and inspections, Agile mitigates risks early on, driving innovation and quality. However, Agile isn't without its challenges. Its inherently fluid nature poses difficulties in predicting project scope and timelines, especially when scaling for larger and more complex projects (Pace, 2019). Additionally, adopting Agile necessitates a cultural shift within organizations, demanding a substantial change in mindset and practices. Agile implementation requires a holistic transformation in organizational attitudes and behaviors to thrive as it is resource-intensive and process-driven (Špundak, 2014). Therefore, while Agile offers adaptability and customer engagement, its successful adoption demands a careful balance between its benefits and challenges within dynamic project environments.

Methodology in Project Success

Project success is a crucial area in project management research, deeply influenced by the choice of management methodology. Historically, project success was measured by the "iron triangle" of schedule, scope, and cost, but this perspective has broadened over time (Joslin & Müller, 2015). A pivotal study by Khan, Turner and Maqsood (2013) introduced a model to identify key success factors, drawing on four decades of literature. This model incorporates both hard and soft factors across five dimensions - project efficiency, organizational benefits, project impact, stakeholder satisfaction, and future potential - providing a thorough framework for evaluating project success. Each dimension contributes uniquely to the overall success, recognizing that projects are more than their outputs, as they also affect the organization and its future direction.

The effectiveness of a project management methodology is largely determined by its fit for the specific project conditions, particularly under the constraints of volatility, uncertainty, complexity, and ambiguity (Špundak, 2014). Traditional project management tends to be more effective for projects with clear, stable requirements, focusing on detailed planning to achieve success (Pace, 2019). In contrast, agile project management is better suited to projects with high uncertainty and evolving objectives, requiring an organizational culture that embraces change. Figure 14 shows difference in characteristics underscoring this. Furthermore, research highlights that the success of a project management approach can depend on its alignment with the organizational environment and the adaptability of its practices to the project's unique context (Haugan, 2010; Joslin & Müller, 2015). Although the direct correlation between methodology and project success can be weak, the strategic tailoring of methodologies to specific project demands plays a critical role in achieving successful outcomes, especially in dynamic sectors like technology (Pace, 2019).

Characteristic	Traditional approach	Agile approach
Requirements	clear initial requirements; low change rate	creative, innovative; requirements unclear
Users	not involved	close and frequent collaboration
Documentation	formal documentation required	tacit knowledge
Project size	bigger projects	smaller projects
Organizational support	use existing processes; bigger organizations	prepared to embrace agile approach
Team members	not accentuated; fluctuation expected; distributed team	collocated team; smaller team
System criticality	system failure consequences serious	less critical systems
Project plan	Linear	complex; iterative

Figure 14: Comparison of traditional and agile project management. Source: Grab, Olaru and Gavril (2019)

4.2.2 Critical success factors in project management

In modern project management, understanding and leveraging critical success factors is essential for achieving project goals. This has become increasingly important in the context of rapid technological advancements and shifting market demands. The roles of leadership, employee skills, and flexibility are highlighted in the literature on driving project success.

The Importance of Leadership

Leadership in project management extends beyond task delegation and supervision. It involves creating a vision, aligning team efforts with organizational goals, and inspiring all stakeholders to engage with the project's objectives. Leadership is essential for both internal and external alignment. Research shows that over 50% of enterprises view experienced project managers as the most important success factor in projects (Vrchota, Řehoř, Maříková & Pech, 2021). Effective leaders motivate their teams and stakeholders around shared goals, particularly in delivering innovative and sustainable solutions. By fostering collaboration, leaders help in overcoming the silos that often hinder project success. They play an important role in promoting a culture of openness and continuous improvement, essential for adapting to changing conditions and technologies (Mansell, Philbin & Broyd, 2020).

Korherr et al. (2022) identifies four key managerial archetypes that are crucial in steering digital transformation projects: the Analytical Thinker, the Coach, the Guide, and the Strategist. Each of these archetypes brings a different set of skills and perspectives to the project, enhancing its chances of success:

1. *The Analytical Thinker*: This archetype excels in technical and analytical domains, often acting as the driving force behind the adoption of new technologies and methodologies within the project. They are adept at identifying and solving complex problems with precision, making them invaluable in projects that require detailed technical oversight and innovation (Korherr et al., 2022).

2. *The Coach*: Emphasizing the human element of project management, the Coach focuses on building team cohesion and ensuring that all team members are motivated and engaged. This archetype is crucial for maintaining high morale and productivity, especially in long-term projects or those involving significant changes. Coaches are adept at conflict resolution and fostering a supportive environment that encourages open communication and collaboration (Korherr et al., 2022).

3. *The Guide*: With extensive experience and a deep understanding of the industry, the Guide provides leadership that is both visionary and practical. They ensure that the project does not stray from its strategic objectives and that it aligns with broader business goals. The

Guide is particularly effective in navigating through market complexities and steering the project through turbulent phases (Korherr et al., 2022).

4. *The Strategist*: Visionary and forward-thinking, the Strategist is key in ensuring that the project meets its current goals and sets the stage for future innovations. They are involved in planning and executing long-term strategies that anticipate market trends and technological advancements. The Strategist ensures that the project contributes to the sustainable growth of the organization (Korherr et al., 2022).

The characteristics of the archetypes match the specifications of the dynamic capabilities described in figure 10. The Guide can leverage his strength within sensing and seizing, where his industry experience can facilitate a structured evaluation of processes. The Coaches strengths are a better fit for transforming, where his social skills and focus on people enable him to reconfigure internal and external resources and promote exchange of knowledge during a transformation. The Strategist and Technical archetypes, on the other hand, have capabilities distributed linearly across all three dimensions (Korherr et al., 2022). Effective leadership and management are crucial in modern project management. By understanding and leveraging the distinct strengths of the different managerial archetypes, organizations can enhance their project execution capabilities.

The Critical Role of Employee Skills and Flexibility

Projects in general, and specifically those driven by technological advancements, demands a highly skilled workforce to handle their dynamic requirements. Employees need a robust combination of technical and soft skills tailored to specific project requirements. Technical skills can include data analysis capabilities and technical problem-solving, while important soft skills include communication, teamwork, creativity, and adaptability. These skills enable employees to collaborate effectively, think creatively to solve problems, and communicate complex ideas. Project success often depends on the team's ability to integrate and apply skills in real-world scenarios. For instance, in digital transformation projects, employees must understand the technology, its business applications, and potential impacts on the company's operations and strategy. This competence helps in aligning technological solutions with business objectives, ensuring that projects deliver practical and sustainable outcomes (Vrchota et al., 2021).

Flexibility in project management is typically seen as the ability to adapt schedules and project scopes, but it's also about the workforce's capacity to handle changes in project demands and technologies without losing momentum. The rapid pace of technological change means that project parameters can shift frequently, and employees must be able to adapt quickly (Volpentesta et al., 2023). Flexibility is particularly crucial in environments where project deliverables are not fully defined at the beginning of the project or are likely to evolve due to external factors such as market trends or regulatory changes. Employees' flexibility is often reflected in their ability to learn and adopt new technologies quickly, to switch between tasks without losing efficiency, and to innovate under pressure. Vrchota et al. (2021) highlights the importance of this agility, emphasizing that it can be the difference between a project that stalls and one that progresses smoothly despite challenges.

Given the importance of skills and flexibility, continuous training and development are essential. Organizations must invest in both formal education and on-the-job training to help employees be up to speed with new technologies and methodologies (Grab et al., 2019). This includes training in agile and lean practices, which are increasingly important in modern project management frameworks. Promoting a culture of learning and adaptability within the organization encourages employees to take proactive steps towards their own skill enhancement and adaptability. It's also beneficial to foster a supportive environment where employees feel safe to experiment and fail, as

this can lead to innovation and improvement.

4.2.3 Sustainable project management

Sustainable Project Management emphasizes integrating environmental, social, and economic considerations into project management practices to achieve long-term benefits for both the organization and society. Aligning project outcomes with global sustainability goals is difficult and will be affected by the sector under consideration. One innovative model that align project outcomes with broader sustainability goals is the Infrastructure SDG Impact-Value Chain (IVC) model. The IVC model was developed to link local-level project delivery in the infrastructure sector with global-level Sustainable Development Goals (SDGs). It incorporates the triple bottom line approach, focusing on social, economic, and environmental aspects to redefine project success beyond the traditional metrics of time, cost, and scope. The model encourages project leaders to think strategically about the sustainability impacts of their projects, advocating for a balanced definition of success that includes long-term outcomes and strategic impacts. By changing the focus from doing the project right, to doing the right project, the model facilitates the integration of sustainability goals into project planning and execution. This ensures that projects contribute positively to environmental, social, and economic objectives as the SDGs (Mansell et al., 2020).

Even though the study indicated that the IVC model positively influences project success and SDGs (Mansell et al., 2020), it has other, more important, takeaways. It is difficult to determine the generalizability of the model to other sectors, but it emphasizes the importance of leadership in sustainability. Noting that the ownership of the sustainable development strategy by infrastructure clients, such as those in the water utility sector, is crucial to achieve sustainability. This involves not only accountability but also ensuring that resources are available to deliver sustainable solutions. Vrchota et al. (2021) supports these findings, and adds the decisiveness of human factors in the success of sustainable projects. Leadership that effectively manage human resources and engages with sustainability initiatives can lead to more substantial and meaningful implementation of projects that support environmental and societal improvements.

Mansell et al. (2020) builds on the UNs SDG Compass when proposing a methodology for the infrastructure sector to initiate the right projects in the right ways. The SDG compass aims to guide businesses on how to align their strategies, and measure and manage their contribution to the Sustainable Development Goals at the same time. The compass consists of five steps as shown in figure 15. These steps are selected to assist companies in maximizing their contribution to the SDGs. Step one assists companies in familiarizing themselves with the SDG framework. Step two encourages businesses to assess their impacts, both positive and negative, across their value chains. This helps them identify areas where they can have the most significant sustainable impact and align their business strategies accordingly. Step three emphasizes the importance of setting goals for business success. By aligning corporate goals with the SDGs, businesses can foster a commitment to sustainable development within their leadership and throughout organizational practices. Step four involves integrating sustainability into the core business processes and across all functional areas, ensuring that every aspect of the company contributes towards the SDGs. Lastly, step five emphasizes transparency. Companies are urged to report their sustainability performance using indicators aligned with the SDGs, fostering accountability and facilitating communication with stakeholders about their progress and impact (United Nations, 2015).

Another way to look at sustainable project management is how project management can be implemented in organizations to both increase the chance of success and contribute to sustainability. Marsina, Hamranova, Hrivikova, Bolek and Zagorsek (2019) states that the integration of project management practices within corporate strategy can significantly influence a company's environ-

Figure 15: UNs SDG Compass. Source: United Nations (2015)

mental impact and operational success. The study finds a significant positive relationship between the level of project orientation in organizations and pro-environmental behaviour. Higher project orientation tends to enhance environmental policies, energy conservation, waste reduction, and the adoption of green technologies. However, organizations' ability to increase their level of project orientation are affected by the line of business they are in. If companies have limited resources or struggle to increase their level of project orientation due to other reasons, the study suggests to prioritize organizational standards and norms, and employee training and development to maximize pro-environmental behavior. This advocates for a strategic approach to project management as a critical driver for environmental sustainability within organizations.

4.3 Change Management

Change management has undergone significant evolution, transitioning from a focus primarily on efficiency and standardization to a broader, more inclusive approach that accounts for the intricate human dynamics involved in organizational change. Initially, Kurt Lewin's "Unfreeze-Change-Refreeze" model outlined a fundamental framework for managing change by preparing for, implementing, and solidifying change within organizations (By, 2005). This model set the stage for the development of more nuanced approaches that emphasize the human and social aspects of change, advocating for participatory methods in the change process. As the business world has become more influenced by rapid technological advances and globalization, change management strategies evolved to include dynamic, continuous improvement models. Kotter's 8-Step Change Model and the ADKAR model are prominent within the field, which serve the fast-paced and ever-changing global business landscape (Hornstein, 2015; Lauer, 2021).

Today, change management is defined as a structured approach that transitions individuals, teams, and organizations from a current state to a desired future state, crucial for corporate strategy in today's dynamic environment. This process is comprehensive and cyclic, aiming to help employees understand, commit to, accept, and embrace changes in their business environment (Lauer, 2021). It involves several key steps: identifying the need for change, planning the change thoroughly, implementing the change with effective communication to minimize resistance, monitoring the implementation to make timely adjustments. The goal is to sustain the change to ensure it is ingrained in the organizational culture for long-term effectiveness. This ongoing, strategic process highlights the continuous nature of change management, where adaptation and commitment are essential for driving successful organizational outcomes and ensuring that project-induced changes achieve their intended goals with minimal disruption (By, 2005; Hornstein, 2015).

Change management approaches

Selecting the right change management approach is crucial in project management, as it can significantly impact the project's success and the overall acceptance of change within the organization. There are various approaches available, each grounded in its unique principles and methodologies, aimed at facilitating effective change management within organizational contexts, particularly during project implementations (Davis, 2017). This decision-making process is influenced by the specific needs of the project, the nature of the change, and the prevailing organizational culture. Change management has evolved from Kurt Lewin's foundational model developed in the 1940s, which encompasses a three-stage process of unfreezing, changing, and refreezing to ease organizations into change (By, 2005). Additionally, models like the ADKAR Model emphasize individual-centric change, supporting employees through Awareness, Desire, Knowledge, Ability, and Reinforcement during transitions (Davis, 2017; Hornstein, 2015).

This Master Thesis focuses on John Kotter's 8-Step Change Model, a detailed framework for implementing successful organizational change, which integrates seamlessly with project management processes (Davis, 2017). As shown in figure 16, this model offers a systematic approach beginning with creating a sense of urgency to motivate stakeholders, forming a guiding coalition of leaders, and developing a strategic vision. The subsequent steps include enlisting a volunteer army to widen support, enabling action by removing barriers, generating short-term wins to build momentum, sustaining acceleration by continuing efforts, and finally, institutionalizing the change within the organization's culture (Davis, 2017; Hornstein, 2015). Projects introduce change by nature and can benefit from a structured approach. Each of these steps is designed to ensure that change is not only implemented but also embraced and sustained.

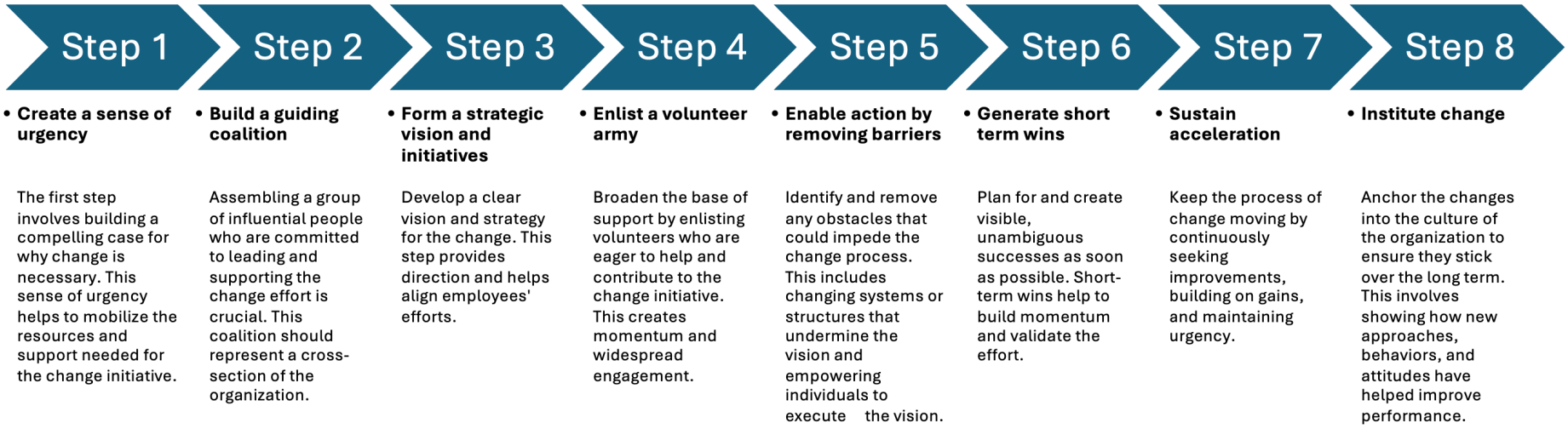

Figure 16: Kotter's 8 Step Change Management Model. Source: Own creation

4.3.1 Change management is important for project management success

Change management is central to achieving successful project management. It is not just a reactive measure to external and internal changes, but work as a proactive effort to guide these changes in line with the organization's strategic objectives. It focuses on preparing, supporting, and guiding individuals, teams, and organizations through changes within the organization. This is crucial as no projects come without the risk of change. All projects can experience changes in either scope, resources, timelines, or stakeholder expectations (By, 2005).

The combination of change management and project management is vital for the successful execution of projects, especially in today's rapidly changing business environment. Figure 17 illustrates the connection. This integration considers both the technical and human elements. Project management oversees the timelines, scope, resources, and deliverables, while change management focuses on the effects of these changes on stakeholders, their adjustment processes, and their need for support (Haugan, 2010; Hornstein, 2015). Adopting a comprehensive approach like this ensures project delivery and secures its acceptance and effectiveness (Hornstein, 2015). Effective change management contribute to smooth transitions, prepares stakeholders for upcoming changes, facilitates effective communication, and mitigates concerns and resistance. It promotes stakeholder involvement in the change process, which enhances decision-making, commitment, and acceptance of the project results (Hornstein, 2015; Lauer, 2021).

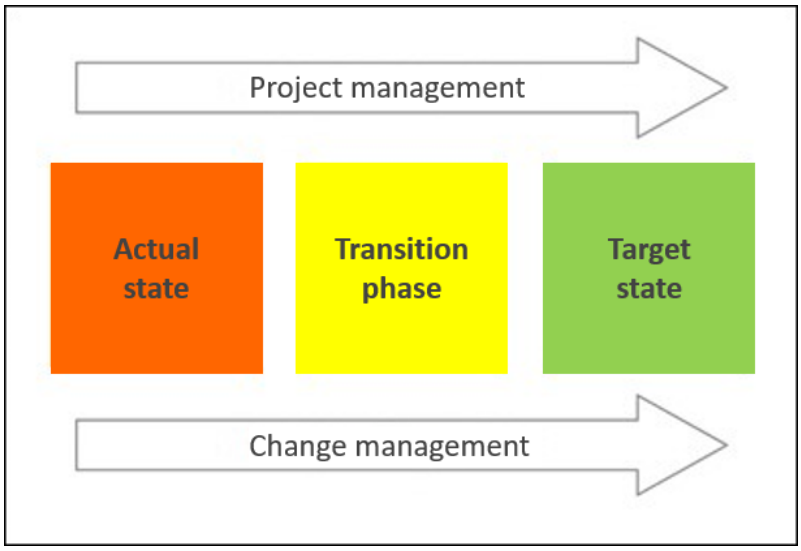

Figure 17: Change management is important for successful project management. Source: Jomaas and Myhre (2023)

Change management ensures that project outcomes are aligned with the broader business goals and strategies, converting technical project details into real organizational benefits and value. By incorporating change management into project management, the gap between technical execution and the individuals impacted by the project is erased. This is important for achieving effective and sustainable results. This integration can be seen as a critical necessity for achieving project success in the complexities and uncertainties brought by projects (Hornstein, 2015).

4.3.2 The interface of strategy and change management

The implementation of strategic change within organizations is greatly affected by the cognitive processes of decision-makers. Cognitive limitations, such as biases in perception, preference for

the status quo, and selective information processing, can significantly influence strategic decision-making. These cognitive biases can lead to a resistance to change, as leaders may fail to accurately assess the necessity or potential benefits of new strategies. Zubac et al. (2021) presents several approaches organizations can adopt to manage these cognitive limitations effectively:

- *Structured Decision-Making Processes:* Implementing structured frameworks that require decision-makers to consider multiple perspectives and scenarios can help mitigate the impact of individual cognitive biases. Techniques such as scenario planning and the use of decision matrices can guide leaders to evaluate options more systematically and comprehensively.
- *Diverse Teams:* Encouraging diversity in decision-making teams helps in bringing a variety of perspectives and counteracting individual biases. Diverse teams can challenge established ways of thinking and introduce new ideas, which can be crucial for driving change.
- *Continuous Education and Training:* Developing training programs that focus on critical thinking and decision-making under uncertainty can enhance leaders' ability to manage their cognitive biases. This education can include the study of behavioral economics and cognitive psychology to raise awareness about common biases and how to avoid them.

It is evident that as organizations become more data-driven, a greater understanding of how cognitive biases of all kinds could impact each aspect of decision-making will be required. However, by addressing these cognitive limitations, organizations can at least improve their capacity to undertake strategic change. It will help them make decisions that are more aligned with long-term goals and less influenced by flawed judgments (Zubac et al., 2021).

Organizational Learning and Recursive Activities

Continual adjustments and recursive activities are a central part of the strategy to handle change. They help align daily operations with strategic goals and increase organizational adaptability. This adaptability is achieved through a robust organizational learning culture that enables continuous assessment and integration of new insights into operational practices. Several initiatives can enhance effective organizational learning, which contribute to successful strategy implementation (Zubac et al., 2021).

Establishing feedback loops within the organization is crucial for capturing data from different stages of the implementation process. These loops should inform decision-makers about what is working and what is not, allowing for timely adjustments to strategies. Simultaneously, promoting a culture that tolerates and encourages the analysis of failures as learning opportunities can significantly enhance organizational flexibility and innovation. By systematically analyzing failures and establishing feedback loops, organizations can prevent future mistakes and refine their strategic processes (Zubac et al., 2021). This will help ensure continuous improvement and adaptation in their operational and strategic initiatives.

Zubac et al. (2021) highlights identifying and empowering change champions within the organization as an action that can facilitate smoother implementation of change initiatives. These individuals can act as liaisons between the leadership and the wider employee base, helping to translate strategic visions into actionable steps and motivating their peers to embrace new ways of working. They can also help ensure that lessons learned from the change initiatives are captured, if the organization has invested in knowledge management systems. These systems ensure that valuable insights are preserved and made accessible, enhancing the collective knowledge of the organization. This also highlights the importance of organizational learning as a continuous process evolving as the external environment and internal capabilities of the organization change.

4.4 Working towards better sustainability performance

Sustainability performance refers to the measure of how well organizations, governments, and communities manage and minimize their impacts on the environment, social and economic factors. Effective sustainable performance management involves the strategic implementation of practices and policies aimed at achieving sustainable development goals. For instance, Nikiforov et al. (2019) emphasizes the importance of green taxation within the framework of the EU's Green Deal, which seeks to enforce stringent environmental regulations and stimulate economic growth. Papamichael, Voukkali, Loizia, Pappas and Zorpas (2023) highlights adopting digital tools, integrating KPIs, and quality protocols as critical for enhancing the accuracy and effectiveness of environmental monitoring. Research also points out how networks, stakeholder participation, and transdisciplinary work contribute positively to enhanced sustainability performance (Bejtush Ademi, Sætre & Klungseth, 2024; Liakh & Spigarelli, 2020; Steger et al., 2021; Teodoro, Prell & Sun, 2021). Comprehensive management of sustainability performance will support environmental laws while driving innovation and economic resilience by fostering sustainable practices.

How networks contribute to sustainability performance

Networks and business groups are two forms of aggregation of firms that significantly affect markets and society around them. Several contributions towards the achievement of SDGs have been made through their influence. They are considered real champions at implementing sustainable efforts, and experimenting with innovative approaches to do it. This enables them to adopt CSR as a value creation driver built inside a company's core strategy, instead of being used as a reactive strategy to protect decent labor conditions, transparency and the environment. Research suggests that both forms have positive effects on CSR development (Liakh & Spigarelli, 2020).

Business groups and networks facilitate CSR implementation at different levels, influencing industry standards, stimulating sustainability-oriented innovations, and optimizing organizational capabilities. Liakh and Spigarelli (2020) shows positive effects on three levels across the external and internal environment. Being able to influence whole industries, they hold some political power when supporting governments in setting industry environmental standards. They promote socio-economic wealth through collaborations with governments to shape local legislations. Internally, sustainability-oriented innovations in interactions between member firms are driven by centralized coordination and control, and vertically integrated knowledge that are individually tailored for each innovative project. In addition, they impact individual SME's CSR that are part of the groups or networks, contributing to an increase in reputational gains, mitigate CSR expenses, and optimize organizational capabilities.

Liakh and Spigarelli (2020) highlights a few other positive impacts of business groups and networks on environmental performance. Firstly, they tend to provide common long-term strategic direction, while sharing knowledge across businesses to build capacity. This can create synergies on all member organizations in promoting learning and continuous competitiveness through peer encouragement. This can help differentiate them from other networks. If successful, their sustainable business operations often inspire others to increase their CSR. Secondly, they optimize organizational capabilities and reduce technical complexities and costs related to CSR implementation.

How stakeholder participation align sustainability views

Stakeholder participation is increasingly recognized as a crucial component in adapting to environmental sustainability challenges (Halbe & Pahl-Wostl, 2019). Engaging a diverse group of stakeholders at different levels and geographical areas fosters a shared understanding and collect-

ive action. This approach is rooted in the principles of empowerment, equity, trust, and learning, aiming to systematize knowledge in ways that benefit all stakeholders. Through participatory processes, stakeholders gain opportunities to interact directly, share viewpoints, and influence each other, which is essential for broadening perspectives and depolarizing views on sustainability (Teodoro et al., 2021). Stakeholder dialogues and collaborative learning, for example through cooperating with business partner, offer learning opportunities that enable testing of ideas into practical applications. This ensures that sustainability principles is embedded into an organization's core beliefs and values (Bejtush Ademi et al., 2024). The strength and quality of social ties formed during stakeholder interactions, characterized by understanding, respect, and influence, play a significant role in shaping stakeholders' perceptions and actions towards environmental issues. This dynamic exchange facilitates social learning, where individuals adjust their perceptions and beliefs through exposure to the views and experiences of others within the group (Teodoro et al., 2021).

Furthermore, the reciprocal nature of relationships in stakeholder participation significantly enhances the process of learning and adaptation to sustainable changes. As stakeholders engage in repeated face-to-face interactions, such as attending workshops and meetings focused on collaborative decision-making, they develop stronger ties and a deeper commitment to collective goals. This ongoing engagement is crucial for achieving lasting sustainable impacts, as it ensures continuous input and feedback. The influence of social networks within these participatory settings enable stakeholders to share critical information and insights, but also to challenge and expand each other's understanding of what is possible within sustainable management. Such interactions, though time-consuming and resource-intensive, are important for aligning different viewpoints and fostering a unified approach to tackling the complexity of sustainable transformations (Teodoro et al., 2021).

How organizational learning help organizations face sustainable transformations

Bejtush Ademi et al. (2024) states that organizational learning is a capability that helps companies face an ever changing environment. The article looks at how a conglomerate with business entities within the media industry, e-commerce, distribution industry and finance industry enhance understanding of sustainability and sustainable business models through organizational learning. Organizational learning can happen through three learning mechanisms identified as knowledge creation, knowledge retention and knowledge transfer.

Knowledge creation initiatives provide experiential learning opportunities that allow testing and refinement of ideas into practical applications. At the same time embedding sustainability principles into the organization's core values. Knowledge creation follows the paths of learning-by-doing, acquiring knowledge through external resources and collaborative learning. Initiatives like stakeholder dialogues, sustainability workshops, sustainability certifications, inviting subject experts to lecture employees, internal sustainability training, and applying international standards and reporting initiatives, are found critical in understanding sustainability. Also, collaborative learning through cooperating with business partners is important to address sustainability challenges practically and extract valuable knowledge, while collaborating with research institutes can bring unique expertise outside of the organization's knowledge base. Attending sustainability conferences are found beneficial to help identify desirable partnerships and internal collaboration across business units can help establish interdisciplinary learning networks. These collaborations can result in fostering a space for learning, innovation and obtaining knowledge (Bejtush Ademi et al., 2024).

Knowledge retention helps disrupt the status quo, enhance human capabilities to drive sustainability and focus sustainability in business discussions. It is defined as the storage of created knowledge for future use, by embodying it in individuals and organizational routines. Knowledge

retention initiatives include educating sustainability ambassadors, creating sustainability forums and communities, and adopting international standards and frameworks. Sustainability ambassadors cultivate a stronger sustainability culture and logic in the organization, while communities help individuals exchange knowledge to learn about sustainability and innovate new sustainable business models. Adopting standards and frameworks integrates sustainability as a criterion in decision-making, effectively incorporating sustainability practices into the organization (Bejtush Ademi et al., 2024).

Lastly, Bejtush Ademi et al. (2024) outlines that knowledge transfer facilitates internal circulation of knowledge and enhance knowledge bases in receiving units. Knowledge transfer is explained as the transfer of created knowledge within and across organizations. Having a sustainability department or group is crucial as they are accountable for transferring knowledge to other departments and individuals. Knowledge transfer initiatives include sustainability training programs, designing specialized sustainability guides for business units, use pilot sustainability projects and sustainability reporting. Implementing these initiatives led by sustainability teams has proven to facilitate learning, knowledge sharing, integration of sustainable practices and the development of new strategies.

4.4.1 How trans- and interdisciplinary work find the best solutions

The core of transdisciplinary work involves collaboration between scientists, practitioners, and stakeholders from different sectors, creating a ”science with society” approach. This model promotes collaborative learning and co-production of knowledge, where participants engage in mutual learning and contribute equally to the process, as shown in figure 18. Projects that effectively implement this collaborative approach tend to have a higher impact on policy and higher project success, especially when initiated by practitioners or stakeholders rather than by researchers alone. This suggests that when diverse perspectives are integrated, the solutions developed are more likely to address sustainable challenges (Steger et al., 2021).

Steger et al. (2021) recommends three factors that will affect the success of future transdisciplinary work. Firstly, balancing diverse perspectives by careful formation and design of partnerships. This balance facilitates the integration of diverse knowledge bases and experiences, which is fundamental for developing holistic and sustainable solutions. Secondly, promoting communication, learning, and reflexivity through encouraging open communication and continuous learning among participants. This helps overcome potential conflicts and power asymmetries, ensuring that assumptions, beliefs, and practices are continuously questioned and refined. And lastly, increasing policy impact to enhance relevance and applicability of the research. This aids in practical implementation and scaling successful interventions.

Diversity in transdisciplinary work ensures that multiple perspectives are represented, enhancing the complexity and richness of discussions and the solutions derived. This diversity extends beyond academic interdisciplinarity to include varied cultural, social, and professional backgrounds. This contributes to the credibility and legitimacy of the results. The involvement of diverse actors helps in navigating the complex socio-environmental landscapes, ensuring that solutions are scientifically sound and also socially acceptable and implementable (Steger et al., 2021).

Braßler and Sprenger (2021) highlights the significant role of structured interdisciplinary education in enhancing sustainability knowledge and behaviors. By combining expert lectures with practical tutorials, participants can gain a deep understanding of sustainability issues and learn how to apply this knowledge in real-world settings. This educational approach is particularly effective in building a knowledge base that supports more advanced transdisciplinary work. Bejtush Ademi et

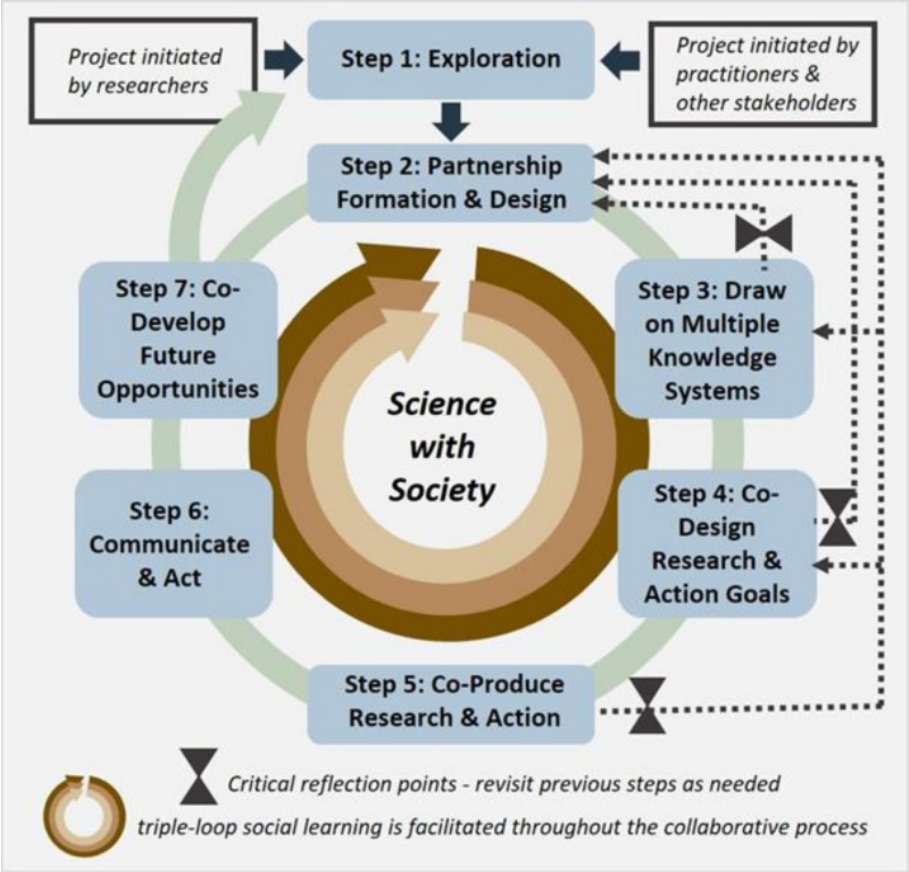

Figure 18: Model for the science with society approach. Source: Steger et al. (2021)

al. (2024) also found that collaboration across business units and with research institutes in media industry, e-commerce, distribution industry and finance industry lead to knowledge creation within sustainability. Trans- and interdisciplinary approaches are critical in navigating the complexities of environmental sustainability. By fostering collaborative, inclusive, and learning-oriented environments, these approaches enable the development of solutions that are effective and grounded in realities of all stakeholders.

4.4.2 Tools for environmental management

Research shows that there is a pressing need to reform and strengthen green taxation policies in the future, even though EU has introduced several environmental regulations over the last five years, including the European Green Deal, EU Taxonomy, and CSRD. This includes making the tax incentives more comprehensive, applying stricter regulations, and ensuring that these measures are systematically enforced to encourage significant ecological and economic benefits. This is proven necessary as soft measures have provided little effect on industry behaviour. Instead of being a limitation for ever-growing GDP, green taxation should stimulate economic growth through reducing emissions. Key economic indicators suggests that it can become a source for new jobs and become a new engine of socio-economic growth through influencing the environmentally harmful behavior and generating revenues for budgets (Nikiforov et al., 2019).

In light of green taxation and directives like the European Green Deal and the Sustainable Development Goals, tools are necessary to monitor and assess sustainability performance. Papamichael et al. (2023) looks at KPIs, quality protocols, and digitalization, and evaluate the effectiveness

of these in enhancing the sustainable performance of industries. KPIs like life cycle assessment is often used to analyze waste, emissions and environmental performance of a given system, including industries or facilities. Quality protocols are introduced to mitigate biases in KPIs and decisions made by policy makers, as these increase standardization. Policy makers can get help to make such decisions by the integration of digitalization. It promotes using smart systems, helped by technologies like IoT and big data, to get real-time monitoring and decision-making. The study suggests that a hybrid approach of these three tools will increase sustainability performance.

The hybrid approach combines the strengths of each method and eliminates their weaknesses. This creates a synergic approach to monitor an industry or company's sustainability performance. Digital tools and KPIs can lack standardization, which is compensated by using quality protocols that are internationally accepted, like the ISO-standards. However, quality protocols usually focus on one form of establishment, either business, industry or city, which can give unrealistic expectations to targets of EU legislation strategies. KPIs and digital tools handle the targets of such strategies way better. Also, digitalization provides efficiency through automation to deal with the time consuming activity of analysis and creation of new KPIs for sustainability management (Papamichael et al., 2023). In this way, these three tools create a holistic approach to monitor sustainability performance.

4.5 Synopsis

The theory chapter provides a comprehensive framework for understanding the interconnections between digitalization, project management, change management, and environmental performance. It highlights how these themes collectively drive innovation, achieve strategic goals, and promote sustainable development in the business environment.

Digitalization transforms business models and operations, making it essential for maintaining competitiveness in a fast-evolving market. It is highlighted as a sociotechnical process that integrates digital technologies across all business facets, fundamentally altering how organizations operate and deliver value. The chapter explains the continuum from digitization to digital transformation, emphasizing the strategic implementation of digitalization. This involves reshaping business operations, creating scalable frameworks, fostering a culture of innovation, and integrating digital and human labor. Digital technologies act as a catalyst for sustainability, enhancing operational efficiency, resource management, and supporting the adoption of green information systems (Green IS).

Project management methodologies are crucial for managing constraints and achieving successful project outcomes. The chapter contrasts traditional linear approaches with agile methodologies, which promote flexibility and iterative progress. It emphasizes the importance of selecting the appropriate methodology based on specific project conditions and highlights critical success factors such as effective leadership and employee skills. Sustainable project management is presented as an integration of environmental, social, and economic considerations into project practices. The Infrastructure SDG Impact-Value Chain (IVC) model is discussed as a framework for aligning project outcomes with sustainable development goals, highlighting the significance of leadership and organizational standards in driving sustainability.

Change management is explored as a structured approach to facilitating organizational transitions. Foundational models like Lewin's and Kotter's are discussed, focusing on integrating change management with project management to ensure successful implementation. The role of leadership in managing cognitive biases and promoting organizational learning is highlighted as crucial for effective change management.

Finally, the chapter looks at sustainability performance, which involves managing and minimizing impacts on the environment through strategic practices and policies. The role of networks, stakeholder participation, organizational learning and transdisciplinary work in enhancing sustainability performance is examined. The importance of tools such as KPIs, quality protocols, and digitalization in monitoring and assessing sustainability performance is emphasized, presenting a holistic approach to achieving sustainability.

5 Interviews

The aim of this master thesis is to examine what national confederations can do to implement a successful sustainable transformation for the service industry. Together with NHO, we have become aware that Denmark and DI is further ahead in this transformation (Menon Economics, 2019). To reach a presentation of possible suggestions, we have chosen to investigate how Danish Industry has conducted a sustainable transformation of the service industry, including their Climate-Ready Service Organization initiative.

As presented in the methodology chapter, this master's thesis is a triangulation consisting of a document analysis, literature review, and interviews [5]. This part of the thesis will present our findings from the interview part of the triangulation. In the next chapters we will go through the document analysis. Finally, we will use the findings in the discussion with the aim of ending up with a presentable proposal for how confederations can master this sustainable transformation.

5.1 Background

The interviews in this thesis have been divided into two parts. The first part deals with Norway and how representatives from NHO and their members deal with the sustainable development. The second part concerns Denmark and here how the perspectives from the representatives in DI and their members, look like.

In Norway the goal was to see what the current situation looks like and how representatives position themselves in the sustainable transformation. This also includes what they believe are various suggestions for measures, or how they work around the main themes we wish to explore further; what sustainability is, what a transformation of the service industry entails, especially with regard to sustainability, and the role strategy and change management play in a transformation process.

The same applies for Denmark where the interview process focuses on exploring the perspectives of representatives from DI and businesses within DI, on the same sustainability topics. The aim is to use what DI has achieved so far as possible guidance tools for NHO, and it was therefore important to ensure that a similar group of people was selected in Denmark. However, given Denmark's successful implementation of the Climate-Ready Service Organization, additional questions were used to collect relevant information. This was crucial to understand the strategies and actions that have contributed to their success.

Another aspect that emerged from the interview subjects, which proved to play a central role for many in achieving sustainability, was digitalization. This includes how various digital tools and strategies could help to make organizations and industries more efficient, reduce waste, and optimize operations. Hence, combined with the findings from the theory chapter, it will be applied as an aspect of how to obtain a sustainable transformation of the service industry.

5.2 What sustainability entails

Sustainability is a wide term and there are different perspectives of how to be sustainable. This section consists of the interview objects thoughts of what sustainability entails, from Norway and Denmark, respectively. It will be a general view of the sustainability and also mention the connection it has to the service industry.

5.2.1 Norway

Through the interviews, it becomes clear that there is a broad understanding of sustainability that includes environmental, social, and economic aspects. There's a shared recognition that sustainable practices are not only beneficial for the environment but can also lead to economic gains and strengthened social responsibility. The approaches and perspectives of the interviewees vary, but they share a common goal of promoting a sustainable transformation of the service industry.

In the interviews, a consensus appear about the necessity of including sustainability into all aspects of the organization's operations. This includes everything from decision-making processes to daily operations, highlighting the importance of sustainability becoming an integrated part of the company culture. Furthermore, there is agreement that sustainability is not just about environmental actions but also includes social and economic sustainability. This three-parted focus is central in the discussion about sustainability and illustrates a deeper understanding of how different aspects of sustainability are dependent and contribute to a more sustainable future.

Specifically, respondents point to the circular economy, reduced consumption, and reuse as crucial strategies for achieving sustainable goals. This includes ideas like less energy consumption and a increase in material reuse, which is not only good for the environment but also has the potential to lead to economic savings. Through the interviews, there is a common understanding that a sustainable approach generally requires a comprehensive change in how businesses operate, a change that is both necessary and achievable through targeted effort and innovation.

The interviews also had some unique perspectives and approaches to sustainability, which vary among the respondents. Firstly, there's a strong emphasis on ESG (Environmental, Social, Governance) as a framework for measuring sustainability. Some respondents highlighted how sustainability work does not necessarily entail higher costs and can actually be cost-effective. This challenges the myth that sustainable solutions are more costly than less sustainable alternatives, as mentioned by interview object 5.

Secondly, there was a distinction between the focus on climate actions and the need to embrace sustainability in a broader sense, including other environmental factors. Some interview subjects emphasized the importance of a dual materiality analysis to gain a bigger understanding of sustainability, pointing out that one should not be blind to only carbon emissions. This analysis is a way to check how companies impact the climate through their emissions, and how the company is affected by the climate change.

Furthermore, there was a particular focus on a practical approach to sustainability. For example, interviewee 12 highlighted the importance of reducing the use of chemicals in cleaning and food waste in canteen services as concrete actions of how to achieve sustainability in everyday operations. This shows how small, but targeted changes can have a significant impact on more sustainable operations in big organizations.

Subcategories of sustainability

Sustainability include several elements, and from the interview objects it emerges that sustainability is not a one-sided concept, but rather involves several subcategories that together results in what sustainability implies. This includes environmental actions, social sustainability, and economic sustainability, each with its own specific focus areas and goals.

Environmental Actions: This area is emphasized in the interviews, with a range of measures to promote environmental protection. Examples mentioned include reduced use of chemicals and

fuel, which not only serves the environment but also contributes to economic savings through more efficient resource use. Moreover, route optimization and less/shorter transportation routes are mentioned throughout the interviews. These measures could be essential to reduce the direct environmental impact of business activities, especially on an everyday basis.

Social Sustainability: This concerns human well-being and fair treatment within society and the workplace. The interviews highlight the importance of workforce integration, skills development, and building resilient communities as key components of social sustainability. This involves recognizing that sustainable development also contribute to how we treat people and build strong, democratic social structures. Interview object 3 mention that there are 160 nationalities across the service industry, all with different backgrounds and religions. In such cases, the social aspect appears as crucial.

Economic Sustainability: The economic aspect of sustainability implies the necessity for businesses to be not only environmentally and socially responsible but also economically viable over time. The interviews highlight how sustainable practices can lead to economic gains, for example through reduction in chemicals and fuel consumption. This points to an understanding that sustainability and economic success are not mutually exclusive, but can reinforce each other.

Throughout, there is an acknowledgment that these subcategories of sustainability are intertwined and dependent on each other to achieve sustainable development. These measures and focus areas illustrates that there is a complexity in sustainability work and necessary to take every aspect into account. Collectively, all perspectives reflect a wide range of what sustainability is, and what measures can be used to achieve sustainability in the service industry. Each measure has its own set of challenges and opportunities, ranging from strategic use of the ESG framework to practical actions for improving and reducing resource use.

5.2.2 Denmark

In the Danish interviews, it becomes clear that the understanding of sustainability contains more than just environmental measures, it include social and governance aspects, which are grouped under the ESG term that occur frequently throughout every interview. After the interviews, there is a feeling that the social aspects, is especially important, given that there was a general consensus that the service industry is about services to the people. There are not any huge production facilities directly involved in the work, so affecting the CO2-emissions and automate processes are difficult. The social side of sustainability is where the industry truly can make a difference.

Environmental aspects focus on the company's direct and indirect impacts on nature, such as emission reductions, improving resource efficiency, and minimizing waste. Social aspects revolve around the company's responsibilities towards its employees and the broader community, which may involve everything from workers' rights and fair trade to community engagement and ensuring good working conditions. Governance aspects concern how a company is managed and controlled, including transparent reporting, ethical leadership, and shareholder involvement.

The interview objects particularly emphasize the importance of ESG reporting as a key element in their sustainability efforts, now regulated in Europe through the Corporate Sustainability Reporting Directive (CSRD). Interview object 7 also expresses that the Danish Industry has been cooperating with EU on development of ESG, CSRD and other regulations. The interview object also mention that DI is the only business organization at European level, in the central comité, where they design CSRD and its over 1,100 different indicators that companies must report on, for instance. This form of reporting helps companies measure and understand their sustainability impact, and also communicates this data in a clear and standardized manner to stakeholders and

regulators.

Some aspects and subcategories of sustainability
The Danish representatives display a wide range of approaches and measures to integrating sustainability into their operations. This includes everything from automation and digitalization to increase efficiency and reduce resource use, to strategic partnerships with other companies and organizations to strengthen their sustainability efforts.

Environmental Sustainability: Several interviewees mention specific initiatives such as reducing food waste in cafeterias and using eco-friendly products and practices. Interviewee 16 focuses on reducing food waste and offering climate-ready solutions as part of their service operations.

Social Sustainability: This includes measures to improve working conditions, promote inclusion and equality, and develop employees. Interviewee 17 emphasizes the importance of employee development and equality as a fundamental element of the sustainability strategy.

Governance Sustainability: Good corporate governance and transparency in decision-making processes and reporting are also important aspects. Interviewee 14 discusses how they integrate Corporate Social Responsibility (CSR) by changing the car park into electric cars, and ESG into their governance structures to ensure responsible operation and reporting.

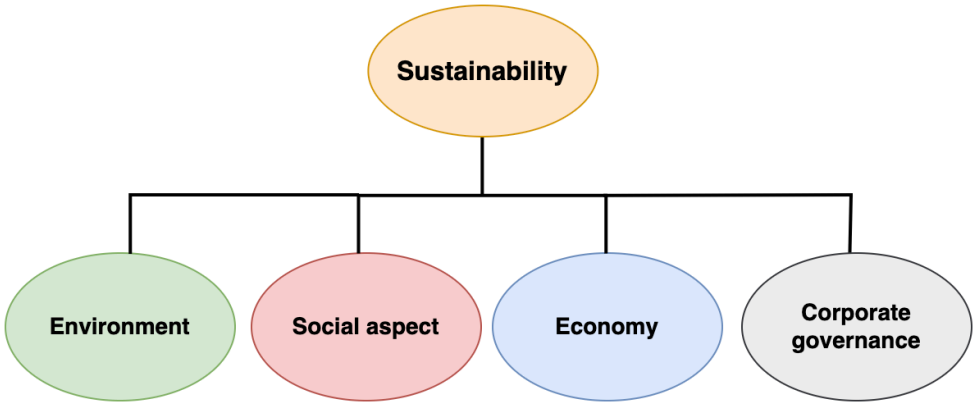

Figure 19: Self-made illustration of the what elements the interviewees across Norway and Denmark include in sustainability.

5.3 A sustainable transformation of the service industry

Transforming the service industry sustainably can be done in many ways. In order to get a holistic understanding, we wanted to review the interviewees perspectives on what they believe a transformation in general is, before connecting the terms, *transformation and sustainability*, and how they allign for the service industry. There will also be introduced some of the concrete measures mentioned to drive such a change.

5.3.1 Norway

Transformation process
The interviews reveals different perspectives and strategies for achieving a sustainable transformation in the service industry. Despite this, there is an collective understanding that it involves

shifting from strategies and business models affecting the climate, to new ones that does not. While challenges such as employee engagement and change management are frequently mentioned, interviewees also point to numerous opportunities through innovation, technology, and collaboration. There's a clear understanding that a sustainable transformation is not only necessary to address environmental challenges but also to ensure long-term success and competitiveness in the market. A depth of understanding appears about what a transformation process entails, especially regarding sustainability. This process is extensive and includes the core of the organization, from basic business strategies to daily operations. There is a recognition among respondents that transformation extends beyond superficial changes; it's about redefining the business's role and function in society.

Challenges in leading and engaging employees in this change process are often mentioned, but significant opportunities opening up through innovation and new business models are also highlighted. This illustrates a clear understanding that while the path to sustainable transformation can be demanding, it is also filled with potential for renewal and growth.

The interview objects share a vision of transformation as a necessary transition to more sustainable operations, which both minimizes negative environmental impact and leverages technological advancements to improve efficiency. This transition is not seen only as a response to external pressure or regulatory requirements but as a strategic repositioning that can secure the business's long-term survival and success.

Central in the transformation, the representatives believe that it requires more than just technological upgrades or changes in operational procedures; it necessitates a fundamental shift in organizational culture and how the business recognize its responsibility towards society and the planet. This includes a willingness to reconsider and possibly reshape existing business models to fully embrace principles of sustainability. There's an sense that the transformation towards sustainability is a journey requiring clear vision, patience, and commitment from all levels of the organization. There is a bottleneck effect, and interview object 13 clearly states that if the leaders and board do not have an understanding of the need to transform, nothing gets done as they shut down operations in the underlying levels. While the process may be filled with challenges, it is also a path that offers new opportunities to create value in a way that balance environmental and societal needs.

Sustainable transformation of the service industry

In the discussion on the sustainable transformation of the service industry and how organizations concretely work with sustainability, there is a diversity of strategies and measures. This reflects both how complex a sustainable development can be and the industry-specific knowledge required for effective implementation. The respondents describe a transformation process that involves both broad-scale strategic changes and more detailed, practical measures to promote sustainability at all levels of the organization.

This process often begins with the realization that a sustainable transformation as mentioned, include more than just environmental aspects. For many interview objects, this means implementing practical measures such as transitioning to electric vehicles, reducing the use of chemicals, and optimizing resource use through technology and innovation. For instance, the digitalization of services and remote monitoring of machines energy usage, illustrate how technological advancements can lead to more efficient and environmental operations, while also opening up new ways to deliver services that are beneficial for customers.

On a deeper level, the sustainable transformation of the service industry reflects how services are delivered, with an increasing focus on minimizing their footprint and promoting social justice.

This can include everything from changing business models and working methods to developing new products and services that meet strict sustainability criteria. Furthermore, the importance of building an organizational culture that values and promotes sustainable practices is illustrated to back up business's identity and values.

The work on sustainability is also described as a process of continuous improvement and learning, where organizations not only implement known sustainable solutions but also engage in innovation and development of new sustainable technologies and methods. This requires a strong commitment to collaboration and knowledge sharing, both internally among departments and externally with other organizations and industries. Collaboration is especially important for overcoming industry-specific challenges and benefiting from others insights and experiences.

In addition to the more practical aspects of sustainable transformation, many of the interview objects also highlight the importance of strategic planning and long-term thinking. This includes developing clear sustainability goals and action plans, as well as establishing measurement and monitoring systems to track progress and ensure that sustainable practices are actually implemented with the desired results.

Example of measures to obtain an sustainable transformation of the service industry

In the interviews, several concrete examples and strategies were presented, illustrating how organizations navigate the transformation process towards sustainability within the service industry. These examples shows a variety of approaches that organizations have used to meet the sustainable challenges and opportunities in the industry. From strategic planning to operational implementation, these approaches emphasize the importance of an integrated and targeted effort to achieve sustainable goals.

A recurring topic is the need for business models that align more closely with the principles of sustainability and can operate balancing both the environment and society. This often involves a transition from traditional, linear models, which are largely based on resource consumption, to more circular models that promote reuse, recycling, and efficient resource use. For example, the use of electric vehicles and digitalization are highlighted as methods to reduce carbon footprint and increase efficiency in service delivery. Beyond technological innovations, the interviews point to the significance of cultural and organizational changes that support sustainable transformation. Building a sustainable culture requires commitment from top management and a willingness to explore new ways of thinking and operating. This can include establishing interdisciplinary teams working together on sustainability goals, as well as integrating sustainability into all aspects of the business's operations - from product development to marketing and customer engagement.

Another critical element in sustainable transformation is strategic planning, which involves setting clear, measurable goals and developing action plans to achieve these goals. This can range from reducing energy consumption and waste to promoting social inclusion and economic viability. To support these efforts, the importance of measurement systems and KPIs to track progress and adjust strategies as needed is emphasized. Interviewees also provide insights into how collaboration and partnerships play a critical role in accelerating sustainable transformation. By sharing knowledge, resources, and best practices, organizations can learn from each other and contribute to industry-wide changes that support a more sustainable future. This includes partnerships between businesses, governments, educational institutions, and civil society, all of which can contribute unique perspectives and resources to the sustainability effort.

Through these interviews, it becomes clear that sustainable transformation requires a holistic approach that addresses both the big strategic questions and the more practical, operational

challenges. By employing a combination of innovation, cultural changes, strategic planning, and collaboration, organizations demonstrate a strong commitment to not just navigate the complex landscape of sustainability but also to actively shape it to create a more sustainable and just world.

5.3.2 Denmark

Understanding of the transformation process

The general insights from the Danish interview objects are the same as in Norway, with an common understanding that a sustainable transformation in the service industry is a complex process with several important factors to succeed. It involves recognizing that sustainable changes can require a fundamental change in how organizations operate. But what is also worth mentioning, is the findings from the interview objects from DI. It is a common understanding that the Danish Industry's part in the transformation process is to be an advisor, they cannot force any transformation on the companies. DI is a business organization that aligns for a sustainable transformation, other than that is up to the organizations within the Confederation, to implement sustainable transformation themselves. As the interview object 17 says, "we can give them all the tools, but it is they who must transform within their own organization".

At the same time, several interviewees acknowledge that transformation requires a cultural change within organizations. This involves developing a shared understanding of sustainability goals, as discussed by Interview object 8 and 17. They emphasize the importance of a holistic approach to sustainability, where environmental, social, and governance aspects are integrated into the core activities of the business. This entails a shift in how sustainability is integrated into organizations' strategies and daily operations, where the need for a collective effort from all levels of the organization is crucial for success.

These perspectives strengthen that a sustainable transformation of the service industry is not just about making existing practices greener. The organization's overall impact on society and the environment, must be evaluated. This process challenges traditional business models and operational approaches and opens up for innovative ways to deliver services that are both economically viable and environmentally sustainable.

Sustainable transformation in practise

There are diverse approaches and initiatives described by the Danish representatives that illustrates how organizations can implement strategies to meet sustainability goals and succeed in a sustainable transformation. These measures are often specific and practical, designed to deeply integrate sustainability into daily operations and long-term strategic objectives.

Among the insights from the interview objects is that a transformation could involve everything from technological upgrades or procedural improvements, to simple practical improvements. For example, Interviewee 16 points out the need to change and use less chemicals in the cleaning industry as part of a more environmental friendly practice. This illustrates how even small, seemingly simple changes can have implications for both the environment, but also contribute to the companies economic sustainability by reducing resource usage. The interviewee mention Internet of Things and a program called "Climate Dashboard", as tools to calculate how much product you need, and sensors for when you need cleaning.

Another practice highlighted is collaboration and knowledge sharing within the industry, as emphasized by Interviewee 8. This includes sharing experiences and solutions across companies to quickly implement new laws and regulations, and leveraging collective knowledge to address common challenges. Through such collaborations, industry players can collectively enhance their sus-

tainability work and find solutions that are both innovative and feasible.

These approaches are complemented by strategies aimed at making sustainable practices attractive to both employees and management, as described by Interviewee 14 and 17. These include changing the value chain by setting requirements for suppliers and partners, and creating awareness and understanding of sustainability through internal communication and training. For example, making sustainability attractive internally is essential for recruiting the right talent and maintaining engagement and motivation among existing employees.

From the Climate-Ready service organization project to the ESG-Ready service organization project
The Climate-ready service organization initiative, from the Confederation of Danish Industry is something that was also often mentioned by the representatives. This is a tool to help companies with their climate accounting, in other words, making their CO2 emission reporting easier. This was an initiative they implemented after a demand and request from the customers. In other words it was created after there was an actual need for it. It was also revealed that this project is already being developed further, in order to respond to evolving markets and regulations. This is what the Danish Industry representatives call ESG-ready service industry.

Unlike the Climate-ready service initiative, the ESG-ready service initiative, is not created as a response to customer request. It is developed to be prepared for all the upcoming ESG-regulations and reporting. This project is about predicting and searching for interest-areas and opportunities where they can provide help to their member-organizations. As interview object 17 says, "We are first-movers in the whole Danish Industry with this initiative". The project is about creating 8 double materiality analyses that cover the 8 main industries under the service sector within DI. This ESG-ready project will help businesses get started with ESG reporting.

In the development of both projects, cooperation and partnership has been crucial. The Confederation of Danish Industry has worked closely with some of their members as ambassadors for the projects. In that way they can make sure the initiatives fit, and also get valuable feedback. For example, interviewee 14 was included into the Climate-ready education, as a representative for its organization and service, to help develop it.

5.4 What forces are driving the need for a sustainable transformation?

There can be many reasons for a sustainable transformation, and there are several driving forces. It can be because of laws and regulations, it can be because of competitive advantage, it can be because of internal forces within the company or it can be because of the fact that it is more clear now how the climate is affected, given more harsh and unpredictable weather for example (Commision, 2024; Hutchinson et al., 2021)

5.4.1 Norway

A transformation of the service industry does not happen by itself, and the interviews illustrate a range of different barriers, driving forces, regulations, and other contributing elements. Through these observations, it becomes clear that the driving forces behind sustainable transformation are multifaceted and deeply integrated into the modern business landscape. There is a growing recognition among the representatives that sustainability is no longer just a moral choice, but a necessity for ensuring long-term success and survival in an increasingly aware and demanding global market. It is clear in all of the interviews that while there are strong forces promoting

sustainable change, the sector also faces significant challenges that must be overcome. At the same time, regulations provide a fundamental framework that can both support and shape the direction of this transformation.

Driving forces

In the discussion on the driving forces, it emerges that customer demands and governmental mandates act as important promoters. This is largely influenced by an increasing global awareness of environmental and social challenges, leading to a heightened demand for sustainable solutions from both consumers and businesses. For example, interview object 2 states that the EU's Green Deal and the sustainability taxonomy illustrate how legislative frameworks can help the shift towards more sustainable business models. These regulatory initiatives set the standard for what is considered sustainable practice and require companies to make adjustments in their operations to meet new environmental standards.

Furthermore, the economic appeal of sustainable investments contributes to driving change. Around 50% of the interview objects points to that with an ever-increasing understanding that sustainability can also correlate with economic robustness and risk minimization, one can feel that investors and funds demand that the companies they invest in adopt sustainable practices. Meaning it will be a long-term investment and economic profit over time. This is especially evident in how larger companies and funds, motivated by both ethical considerations and return potential, begin to place sustainability on their agenda, creating a domino effect throughout the entire value chain. At the same time, customer demand plays a crucial role as a driving force for sustainable transformation. In a world where consumers are becoming increasingly informed and conscious of environmental and social issues, there's a noticeable increase in the demand for products and services that are produced in an ethical and sustainable way. This puts pressure on businesses to change their practices to meet customer expectations, requiring changes in both production methods and supply chains.

Public procurement and purchasing policies also represent a powerful driving force for sustainable transformation, especially as governments and public institutions begin to set strict sustainability requirements in their tender processes. By demanding that suppliers demonstrate how they meet specific sustainability criteria, it helps to increase the demand for sustainable solutions and services. Around 5 of the interview objects also believe there is a strong desire from customers to provide sustainable solutions. This, combined with expectations of social responsibility and sustainability from employees and potential workers, points towards a fundamental shift in how businesses must operate to remain competitive and attract talent in the future. This is perfectly illustrated by interview object 13:

> "If we are to be an attractive employer in the future, we must promote and actively work with sustainability, both environmental and social. We need to think about innovation and technology, not be old-fashioned and stuck in our ways, but rather be forward-thinking and take advantage of the opportunities that are out there".

Barriers

Regarding the barriers to sustainable transformation within the service industry, the interviews paint a picture of a variety of challenges that organizations face. These challenges span technical, economic, and cultural aspects, each with its own impact on how quickly and effectively an organization can move towards more sustainable operations.

One of the identified barriers is the technological challenge associated with measuring indirect emissions. Many companies struggle to quantify their own footprint precisely, especially regarding

Scope 3 emissions, if we are to believe interview object 3. In other words, the activities outside the company's direct control, such as operations in the supply chain or the product's end use. This lack of accurate measuring tools and standardized calculation methods makes it difficult for organizations to establish a baseline for their sustainable improvements and measure progress over time.

There is a common understanding among at least 70% of the representatives, that economic barriers also pose a significant challenge. While there is a growing understanding that sustainability can be economically beneficial in the long term, the interviews show that the initial costs of implementing sustainable solutions can often be heavy. Interviewee 5 points to the fact that a lot of investments and capital may be tied up in machines that are not sustainable, and will still work for a long time forward. Another example is the transitioning to electric vehicle where usage may require significant investments in new equipment and infrastructure, which can be particularly challenging for smaller businesses or those operating on thinner margins. Not to mention, there could be an economic risk associated with changing established business models or investing in new technology that has yet to be proven profitable.

Resistance to change, both among employees and leaders, emerges as another significant barrier. Interviewees highlight how cultural and psychological factors can hinder the transformation. This can include everything from skepticism towards new work methods to a general lack of enthusiasm to leave familiar, established, and safe procedures. This type of resistance can be especially prevalent in organizations where sustainability has not previously been part of the corporate culture or where a shared understanding of sustainability's value has not been established.

The lack of standardization and quality assurance in sustainability measurements and reporting was also mentioned as a significant challenge. Without clear and accepted standards for what constitutes sustainable practice, it can be challenging for companies to prove to customers and investors that they are making meaningful progress. This is further complicated by challenges related to greenwashing, where companies may claim to be more sustainable than they actually are, leading to distrust and skepticism among consumers and other stakeholders. In fact, interview object 2 has a feeling that extended producer responsibility does not work yet, because the ones in the service industry's value chain producing the products and contributing to CO2 emissions directly, gets off too easily, compared to the other parts of the value chain. This could harm the shared commitment around sustainability. It is further an example of how the existing regulatory landscape, although it can act as a driving force, can also pose barriers through complexity and inconsistency in regulations.

Regulations and legislations

Several interviews with Norwegian representatives also illustrate a need for further action from the authorities. Among these are international agreements, national laws, and industry-specific standards. These regulations thus become both a catalyst and a framework that businesses must navigate to promote more sustainable processes. Particularly since Norway is not part of the EU, where legal requirements are directly introduced. Norway's status as an EEA member entails certain delays and adaptation challenges in the implementation of EU directives. This creates a situation where Norwegian companies must balance being proactive in terms of sustainable trends and innovations, while being aware of all the regulations that direct EU members are exempt from.

One example of regulatory impact comes from the EU, with its comprehensive Green Deal and sustainability taxonomy. These initiatives establish a detailed and ambitious agenda for promoting sustainable economic growth within member countries, which directly and indirectly affects businesses across Europe, including those in EEA countries like Norway. The Green Deal's scope,

from climate action to sustainable finance and circular economy, sets a new standard for what is expected of businesses in their operations and reporting. This creates an urgent need for companies to change their strategies and operations to meet these demands, which in turn can accelerate the transition to more sustainable business models. Interviewees point to specific EU regulations and interview object 2 higlights CSRD, EU-texonomy and the "Right to Repair" initiative. The interview object points out that this right to repair initiative is something that Sweden has succeeded with already, aligning for longer product lifespans and repair instead of replacement. These regulations is practical actions towards supporting sustainable consumer choices and reducing waste.

Furthermore, it is highlighted how public tenders, with requirements for sustainability, act as a powerful regulatory mechanism to drive sustainable changes. By including sustainability criteria in public procurement, authorities can directly influence the market towards more sustainable solutions, from energy efficiency to social responsibility. This illustrates a growing expectation that all suppliers to the public sector must demonstrate not just economic efficiency but also sustainability in their proposals.

Despite these positive aspects of regulations, some interviewees point to challenges related to new regulations and the complexity of complying with an ever-changing set of requirements. It requires significant resources to keep up with legislation, especially for smaller businesses that may not have the capacity to continuously monitor and implement new regulatory demands.

5.4.2 Denmark

The analysis of the Danish interviews also provides a wide range of different drivers, barriers, and regulations for sustainable transformation in the service industry with several insight of how to address them. Combining these insights from Denmark and Norway, can help understand the dynamics of the industry and how to make sustainability implementation easier.

Driving forces

The drivers for sustainable transformation are diverse and rooted in both regulatory requirements and market trends and needs. Several interviewees point to EU legislation, such as the Corporate Sustainability Reporting Directive (CSRD) and the Green Deal, as important catalysts for change. The regulations require companies to become more transparent about their sustainable operations and commit them to improving environmental and social conditions. For example, Interviewees 16 and 8 emphasize that EU requirements not only set legal standards but also create an expectation of sustainable operations in the market, which can give early adopters a competitive edge.

All of the interview objects believe that regulations are an important driving force. EU legislation, including ESG, the Corporate Sustainability Reporting Directive (CSRD) and the Green Deal, plays crucial roles. These frameworks makes companies report their sustainability practices in a standardized and transparent way. By requiring detailed reporting on environmental, social, and governance factors, these directives push companies not only to assess their current impact but also to plan and implement more sustainable operations. It's a mechanism that holds businesses accountable and ensures that sustainability is getting integrated into the strategic core.

Beyond regulatory demands, market directions are also drivers for sustainable transformation. Around 60 % of the interviewed people says there is a growing demand from consumers, investors, and even employees for companies they engage with to operate sustainably. There is more focus on consumer behavior, were products and serviced should be produced ethically and environmentally friendly. This creates a pressure on businesses to reassess their operations to meet this demand.

Moreover, sustainability is increasingly recognized as a way to create a competitive advantage, around 80% believes. Companies that are early to adopt and integrate sustainable practices can position themselves as market leaders, attract investments, and create new business opportunities. This realization leads more businesses to see sustainability not just as a cost but as an investment in future growth and stability. For instance, by being proactive in meeting or exceeding environmental regulations, businesses can avoid future sanctions and benefit from incentives offered by governmental and international bodies.

Finally, there is a growing understanding among businesses that sustainable investments can have long-term positive effects on their financial outcomes. By reducing energy consumption, minimizing waste, and improving working conditions, companies can lower operational costs while building stronger relationships with all stakeholders. This contributes to a more robust and resilient business model that is better equipped to handle future challenges and market shifts.

These driving forces highlight how an integrated approach to sustainability, driven by both regulatory and market-based factors, is essential for promoting a deep and lasting transformation in the service industry. By understanding and effectively navigating these drivers, companies can not only comply with requirements but also actively shape a more sustainable and profitable future.

Barriers

The barriers to sustainable transformation are diverse, making the implementation of sustainable practices challenging for many organizations. These barriers range from economic and technological challenges to cultural and structural barriers.

Despite strong driving forces, organizations also face barriers. A common challenge mentioned by many is the cost of implementing sustainable solutions compared to traditional practices. Interviewee 14 and 16 describe how the willingness of customers to pay for sustainable products does not always match the increased costs of providing these solutions. This creates an economic barrier, especially in a low-margin industry like the service industry, where small changes in cost structure can have a significant impact on profitability.

One of the most common barriers is the economic cost associated with transitioning to sustainable solutions. 60% of the interviewees describe how investments in sustainability often involve high upfront costs, which may not be immediately justified by a financial return. For example, Interviewee 14 points out that while sustainable solutions may be profitable in the long run, high initial costs can discourage businesses from investing in the necessary technologies and systems. This is particularly critical in the service industry, where margins are often slim. Interview object 7 further states that it is a industry where a profit of 1-3% is good. Any investment and additional cost is therefore carefully weighed against its immediate financial benefit.

Another significant barrier is the lack of customer acceptance for higher-priced sustainable services and products. As Interviewees 16 and 17 point out, it can be difficult to convince customers to pay more for services that are sustainable, especially when competitors offer cheaper, less sustainable alternatives. This barrier is compounded by a market that does not always value or understand the long-term benefits of sustainable practices.

Technological and infrastructural barriers that prevent the implementation of sustainable solutions also emerge. For instance, Interviewee 14 mentions challenges with the range of electric vehicles, which can be a limitation in service businesses that require extensive logistics, transportation or rapid response. Such technical limitations often require investments in new infrastructure or technology, which can be a major challenge for smaller businesses or those with less developed support infrastructure.

Cultural and structural barriers are also prominent, where a lack of internal acceptance and understanding of sustainability can postpone initiatives. A cultural shift within organizations is required to embrace sustainable practices, which can be a challenge if leadership does not fully support or prioritize sustainability. Interviewee 8 points out that many in the industry may be against knowledge- and experiences sharing about sustainability, which can slow down innovation and improvement across the industry.

To overcome these barriers, over 50% of the interviewees suggest developing strategic partnerships and collaborations both upstream and downstream in the value chain. This can include working closely with suppliers to develop more sustainable materials and with customers to raise awareness and acceptance of higher prices that reflect the true costs of sustainable alternatives. Interviewee 17 are one of them who highlights the importance of engaging all levels of the organization in sustainability efforts. Especially having it incorporated in the top-management, but also everything that to front-line employees, and building a shared understanding of the strategic benefits of sustainability, which can motivate and create key internal support.

Norway			Denmark		
Driving forces	Barriers	Regulations	Driving forces	Barriers	Strategic suggestions
Customer demands and government: These are key motivators for sustainable practices, driven by global awareness of environmental and social issues. **Economic aspect of sustainable investments:** An understanding that sustainable practices can give economic robustness, risk minimization and profit in the long term. **Public procurement policies:** These policies enforce strict sustainability requirements, driving demand for sustainable solutions.	**Technological challenges:** Difficulty in measuring indirect emissions, particularly Scope 3 emissions. **Economic barriers:** High initial costs associated with implementing sustainable solutions, which can prevent investment, especially in technologies with unproven profitability. **Cultural resistance:** Skepticism towards new work methods and a lack of enthusiasm for changing from familiar procedures can slow transformation.	**Actions from authorities is needed:** There is mentioned a need for more actions from authorities and regulations by law in Norway. This is because Norway is not an EU country where these laws are directly implemented as they are in Denmark for example, who is an EU country. **EU's Green Deal and Sustainability Taxonomy:** These regulations set high standards for sustainability and require adjustments in business operations.	**EU Legislation:** The CSRD and other EU mandates push for transparency and improvements in environmental and social conditions. **Market Trends and Needs:** A growing demand from consumers, investors, and employees for sustainable operations. **Competitive Advantage:** Early adopters of sustainable practices gain a market edge, attracting investments and creating new business opportunities.	**Economic Cost:** High costs associated with sustainable practices make them difficult to implement, particularly where customer willingness to pay is low. **Technological and Infrastructural Challenges:** Limitations like the insufficient range of electric vehicles impact service industries that depend on logistics. **Cultural and Structural Issues:** A lack of internal acceptance and understanding of sustainability can prevent initiatives.	**Developing Partnerships:** Suggested strategies include collaboration throughout the value chain to develop sustainable materials and to educate customers on the true costs of sustainable alternatives. **Internal Engagement:** Emphasizing the importance of involving all levels of an organization in sustainability efforts to build a comprehensive and supportive culture.

Figure 20: Self-made illustration summarizing elements and examples mentioned by the interview objects about the forces that drive sustainability

5.5 Digitalization is underrated

Digitalization was something we had envisioned as an element to create sustainability, but it was not something we directly asked about. Despite this, digitalization was highlighted as a crucial element in the process towards sustainable transformation in most of the interviews. The fact that digitalization naturally came up in the interviews suggests its importance and the role it plays in becoming greener and more efficient. From the automation of business processes to the use of advanced data analytics tools, the various perspectives from interviewees show a broad spectrum of measures and benefits of technology in sustainability efforts.

Because Digitalization was not incorporated in every interview objects thoughts we will in this chapter illustrate more concrete examples of how the representatives believe digitalization are tools to succeed with sustainability. This could probably provide a deeper understanding of the topic and how it works.

5.5.1 Norway

Interviewee 13 shared insights about the establishment of a platform in 2012 for automating processes within restaurants and cafeterias, resulting in significantly increased competitiveness and "beyond profitability." This approach not only reduced operational burdens but also set sustainability requirements for suppliers in production and transport. This example illustrates how digitalization can be strategically used to achieve both economic and sustainable goals.

Another important angle on digitalization is its potential to optimize and make existing technologies more efficient for sustainable purposes. Interviewee 5 points out that technological shifts open up new solutions crucial for sustainable transformation, where technologies like solar panels can play a central role without necessarily having to develop entirely new technology. In other words, it's not about developing as much new technology as possible, the interview object believes society already has enough technology. Digitalization, therefore, is also about scaling up the technology we have to make it more accessible to everyone. Specifically, interviewee 11 mentions how digital tools, including RPA (Robotic Process Automation) solutions and AI, contribute to innovation and optimization by using sensors to save energy. Here, sensors are used to determine when systems should be activated, instead of running all the time and increasing CO2 emissions. Collaboration with a company on image recognition to illustrate the CO2 footprint of new purchases compared to repairs shows how digitalization can be used to present choices that support sustainability and prevent unnecessary new construction.

Interviewee 2 shares an example of how AI was used to analyze Posten-Bring's CO2 emissions through an environmental calculator that utilized data from old orders to provide accurate emission estimates. This demonstrates digitalization's capacity to provide precise data support for sustainable projects and optimize operations for reduced emissions. Here, the "climate-ready service company" initiative in Denmark mentioned by Interviewee 2 is also considered a measure to be introduced. The role of digitalization in environmental reporting and customer interactions was also highlighted, both by interviewee 2 and 10. Interviewee 10 also mentions their work with digital tools, such as apps for ordering food for those without a cafeteria, to help streamline operations, avoid food waste, and meet a developing market.

Collectively, these examples from the interviews emphasize how digitalization is not just a necessary tool to promote sustainability but also an integral part of modern business strategies to achieve economic and environmental sustainability. Through automation, data analysis, and innovative digital solutions, companies can streamline their operations, reduce their environmental footprint,

and meet both customer and regulatory sustainability requirements.

5.5.2 Denmark

In the interviews with Danish representatives, digitalization emerges as an important, though not always explicitly discussed, tool for promoting sustainable transformation in the service industry. Although not all interview subjects directly mentioned digitalization as a specific measure, their comments illustrate how digital technology can play a central role in streamlining operations and promoting sustainability.

The role of digitalization in streamlining corporate operations and improving sustainability reporting is mentioned frequently. Interviewee 7 specifically mentions the use of EcoVadis, a digital platform that helps businesses simplify and streamline their sustainability reporting. This tool enables companies to systematically collect data, assess their sustainability performance, and report it in a structured manner, which is critical for transparent communication with stakeholders.

Interviewee 17 discusses how they plan to implement digital tools to become more proactive and responsive. By using digital technology to free up resources, companies can optimize workflows and focus more on core activities that promote sustainable practices. This can include everything from energy management to resource allocation, where digitalization enables a more efficient use of both human and material resources.

Interviewee 16 highlights how Internet of Things(IoT) can be used to collect data critical to understanding consumer behavior and streamlining operational processes. By using sensors to monitor everything from food consumption in cafeterias to cleaning needs, businesses can gain insights that can lead to more targeted and sustainable actions. For instance, they mention how a ”Climate Dashboard” can be used to calculate how much resources will be used for a specific cleaning assignment for example, so the customer knows exactly what they pay for. This contributes to less resource usage and can improve customer satisfaction.

Despite these benefits, Interviewee 16 also points out the challenges of digitalizing an industry so reliant on human labor. They note that while factories and production lines can be automated and made more efficient relatively easily, it is more complex to apply similar digital solutions in service sectors where personal interaction and customization to individual customer needs, play a large role.

Overall, the interviews reveal that although digitalization was not a direct question, most recognize that the use of digital technology is helpful for developing sustainable transformation in the industry. By integrating digitalization into operations, companies can not only improve efficiency and reduce costs but also enhance their ability to meet sustainability goals through better data management, resource utilization, and customer engagement. Figure 21 summarize some key elements and examples that were mentioned.

Denmark

Sustainability reporting	Proactive use of digital tools	Data collection via IoT	Challenges in service industry with digitalization
• Tools like EcoVadis was mentioned to help businesses streamline their sustainability reporting by enabling systematic data collection and performance assessment	• Implement digital solutions could optimize workflows and resource management, allowing businesses to focus more on core sustainable practices	• Internet of Things could be used to monitor and collect data essential for understanding consumer behavior and optimizing operations, such as food consumption and cleaning services	• It is also emphasized that while digitalization offers significant benefits, it also presents challenges in sectors heavily reliant on human interaction, such as difficulties in automating services that require personal touch and customization

Norway

Automation and operational efficiency	Technological optimization	Innovative use of digital tools	Digitalization in environmental reporting
• One example is the platform established in 2012 for automating processes within restaurants and cafeterias improving operational efficiency and gain sustainability. • This platform streamlined operations and imposed sustainability requirements on suppliers	• The interviewees emphasized the optimization of existing technologies—like solar panels and other green technologies—through digital tools to scale up and make them more accessible	• Examples mentioned include the use of Robotic Process Automation (RPA) and AI to innovate and optimize energy usage. • For instance, sensors used to regulate energy-consuming systems only when needed, and AI used for environmental analysis like the CO2 calculator for Posten-Bring	• Digital tools facilitate environmental reporting and enhance customer interaction regarding sustainability practices. • For example, Denmark's Climate-ready service organization initiative

Figure 21: Self-made illustration of some key elements and examples mentioned in the interviews where Digitalization can help gain sustainability

5.6 Correct strategy framework and change management will always be crucial

This section examines the critical role of strategic frameworks and change management in driving sustainable transformations within the service industries of Norway and Denmark. Through interviews with key industry stakeholders, it highlights the necessity of integrating sustainability into core business strategies and ensuring active leadership involvement. The importance of clear vision, strategic alignment, and effective communication in facilitating these changes is highlighted. By embedding sustainability into daily operations and fostering a supportive organizational culture, businesses can achieve their sustainability goals and navigate the complexities of transformation.

5.6.1 Norway

What is most commonly agreed upon is the importance of proper strategy and change management to successfully carry out a sustainable transformation. Here, particular emphasis is placed on the significance of a thorough and thoughtful approach. Aspects of strategy and change management naturally emerged as critical factors in achieving sustainability goals. Through the interviews, it became evident that successful implementation of sustainable changes requires more than just good intentions; it demands strategic alignment at the highest level, as well as effective leadership throughout the transition process.

Strategy
Interviewees highlight the importance of having a clear and communicable vision for sustainable transformation, underscored by measurable and achievable objectives. This entails integrating sustainability goals into the company's overarching KPIs and strategic plans, ensuring that sustainability becomes an integral part of the company's DNA rather than merely an isolated focus area. For instance, Interviewee 9 emphasizes the importance of shifting responsibility for sustainability initiatives to divisional directors to ensure greater alignment and impact. This also ensures that it is easier to implement measures locally within the organization, rather than everything going through the same channels.

To effectively navigate sustainability transformation, Interviewee 3 among others emphasizes the importance of having a clear vision and strategic objectives that focus not only on technical changes but also on cultural and structural changes within organizations. This is justified by the fact that the service industry represents a large diversity of nationalities and religions, making social sustainability particularly crucial. This also reflects the views of Interviewee 1 regarding working closely with unions and embedding the importance of sustainable solutions among employees.

Change management
Change management is identified as a crucial component in achieving strategic objectives. This includes active communication and training of employees to build a common understanding and support for the change processes. Interviewee 11 emphasizes the need for clarity and leadership alignment, along with the necessity of repeating the message and breaking down the vision into measurable objectives. The strategy for sustainable transformation also requires a robust process involving the entire organization. Here, Interviewee 6 emphasizes the importance of a good strategy process over the document itself and the importance of involving the entire organization early in the strategy development. This perspective is supported by Interviewee 13, who shares experiences in establishing long-term goals with sub-goals and the importance of making the strategy operational and communicable both internally and externally.

Overall, the interviews show that strategy and change management in sustainability work require an approach that includes clear visions, strategic objectives, active communication, and alignment at all levels of the organization. To succeed, sustainable changes must be integrated into daily operations, with strong support from top management, and facilitated through training and engagement of all employees. If there is no understanding of this at the top/director level, then the levels below will not make any progress.

5.6.2 Denmark

From the Danish interviews, it is clear that leadership and strategy, including change management, are crucial for driving sustainable transformation in the service industry. The interviewees describe various approaches to strategy development and leadership practices that are necessary to realize sustainability goals. For example, Interviewee 8 from Compass Group shares their approach to breaking down sustainability goals into manageable parts, while collaborating with external parties to find innovative solutions.

Strategy
Many of the interviews highlight the importance of strategic anchoring in top management to ensure success in sustainability efforts. Interviewee 7 describes a program called "climate-ready service business," which is composed of existing projects within DI and focuses on ESG clarity. Here, it was a requirement for top management to engage directly, demonstrating how essential the involvement and commitment of leaders are to drive changes.

Interviewee 7 provides insight into how "climate-ready service business" is designed with direct anchoring in top management. This program, composed of existing projects within The Confederation of Danish Industry (DI), aims to develop ESG-ready strategies. By requiring top executives to engage directly, it ensures that sustainability is prioritized at the highest level within the organization. This commitment from top management is not just crucial for allocating the necessary resources, but also for setting an organizational culture where sustainability is seen as an integral part of the business strategy.

Top executives serve as cultural and strategic leaders by defining and communicating the organization's vision and values related to sustainability. Their engagement signals to all levels of the organization that sustainable practices are important and must be taken seriously. This can include everything from defining clear sustainability goals, integrating these goals into the organization's overall business strategies, to leading by example through personal involvement in sustainability projects. By involving themselves directly in sustainability decision-making, leaders ensure that such initiatives are well integrated into the organization's strategic planning and operations. It's not just about setting goals but also about understanding and managing the potential trade-offs and compromises that often accompany sustainable initiatives. For example, decisions related to investments in sustainable technology or resource allocation for ESG initiatives require an in-depth understanding of both the immediate and long-term consequences of such choices. The interview with Interviewee 7 also uncovers how top executives lead internally and use their external relationships and networks to advance the organization's sustainability goals. By collaborating with other companies, industry organizations, and consultants, leaders can extend the reach and impact of their sustainability work. This includes sharing best practices, learning from others' experiences, and participating in industry-leading sustainability initiatives.

Interviewees stress that sustainability should not be seen as an isolated part of the business but as an integrated part of the overall business strategy. This means that sustainable goals and prac-

tices are woven into all business processes, decision-making, and daily operations. Interviewee 17 describes how they have integrated sustainability into their original business strategy, rather than developing a separate sustainability strategy. This ensures that sustainable actions are supported and promoted through all aspects of the business and are not marginalized as a side project.

To ensure that sustainability is handled with the necessary depth and attention it demands, some companies mention how establishing specialized roles dedicated to sustainability can be helpful. Interviewee 14, for example, mentions that they would want to create a position such as "project ESG-sustainability coordinator," or project manager, who is responsible for overseeing and coordinating all sustainability-related activities in the organization. Having dedicated resources in this way ensures continuous focus and expertise in the area, to implement sustainable initiatives more effectively.

Effective communication and cultural integration of sustainability strategies are also critical to ensuring broad support and understanding among all employees. Interviewee 17 emphasizes the importance of communicating what sustainability entails at all levels of the organization. This includes educating employees about both small and large sustainability initiatives and how these contribute to the organization's overarching goals. By making sustainability part of the organizational culture, companies ensure that sustainable practices are maintained and further developed over time.

Finally, the interviewees underline the importance of having flexibility in sustainability strategies to adapt to changes in the market and regulatory requirements. This includes regular reviews of the strategies and adjustments based on new data and experiences. Interviewee 14 and 17 describe how they continuously update their strategies to reflect changes in both internal and external conditions, such as technological advancements and new sustainability standards. Through these methods, companies can ensure that their sustainability strategies are not only effective and relevant at the time of implementation but also robust enough to adapt and thrive in an ever-changing global landscape.

Change management

Change management and culture are crucial elements for ensuring successful implementation and sustainability in the transformation processes. Change management was specifically discussed by Interviewee 8, who pointed out the necessity of changing the organizational culture to adapt to sustainable operations. The interviewee emphasized the importance of involving employees in the change processes through consultations and workshops, which helps to create a common understanding and commitment to sustainable goals. By understanding the employees' experiences and integrating their feedback into strategy development, it will ensure that the sustainability initiatives have broad support and are fitted to the organization's actual needs.

Change management is seen as a function of management decisions and a part of the organization's strategic approach to sustainability. Interviewee 8 and 14 highlight how management must be proactive in guiding the change processes by ensuring that all employees understand what the changes entail and why they are necessary. This encompasses a thorough explanation of how sustainable changes contribute to the organization's long-term goals and improve its competitiveness in the market.

Creating a culture that supports sustainable development requires more than just top-down communication; it requires active engagement and participation from all employees. Interviewee 17 discusses the importance of involving employees in the planning and execution of sustainability initiatives. This can include workshops, seminars, and regular meetings where employees have the opportunity to contribute ideas and receive feedback. Such participation strengthens the sense of

ownership of the sustainability processes and ensures that the changes are more than superficial measures.

Effective communication is critical to ensuring that the change management is successful. Interviewee 14 mentions the use of internal communication to convey sustainability strategies and changes, and to ensure that all employees understand both the practical and strategic aspects of these changes. This includes explaining the benefits that sustainable practices bring to the organization, as well as the personal and collective benefits for employees.

One of the biggest challenges with change management is the resistance to change. Interviewee 14 describes how they addressed resistance by conducting pilot projects that demonstrated the practical benefits of new technologies, like the transition from fossil-fueled to electric vehicles. By showing how these changes work in practice, and by creating a dialogue with employees about their concerns and suggestions for improvements, the organization was able to build trust and reduce resistance to change.

Change management also requires a degree of flexibility and the ability to adapt to feedback. This includes recognizing when certain strategies may not be working as expected and being willing to adjust approaches based on employee experiences and suggestions. This approach promotes a mutual understanding and respect between management and employees, which is essential for maintaining a positive and productive work culture through extensive change processes.

5.7 Denmark, what can Norway learn from your transformation process?

How can the service industry strategically transition into a sustainable, climate-ready industry?

The central question in this master thesis, is shown above. To find answers to this, it was also interesting to investigate and ask the interview objects from Denmark if they had any recommendations and learning's from their projects, that NHO and other confederations can learn from. From the interviews, the recommendations range from strategic planning and communication to cost management and industry collaboration. Figure 22 and the following text illustrates some of the key elements mentioned.

Figure 22: Self-made illustration of the tips and learnings from the Danish representatives.

1. **Social sustainability and visibility:** Interviewee 7 underscores the importance of social sustainability as a driving force in the service industry and suggests that Norway should focus more on this area. Promoting and making sustainable initiatives visible is also key to building brand and customer loyalty, which can strengthen the position in an increasingly competitive market.

2. **Exchange of experiences and industry collaboration:** Interviewee 8 points out the value of close collaboration within the Nordic countries, especially through forums such as a ”sustainability forum” where experiences and strategies are discussed and refined. They recommend that Norway makes more active use of such collaborative platforms to accelerate its own sustainability transformation.

3. **Strategic and economic planning:** Interviewee 16 and 17 discuss the importance of thinking long-term and not letting short-term economic considerations hinder sustainability efforts. They mention that although initiatives like ”Climate-Ready Service Business” can be costly, it is crucial to make them more accessible and attractive to increase participation. Focusing on branding and making sustainability appealing to customers are also important strategies to ensure broader engagement and willingness to pay for sustainable solutions.

4. **Knowledge sharing and support from industry organizations:** Interviewee 9, 14 and 17 note that one of the reasons Denmark is ahead of Norway in sustainability efforts is the active work of The Confederation of Danish Industry (DI) in informing and supporting Danish businesses through courses, templates, and legal advice. Interviewee 9 promoted a workshop DI organised with sustainability managers from organizations within different industries. Seeing how other industries managed their sustainability issues was very educational. These interviewees suggest that Norway enhances similar support functions through its industry organizations to accelerate the sustainability transformation.

5. **Communication and clear reporting:** Effective communication and clarity in reporting sustainability data are also highlighted as key elements. Being clear on the methods and standards used in sustainability reporting can help to avoid misunderstandings and strengthen the credibility of companies' sustainability efforts. This also includes working with international standards such as those from the EU to ensure alignment with best practices.

6. **Climate-Ready Service Organization road-map:** As Denmark has come a long way in the sustainable transformations, proven by their Climate-Ready Service Organization initiative for instance, getting insights from the strategies and reasons behind that project was interesting. The representatives from Danish Industry, suggested reviewing the holistic road-map on Danish Industry Service's website, in order to get to know how the process and transformation works. Interview object 2 from Norway, clearly stated that NHO is looking into developing a similar CO2-emission accounting system, so findings from this road-map may be valuable for others as well.

6 Document analysis

This chapter will cover the last part of our triangulation, the document analysis. This analysis will help gain a holistic view of the research questions, by supporting the findings from our literature review and interviews, and probably provide new and important information to add to our discussion.

We will analyse documents from the European Union (EU), Norwary, Denmark, NHO and DI. What we want to investigate is the laws and regulations in EU, Norway and Denamrk, in regards to sustainable development and also for the service industry. In the two confederations, NHO and DI, it will also be interesting to review their road maps for sustainable development, and other regulations or guidelines which may exist. In DI, reviewing the road map for the Climate-ready service organization will also be of interest, in order to guide NHO in the right direction.

6.1 The European Union

The European Union, EU, are striving to put forward new laws and regulations to work for more sustainable operations to respond to the constantly evolving climate change and environmental damages. The goal is to make Europe the first climate-neutral continent (Commision, 2024). These initiatives is affecting every industry, also the service industry in how they can deliver more climate-friendly operations. Among the many laws and regulations within the EU, we focus on those deemed most significant based on the interviews conducted. These include the European Green Deal, the EU Taxonomy, the CSRD, and the EU's climate goals for 2030 and 2050. The following sections will elaborate on these regulations and how they align with the service industry.

6.1.1 The European Green Deal

The European Green Deal are multiple initiatives presented in a report. It consists of a wide range of strategic initiatives and proposed policies to address the growing challenges of climate change and environmental degradation. Because there is an urgency of these issues, the deal presents a dynamic package of strategies and policies aimed at guiding the European Union and Europe towards a sustainable future. The goal of reducing greenhouse gas emissions to net-zero by 2050 is central in the European Green Deal. This will help secure economic growth while taking care of natural capital and enhancing the social aspects of sustainability, providing better life and health conditions to citizens (Publications Office of the European Union, 2019).

The European Green Deal report defines the European Green Deal as adaptable, acknowledging that it will evolve continuously as new needs arise. This flexibility ensures that the policies remain relevant and effective in the face of changing environmental and economic landscapes. The strategy wants to focus more on industries facing most challenges.

Not to mention, the report by Publications Office of the European Union (2019) position EU as the global leader in climate and environmental policy. By taking a leading role, and presenting this Green Deal, Europe can also influence global policies, encouraging other nations to adopt similar strategies. This is crucial as it is clear that Europe cannot achieve a sustainable future alone. As highlighted by the Sustainable Development Goal 17, global partnership and cooperation are essential. Balancing the objectives of environmental sustainability with economic and social can be challenging. The European Green Deal therefore emphasizes that addressing these will require determined innovation and cooperation both within Europe and with the global community. Figure 23 illustrates the elements that are focused on in the European Green Deal.

Figure 23: Illustration of the European Green Deal. Source: Publications Office of the European Union (2019)

What actions the Green Deal entail

The European Green Deal report represents a transformative strategy and plan designed to help Europe towards becoming the first climate-neutral continent by 2050. Central to the initiative are comprehensive strategies that include digital innovation and technology to facilitate for environmentally friendly and sustainable actions across all industries (Publications Office of the European Union, 2019).

A key goal mentioned in the Green Deal report is to secure clean energy transition that ultimately will benefit the consumers. A transition towards clean energy includes an increase in use of renewable energy such as wind offshore, innovations in carbon capture and energy storage technologies. Making sustainable solutions more available is therefore important, it will decrease the cost of renewable energy and reduce the CO2-gas emissions. Investments into digital technologies are being stated in the Green Deals policy as crucial and an enabler for a sustainable transformation. These digital investments strategies facilitates for tools like smart grids, advanced monitoring systems, and the integration of Internet of Things, with sensors that can optimize energy use and manage natural resources more effectively.

The Green Deal report promotes a shift towards a circular economy that emphasizes sustainability throughout the life-cycle of products. An initiative that will increase reuse of products and longer durability is the "Right to Repair initiative". Right to Repair is a new act that facilitates for more use of reparation and reduction of new products. It will make reparation easier and less costly for the consumers when a product is fixable. This contribute to less waste and is an act to avoid unnecessary replacing of products instead of fixing them. In that way there will be less use of new resources, and new business models can arise, including more sharing and renting of products (European Commission, 2023-b; Publications Office of the European Union, 2019). Enhancing the design of products to minimize waste and facilitating the reuse and recycling of materials will also include a change in plastic industry for example. The Commission states in the report that; "We will develop requirements to ensure all packaging in the EU market is reusable and recyclable in an economically viable manner by 2030" (Publications Office of the European Union, 2019). That the European Commission further wants to implement a sustainable products policy, will help push forward the sustainable products. This involves also transforming into a sustainable production of chemicals to reduce the environmental and health impacts associated with chemical use.

The above initiatives concern the service industry, but there are also other policies mentioned the report about what the European Green Deal involves, that can positively affect the industry. Initiatives such as improvement of sustainable transportation fuels, and making them more available and better for the consumer is important for EU. This is something that the Commission wants to improve by this Green Deal. The ultimate goal is to erase standard fossil fuels and drastically decrease the pollution in cities.

Agriculture also plays a key role under the Green Deal, and Publications Office of the European Union (2019)'s report illustrates the 'Farm to Fork' initiative aiming to change the food system. This can affect the service industry consisting of canteen businesses, for example. The aim is to create a more sustainable food chain with policies and technologies preserving biodiversity, the farmers work and the whole value chain in the food industry. This strategy supports the shift towards organic farming, aims to significantly reduce food waste, and incorporates the principles of a circular economy to ensure sustainable food production practices. This means contributing to circular economy by changing the way companies transport, store, package and controls the food waste. The Extended Producer Responsibility will be more integrated, securing that all levels in the value chain is taken care of. The ultimate goal from the Commission is to make sustainable food less expensive and available to all. To succeed with that The Green Deal emphasize the importance of transparent communication to consumers about the environmental impacts of products and services, enhancing consumer awareness and promoting the sustainable choices.

Ensuring that the transition is inclusive and equitable is another aspect of the Green Deal mentioned in its report. The European Pillar of Social Rights is important to this, guaranteeing that social equity is maintained through the transition and that everyone is included. The Commission states that there will be a Sustainable Europe Investment Plan supporting industries in making this shift more possible, providing financial backing for initiatives that align economic growth with environmental preservation.

6.1.2 The EU-taxonomy

The EU-taxonomy is a system that is developed to help investors find possible investments to invest in, that meet the European Green Deal objectives (Doyle, 2021; European Commission, 2020-b). It is a tool that can help companies and organizations to do the correct and informative investments on a "environmentally sustainable economic activity", and make sustainable projects more possible to finance (European Commission, 2020-b). The taxonomy will foster more transparency and lead to less greenwashing. It is not mandatory to invest in such activities, but the goal is that sustainable activities will become more attractive. More private equity is crucial to help meet EU's climate and environmental objectives of the Green Deal, so the EU-taxonomy serves as an aid to achieve it (Danish Industry, 2023).

> "The taxonomy is a classification system that defines criteria for economic activities that are aligned with a net zero trajectory by 2050 and the broader environmental goals other than climate" (European Commission, 2020-a).

In order to be categorized as environmentally sustainable under the EU Taxonomy, an economic activity must meet a set of criteria that ensure its contribution towards the European Union's climate and environmental goals. These criteria are designed to build a transparent and robust framework for sustainability that aligns financial investments with environmental objectives (European Commission, 2020-b).

The activity must make a difference to at least one of the six specified environmental objectives

shown in figure 24. This means that the activity should succeed in achieving significant progress in one or more of these areas, without compromising any of the others (European Commission, 2020-b). Furthermore it must meet a minimum of safeguards which is connected with the European Pillar of Social Rights, mentioned under the European Green Deal earlier. This entails meeting the minimum of social and human rights and that everyone is included (European Commission, 2020-b, 2023-a). The fourth criteria for an economic activity to be considered environmentally sustainable involves follow technical screening criteria stated in the Delegated acts, to prove contribution to one of the objectives while not harming any of the others (European Commission, 2020-b). If a company lies under the Corporate Sustainability Reporting Directive it has to annually present in what degree their activities align with the taxonomy, while the companies not entitled to CSRD can choose to do so to receive beneficial sustainable financing (European Commission, 2020-b).

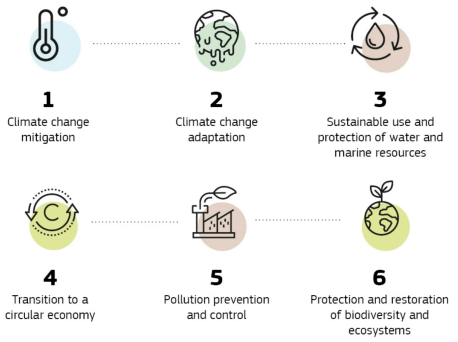

Figure 24: Illustration of the six climate and environmental objectives for an economic sustainable activity. Source: European Commission (2020-b)

6.1.3 CSRD

The Corporate Social Responsibility Directive (CSRD) is an upcoming reporting directive from the European Union set to take effect in January 2025, targeting large companies across all industries (PwC UK, n.d.). This applies to companies on the stock-market with more than 500 employees. From that part on, CSRD will increase and involve a greater amount of companies; From 2026 to involve companies with more than 250 employees and from 2027 those on the stock-market with less than 250 employees (Danish Industry, n.d.-d). The European Commission also states that it can involve those generating over 150 million Euro within the EU market (European Commission, 2021). This directive aims to create a domino effect, where smaller companies as well are going to be affected by this directive in the long term. The organizations included in the CSRD are required to do comprehensive reporting on how they meet environmental goals, including their strategies on emissions reduction (Scope 1,2,3) and alignment with the European Green Deal's objectives (Danish Industry, n.d.-c). Under this directive, companies must report to the European Sustainability Reporting Standards. Among these are 10 ESG topics involving over 1000 specific data points, these are illustrated in figure 25. This reporting is also about evaluating the risks and opportunities, and is called a double materiality approach. In other words, this means that organizations are going to report on how organizations affect society and how businesses is affected by this sustainable transformation (PwC UK, n.d.). The ultimate goal of CSRD is to gain a better understanding and integration of sustainable practices across industries. This supports the societal transitions

Figure 25: European Sustainability Reporting Standards categories for CSRD organizations. Source: Danish Industry (n.d.-c)

towards sustainability and provides stakeholders and investors with both transparency and clear insights into the companies' impact on the environment and society. In addition to contributing to meeting the objectives of the European Green Deal, this new directive can provide organization with growth opportunities and other competitive advantages by becoming more attractive (European Commission, 2021; PwC UK, n.d.).

6.2 Sustainability within NHO

In chapter 2 we reviewed what NHO is and how sustainability is integrated into its operations. As stated in that chapter, NHO consists of several industries and branches and one of them is NHO SH. Sustainability is a key priority area in all of the many branches and industries within this part of NHO (NHO SH, n.d.-b).

In regards to sustainable development, there are both joint measures across industries and specific measures for each one. Initiatives that has been implemented in order to help organizations with a green transition, are for example prevention of food waste in the cafeteria industry, and specific climate actions for companies such as guidance and help with climate accounting (NHO SH, n.d.-c). Among joint measures applicable for the entire NHO SH, is the new project report that is under development, called "Climate-Ready Service organization". This project aims to prepare and facilitate the service industry with the correct tools and knowledge to take on a sustainable transformation (Solheim & Nistad, 2023). The following section will further explore this project report, how the work towards sustainable development is presented and its importance.

6.2.1 The Climate-Ready Service Organization project within NHO SH

The Climate-Ready Service Organization initiative, is a project sketch illustrated as a report. It is developed in collaboration between NHO SH, Klimapartnere and Asplan Viak. The main aim is to help organizations within NHO SH with climate accounting. This ensuring there is tools and knowledge available for the industry's needs. To do so, this project involves creating a standardized and effective approach for carbon accounting that facilitates for establishment of climate budgets, prioritization of climate actions, and monitoring of progress. The project involves several steps and as organizations succeed with the steps they will recieve a "Climate-ready" certification, signifying their commitment to emission reduction. The project addresses the increasing regulatory requirements expected from large companies under the EU's sustainability directives. Smaller businesses will also be indirectly affected before these requirements become applicable to them, as higher expectations will be placed upon them. One of the key contributors include Klimakost, a digital platform from Asplan Viak, for carbon footprint calculation and accounting. Another one is Klimapartnere, a network that encourages knowledge- and actions sharing across companies about the sustainable development and its effects, in order to contribute to the green transition of society (Solheim & Nistad, 2023).

The execution phases of the initiatives in the climate-report, is divided into two tracks, each focusing on achieving the project's overall goal. Before the two tracks there is an initial phase of recruiting companies to participate and forming both a committee and a reference group. This lays the foundation for the three workshops in the first track, designed to help these companies develop carbon accounting systems and climate action plans. These workshops are structured to ensure that businesses start with a basic understanding of carbon accounting and also progress towards the integration of these systems into their daily operations with continuous guidance and support from project partners.

The second track in Solheim and Nistad (2023)'s climate-report focuses on developing a specialized module within the Klimakost system, to make a standardized and effective process for NHO SH. This include adding specific emission factors that are most relevant to the service industry, allowing for a more precise calculation of carbon footprints. The project culminates in a final phase where the results and successful practices are consolidated and shared both internally within the participating organizations and externally with the aim to show the project's successes, encouraging broader adoption of similar sustainability efforts.

The climate-report further clarifies that the project is led by a dedicated project leader from Klimapartnere, who is responsible for overseeing the entire project, from planning and organizing to the final execution in accordance with the set timeline and budget. The project leader collaborates closely with NHO SH to identify and recruit participating companies and develops the methodology for carbon accounting in collaboration with Asplan Viak. This aligns the project's activities with its sustainability goals and facilitates partnerships among all participants. The project group, which includes representatives from Klimapartnere, Asplan Viak, and NHO SH, works closely to implement the project objectives. This group plays a role in coordinating the efforts of the participating companies, overseeing the budget, and ensuring that the project adheres to its financial plans. The control group, involving representatives from participating companies and project partners, provides strategic direction and oversight, ensuring the project remains aligned with industry needs and sustainability standards. This group has the task of approving the project plan and any significant adjustments, in that way guiding the project towards its intended outcomes.

Additionally, Solheim and Nistad (2023) presents that representatives from participating organizations will form a reference group, offering insights and feedback on the project's progress and helps in discussing results and strategies. It is beneficial that these representatives are for example environmental specialists, someone from C-level or has other key roles with holistic competence. This group's involvement and other collaborative efforts with the partners, ensure that the Climate-Ready Service Organization project drives the service industry towards suitable sustainable climate actions.

6.2.2 Sustainable development within NHO SH

For the central question in this master thesis it will be applicable to look deeper into different example areas within NHO, and illustrate their work towards sustainability. This section will cover what measure have been implemented in the alignment for sustainable development already, in order to get an overview of what could be possible measures for further transition and development of the industry.

NHO SH is a branch within NHO consisting of several industries within the service industry. In regards to sustainable development, there are both joint measures across industries and specific measures for each one. This analysis will illustrate how NHO SH is working with sustainability on specific industries. To illustrate this we have chosen to look into these tree; "cleaning", "cafeteria and food service ", and "damage control" (NHO SH, n.d.-d). These industries has already started a sustainable development process where a project was developed for each industry in 2020. The projects are presented in sustainability guide reports, meant to provide answers to how the Norwegian companies within each industry are going to move forward in order to be sustainable (NHO SH, n.d.-e). Common for all the three strategy guides is that they were developed through a pilot project consisting of three workshops, with the goal of creating a unified methodology suited to the whole industry, independent of company size. By performing a SWOT analysis covering current situation with key sustainability topics and regulations, the three projects each facilitate for possible actions and areas of improvement in the industries (NHO SH, 2021-c, 2021-b, 2021-a). The

projects are created through a collaboration between PwC, NHO SH and UN Global Connect. In that manner, PwC helped develop a timeline showing the process of how to develop a sustainable strategy. Figure 26 and the following list demonstrates the process.

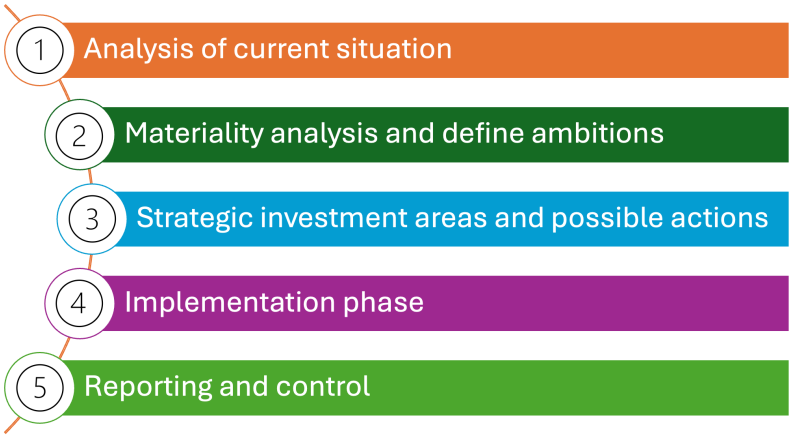

Figure 26: Method for sustainable strategy development developed by PwC. Source: Own creation with inspiration from: NHO SH (2021-a)

1. Analysis of the current situation involve performing a SWOT analysis to discover the company's strengths, weaknesses, opportunities and threats (NHO SH, 2021-a).
2. Stage two involve clarifying ambitions and prioritizing using a materiality matrix (NHO SH, 2021-a).
3. Stage three focus on clarifying strategic focus areas and possible actions to meet the desired goals, prioritised based on complexity and cost (NHO SH, 2021-a).
4. The implementation phase involves making future plans focusing on knowledge development, communication and internal anchoring (NHO SH, 2021-a).
5. The reporting phase involves controlling the implemented practices to monitor the progress, using KPI's, and make sure reporting on relevant documents is done correctly (NHO SH, 2021-a).

Sustainability guide for cleaning

The sustainability guide for the cleaning industry is a report from NHO SH. NHO SH defines cleaning as all tasks necessary to keep an area clean (NHO SH, 2023). The report presents a SWOT analysis with numerous of possible areas that the industry can capitalize on, based on the strengths and opportunities in the market. Sustainable products are already common throughout the industry. The Nordic Swan Ecolabel is a standard and there is an increasing focus on using less chemicals in products. At the same time, the cleaning industry is human-based and engaged in recruiting people with different backgrounds and abilities, focusing on the social sustainability and inclusion in society. Promoting social sustainability and its value is something the industry should increase. All these strengths facilitates for further sustainable practices. The essence of the opportunities revolves around leveraging industry standards, technological innovations, and strategic partnerships to enhance sustainability and operational efficiency. Even though the cleaning industry does not have a large climate footprint because of none direct production sites, thinking green in transportation and control how emissions and waste-management are in the supply chain, could be focus areas. Also, after COVID-19, cleaning standards to obtain a clean environment has received more attention, which could provide more projects, expand market reach and lead

to more sustainable documentation. The opportunities lays the foundation for a materiality matrix of the Cleaning Industry illustrating how they should be prioritized, based on importance for Stakeholders and the Industry (NHO SH, 2021-a).

The cleaning-report also highlights certain important SDGs for the industry. The most important SDGs are Nr. 3 Good Health and Well-Being, Nr.13 Climate Action and Nr. 17 Partnerships. To take care of these SDGs, there is presented a list of different measures, and the most important ones are; choosing products that are environmentally certified, a joint standard across the industry of how work should be conducted, and decrease or eliminate the usage of plastic and not-recyclable products (NHO SH, 2021-a). Other actions that are mentioned are transforming to methods and technology that reduce emissions or chemicals usage. Transforming to the use of digital tools and technology to plan and calculate how much is needed for a project or transferring into an electric car-park could be goals to meet such objectives.

Sustainability guide for cafeteria and food service

The sustainability guide for cafeteria and food service is also a report illustrating the opportunities in the industry. NHO SH define cafeteria and food services as the sector which delivers meal services to public and private businesses (NHO SH, 2023). One of the main strengths from the SWOT analysis in this report is that the industry already has established some projects within sustainability, for example a project to prevent food waste. There is also a general willingness to change among the employees in the industry. Because organizations in this industry often buy products from suppliers, for example in Cafeteria organizations, they are able to set requirements to the suppliers in regards to how products are packed and transported. Opportunities identified through the analysis include the potential for joint industry standards, such as eco-friendly food procurement and waste management. The industry is also seen as a platform for innovation in supply chain transparency, especially with initiatives that allow consumers to see the green sides of new foods, for example by showing the climate footprint behind it. Also coming together as an industry and promote more sustainable food options could create trends and potentially influence consumer behavior to include less meat consumption for example. This will help secure a sustainable food- and supplier chain (NHO SH, 2021-b).

In terms of other strategic actions, the cafeteria-report states that the industry is advised to prioritize creating educational programs that uses digital tools to educate upon sustainable practices, aligning with one of the most central SDG in this industry, Nr. 4 Quality Education. Suggested actions to meet this SDG are to increase the focus on joint framework and industry cooperation about environmental regulations and reporting. Another important SDG is Nr. 8 Decent Work and Economic Growth. Securing equal rights across the industries with great focus on employees health and development is stated as important. Include minorities and others with different backgrounds to decrease social differences is also important.

Sustainability guide for damage control

The sustainability guide report for the damage control industry, presents several core strengths particularly in enhancing operational practices. NHO SH define damage control companies as companies which washes, dries, repairs, stores, and rebuilds buildings and contents that have been damaged by water, fire or nature (NHO SH, 2023). The industry can use, inspire and promote more circular economy by repairing instead of replacing and buying new products. This extends the life cycle of products but also reduces waste and demand for new resources and natural capital usage (NHO SH, 2021-c). The damage control organizations can affect what materials are used to make sure they are sustainable, by for example demanding documentations from the suppliers. NHO SH has also developed a standardized checklist for the industry (NHO SH, 2021-c, p.8).

Additionally, being a nationwide industry, it can ensure uniform sustainability practices across the country, and has the ability to scale up sustainable solutions (NHO SH, 2021-c).

The damage control report further mention that a lot of the emissions in this industry is in Scope-3, much of it connected to travels and transports. To take care of these SDGs, which are Nr. 12 Responsible Consumption and Production, and Nr. 13 Climate action, the industry can go together and exchange the car park to electric and more sustainable options. Other solutions are creating more partnership with local suppliers to reduce transportation distances, or to implement more digitalization and automation of processes. This can be aligning for more inspections over Zoom, or implementing technology to improve drying technology of water damage for example. Maintaining SDG 10 and 8 which focuses on the employees and the work environment is also important for this industry, highlighted in NHO SH (2021-c). Actions such as correct HMS standards, gender equality, good working conditions and terms across the whole supply chain, are seen as important to take care of.

6.3 Sustainability within DI

Denmark is assumed as one of the most sustainable countries, and has several times been ranked as number 1 in the global Environmental Performance Index, a sustainability ranking that Yale and Colombia University publishes every year with the help of 40 performance indicators (State of Green, 2022). In this part of the document analysis we will investigate how DI position themselves in the sustainable transformation process for the service industry, that is DI Service. Reflecting our research questions, we want to look into how DI Service align for a sustainable transformation. This involves what specific measures has or will be implemented from the confederation, and how it is working to help the member organizations. From Menon, we know that DI Service has implemented an initiative called Climate-Ready service organization (Menon Economics, 2019). This chapter will therefore look specifically into how this strategy and initiative has been developed, and how it is being used as an important tool for the service industry. This chapter will also investigate if there are other projects and initiatives that DI Service has developed.

6.3.1 How DI Service facilitate for sustainable development

DI Service is engaged in creating optimal conditions by guiding the service industry towards social inclusion, sustainability, and digital solutions for improving service organizations in Denmark. To help the service organizations with a sustainable transformation, DI Service has created an advisory process called ”Climate-ready Service industry”, which is free for all members of DI Service. Through workshops and other activities, this is a program that a service organization can sign up for in order to get the desired help with CO2 accounting, knowledge development and education in implementing green practices throughout the organization. Signing up for this project with other organizations also creates a platform that aligns for knowledge sharing and ability to learn from others (DI Service, n.d.-a, n.d.-i). For the ones that does not have the ability to attend this program, DI Service has developed a ”Roadmap for green transformation” in order to become a Climate-ready service organization (DI Service, n.d.-h). DI Service has three main focus areas, two of them directly connected to sustainability, so this section will start with reviewing them to get an overview of the sustainability focus, before moving onto Climate-Ready Service Industry and the roadmap (DI Service, n.d.-a).

DI Service’s work towards social sustainability and labor

DI Service is committed to improving social sustainability and labor within the Danish service

industry through several strategic initiatives. A major focus has been on the recruitment and retention of marginalized groups. DI Service emphasizes the importance of making social sustainability efforts visible (Danish Industry, n.d.-e). This visibility is key as it inspires more companies within the industry to adopt and improve their social sustainability practices. DI Service has launched a project called "Social Sustainability", where the goal is to recruit individuals who are not always considered as a priority, such as individuals with disabilities, ethnic minorities, or been unemployed for a long time (Danish Industry, n.d.-e; DI Service, n.d.-b). DI Service also support the inclusion of foreign workers by facilitating guides to help these employees with valid work and residence permits (DI Service, n.d.-c).

Focusing on internal knowledge and skills development are also central for DI Service in the development of the service organizations. In that manner, there has been developed a "learning universe" for trainees (DI Service, n.d.-d). This universe provides educations, tools, knowledge, and best practices to help educate in several industries, among them, Facility management, Security and Safety, and Laundry and Textile (DI Service, n.d.-e). These measures aim to secure more competence in industries, crucial for future development of society (DI Service, n.d.-d).

DI Service's work towards a digital and sustainable service industry

DI Service is trying to succeed with a digital transformation for the service industry, to optimize and make processes more effective, and have a strong focus on sustainable business development (DI Service, n.d.-f). As digital technologies evolve rapidly, creating more competition from other industries as well, DI Service provide help with digitalization to limit some of the barriers for digital transformation for the service organizations, such as cost, necessary competencies, and lack of knowledge. The goal is to limit wrong investments, by providing advice and analysis from experts, highlighting the benefits and implementations of new technologies (DI Service, n.d.-g). DI Service is actively trying to engage the member-organizations with innovation by encouraging them to experiment with new ways of working, and developing projects that could transform their operations or lead to the development of new services. These efforts are facilitated through initiatives like Sandbox projects, which offer a environment for testing new ideas or projects (DI Service, n.d.-f; TechTarget Contributor, 2024).

6.3.2 DI Service's Roadmap to become a Climate-Ready Service Organization

The Danish Industry Service's roadmap is a strategic tool designed to facilitate a sustainable transformation for service organizations by providing a list of what to do. It is illustrated as a web page on DI Service's website. The roadmap gives companies the necessary knowledge and actions for an effective green transformation. It introduces service businesses to climate accounting practices, which help quantify their carbon footprints and identify key areas for emission reduction. The roadmap also outlines specific, actionable measures, ensuring the solutions are practical and applicable. Financial advice is also provided to help businesses manage the economic aspects of the transition, including funding opportunities, cost management, and investments in sustainable technologies (DI Service, n.d.-h). The roadmap can be divided into three parts; why go green, how to go green, and financial help to go green. Figure 27 illustrates this overview of what is included in the roadmap.

Figure 27: What DI Service's roadmap involve. Source: Own creation with inspiration from: DI Service (n.d.-h)

The following sections will go through each one of these parts of the roadmap web page.

Why go green?
The DI Service roadmap web page states that all industries have to embrace sustainable practices. Independent of the industry, there is a reason for integrating sustainability into business operations, and regulations are increasingly getting more relevant (DI Service, n.d.-h). Public procurement policies and societal pressure are also aligning with this green transition. The public sector's purchasing and knowledge center, SKI, now makes sure that all proposals and products are as sustainable as possible (Staten og Kommunernes Indkøbsservice (SKI), n.d.). These evolving legal and market expectations align for competitive advantage, by rewarding businesses that anticipate and adapt to these demands. It can lead to new market opportunities and strengthen market positions. Customers and investors are also increasingly focusing on sustainability, demanding more transparency and commitment to green practices and documentation of the work (DI Service, n.d.-h).

The roadmap web page mentions another important driving force for the service industry to actively pursuit a green transformation, and that is that it is an industry mainly consisting of human interactions. An example is if cafeterias promotes new and sustainable foods, it can help affect others, set a good example and inspire to go on with a sustainable transformation.

How to go green?
The roadmap to sustainability provides 6 advises to help businesses develop their climate accounting. First advice is that top-management anchoring is crucial from the beginning to succeed with a sustainable transformation. This process therefore begins with assigning a responsible for the sustainability project at C-level, responsible to ensure top-down focus, minimize risks, aligning for full focus purely on sustainability efforts (DI Service, n.d.-h).

Advice number two in the roadmap web page by DI Service is getting an understanding of climate accounting, and the Green House Gas (GHG) protocol, an international standard for reporting scope 1, 2, and 3 emissions. This step further involves fetching data on the organization consumption to be able to calculate emissions, advice number three. Companies are therefore encouraged to collect invoices and keep track of consumption using units most relevant to their operations, such as kWh, tons, or liters. In order to get as full overview as possible, estimates are acceptable where needed as long as the estimates provided are justified.

The advice number four in the roadmap is to calculate emissions based on the collected data, and DI Service suggest utilizing the Climate Compass system. Businesses can in this system convert data into CO2e emissions insights, and it is of free use for all Danish organizations. As damaging gas emissions not only involve CO2, the e in CO2e symbolizes "equivalent gasses", providing a broader view of a company's environmental impact. Once a clear overview over the organizations CO2e emissions is established, the Climate Compass system also offers tips on measures for emissions reductions (DI Service, n.d.-h). These are actions within **Scope 1**; The emissions that the organization can control itself, **Scope 2**; Indirect emissions caused by something needed in order to operate, and **Scope 3**; External emissions, for example emissions caused by producing a product bought from suppliers (National grid, n.d.).

Advice number 5 in the roadmap involves concrete measures to handle Scope 1,2,3 emissions. Scope 1 measures typically involve implementing measures like switching to district heating or electric vehicles, or by promoting the electrification of industries such as catering and laundries with technology like heat pumps. DI Service emphasizes that digitalization also can help improve CO2 reduction. The roadmap presents several success histories from Polygon, illustrating how

digital tools has enhanced operations. One example is that Polygon use sensors to remotely monitor dehumidifiers, which has resulted in reduced power consumption of 10%. Another one is preventing water damage using machine learning, finding possible areas in advance facilitating for taking precautions before damage occurs (DI Service, n.d.-h). To handle scope 2 emissions, companies can reduce energy consumption by lowering heating, minimizing unnecessary usage of electricity. For scope 3 emissions, it is suggested to critically evaluate suppliers by looking into CO2 reports and climate strategies, and to start collaborations producing sustainable friendly products. Companies can also join the Science-Based Targets initiative to align with international goals, and to get help in development of sustainability efforts (DI Service, n.d.-h; Science Based Targets, n.d.).

The last advice in the roadmap web page is effective and good communication, being concrete, transparent, and clear about the processes. Internally, sustainability initiatives should be anchored in top-level management and actively engage employees to foster a better work environment, boost productivity, and accelerate progress. Externally it is important to avoid greenhushing, in other words suppressing own sustainability efforts. Because it is illegal to greenwash and promote more sustainable practices than what is the actual case, it can be challenging to find the right line for organizations. But promoting actual sustainable procedures is important and can provide competitive advantage, and can help avoid slowing down a transformation of the society. Figure 28 illustrates all these 6 steps for organizations to get started with their Climate accounting and green transformation journey.

Financial help to go green

The last part of the roadmap is the financial part, because a sustainable transformation can demand investments and other costs. Since all service organizations do not have the capital to invest in the correct tools or education, DI Service offer several initiatives that aim to make a transformation more achievable. The roadmap highlights various funding options and advisory services that support both small and large enterprises in their transition to sustainable practices. Key initiatives include funding to climate impact projects and advising, funding for small and medium-sized enterprises (SMEs) to adopt green practices, and specific funds aimed at improving competencies within sustainability. SME: Green competences is an example of that, providing smaller projects with up to 60,000DKK, to educate on sustainability. These financial supports are designed to decrease the economic barriers of green operations, making it more accessible for organizations (DI Service, n.d.-h).

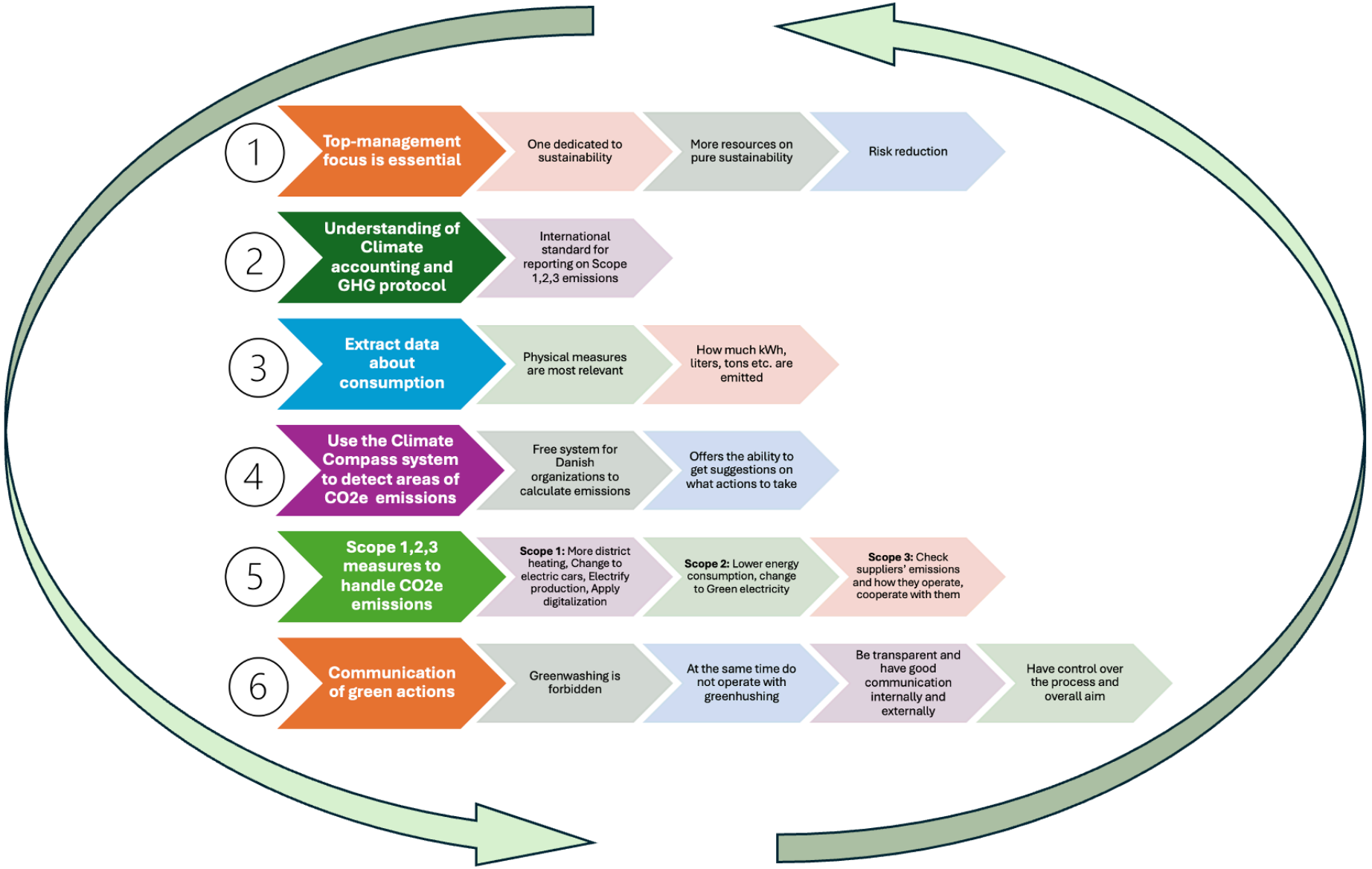

Figure 28: DI Service's 6 steps for sustainable development of service organizations. Source: Own creation with inspiration from: DI Service (n.d.-h)

6.4 Synopsis

This chapter covers the document analysis of our master thesis, aiming to synthesize insights from various documents to improve the understanding of a sustainable transformation of the service industry. It serves as a part of the triangulation in our master thesis methodology. Together with findings from the literature review and interviews it offers a comprehensive and holistic view of the strategies, actions and regulatory frameworks, that influences sustainable practices in Norway and Denmark. The document analysis also presents key findings from documents and reports from NHO and DI, exploring opportunities, strategic initiatives, and specific roadmaps for sustainable development. The documents and findings reveal the roles that industry-specific strategies and measures play in order to guide industries toward sustainability goals.

In the EU context, the European Green Deal and related regulations such as the EU Taxonomy and CSRD are highlighted for their impact on sustainability across the service industry. These initiatives are designed to facilitate the transition to a low-carbon economy by 2050, integrating digital and technological innovations to enhance environmental and economic performance. In Norway and Denmark, the analysis extends to industry-specific approaches. For instance, the NHO's Climate-Ready Service Organization project in Norway. This project aims to establish standardized methodologies for carbon accounting and foster a comprehensive framework for climate action within the service industry. Similarly, DI's Climate-Ready Service organization advisory process and roadmap to become sustainable in Denmark, focus on equipping businesses with the tools and knowledge necessary for effective and measurable green transformation.

This chapter covers the importance of a approach including regulatory documentation, industry standards, and strategic investments in technology and education to drive the service industry toward sustainability. It also discusses the critical role of top-management anchoring and the strategic alignment of sustainability goals with business operations, emphasizing the need for collaboration across the industry and continuous innovation. Drawing valuable lessons from successful implementations in Denmark and regulations from EU directives, we highlight possible actions and strategies that can help the Norwegian service industry's further sustainable transformation to become a climate-ready industry.

7 Discussion

The aim of this master thesis is to help confederations guide industries towards a sustainable transformation, focusing on the service industry. It is important to establish a baseline when beginning this journey. From the interviews we understand that the service industry experience challenges with customers not acknowledging the need for sustainability. Nonetheless, we see that those working within the industry are in agreement on the definitions of sustainability and what a sustainable transformation entails. Their perspectives match with theory, emphasizing the three pillars of sustainability and that a sustainable transformation involves changing to strategies that positively affects all three pillars: economic, environmental and social. This, in addition to agreeing on the need for change of focus among management in the industry, creates the baseline necessary to work together towards a sustainable future. Building on this foundation the discussion will elaborate on each of the presented sub-research questions using findings from the literature review, interviews, and document analysis to discuss how confederations can guide industries in sustainable transformations.

7.1 RQ1; What forces are driving and hindering sustainable transformations?

Throughout the master thesis there is a clear perception that among the reasons to perform a sustainable transformation, the three pillars; environmental, social and economical, are important. The environment has limited natural resources making the economic sustainability important. CO2 emissions is damaging the climate causing change that make environmental sustainability increasingly important. The social pillar and its importance are illustrated through the work towards solving inequality in society, securing growth for all, and improving quality of life. Both interviews and the document analysis present this social pillar as especially important and as a catalyst for sustainable development for the service industry, given it being mostly human based. The driving forces and barriers of the service industry affect all three pillars. Driving forces include customer awareness, governmental requirements and digitalization. Barriers include economic barriers, bottleneck at management level, low margin industry, resistance to change, technological limitations and lack of standardization.

7.1.1 Driving forces

The driving forces towards sustainable transformation in the Norwegian and Danish service industries is affected by a combination of customer demands, governmental actions, and technological innovations. In both countries, the desire for sustainability is influenced by customers who are increasingly demanding that businesses adopt more eco-friendly practices. This growing customers awareness creates a market-driven competitiveness for companies to adopt sustainable practices. We saw a broad agreement that the service industry are highly affected by customer demands in the interviews. Given its low margins and human-based characterizations, service companies need to deliver to customer desires. This close dependency between the service industry's delivery and customer demands means that growing customer awareness will be of great significance. On the other hand, interviewees 14 and 16 mention there is still a lack of willingness from customers to pay for sustainable products. They state that the willingness of customers does not always match the increased costs of providing these solutions. So, even though customer awareness is identified as a driving force, not all customers are willing to pay the price increase of sustainable products.

Governmental requirements are also enhancing the pressure for improved sustainability efforts with

the EU increasingly developing sustainability initiatives. CSRD demanding larger companies to report on a wide range of sustainability measures are one of them. The European Green Deal initiatives and EU-taxonomy's list of sustainable activities to invest in, for meeting the 2050 goals of climate-neutrality are two others (European Commission, 2020-b; Publications Office of the European Union, 2019). For example, interview object 2 mentions that the Right-to-Repair initiative from the European Green Deal has been successfully implemented in Sweden, promoting circular economy by giving companies VAT-reduction on repaired products. Environmental regulations contribute to more pressure and expectations around adopting greener practices, because being able to document sustainable operations can in turn create competitive advantage and increased attractiveness among investors and other stakeholders. This is also supported by both interviews from NHO, and DI's roadmap to sustainable development (DI Service, n.d.-h). These environmental regulations from EU have a direct impact to how DI and the Danish service industry operates, because they are a part of the EU. Norway is not a part of the EU and getting these regulations implemented as a requirement by law may take extra time, as mentioned in the interviews. Despite that, Norway is a part of the international market, and need to comply with the regulations. The interviews point out the desire for action from the authorities to push for legal reporting, documentation and other sustainable climate measures. There is also a general consensus from the interviews that climate-requirements in public tenders has created positive results with more attention towards sustainable practices. Public tenders with climate-requirements forces businesses interested in these tenders to adopt practices that meet the requirements. Governmental requirements, both through regulations and public tenders, work as a driving force towards sustainable practices.

Another key driving force for sustainable development, both for NHO and DI, is innovations and rapidly evolving technology. The increasing use of technology reduce barriers between industries and create opportunities for innovative sustainable practices and new competitors to enter the market (DI Service, n.d.-g). Moreover, digitalization can improve efficiency and resource-usage in MSMEs, which contributes to a major part of the global economy. Predictive maintenance and other activities that can be streamlined through digital platforms are mentioned as some of the most beneficial opportunities for these enterprises. Implementing more digital tools will facilitate more circular activities, reduce costs and help meet environmental sustainability goals (Martínez-Peláez et al., 2023).

DI in particular emphasises that digitalization is something the confederation actively pursuit in order to become more sustainable (DI Service, n.d.-f). To illustrate the benefits, DI mention how Polygon has succeeded with 10% less energy-consumption by changing to remote-monitoring using sensors and other software, thereby decreasing Scope 1 emissions. There are also several interviews that highlights how digitalization can lead to resource- and energy effectiveness by implementing machine learning to optimize processes, like transportation routes. Using IoT for data collection are also mentioned, which can be used in climate accounting. The interviews also highlighted that a driver for sustainability is the existence of technologies to address current issues. Interviewee 5 believes that it is more about scaling up existing technology, such as solar panel for energy-usage, than creating new.

7.1.2 Barriers

While there are many driving forces for sustainable development of the service industry, the literature, representatives from the interviews, and the documents reviewed, propose a wide range of barriers as well. These barriers include bottleneck at management level, economic barriers due to the low margins of the industry, resistance to change, technical limitations and lack of standardization.

Among the most highlighted barriers are bottleneck at management- and board level. Both NHO and DI proposes potential leadership bottlenecks as barriers for sustainable development. Having anchoring at management level and effective leadership throughout the transformation is seen as crucial, both from interviews and the document analysis (DI Service, n.d.-h). Effective and good leadership with the ability to manage company resources will improve the opportunities of meeting environmental and societal goals (Vrchota et al., 2021). Lack of anchoring in top management and understanding of sustainable development, therefore creates a barrier. Additionally, many MSMEs lack the necessary competencies and face resistance to adopting new technologies (Martínez-Peláez et al., 2023). Poor leadership lacking a clear plan not engaging the employees to foster a culture of sustainability poses a significant barrier to sustainable development.

Several economic barriers are outlined throughout the master thesis. Interviewees point out that the service industry is a low margin industry, which highly affects its sustainability efforts. Many decision-makers find it difficult to allocate resources and investments to sustainable initiatives, because the sustainable products often are more expensive. A common problem in cafeteria and food service emerging from the interviews are that circular and sustainable food options are causing an economic problem for the organizations buying them. Firstly, because it is more expensive to buy than the regular options. And secondly, the alternatives are not as popular, exemplified through regular meat compared to plant-based meat. Many interviewees point out that investments are too risky. The service industry has little capital to spend on new practices that cannot guarantee growth and benefits. Capital often tied up in outdated, less sustainable machinery also makes it hard to justify the switch to greener technologies. Scaling up new sustainable machines to be able to produce sustainable products in the desired and needed quantity takes time, creating higher prices due to supply and demand. There is also a widespread perception that sustainable solutions compromise economic performance, with high initial costs being particularly difficult to manage. For instance, transitioning a car-park to electric alternatives with new technologies requires substantial upfront investment, which is challenging for businesses with low margins. Interviewees from NHO share that companies are reluctant to share resources and knowledge because of the low margins and high competition between organizations, which further complicates collaborative efforts towards sustainability.

Another barrier emerging through the interviews is resistance to change. People would rather stick to old habits than try out new ones risking worse outcomes. The interviews highlight how cultural and psychological factors can hinder the transformation. These factors include skepticism towards new work methods and a general lack of enthusiasm to leave familiar, established, and safe procedures. Overall, employees resist to change because an outcome with decreased comfort is unacceptable. However, the findings in the document analysis oppose this. The sustainability guide for cafeteria and food service states that there is a general willingness among employees to change (NHO SH, 2021-b). These findings from the SWOT analysis suggests that the willingness to change throughout the service industry can vary and might be related to each specific sector. This makes resistance to change an important barrier to monitor, assuring it is neither neglected nor assigned too much weight in successfully transforming.

Technological limitations also present a barrier for sustainable development. Technology is highlighted as an important driving force and opportunity in transitioning towards sustainable practices (DI Service, n.d.-f; Martínez-Peláez et al., 2023). Yet, the service industry within both Denmark and Norway are described as less technologically advanced, with companies struggling to adapt to new digital capabilities. Weak leadership can be a reason for this, as Korherr et al. (2022) states that specific leadership types are important for solving the difficulties in digitalization. Some also believe there are limited opportunities in transforming the service industry digitally because it mostly consists of human-based work. Interviewee 16 point out that while factories and production lines can be automated and made more efficient relatively easily, it is more complex to apply

similar digital solutions in service sectors where personal interaction and customization to individual customer needs, play a large role. However, the great focus on technological advantages in literature, other interviews, and the analysed documents, suggests that the industry should address this barrier and search for tailored technological solutions.

Lastly, there is a lack of standardization in the industry. Especially in Norway, interviewees point out that it is difficult for customers to separate which companies that are implementing environmentally friendly practices, and not greenwashing. In turn, making it less attractive to choose more expensive but environmentally friendly solutions. Standardized metrics and tools to measure both direct and indirect emissions, as Denmark have started to implement through their Climate Compass, are requested. Not having uniform tools that measure all emissions complicates efforts to track environmental progress and ensure accountability. Therefore, the interviewees show a growing desire for effective measurement tools and standards across the industry to create consensus on sustainable practices applicable for all. Without these tools, companies find it challenging to implement and report on sustainability measures effectively. Increased standardization will help distinguish genuine efforts from greenwashing and prevent companies from greenhushing.

7.2 RQ2; What factors are essential in succeeding with a transformation?

To successfully transform requires a comprehensive approach. The findings in this master thesis suggests these elements as especially important; partnerships, collaboration, knowledge sharing, stakeholder engagement, strategic alignment, effective leadership and change management, technological exploitation, education and continuous improvement. Each of these factors plays an important role in ensuring that transformative efforts are initiated, sustained and embedded into the core operations of the organization.

Partnerships, represented through SDG nr. 17, are becoming more important. Different types of partnerships can lead to several benefits. Creating partnerships with suppliers and customers can help reduce the industry's economic barrier of low margins. Many interviews highlight that sustainable solutions involve higher costs. By creating long-term partnerships it is easier to affect the partners and change their perception on sustainability. In addition, it makes it possible to reduce the costs on sustainable solutions short-term in exchange of long-term contracts. Partnerships like networks and business groups also pose several advantages. Networks like NHO and DI champion change, can affect industry standards and local regulations, making them highly valuable for all businesses, especially smaller ones with lower margins and less market influence. They also enable knowledge sharing between businesses in the network by erasing communication barriers (Liakh & Spigarelli, 2020). These benefits emphasize the importance of partnerships in succeeding with a sustainable transformation.

Collaboration and knowledge sharing through trans- and interdisciplinary projects are also pointed out by both interviewee 9 and the literature as essential in developing sustainable solutions. They introduce a collaborative and inclusive approach by bringing together scientists, practitioners, and stakeholders from diverse industries. These approaches foster a "science with society" model that emphasizes mutual learning and the co-production of knowledge. This collaboration ensures that various perspectives and expertise are integrated, leading to more comprehensive and effective solutions to environmental challenges (Steger et al., 2021). Additionally, structured interdisciplinary education plays a role in building the necessary knowledge base and practical skills for participants, further supporting collaborative efforts (Braßler & Sprenger, 2021). Interviewee 9 highlighted an event DI organised where representatives from different industries came together and discussed how they deal with sustainability issues in their respective industries. Sharing solutions and differ-

ent perspectives provided them with a more holistic view to their sustainability issues. Therefore, fostering trans- and interdisciplinary approaches is essential for developing sustainable solutions.

Stakeholder participation and engagement are other benefits drawn from such collaborative and inclusive approaches. Engaging stakeholders like employees, customers, suppliers, and others, is key to be successful in a sustainable transformation. Stakeholder engagement helps organizations understand the market needs and sustainability concerns, driving innovation and ensuring support for these initiatives (Salamzadeh et al., 2022). Customer and supplier engagement can be addressed through partnerships and trans- and interdisciplinary projects, as well as agile project management which especially enhance customer engagement (Špundak, 2014). Several interviews highlight particular challenges with employee engagement. Interviewee 17 discusses the importance of involving employees in the planning and execution of sustainability initiatives. This can include workshops, seminars, and regular meetings where employees have the opportunity to contribute ideas and receive feedback. Such participation strengthens the sense of ownership of the sustainability processes. Teodoro et al. (2021) also outlines how repeated face-to-face interactions such as attending workshops and meetings focused on collaborative decision-making develop stronger ties and a deeper commitment to collective goals. DI has included this as the last advice of their roadmap, stating that actively engaging employees foster a better work environment, boost productivity, and accelerate progress (DI Service, n.d.-h). To succeed with sustainable changes, they must be integrated into daily operations to engage employees, and engage other stakeholders to understand market needs.

Effective change management is critical in transitioning towards sustainable practices. The goal is to sustain the change to ensure it is ingrained in the organizational culture for long-term effectiveness. This ongoing, strategic process highlights the continuous nature of change management, where adaptation and commitment are essential for driving successful organizational outcomes (By, 2005; Hornstein, 2015). Managing the people of the organization correctly through a transformation is especially important when resistance to change is an identified barrier. Proactive engagement from top management and active participation from all levels of the organization are mentioned as essential throughout the interviews. NHO and DI expressed that they believe this bottom-up approach ensures that employees feel involved and committed to the transformation process. Creating a supportive culture for sustainable practices involves communication strategies that are clearly presenting the benefits and necessities of the changes. Engaging employees can reduce resistance and demonstrate the practical benefits of sustainable change. For example, interviewee 14 showcased how sustainable changes work in practice through a pilot project. By creating a dialogue with employees about their concerns and let them suggest improvements, the company built trust and reduced resistance to change. Zubac et al. (2021) also identify preference for the status quo as a cognitive bias leading to resistance to change. He suggests structured decision-making processes, diverse teams, and continuous education and training to manage it. These will help mitigate individual biases and bring in a variety of perspectives introducing new ideas to drive change. Particularly diverse teams and education are something the service industry can exploit through focusing on social sustainability. Focusing on effective change management will help create momentum through the transformation process and ensure that changes are sustained.

It became obvious through the interviews that successful implementation of sustainable changes requires strategic alignment at the highest level and effective leadership throughout the transition process. It is central to strategically align sustainability goals with the organization's overall vision and objectives. Then, trying to embed sustainability into daily operations and foster a supportive organizational culture to navigate the complexities of transitioning. Leadership commitment is crucial in this regard, as it sets the standard and direction for the entire organization. Research shows that over 50% of companies view experienced project managers as the most important success factor in projects (Vrchota et al., 2021). Effective leaders are able to present a clear

vision for the future, establishing measurable objectives and integrating these into the company's strategic plans (Mansell et al., 2020). Strong leadership is highlighted as crucial in digital change initiatives through the literature. Leaders should align these initiatives with business strategies and ensure that they resonate with the organizational culture (Vojvodic & Hitz, 2019). Haugan (2010) also specifies that project success relies on how well the project aligns with the organizational environment. Leaders must champion these initiatives, ensuring that they are prioritized and that sufficient resources are allocated to achieve the desired outcomes. So, strategically aligning sustainable changes with the help of effective leadership is important, particularly in digital change initiatives.

Exploiting digital technologies are important as they are enablers of sustainable transformations (DI Service, n.d.-f). Both the interviews and literature states that the implementation of technologies such as big data analytics, artificial intelligence, and the Internet of Things can significantly improve operational efficiency, reduce resource consumption, improve decision making and support the principles of a circular economy (Grab et al., 2019). The sustainability guide for cleaning promotes digital tools to be able to plan resource use better and calculate emissions (NHO SH, 2021-a), while the sustainability guide for damage control suggests implementing inspections over zoom or leveraging technology for more effective drying of water damages (NHO SH, 2021-c). Technologies facilitate better decision-making by providing real-time data and insights, which are essential for tracking and managing sustainability efforts. As mentioned ealier, MSMEs is often missing competence and experiencing resistance towards new technology (Martínez-Peláez et al., 2023). Warner and Wäger (2019) highlights the importance of developing dynamic capabilities incrementally to effectively integrate and exploit these technologies. As the industry is described as less technologically advanced, they need to start by developing sensing capabilities. This concerns utilizing digital technologies to proactively perceive and interpret market trends and customer needs. Utilizing technology in this way thereby contributes to the overall sustainability goals of the organization.

Sustainable transformation is not a one-time effort but an ongoing process that requires continuous improvements and adaptability. Organizations must regularly review and update their sustainability strategies based on new data and evolving market conditions to be successful. This adaptability ensures that sustainability efforts remain relevant and effective in an constantly evolving global landscape. Continuous improvement processes, such as feedback and recursive activities, can help identify areas for improvement and ensure that sustainability practices are being effectively implemented and maintained (Zubac et al., 2021). Educating and training employees in relevant areas like technical skills is outlined as crucial to have an adaptable workforce that can respond to changes (Grab et al., 2019; Volpentesta et al., 2023). Also, continuously educating employees enhance social sustainability, as emphasized by many interviewees. By focusing on these essential factors; partnerships, collaboration, knowledge sharing, stakeholder engagement, strategic alignment, effective leadership and change management, technological exploitation, education and continuous improvement, organizations can solve the challenges of sustainable transformation. This holistic approach ensures that sustainability becomes an integral part of the organization, achieving environmental and social benefits while obtaining economic performance and resilience.

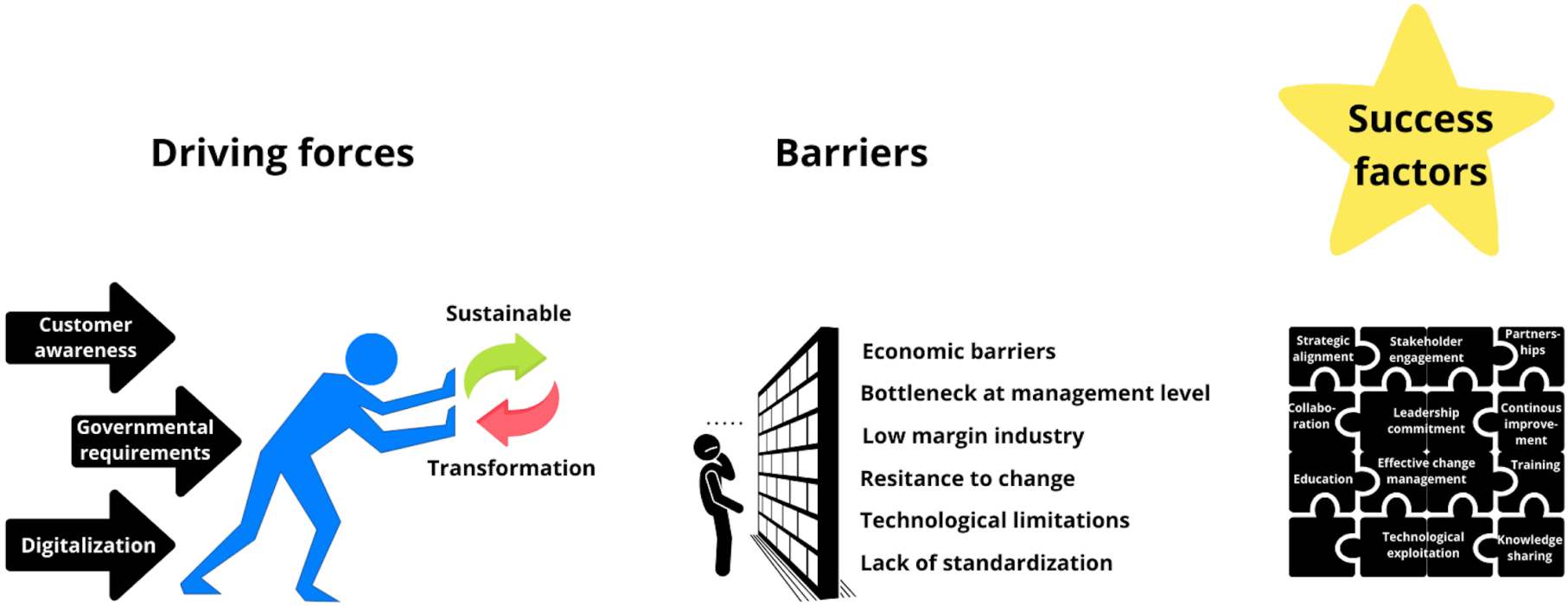

Figure 29: The driving forces, barriers and success factors of a sustainable transformation of the service industry from the master thesis' findings. Source: Own creation

7.3 RQ3; Where are the service industry's opportunities in transforming?

When assessing what opportunities that appear if the service sector transforms, it is important to make sure they do not drift away from their primary task - to deliver quality services to customers. To evaluate the effect of the different opportunities presented in the findings, the SERVQUAL model will be applied. The model is usually used in a survey-based approach, where customers evaluate the expected and perceived level of the service across the five dimensions:

1. tangibles,
2. reliability,
3. responsiveness,
4. assurance, and
5. empathy (Wang et al., 2015).

We will evaluate the expected and perceived levels across these dimensions based on findings from theory, interviews and document analysis. In addition, each opportunity will be assessed on green service management as a parameter. To drive a sustainable transformation of the service sector we need to help businesses move from the pool of law-driven and public relations-driven businesses to the smaller pool of value-driven businesses. Value-driven businesses have offensive strategies with genuine desires to be good citizens, where their basics for revenue foster social, economic and environmental value. Service quality for them is redefined to include ecological dimensions which creates opportunities for sustaining competitive advantage (Gummesson, 1994). This creates a holistic evaluation of each opportunity, where sustainability are integrated with central service management dimensions to determine each opportunity's value.

Digitalization is mentioned in many of the interviews and in the literature as a critical factor in the road towards more sustainable business (Ceynowa et al., 2023; Warner & Wäger, 2019). DI are recognizing the importance of technology and how rapid technological innovations can be useful to the service industry. They have implemented several digitalization initiatives and are using technology eagerly as a tool to achieve sustainability. As mentioned in the interviews, NHO or DI as organizations cannot force its members to transform, but they should facilitate it to the best of their abilities. DI offer counseling to businesses wanting to implement new technologies, as well as thorough analysis of the advantages and disadvantages of different technologies. They provide their members with access to networks and development projects in cooperation with universities, and have created a Sandbox environment free of use (DI Service, n.d.-f; TechTarget Contributor, 2024). A Sandbox environment allows members to build, experiment, and test solutions without causing any real-world damage. The service industry is a low margin industry with little room for error, making these initiatives extra important to inspire innovation and sustainability through digitalization. They can help improve workers' competence and knowledge, and minimize the risk associated with implementing new technologies. Thereby, enabling an improvement across all service management dimensions; tangibles, reliability, responsiveness, assurance and empathy. Adopting digitalization will also make businesses more value-driven by implementing offensive strategies.

Implementing digital tools to monitor and assess businesses' environmental performance are becoming increasingly important in the light of directives such as the European Green Deal (Papamichael et al., 2023). Green IS is mentioned as a crucial tool in the sustainability efforts for organizations. They contribute to sustainable business processes, enhancing a company's ability to achieve its

environmental sustainability objectives. For instance, the e-Genie tool provided employees with real-time feedback on their energy consumption which led to significant reductions in energy use and increased sustainability awareness (Kirchner-Krath et al., 2024). Another is the Climate Compass system promoted by DI, which businesses can use to convert data into CO2e emission insights, including emissions from CO2 and equivalent gasses. Then, it presents measures to reduce emissions within scope 1, 2 and 3 (DI Service, n.d.-h). The Climate Compass can aid businesses in getting an overview of their emissions and how they can reduce them. Implementing a digital tool for monitoring and assessment, like the Climate Compass, can result in smaller improvements within the service businesses' tangibles and assurance. Also, maybe taking them a step closer to becoming value-driven. However, it is a small step, not ensuring significant long-term enhancement of their environmental performance.

The hybrid approach of implementing KPIs, digital tools and quality protocols in combination are highlighted as a solution to enhancing environmental performance (Papamichael et al., 2023). Several Norwegian interviewees also emphasize the need for tools to create common standards for the industry. NHO emphasizes the importance of working towards a standard for the industry, both through the Climate-ready Service organization project, and the sustainability guide for cleaning (NHO SH, 2021-a). The interviewees and NHO believe that a industry standard will make it easier to differentiate those making real sustainable choices from companies trying to greenwash by ensuring correct practices and a common understanding. Using the UNs SDG Compass shown in figure 15 can help map needs and areas for improvement, and where a common standard could be useful. The literature suggests combining the different instruments to monitor and assess environmental performance, because KPIs, digital tools and quality protocols possesses individual weaknesses. A hybrid approach can let the strength of each instrument eliminate the others' weaknesses. The Climate-ready service organization project, which is already executed in Denmark and newly initiated in Norway, develops a digital tool service companies can use to report on carbon emissions. In addition, companies receive climate certifications after completing each step of a climate-ready process. Together, these serve as KPIs and digital tools in the hybrid approach. As KPIs and digital tools lack standardization (Papamichael et al., 2023), finding an appropriate quality protocol, like the Nordic Swan Ecolabel, to implement should create a holistic balance. This hybrid approach initiative will improve tangibles and reliability by providing the industry with standardized tools, making it easier for customers to make informed decisions. Employees will experience improved assurance as well, if working for a company that adheres to these standards. This approach alone will not help classify companies further than as public relations-driven businesses. This can be seen as using environmental initiatives for image enhancement and not fully integrating these practices into core operations. The climate-ready service organization initiative can also be seen as restricted, not showing the whole picture. After the EU introduced CSRD, DI initiated a new project called ESG-ready service company, aiming to provide service companies with tailored dual materiality analysis to improve transparency to their environmental performance.

Literature points out the importance of education and training in change initiatives (Zubac et al., 2021), and particularly in successfully implementing new technology (Grab et al., 2019; Martínez-Peláez et al., 2023). To leverage new tools and adapt to more digital workplaces, employees need education and training. DI has made a learning platform where member companies can educate their employees on specific industry topics. They offer education, tools and best practice within all 8 branches of their organization. This aims to secure and develop competencies and knowledge that contribute in transitioning towards sustainable business (DI Service, n.d.-d). Several interviews from Norway and Denmark also mentioned how they have experienced workshops, presentations and similar events with NHO and DI as valuable. They highlight how they have learned from discussing and working together with employees from both the same industry and other industries.

Together, they can share specific insights from each others sustainability work and get inspiration to try new approaches and strategies. Such inter- and transdisciplinary work is proven to enhance sustainability knowledge and behaviors (Braßler & Sprenger, 2021; Steger et al., 2021). Education and training will enhance all five dimensions of service quality, but particularly affect the assurance of employees and the service business' work towards becoming value-driven as it enhances sustainability knowledge and behaviours.

There are identified great potential to enhance social sustainability in the service sector in Norway through several interviewees and analysed documents. Many states that the service industry is human-based representing a large diversity of nationalities, 160(!) according to an interviewee, and religions, making social sustainability particularly crucial. The interviews focus on inclusion through workforce integration, skills development, and building resilient communities. This recognizes that sustainable development contribute to how we treat people and build strong, democratic social structures. There is identified potential in promoting social sustainability and its value in the cleaning sector, as it is engaged in recruiting people with different backgrounds and abilities (NHO SH, 2021-a). While the damage control sector should work on correct HMS standards, gender equality, and good conditions and terms across the whole supply chain (NHO SH, 2021-c). DI have several initiatives in place focusing on social sustainability. A focus is on the recruitment and retention of marginalized groups, and making these efforts visible to inspire others. They offer guides to help foreign workers with valid work and residence permits, and have initiated the project "Social Sustainability" which aims to recruit individuals usually left out, like individuals with disabilities, ethnic minorities, or that have been unemployed for a long time (Danish Industry, n.d.-e; DI Service, n.d.-c, n.d.-b). Education and training of these employees after recruitment, as mentioned in the previous paragraph, are also highlighted through skills development in the interviews. Interviewee 7 suggests that Norway should focus more on social sustainability as it can build brand and customer loyalty. Increasing the focus on social sustainability through these initiatives will enhance all five dimensions of service quality through education. It is also a great step towards becoming value-driven as it fosters sustainable behaviour through the desire of being good citizens.

The service industry being a low margin industry was often highlighted in the interviews as a major barrier for service companies to implement sustainable transformation initiatives. 60% of the interviewees emphasize that environmental friendly initiatives often come with high upfront costs. DI offer funding to climate impact projects, funding for small and medium-sized enterprises (SMEs) to adopt green practices, and specific funds aimed at improving competencies within sustainability. SME:Green competences is one of their initiatives, where smaller projects aimed to educate on sustainability can get up to 60,000DKK. Providing financial support for such projects aims to decrease the economic barriers of environmental friendly initiatives (DI Service, n.d.-h). Making sustainable projects more available for their members can contribute to pushing companies in the direction of becoming value-driven, as both tangibles and assurance might be enhanced. Especially assurance, where they support initiatives that educate employees most likely improving their ability to inspire trust and confidence towards customers.

Extended producer responsibility are mentioned in the interviews as a way to help service companies reduce their scope 2 and 3 emissions. The interviewees agree that the service industry in general have very low scope 1 carbon emissions, but are significantly affected by their suppliers. Viewing themselves as producers of services and extending this responsibility requires demanding higher standards from their suppliers. Replacing suppliers contributing negatively to the climate crisis with more environmental ones focusing on greener production, will help reduce their scope 2 and 3 emissions. This implies implementing CSR as a business model helping service companies be socially accountable to itself, its stakeholders, and the public. Doing this will affect their tangibles by making their physical facilities and equipment more environmental friendly, for instance through

lighting systems that saves energy when rooms aren't in use or driving electric cars. Choosing suppliers with safe products, suited for your specific service are very important to not affect the reliability of your services. It will not have any significant effect on responsiveness or empathy, but can increase assurance as the employees ability to inspire trust and confidence can improve by knowing they work with sustainable solutions. It will also move the business towards becoming value-driven, viewing environmental considerations as essential to their business mission. However, an important barrier to extended producer responsibility are the low margins of the service industry. Most of the interviewees highlight that they need to deliver to the customers expectations to stay profitable. Extending producer responsibility will most likely mean choosing more expensive supplies in the short term, increasing the price of their service.

7.4 Final recommendations

The aim of this master thesis has been to deliver strategic recommendations to how confederations can contribute in a sustainable transformation of an industry, using NHO SH, the Norwegian service industry, DI Service and the Danish service industry as examples. This is based on a combination of insights from the Norwegian businesses and market, learnings from DI Services initiatives, and findings in relevant literature on sustainability, digitalization, project management and change management. We have developed a comprehensive view on the current status of the Norwegian service industry and how they, and similar industries, can move towards becoming a sustainable, climate-ready sector. This is done through examining barriers and drivers of the service industry, EU regulations and how it affects Danish industry in contrast to Norwegian, and opportunities related to these barriers and drivers. The answer to this includes many initiatives of different forms working together to create an holistic solution.

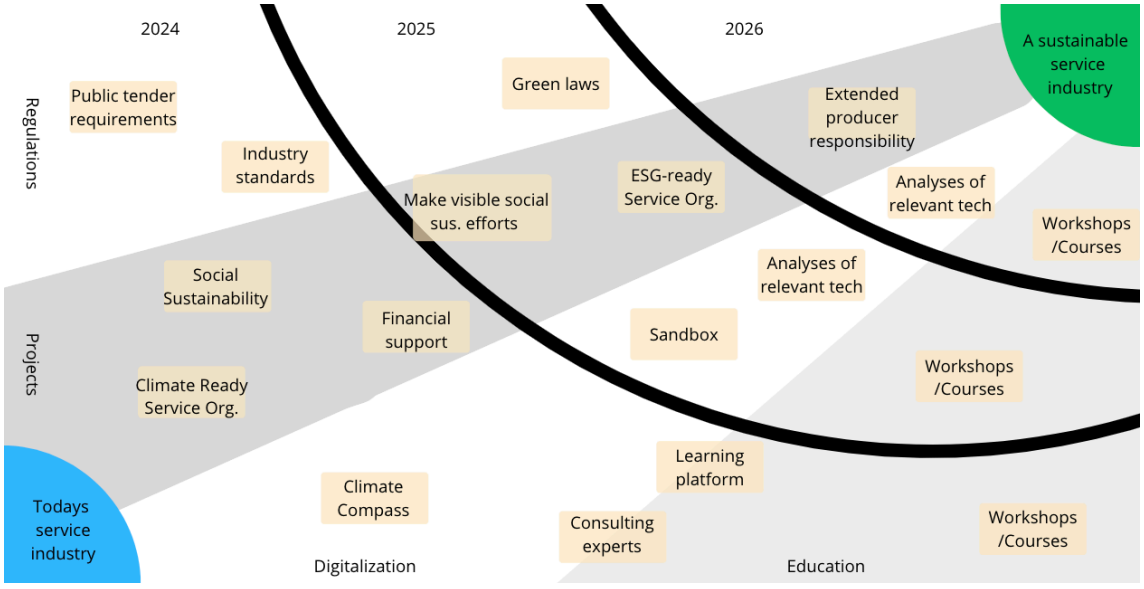

Figure 30: Roadmap of possible initiatives towards a sustainable transformation of the Norwegian service industry. Source: Own creation

To present our recommendations we have created a roadmap, shown in figure 30. The roadmap consist of

1. A starting point - The Norwegian service industry of today.
2. Four different streams; "Regulations", "Projects", "Digitalization", and "Education".

3. A timeline consisting of almost three years - from today until the end of 2026.
4. 18 actions we recommend NHO to initiate during this timeline sorted by each stream.
5. A North Star - A sustainable, climate-ready Norwegian service industry.

The end goal of a sustainable transformation is what we are calling a North Star for the service industry. It is important to recognize that this North Star is constantly changing with the evolving business landscape, and is always something to reach for. This is where the service industry is a sustainable, climate-ready industry leading the way in the transformation towards sustainable development. The service industry will consist of value-driven firms that view environmental considerations as essential to their business missions, leading to sustained competitive advantages and aligning closely with their core values. These firms will be characterized with being adaptable. implementing agile methodologies, and having an educated and diverse workforce all engaged in change initiatives working towards the same goals. Their basic form of revenue will foster economic, environmental and social value including strong partnerships, collaboration and stakeholder engagement that drives innovation through knowledge sharing. Leadership are committed to all initiatives utilizing a bottom-up approach to empower employees and champion changes. These firms will also have dynamic capabilities identified as transforming, which involves dealing with navigating innovative ecosystems, redesigning internal structures, and elevating digital maturity. The industry will be a guiding model in social sustainability, promoting practices that transform democratic social structures.

Today, service companies are far from being able to identify themselves accordingly. Through our barriers we see that many businesses struggle with commitment at management level. The sustainable change initiatives are not getting the needed resources and prioritization as management does not commit to them. This often appears due to several economic barriers. The service industry is a low margin industry making new investments risky. Sustainable initiatives often involves high initial costs and are experienced as more expensive than regular solutions. In addition, many firms have significant capital tied up in machinery. To enhance the opposition towards change, there is often resistance to change among employees, which experience a lack of skills and standardization in the industry. Lastly, the technological maturity of the industry makes it hard to exploit existing solutions to improve efficiency. Stepping towards sustainable actions with these barriers require a brave and innovative mindset.

However, there are several drivers pushing businesses to sustainable transform. The main ones include customer awareness, governmental requirements and digitalization. Customer behaviour, and society in general, are becoming increasingly aware of climate change and demanding sustainable products. This is erasing economic barriers if customers are actually willing to pay more than the price increase choosing sustainable solutions bring for service companies. Governments are introducing new regulations, like EU taxonomy and CSRD, forcing companies to report on emissions. In addition, public tenders often include environmental requirements pushing companies interested to fulfill these. The rapid development of digital technologies over the past decades are contributing with innovations that help improve operational efficiency, create more environmental solutions and facilitate knowledge sharing. These drivers are trying to break through the barriers forcing companies to adhere to potential new business landscapes.

To be successful in transforming to these forces, the master thesis have identified 10 success factors, illustrated in figure 29. Strategic alignment and leadership commitment are imperative to foster a supportive organizational culture that is able to navigate the complexities of transitioning. Stakeholder engagement is important to understand market needs, drive innovation and ensure support for the change initiatives. This innovation and support can be enhanced through partnerships and collaboration which facilitates knowledge sharing. To handle the continuous evolving business

landscape effective change management, and education and training, are central. This will make sure the organization is ready to adapt to surprises and have a workforce performing at all times. To make sure of this, companies need to utilize all the benefits digital technologies offer. These are crucial to remain competitive in the changing business landscape. Most importantly, as the world around is constantly evolving, continuous improvement of all aspects with the organization is needed. Facilitating feedback processes and always looking for ways to change is imperative to stay at the forefront of a sustainable transformation.

To help businesses transform towards sustainability we have put together a set of initiatives confederations should implement illustrated in figure 28. Firstly, the "Regulations" stream addresses what confederations should focus in their work towards the authorities. This includes pushing for stricter environmental requirements in public tenders, identified by interviewees as a good incentive to adopt sustainable practices. Also, push for legal reporting and other regulations supporting the environment, like right to repair.

The "Project" stream consists of projects the findings suggest will enhance sustainability efforts. The Climate Ready Service Organization project will provide the industry with a much needed tool to standardize reporting. This will make it easier for customers to differentiate between potential service suppliers. In addition, this project will enhance sustainability knowledge and behaviour of those involved. Next is initiating a similar project as DIs Social Sustainability project to promote inclusion. Later they should focus on making such social sustainability efforts visible to inspire others. Establishing a financial fund is important to decrease the economic barriers the management of the service industry are experiencing. Having funds where they can apply for financial support for sustainable initiatives will lower the threshold for environmental friendly solutions. Later on implementing ESG-ready Service Organization, as DI are working on now, and further developing this to extended producer responsibility will help service organizations take responsibility for their emissions and other parts of their value chain.

The "Digitalization" stream introduces initiatives that enhances the digital maturity of the industry. Digital maturity is identified as very low by interviewees and a big potential for improvement to exploit existing solutions that majorly improve operations. The climate compass developed through the Climate Ready Service Organization will serve as a digital tool service companies can use to report emissions. Creating a Sandbox, like DI have done, is smart to lower the threshold for trying out and implementing new technology. This, in cooperation with analysis of relevant technologies like AI, big data analytics and IoT, will make it easier for companies to innovate and make the right decisions. These analysis' should conclude guides for implementation, advantages and disadvantages, as well as real life examples. They should also be updated with new technology that is emerging in the future.

The last stream, "Education", represents how the confederation can contribute with knowledge sharing and training to ensure that service companies are ready to adopt to the evolving business landscape. In the intersection of "Digitalization" and "Education" we find initiatives educating on digital technologies. These include having technology experts member companies can consult with on their digitalization efforts, and a learning platform that offer education, tools and best practice within specific sectors of the service industry. This makes it easier for new employees to start working as fast as possible. The rest of the education stream consist of workshops, courses and other events where a confederation gathers its members to facilitate knowledge sharing and innovation. This includes industry specific, interdisciplinary and transdisciplinary events. In addition, member companies should gain access to academic projects and other insights the confederation possesses.

These four streams - "Regulations", "Project", "Digitalization", and "Education" - with 18 associated initiatives creates an holistic approach for a confederation to facilitate a sustainable transform-

ation for its members. Several of our findings, like stakeholder participation, applying standards and reporting initiatives, collaborative learning with business partners and research institutes, creating sustainability forums and training programs, and using pilot projects to show sustainability efforts are identified by Bejtush Ademi et al. (2024) as learning activities for the media industry, e-commerce, distribution industry and finance industry to improve sustainable efforts. The similarities in findings across these industries and the service industry suggests that the findings in our master thesis are transferable to other industries as well. Contributing to our research aim of finding out how confederations can help industries work towards a sustainable transformation.

Following Kotters 8-step model for succeeding with change

To make sure all aspects of the presented initiatives and how they cooperate are aligning to succeed with the transformation, we use Kotters 8-step model.

1. Create a sense of urgency

   Confederations can create a sense of urgency by communicating the effects of climate change and new environmental regulations. Communicating the necessity to address these through events with key note speakers and workshops engaging industry players will contribute with knowledge sharing and changing behaviour.

2. Build a guiding coalition

   The confederation should identify and partner with a group of important industry players that can help them guide the change initiative. This group should consist of representatives from all the different companies of the industry that promotes sustainable behaviour and values through their operations. These will be important in initiating projects like climate ready service organization and ESG-ready service organization.

3. Form a strategic vision and initiatives

   Agree on a clear vision for the sustainable transformation that is properly communicated out to all members. This vision should reflect all the initiatives illustrated in the roadmap (figure 28).

4. Enlist a volunteer army

   When going through with projects like climate ready service organization, there is important to gather volunteer companies that wants to contribute, other than the guiding coalition. This is to create momentum and ensure that the solutions created through the projects reflect those needed for all parts of the industry.

5. Enable action by removing barriers

   Implementing initiatives like financial support funds for environmental friendly practices, the sandbox, social sustainability, climate ready service organization, and a learning platform will help remove the current barriers like technological limitations, lack of standardization and economic barriers. This will make it easier for members of the confederation to initiaite sustainable efforts.

6. Generate short term wins

   To generate short term wins, it is important that the confederation acknowledge and promote sustainable efforts, like the initiative of making social sustainability efforts visible. In addition, the confederation can hand out certifications or prices to those that excel.

7. Sustain acceleration

   To sustain the acceleration it is important to look for and initiate new projects that further enhances sustainability efforts, like ESG-ready service organization and extended producer responsibility. It is especially important to continue and evolve the educational program they offer.

8. Institute change

   To institute the change it is crucial to integrate continuous improvements, because sustainable transformation is not a one-time effort but an ongoing process. The confederation must regularly review and update their sustainability strategies and initiatives based on new data and evolving market conditions.

This model provides an example framework for how our suggested initiatives can be adopted to succeed with the change brought by a sustainable transformation. These steps is designed to ensure that the change is implemented, embraced and sustained (Davis, 2017).

8 Conclusion

This master thesis investigates how to conduct a sustainable transformation within the service industry, with a particular focus on how confederations can facilitate sustainable transformation for their member organizations. The primary aim was to identify the driving forces, essential success factors, and opportunities for implementing sustainable practices, thereby providing a strategic framework to guide this transformation.

Our research revealed several forces driving and hindering a sustainable transformation. Forces driving the change included increasingly strict environmental regulations at both national and European levels necessitate compliance and proactive adaptation by the industries. Regulations such as the European Green Deal, EU Taxonomy, and CSRD underscore the urgency for sustainable practices. Additionally, there is a growing demand from consumers and organizations for sustainable services, driven by more awareness of environmental damages and the desire for responsible consumption. Despite the drivers, several barriers negatively affect progress. Leadership bottlenecks, economic constraints due to low margins, resistance to change, technical limitations, and a lack of standardization present significant challenges.

Achieving a successful transformation requires addressing these barriers through several identified success factors. Effective management strategies are essential for navigating the complexities of sustainable transformation. This includes detailed planning, execution, monitoring, and adjustment of initiatives to ensure they meet sustainability goals. Leadership plays a crucial role in succeeding with sustainability initiatives, and commitment from top management is necessary to drive cultural change and secure the resources needed for sustainable practices. Engaging stakeholders at all levels, from employees to customers and suppliers, is key to ensure wide support for sustainability initiatives and facilitate collaborative efforts. Leveraging digital tools and technologies enhances operational efficiency and sustainability, supporting better resource allocation, energy management, and waste reduction. Digital tools, among them AI and IoT, enable predictive maintenance, optimize processes, and facilitate circular economy practices, presenting opportunities for enhancing sustainability. These technologies align for more efficient resource management, predictive maintenance, and optimized operations. These technologies can be beneficial in a low-margin, human-based industry like services, where operational efficiency and resource optimization are opportunity areas to capitalize on. Ensuring that sustainability efforts are inclusive and equitable is also important, involving the promotion of fair labor practices, improving working conditions, and supporting diversity and inclusion within the workforce. The service industry, being based on extensive human interaction, places significant emphasis on social sustainability.

The thesis identifies several opportunities, using the Norwegian and Danish service industries as case examples. For the Norwegian service industry to implement sustainable practices, drawing valuable lessons from the Danish market can be relevant. DI has successfully implemented various sustainability initiatives, and Norwegian industries can adapt these strategies, focusing on areas such as waste reduction, energy efficiency, and sustainable procurement. A comprehensive approach that integrates environmental, economic, and social dimensions is essential to ensure that sustainability efforts are balanced and address all relevant aspects of operations. Fostering a culture of innovation is central for continuous improvement in sustainability, and encouraging experimentation and learning from leading examples can drive advancements. Cross-industry collaboration enhances knowledge sharing and fosters innovative solutions, amplifying the impact of sustainability initiatives.

To support organizations and confederations in transforming towards sustainability, we developed a roadmap, as illustrated in our study. This roadmap consists of 18 initiatives across four streams: regulations, projects, digitalization, and education. These initiatives include pushing for more

environmental requirements in public tenders, implementing the Climate Ready Service Organization project to standardize reporting, creating financial support funds for sustainable practices, and establishing digital tools like the Climate Compass. Additionally, efforts to enhance social sustainability through initiatives similar to DI's Social Sustainability project are suggested. Educational initiatives, such as workshops and a learning platform, aim to improve digital and sustainability competencies within the industry. In addition, Kotters 8-step model of

1. creating a sense of urgency,
2. building a guiding coalition,
3. forming a strategic vision and initiatives,
4. enlisting a volunteer army,
5. enabling action by removing barriers,
6. generating short term wins,
7. sustaining the acceleration and
8. instituting the change

are presented as a framework to show how the initiatives can be implemented to succeed with the change.

In conclusion, this thesis culminates in a strategic roadmap for the service industry to transition towards sustainability. The collaboration with NHO and insights from industry representatives have been useful in ensuring the practical relevance of this research. By implementing these recommendations, the service industry can thrive in a sustainable, climate-ready future, balancing economic growth, social equity, and environmental protection.

9 Future Research

The findings in this master thesis contribute to the research on sustainable development and provide a foundation for future research and practical applications. Future research should focus on more investigation of these strategies, exploring the detailed technological possibilities, and examining the long-term impacts of sustainable practices on organizational performance.

Firstly, future research should investigate the transferability of the sustainability measures identified in this master thesis to other industries. While Bejtush Ademi et al. (2024) research suggests that these measures can be applied across different industries, further research can be relevant to validate this claim. Such research should aim to determine if modifications are necessary for different industrial contexts, ensuring that the actions are effective and practical for diverse applications.

Secondly, our study focused on a limited segment of the service industry, primarily examining the cleaning, catering, and damage restoration sectors. To gain a more holistic understanding, future research should include a wider aspect of service industries. This could uncover additional insights and strategies that may have been overlooked in our scope.

Thirdly, while we discussed various technologies that could drive sustainable development in both service and non-service industries, we did a more overall investigation of the technologies. Further research could be needed to check the specific impacts, applicability and opportunity areas for each technology. Future research should try to find the specific technology that suits the individual industries based on performance, and possibilities.

Lastly, our study used a qualitative methodology. Future research should consider using quantitative or mixed methods approaches to address the limitations that qualitative research has. For instance, conducting surveys among employees or integrating these surveys with qualitative interviews could give more robust and thorough insights. This approach could also validate our findings and provide a deeper understanding of the factors driving sustainable transformations.

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Appendix

A Interview guide

Intervju objekt:		***Navn***
Spørsmål	Nr	**Svar**
Introduksjon		
Kan du fortelle meg litt om deg selv? Hva er din stilling? Hvor lenge har du vært i denne stillingen? Tidligere erfaring?	1	
Generelt		
Hva er din definisjon av en bærekraftig transformasjon av servicebransjen?	2	
Hvordan arbeider dere med bærekraftige transformasjoner i organisasjonen din?	3	
Hvordan planlegger og gjennomfører dere et bærekraftig transformasjonsprosjekt? Hvilke aktører involveres, hva slags tidslinje og hvordan organiseres prosjektet?	4	
Strategi		
Hvilke elementer er viktige ved utforming av et strategisk rammeverk for en bærekraftig transformasjon av servicebransjen?	5	
Endringsledelse		
Hvordan involverer dere de ulike organisasjonene og deres ansatte i transformasjonsprosessen?	6	
Konklusjon		
For å oppsummere, hvilke faktorer mener du er avgjørende for vellykket bærekraftig transformasjon av servicebransjen?	7	
Er det noe annet vi burde ha spurt om eller som du ønsker å legge til?	8	

B Sikt - Informational letter

Are you interested in taking part in the research project?
"Leading sustainable transforming of an entire industry"?

This is an inquiry about participation in a research project where the main purpose is to explore how national confederations can effectively lead a sustainable transformation of an entire industry, i. e. how do confederations such as The Confederation of Norwegian Enterprise (NHO), The Confederation of Danish Industry (DI) or similar transform their service industry. In this letter, we will give you information about the purpose of the project and what your participation will involve.

Purpose of the project
This research project is part of a student master thesis, aiming towards developing a deeper understanding of how to lead sustainable transformation of entire industries focusing on service industries. To answer this main research question, sub-questions as the following will be analyzed:

i. Look at change management approaches that need to be considered when leading the sustainable transformation of the 'hjelpetjenester' sector, and if these influence organizations' capacity to successfully adopt and maintain sustainable practices.
ii. See how the Danish Industry Federation developed and executed the strategic framework for their climate-ready service organization project and see if any insights can be gained from their experiences to guide the development and implementation of a sustainable transformation strategy for the 'hjelpetjenester' sector in Norway.

The study focuses on all three pillars of sustainability, that is, economic, environmental, and social aspects. The scope of the study mainly lies in the industry perspective to identify and analyze strategy approaches and change management aspects to sustainable transformations.

You as a professional are invited to be part of an interview to provide your professional insight about challenges faced by you or your organization in implementing a successful sustainable transformation. The results will be documented in a master's thesis and scientific publications. Your identity will be anonymous in this regard, that is, no one will be able to identify you as a person.

The initial goal is to gather the experiences and input from as many professionals as possible to compare the results of the literature findings with the industrial insight. Other approaches later in the process might be used, if needed to further solidify the evaluations and ideas for development. In that case, a separate invitation and information will be sent.

Who is responsible for the research project?
Associate professor Nora Johanne Klungseth (project supervisor), Frederik August Jomaas (project student) and Phillip Blindern Myhre (project student) of Norwegian University of Science and Technology (NTNU) are responsible for the project.

Why are you being asked to participate?
We are asking you to participate because it is desired to seek deeper knowledge about the challenges that occur in an industry-wide transformation and then compare it with the literature. The selection criteria involve the professionals working in organizations.

What does participation involve for you?
We ask you to participate in an interview involving questions mostly related to the transformation of an entire industry with a focus on sustainability and/or digitalization and its associated challenges to get your professional insight on it. The interview will take approximately 60 minutes. You will be invited through the NTNU email, and the interview will be conducted digitally via Microsoft TEAMS.

Your answers will be recorded digitally (in the form of sound using an audio recorder tool or the use of the recording function in TEAMS) so that all the necessary information required in completing this research can be analyzed thoroughly. This sound/teams recording will be deleted as soon as the project is completed.

Participation is voluntary.
Participation in the project is voluntary. If you choose to participate, you can withdraw your consent at any time without giving a reason. There will be no negative consequences for you if you chose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act).

Your personal data would be safe as the data will be stored on NTNU's teams and/or sharepoint solution which is protected by login through Feide.

As mentioned earlier, your identity will remain anonymous in this research project and scientific publication later, that is, no one will be able to identify you as a person.

What will happen to your personal data at the end of the research project?
This research project is scheduled to end by September, 2024. Your personal data, including any digital recordings, at the end of the project will be deleted.

Your rights
So long as you can be identified in the collected data, you have the right to:
- access the personal data that is being processed about you
- request that your personal data is deleted
- request that incorrect personal data about you is corrected/rectified
- receive a copy of your personal data (data portability), and
- send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data

What gives us the right to process your personal data?
We will process your personal data based on your consent.

Based on an agreement with Norwegian University of Science and Technology (NTNU), NSD – The Norwegian Centre for Research Data AS has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?
If you have questions about the project or want to exercise your right, contact:
- Project responsible associate professor Nora Johanne Klungseth (project supervisor) by email: nora.klungseth@ntnu.no, and/or
  Frederik August Jomaas (project student) by email: frederaj@stud.ntnu.no, and/or
  Phillip Blindern Myhre (project student) by email: phillibm@stud.ntnu.no
- NTNU Data Protection Officer: Thomas Helgesen; thomas.helgesen@ntnu.no
- NSD – The Norwegian Centre for Research Data AS, by email: personverntjenester@nsd.no or by phone: +47 55 58 21 17.

Yours sincerely,

Nora Johanne Klungseth	Frederik August Jomaas	Phillip Blindern Myhre
(Project Supervisor)	(Project Student)	(Project Student)

Consent form

I have received and understood information about the project "Leading sustainable transforming of an entire industry" and have been given the opportunity to ask questions. I give consent:

- ☐ to participate in an interview

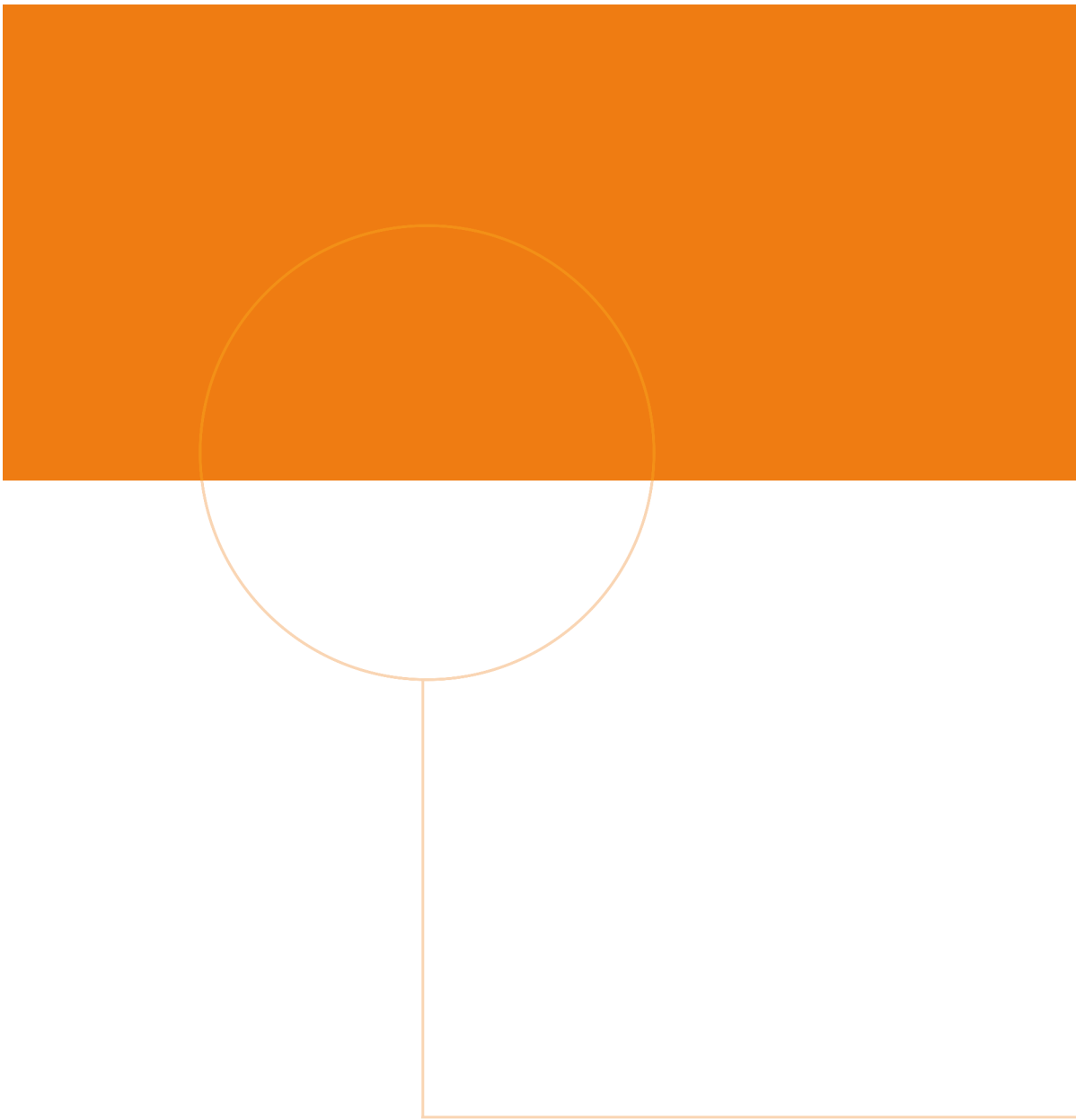
I give consent for my personal data to be processed until the end date of the project, approx. September, 2024.

(Signed by participant, date)

C Overview of where articles come from

	Literature review	Snowballing	Specialization project	Supervisor	Academics	Document analysis	Additional literature
1	(Warner & Wäger, 2019)	Diesendorf (2000)	Elkington (2004)	Klungseth and Danivska (2021)	Saunders, Lewis and Thornhill (2023)	NHO SH (n.d.-b)	Baines and Morgan (2004)
2	Vrchota, Řehoř, Maříková and Pech (2021)	Loorbach, Frantzeskaki and Avelino (2017)	Fontaine (2013)	Zahid, Klungseth and Andersen (2023)	Creswell (2018)	NHO SH (n.d.-c)	Brundtland (1987)
3	Steger et al. (2021)	Gummesson (1994)	United Nations (n.d.)	Conedera, Zahid, Andersen and Klungseth (2023)	Morrell and Carroll (2010)	Solheim and Nistad (2023)	Danish Industry (n.d.-a)
4	Bonanomi, Hall, Staub-French, Tucker and Talamo (2020)	Nikolaou, Jones and Stefanakis (2021)	Mitlin (1992)	Klungseth, Nielsen, Graça and Lavy (2022)	Turner, Cardinal and Burton (2017)	NHO SH (n.d.-d)	Danish Industry (n.d.-b)
5	Saura, Ribeiro-Soriano and Palacios-Marqués (2022)	Stevenson (2010)	McKinsey (2023)	Ademi and Klungseth (2023)	Dzwigol (2022)	NHO SH (n.d.-e)	Deloitte (2021)
6	Halbe and Pahl-Wostl (2019)	Wang, Tainyi, Luarn and Lu (2015)	Uhl and Gollenia (2016)	Bejtush Ademi and Klungseth (2022)	Silverman (2021)	NHO SH (2021-a)	Diesendorf (2000)
7	Martínez-Peláez et al. (2023)	United Nations (2015)	Haugan (2010)	Bejtush Ademi, Sætre and Klungseth (2024)	Elsevier (2024)	NHO SH (2021-b)	Eadie, McKeown and Anderson (2011)
8	Braßler and Sprenger (2021)		Kuster et al. (2015)		Kvale (2007)	NHO SH (2021-c)	Elliott (2005)
9	Salamzadeh, Hadizadeh, Rastgoo, Rahman and Radfard (2022)		Grab, Olaru and Gavril (2019)		Johannessen (n.d.)	DI Service (n.d.-e)	European Commission (2023-b)
10	Brous and Janssen (2020)		Pace (2019)		Marshall, Cardon, Poddar and Fontenot (2013)	DI Service (n.d.-f)	Commision (2024)
11	Mansell, Philbin and Broyd (2020)		Fernandes, Ward and Araújo (2015)		Baker and Edwards (2012)	DI Service (n.d.-g)	FH (n.d.)
12	Teodoro, Prell and Sun (2021)		Saynisch (2010)			DI Service (n.d.-a)	Hansen and Gundelach (2020)
13	Liakh and Spigarelli (2020)		Špundak (2014)			DI Service (n.d.-i)	Hutchinson et al. (2021)
14	Korherr, Kanbach, Kraus and Mikalef (2022)		Khan, Turner and Maqsood (2013)			DI Service (n.d.-h)	Kuhlman and Farrington (2010)

	Literature review	Snowballing	Specialization project	Supervisor	Academics	Document analysis	Additional literature
15	Zubac et al. (2021)		Joslin and Müller (2015)			Danish Industry (n.d.-e)	Loughlin (2023)
16	Marsina, Hamranova, Hrivikova, Bolek and Zagorsek (2019)		By (2005)			DI Service (n.d.-b)	Madsen and Szyliowicz (n.d.)
17	Ceynowa, Przybylowski, Wojtasik and Ciskowski (2023)		Hornstein (2015)			DI Service (n.d.-c)	Menon Economics (2019)
18	Vojvodic and Hitz (2019)		Lauer (2021)			DI Service (n.d.-d)	Merriam-Webster. (n.d.)
19	Kirchner-Krath et al. (2024)		Davis (2017)			Publications Office of the European Union (2019)	National grid (n.d.)
20	Volpentesta, Spahiu and De Giovanni (2023)		Savić (2019)			European Commission (2020-b)	Staten og Kommunernes Indkøbsservice (SKI) (n.d.)
21	Papamichael, Voukkali, Loizia, Pappas and Zorpas (2023)		Manyika et al. (2015)			Doyle (2021)	NHO (n.d.-a)
22	Nikiforov et al. (2019)		Jomaas and Myhre (2023)			Danish Industry (n.d.-c)	NHO (n.d.-b)
23						Danish Industry (2023)	NHO (n.d.-c)
24						European Commission (2020-a)	NHO SH (n.d.-d)
25						European Commission (2023-a)	NHO SH (n.d.-e)
26						PwC UK (n.d.)	Rockström et al. (2013)
27						Danish Industry (n.d.-d)	Schwab (2017)
28						European Commission (2021)	Science Based Targets (n.d.)
29							Sutton (2004)
30							TechTarget Contributor (2024)
31							State of Green (2022)



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