



# Handelshøyskolen BI

## GRA 19703 Master Thesis

Thesis Master of Science 100% - B

### Predefinert informasjon

<b>Startdato:</b>	16-01-2022 09:00	<b>Termin:</b>	202210
<b>Sluttdato:</b>	01-07-2022 12:00	<b>Vurderingsform:</b>	Norsk 6-trinns skala (A-F)
<b>Eksamensform:</b>	T		
<b>Flowkode:</b>	202210  10788  IN00  B  T		
<b>Intern sensor:</b>	(Anonymisert)		

### Deltaker

Kim André Ylvisåker Aaberg, Halvor Hekland Teigland

### Informasjon fra deltaker

**Tittel \*:** Adaptation to Sustainability in Norwegian Shipping Companies

**Navn på veileder \*:** Olav Kjellevold Olsen

**Inneholder besvarelsen**  Nei **Kan besvarelsen**  Ja  
**konfidensielt** **offentliggjøres?:**  
**materiale?:**

### Gruppe

**Gruppenavn:** (Anonymisert)  
**Gruppenummer:** 2  
**Andre medlemmer i gruppen:**

# Master Thesis

BI Norwegian Business School

- Adaptation to Sustainability in Norwegian  
Shipping Companies -

Exam code and name

**GRA 19703 – Master Thesis**

Start date:

16.01.2022

Hand in date:

01.07.2022

BI Bergen

Thesis supervisor:

Olav Kjellevold Olsen

Study Programme:

MSc in Business, major in Leadership and Change

# Table of contents

<b>Foreword</b>	<b>i</b>
<b>Abstract</b>	<b>ii</b>
<b>1.0 Introduction</b>	<b>1</b>
1.1 The Need for Sustainability	2
1.2 Sustainability Regulations in the Shipping Industry	5
<b>2.0 Literature Review</b>	<b>6</b>
2.1 Organizations and Sustainability	7
2.2 Becoming Sustainable	9
2.3 The Complexity of Sustainability	9
2.4 Establishing a Vision	11
2.5 Measuring Sustainability Performance	12
2.6 Influencing an Organization	13
2.7 Managerial Behaviors	14
2.8 Culture and Change in an Organization	15
2.9 Readiness for Change	18
2.10 Organizational Learning	19
2.11 Leadership Fostering Change	20
2.12 Effective Leadership	21
<b>3.0 Methodology</b>	<b>24</b>
3.1 Research Design	24
3.2 Approach	25
3.3 Sampling and Recruitment	25
3.4 Data Collection	26
3.5 Ethics	28
3.6 Qualitative Analysis	28
<b>4.0 Findings</b>	<b>30</b>
4.1 Vision	31
4.2 Communication	33
4.3 Core Values	36
4.4 Analysis	37
4.5 Need for Change	39
4.6 Capital	41
4.7 Agility	44
<b>5.0 Discussion</b>	<b>46</b>
5.1 Vision	47
5.2 Communication	49
5.3 Core Values	52
5.4 Analysis	53
5.5 Need for Change	55
5.6 Capital	57
5.7 Agility	60
<b>6.0 Strengths, Limitations, and Future Research</b>	<b>61</b>
<b>7.0 Conclusion</b>	<b>64</b>
<b>8.0 Bibliography</b>	<b>66</b>
<b>Appendix A Coding</b>	<b>81</b>
<b>Appendix B Consent form</b>	<b>82</b>
<b>Appendix C Interview guide</b>	<b>85</b>

## **Foreword**

Growing up, both of us had a close connection to the ocean. One of us grew up in Bergen and has been an active sailor since a very young age. The other one grew up at the innermost part of the Sognefjord, watching cruise ships, dry bulk vessels, and express boats pass by. In our youth, fishing and exploring new places either by motorboats or sailboats was always something we took great pleasure in. We have both been fascinated by maritime activities ever since. When we discovered this parallel interest during our master studies, finding an industry to write about was easy. Throughout our studies at BI, sustainability has been emphasized in many courses, which sparked an interest in this topic in both of us. As a result, we figured out it would be very interesting to understand sustainability in the shipping sector. Writing this thesis about the shipping industry has provided us with a wonderful insight into the challenges and possibilities in the sector.

Firstly, we would like to thank our supervisor Olav Kjellevold Olsen for all the great feedback, discussions, and support. Additionally, we would like to thank our wonderful informants who brought so many interesting views to our thesis. It was a great experience meeting all of you and seeing how engaged you were during our interviews.

Furthermore, we would like to thank our families, and especially our girlfriends for supporting and encouraging us during this last semester. We would also like to thank our professors at BI Bergen and our fellow students for two wonderful years. You have all given us valuable insights and exciting discussions while spiking our interest in sustainability, leadership, and change processes. We have met people that we know will be of great importance for the rest of our lives.

We are now looking forward to new challenges, friendships, and knowledge, one of us in Bergen, and the other in Oslo. The master's program in Leadership & Change at BI Bergen exceeded our expectations, and we would gladly recommend this program to future students. Lastly, we would like to thank each other for the excellent cooperation on this thesis, and it was a pleasure working together.

## **Abstract**

The most challenging issue that shipping companies are confronted with in the coming years is the need to become more sustainable. Accordingly, exploring critical factors in the implementation process is necessary. Whereas previous research has focused on the need for sustainability within the shipping industry, research that proposes how the industry can adapt to the changes in an efficient way is still lacking. This study aims to fill the gap by understanding how Norwegian shipping companies effectively can adapt to sustainability regulations being enforced on the industry. Consequently, an explorative qualitative study with five top management officials in the Norwegian shipping industry was conducted. The shipping companies were all situated in the region of Vestland and managed operations internationally.

Based on the findings, the authors have developed a theoretical model which highlights six factors that are interconnected to generate an output variable. The study argues that *Vision* and *Communication* act as main themes, and that *Core Values*, *Analysis*, *Need for Change*, and *Capital* acts as supporting themes. The authors further argue that these six factors can generate the output variable *Agility*. By focusing on these six factors, shipping companies can become agile and able to effectively adapt to stricter sustainability regulations enforced in the industry. The authors believe these findings may highlight critical factors when implementing sustainability initiatives in shipping companies and fill a research gap into the practical implications of implementing sustainability changes in the industry.

## **1.0 Introduction**

In today's modern world, International Shipping manages more than 80% of the world trade volume (Brancaccio et al., 2020). The sector heavily relies on fossil fuels and consumes over 300 million tons of fuel a year (Stone & Li, 2021), which accounts for around 3% of global Greenhouse gas (GHG) emissions (Lindstad et al., 2021). As the world moves towards Net Zero by 2050, many industries have increased focus on their carbon footprint. The International Maritime Organization (IMO) has set a target of reducing GHG emissions by 40% by 2030 and at least 50% by 2050, compared to 2008 (Norwegian Ministry of Climate and Environment, 2019, p. 12). In the same period, its projected that emissions from international shipping will increase by 90-130% (International Maritime Organization, 2021, p. 26), and the demand for maritime freight transport will more than double (International Transport Forum, 2021, p. 167).

The IMO is a specialized agency of the United Nations (UN) and is a global standard-setting authority for the safety, security, and environmental performance of international shipping (IMO, 2022b). However, the IMO has been critiqued for being slow to enforce changes in the maritime sector (Abbasov, 2020). Some of the critics could be related to the international environmental shipping governance, which is described as polycentric (Prehn, 2021). Despite IMO being the global authority, many of the 175 member states have set higher environmental ambitions to meet the climate changes. To exemplify, the Norwegian Government intends to reduce emissions in the maritime shipping sector by half by 2030 (Norwegian Ministry of Climate and Environment, 2019, p. 6)

To accommodate the target, there are several critical points to be met. First, the industry needs to replace fossil fuel energy with zero- and low-carbon technology such as hydrogen, electricity, and ammonia. Most newly built vessels have a lifespan of up to 40 years, and many ships that sail today will still sail in 2030 (Miljødirektoratet, 2020, p. 122). However, hydrogen and ammonia technologies are under development and not available on the market today but will likely be more accessible towards 2030 (Miljødirektoratet, 2020, p. 96). Furthermore, even though shipping is one of the most heavily regulated industries (Kim, 2019), the freedom of the seas norm is central to why international shipping is so unevenly regulated (Alger et al., 2021). Parallel with growing consumer concerns about the environment, green shipping initiatives are arising (Lister, 2015,

p. 119). Making it even more complex, the maritime industry faces stricter upcoming environmental regulations from international and local politics (Nyhus, 2020). To navigate the sector towards Net Zero, challenges such as immature technology, willingness to invest in green technology, a stable regulatory framework, and collaboration amongst authorities, company leaders, and researchers are aspects that need to be addressed.

This thesis emphasizes the Norwegian shipping industry, with a focus on international shipping companies based in Vestland, Norway. Complying with new regulations from the IMO and other authorities will change business as usual and intensify a highly competitive market. These changes do not come without cost and uncertainty, and companies will likely battle to secure long-term and short-term contracts. The shipping industry's future is filled with challenges and opportunities. By studying Norwegian shipping companies, this thesis seek to explore the strategies and aspects these companies emphasize to comply with current and future environmental regulations. Whereas previous research has focused on the need for sustainability within the shipping industry, research that proposes how the industry can adapt to the changes efficiently is still lacking. Accordingly, this study aims to investigate whether factors that are perceived as vital for implementing a sustainability strategy in Norwegian shipping companies can be recognized. Consequently, this master thesis aims to fill a research gap by answering the following research question:

*How can Norwegian shipping companies effectively adapt to sustainability regulations being enforced in the industry?*

This thesis might be able to work as a tool by highlighting essential aspects of a complex sustainability transformation that, hopefully, industry leaders can utilize in their change process.

## **1.1 The Need for Sustainability**

The word sustainability has been traced back to 1713, when the word “Nachhaltigkeit” was used in a German forestry handbook to describe the practice of harvesting just enough trees each year to ensure that the forest would naturally restore itself in the future (Ashkin, 2018). Thursday, July 29, 2021, marked the Earth Overshoot Day 2021 (Earth Overshoot Day, 2022), the day when humanity

had consumed more resources and generated more pollution and waste than the ecosystem can produce and absorb during a year (Borglund et al., 2017). As a result, greenhouse gases (GHG) such as carbon dioxide, nitrous oxide, and methane gather in the atmosphere, blocking the earth's heat from being emitted into space, creating what is known as the greenhouse effect. Since the industrial age started during the middle of the 18<sup>th</sup> century, levels of these gases in the atmosphere have increased tremendously; carbon levels are up 40%, nitrous 20%, and methane an astonishing 150% (Denchak, 2021). The utilization of fossil fuels mainly causes these levels, and scientists believe that these GHG emissions have been the reason behind rising temperatures globally since the 1950s (Gillis, 2017).

Rising temperatures cause changes in the global weather patterns, resulting in more extreme weather and natural disasters such as droughts, floods, landslides, heat waves, wildfires, and powerful storms. Additionally, it melts ice caps, glaciers, and thaws permafrost, which could result in rising sea levels, coastal erosion, and the release of even more GHG into the atmosphere. In the first half of 2021, record heat, drought, and wildfires spread across the Western part of the United States and Canada, while Europe witnessed record rainfall and flooding (Turrentine & Denchak, 2021). Altering the global temperature a couple of degrees can launch an entire ecosystem into chaos (Strickland, 2010). According to a recent study, one-third of all animals and plants could face extinction by 2070 due to climate change (Román-Palacios & Wiens, 2020). Besides affecting animals and plants, climate change is the “single biggest health threat facing humanity”, as stated by the World Health Organization (WHO, 2021).

Through the years, people and companies with a direct stake in maintaining the carbon-heavy status quo came forward as loud spokespersons against climate change and the need for regulations, often referring to an unqualified scientist, lobbying politicians, and intentionally misleading messages to create an impression of lacking scientific consensus towards global climate warming (Moser, 2010). Misinformation about climate change has caused various negative social impacts, decreasing public support for mitigation policies and delaying climate actions (Cook, 2020). However, today few people deny the need for companies to focus on sustainability, and qualified climate experts have a 100% agreement that the Earth is becoming warmer as a result of human activity (Allcott et al., 2020).



The foundation for the UN's work with sustainable development was laid in Stockholm in 1972 where the UN had its first conference discussing humanity and the environment (Borglund et al., 2017). During the 1980s, the world witnessed several environmental disasters, such as the Union Carbide explosion and gas leak in Bhopal, India, killing 3.700 people immediately and another 10.000 in the aftermath (Broughton, 2005); the discovery of a hole in the ozone layer over Antarctica (Farman et al., 1985); nuclear reactor explosion in Chernobyl, Ukraine; the Khian Sea waste disposal disaster, where a cargo ship loaded with 14.000 tons of incinerator ash dumped 4.000 tons on a beach in Haiti, and the remaining 10.000 tons in the Atlantic and Indian Oceans (Annie Leonard, 2010); the oil spill caused by the oil tanker, Exxon Valdez, grounding in Alaska, 1989, leaking 10,8 million US gallons of crude oil into the ocean (Mambra, 2020), to mention a few. These disastrous events led to increasing criticism of organizations and their environmental management, as well as legislation perceived as excessively complex and non-functional (Borglund et al., 2017). The world needed to change, but the task was far too great for individual countries to manage, and most governments acknowledge the need for international agreements on climate change (Borglund et al., 2017).

In 1992 the Earth Summit took place in Rio de Janeiro, Brazil, to harmonize worldwide economic development while protecting the environment. Representatives from 178 nations were present at the conference (United Nations, 2022), where a series of environmental agreements were adopted, including the United Nations Framework Convention On Climate Change (UNFCCC) which is still in effect today (Denchak, 2021). The pact set no limits on GHG emissions for countries and contained no enforcement mechanisms but built a foundation for future agreements through the Conference of the Parties (COP), where the participants agreed to meet annually (Denchak, 2021).

The Kyoto Protocol was adopted in Japan in 1997 and was the first time nations agreed to legally mandate country-specific emission reduction targets (Denchak, 2021). However, the protocol was criticized for only including developed countries without the participation of developing countries such as India and China, which eventually led to The U.S. not signing it (Rosen, 2015). Without these three heavy polluters, the protocol's effectiveness was limited (Denchak, 2021). At COP 17 in Durban, South Africa, the participants agreed to create a new

protocol by 2015 that included the heavy polluters excluded from the Kyoto Protocol (Denchak, 2021).

The new treaty is known as The Paris Agreement. The agreement is a legally binding international treaty on climate change, which 196 participants adopted at COP 21 in Paris, 2015 (UNFCCC, 2022). According to UNFCCC, the main goal of the Paris Agreement is “*to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels*”. The agreement works on a five-year cycle where nations submit their plans for climate actions, known as nationally determined contributions (NDCs), of increasingly ambitious climate actions executed by countries (UNFCCC, 2022). However, because the Kyoto Protocol and the Paris Agreement are based on national commitments to cut GHG emissions, the shipping industry has been excluded from climate negotiations due to their international activities (Shukman, 2018). Despite this, the UN’s International Maritime Organization approved the world’s first broad agreement in 2018 to reduce GHG emissions from international shipping to eliminate them “as soon as possible in this century.” (IMO, 2018).

## **1.2 Sustainability Regulations in the Shipping Industry**

As stated by the UN, international shipping is the “backbone of international trade and the global economy”, accounting for more than 80% of international trade volume (UNCTAD, 2021). In the most recent GHG study from IMO, international shipping accounted for 2,89% of global CO<sub>2</sub> emissions in 2018, an increase of 9,6% compared to 2012 levels (IMO, 2021). If international shipping were a country, it would be ranked as the 6<sup>th</sup> most significant emitter of CO<sub>2</sub> in the world, with levels similar to Germany (Baker, 2021). Additionally, by 2050, international shipping is expected to triple compared to 2015, and CO<sub>2</sub> emissions are projected to rise by 135% from 2018 measures (ITF, 2020, p.11).

The IMO is the global standard-setting authority for the safety, security, and environmental performance of international shipping. It is a specialized agency of the UN and its primary goal is to provide a fair and effective regulatory framework for the shipping industry that is generally adopted and implemented (IMO, 2022b).

The IMO has adopted a series of regulations over the years, where The International Convention for the Prevention of Pollution from Ships (MARPOL) is

the leading international convention for preventing pollution of the maritime environment by ships related to operational or accidental reasons (IMO, 2022a). The MARPOL Convention was adopted in 1973 but modified in 1978 and 1997. The convention consists of six annexes. In 2011, IMO adopted mandatory energy efficiency regulations for ships under Annex VI – Energy Efficiency Design Index (EEDI) for new ships and Ship Energy Efficiency Management Plan (SEEMP) for all ships.

Until 2018, little had been done to combat the industry's carbon emission because it was excluded from the Paris Agreement. However, at IMO's Marine Environment Protection Committee (MEPC) 72<sup>nd</sup> meeting, over 100 IMO member states identified and set the ambition of reducing the total annual GHG emissions by at least 50% by 2050 compared to 2008 levels, while at the same time exploring efforts to phase them out completely (IMO, 2018).

## **2.0 Literature Review**

Whereas previous research has focused on the need for sustainability within the shipping industry, research that proposes how the industry can adapt to the sustainability changes efficiently is still inadequate. Most existing research on Sustainable Shipping Management (SSM) has primarily focused on the motives, performance implications (Tran et al., 2020), and why the industry should become more sustainable. However, only a few studies have investigated how SSM should be implemented, and most of these studies have not incorporated theories in their discussions. As a result, not a lot of theory-driven research exists on how SSM can be implemented (Yuen et al., 2019, p. 317). Furthermore, there is also a lack of research concerning Sustainable Development Goals (SDG) in maritime-related studies (Wang et al., 2020, p. 2).

To address the main gaps in current research, this thesis aims to explore how Norwegian shipping companies can effectively adapt to sustainability regulations being enforced in the industry. Accordingly, previous research on sustainability, organizational change, and leadership is explored in order to understand existing research, and to investigate if it can be connected to the thesis findings from the shipping industry.

## 2.1 Organizations and Sustainability

Corporate focus on sustainability has increased tremendously due to public interest, changes in legislation, pressure from stakeholders, and concern for their reputation (Galpin & Lee Whittington, 2012). According to McKinsey, sustainability is recognized as one of the fundamental forces that will transform and define the world in the near future (Bonini et al., 2010). In a global survey with more than 1500 corporate executives, Hopkins et al., (2009) discovered that most participants believe sustainability is becoming increasingly crucial to business strategy, and the risk of failing to act on sustainability is growing. A report from PwC concludes that CEOs must create and integrate a sustainability vision into their strategy (PwC, 2019).

In the last decades, sustainability-related to business has been researched in various ways. The existing literature can be regarded as ambiguous and vague. Despite an overabundance of sustainability formulations tailored to particular domains, the report *Our Common Future* (1987), also known as the Brundtland Report, outlines the most generally accepted definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Borglund et al., 2017, p.81).

Connecting business and sustainability, Corporate Social Responsibility (CSR) and Corporate Sustainability (CS) are two of the most common concepts. Although CSR is widely recognized, it remains an abstract idea with various implications for various people (Decker, 2004). Davis referred to CSR as a company’s consideration and response to issues broader than its narrow economic, technical, and legal requirements (Davis, 1973, p. 312). Archie B. Carroll, who developed the well-known Pyramid of CSR, viewed CSR as a point-of-departure for other thematic frameworks during the 1990s (Carroll, 1999). In contrast, Lantos (2001) argued that CSR is a term that describes the activities companies undertake voluntarily, which are beyond their obligations. This aligns with many CEOs’ views in the early 21<sup>st</sup> century, where following sustainability principles was adding nothing but cost to their company (Millar et al., 2012). Additionally, they find sustainability impacts challenging to measure and that the organization’s financial, environmental, and social intentions often collide (Porter & Kramer, 2011).

On the other hand, CS has been molded by various public, political, and academic influences over time (Linnenluecke & Griffiths, 2010). The Brundtland Report's definition of sustainable development includes environmental, economic, and social dimensions (Steurer et al., 2005). Adopting the Brundtland Report's definition into the business world, CS is best defined as "*a bundle of activities fully integrated into a firm's overall strategy that contribute effectively to the welfare of current and future generations through protecting and enhancing the resilience of the biosphere, social equity and cohesion, and economic prosperity*" (Meuer et al., 2020, p. 333). This seems to be in accordance with Tran et al., (2020) perception of SSM and is defined as "*addressing the needs of the present without compromising the ability of future generations to meet their own needs*", which involve balancing the shipping companies economic, social, and environmental performances (Cheng et al., 2015). The three dimensions (economic, social, and environmental) are the foundation of John Elkington's Trippel Bottom Line (TBL), developed in the 1990s, containing people, planet, and profit (Henriques & Richardson, 2013). This aligns with many scholars perception of sustainability as a concept consisting of three interconnecting pillars (Purvis et al., 2019).

Different approaches toward sustainability, such as CSR and CS, may prioritize some pillars over others, or treat all of them as equally important (Geissdoerfer et al., 2017). Prioritizing profit over societal goods in sustainability could be regarded as an anthropocentric view, whereas the opposite could be considered an ecocentric view (Borland et al., 2016). In the TBL concept, environmental considerations involve efficient management of natural resources as well as the consequence of industrialization with the objective of reducing environmental impact. The economic viewpoint emphasizes the company's value creation and long-term earnings, in addition to the company's strategy toward and effect on market functions. The social perspective refers to social equality in terms of living standards and education, along with ethical business practices toward employees and the communities in which organizations operate (Steurer et al., 2005). Bansal (2005) argued that if any of these principles are not supported, economic development will not be sustainable.

Based on the literature on CS, compared to CSR, the approach requires that the needs of the organization are considered, as well as conserving, improving, and sustaining human and natural resources necessary in the future. Consequently, the

focus will be on CS, which is referred to as *sustainability* in this paper. Therefore, the authors adopt Meuer et al. (2020) definition of CS, as outlined above, throughout the paper. Despite the fact that sustainability has become an increasingly popular and necessary strategy in business, there is still a need for empirical research on the topic (Engert et al., 2016). Therefore, this thesis will investigate the existing literature on how companies can implement sustainability in their organizations, and hopefully contribute to the body of knowledge in terms of SSM.

## **2.2 Becoming Sustainable**

It is a well-known fact that sustainability has affected business management in several ways. As a result of human overproduction and excessive utilization of limited natural resources, sustainability has been anchored in environmental legislation. Organizations have to act in accordance with regulations to become legitimate and gain approval from external stakeholders (Bansal, 2005). In order for organizations to become committed to CS, the approach demands to be integrated into the business strategy and processes (Engert et al., 2016). Strategy implementation is a process of transforming plans into action assignments and ensuring that these assignments are carried out in a way that achieves the stated objectives (Kotler & Keller, 2016). In other words, proper implementation is a key factor in bringing the strategy alive.

Organizations must tackle the various aspects of sustainability in the strategic decision-making process to achieve sustainability and integrate them into their different organizational level strategies (Bonn & Fisher, 2011). CS entails that organizations align their core business with sustainability principles and incorporate environmental and social concerns into their strategy, business model, and practices (Manninen & Huiskonen, 2022). In practice, organizations struggle with the integration of sustainability as a consequence of the complexity and boundless sustainability opportunities within every stage of the business model (Hahn, 2013).

## **2.3 The Complexity of Sustainability**

Defining sustainability is complex in itself and scholars argue that sustainability is ambiguous regarding specific initiatives and how to implement them (Metcalf & Benn, 2013; Lueg & Radlach, 2016; Beusch et al., 2022). Additionally, it is acknowledged that different sectors and individual companies may have specific

and unique priorities (Millar et al., 2012). The complexity could explain why many companies implement sustainability activities that are disconnected from their strategy, neither making any meaningful social impact nor strengthening the company's long-term competitiveness (Porter & Kramer, 2006).

The core of international shipping is based on the principle known as the "freedom of the seas" (Lister, 2015). Established in the 17<sup>th</sup> century, the principle limited national rights and jurisdiction over the oceans, down to the nation's coastlines surrounding their borders. As a result, the shipping industry has mostly been free of regulations that could hinder trade. Consequently, the nation's authority over ship operators have been historically weak (Lister, 2015). The principle was partially ceased in the mid-20<sup>th</sup> century, which extended national claims over offshore resources (Eide, 2020).

A significant challenge in the shipping sector is the complex governance structure. The sector is not imposed by one authority governing the international industry (Lister, 2015), instead, several actors such as nations, unions (e.g., EU) and institutions (e.g., IMO), organizations, and classification societies use different regulatory and operational frameworks (Eide, 2020). Mahajan (2019) provided an overview of the different regulations imposed from January 1<sup>st</sup> until October 13<sup>th</sup>, 2019 at three levels, the EU, the IMO, and nations. A small excerpt to exemplify:

- IMO Resolution MEPC.297(72): Implementation schedule of ballast water management for ships.
- EU MRV shipping Regulation 2015/757: Submission of CO2 emissions report.
- Domestic emissions control requirements in China, Taiwan, and Hong Kong: Limiting the sulfur content to exceeding 0.50% before entering the state's territorial sea (2019)

When organizations must navigate global standards, local governmental regulations, or frameworks from other institutions, the question of what is considered sustainable and where to focus its energy, time, and capital can be complicated.

In the implementation process, understanding the concept of sustainability is critical, both to get the employees on board and to persuade shareholders.

Implementing sustainability in the organizations requires investments, which the literature frequently refers to as a hinder (Goklany, 2007; Giunipero et al., 2012; Engert et al., 2016; Trianni et al., 2017). For organizations to become greener, investments in new technology, employees, and innovation are common. Such investments tend to have long-term objectives, generating lower short-term results that can be tough to justify for shareholders and stakeholders of the organization (Galbreath, 2009). The term has been coined as short-termism, and can lead to suboptimal outcomes for the organization and society, such as volatile earnings, incremental payoffs, restricted executives, and organizational failure (Bansal & DesJardine, 2014). Consequently, it is no longer sustainable for companies to focus on narrowly short-term gains, and ignore long-term value creation (Porter & Kramer, 2011; Whelan & Fink, 2016). Evidence indicates that sustainability can generate positive financial outcomes for organizations (Halme & Laurila, 2009; Mirvis et al., 2010; Whelan & Fink, 2016; Alshehhi et al., 2018).

#### **2.4 Establishing a Vision**

As the Bible says, “Without vision, a people perish”, and so does an organization (Gill, 2002). According to Gill (2002), the foundation of effective leadership is the ability to define and communicate an engaging vision of the future. Scholars argue that developing a clear vision, mission, and values that describe the organization’s sustainability initiatives may decrease the complexity and provide guidance for employees and shareholders (Mirvis et al., 2010). Gill (2002) argued that the vision must be inspiring, ethical, and meaningful while being imaginable, feasible, flexible, desirable, and communicable. Additionally, for an organizational change to succeed, only an approach based on the vision will follow in the long term (Kotter, 1995).

The organization’s vision provides a framework for its strategy. It defines the strategic direction and outlines a theoretic map of how the organization moves from the current status quo to the desired future state (Mirvis et al., 2010). The organization’s vision should communicate that sustainability is embedded in its business approach, both to internal and external stakeholders (Bonn & Fisher, 2011). Gill (2002) argued that a shared vision is the first step for people who mistrust each other to start working together. A shared vision also motivates people to take actions in the right direction, align individuals, and coordinate their efforts



effectively (Kotter & Cohen, 2014). However, scholars argue that embedding sustainability into an organization's vision proposes multiple challenges. Bonn & Fisher (2011) addressed the importance of a genuine vision, without it, the organization risks that its vision could be perceived as a facade. By using sustainability in their vision, organizations risk that it only enhances their public relation instead of transforming their business by being satisfied with "low hanging fruits" rather than fundamental change (Mirvis et al., 2010). In the last decade, numerous big companies (e.g., H&M, ExxonMobil, IKEA, Nestlé) have been called out for greenwashing, by portraying more environmentally friendly than they are (Robinson, 2021).

## **2.5 Measuring Sustainability Performance**

Implementing environmental and social responsibility objectives into the organization's strategic plans requires a method to measure and reward performance contributing to the goal (Dutta et al., 2013). According to a survey conducted by KPMG, 80% of organizations in the world communicate some form of information regarding sustainability (KPMG, 2020). Even though obligatory reporting tracks an organization's sustainability strategies and goals, it does not involve operational measures that enhance companies' sustainability (Wolff et al., 2020). Even if organizations have a sustainability report in place, but do not apply effective sustainability control measures, they risk having their efforts regarded as a well-meaning reputation-building initiative at best (Traxler et al., 2020). The literature argues that organizations need to seize concerns regarding sustainability by utilizing their internal performance management systems to maximize advantages for themselves, the environment, and society (Zharfpeykan & Akroyd, 2022).

Organizations should strive to ensure that their goals and strategies are linked to their sustainability reports so that they can adopt the necessary management controls to track and analyze that the organization's progress aligns with their sustainability goals (Jollands et al., 2015). Zharfpeykan & Akroyd (2022) argue that this link can significantly contribute toward CS and a sustainable economy. To accomplish this, organizations must incorporate sustainability into their daily activities and create measures for them to influence organizational practices (Engert et al., 2016). Organizations must have sustainability-focused

management controls to handle their strategic initiatives and competencies to achieve great results (Zharfpeykan & Akroyd, 2022). The term “if you can’t measure it, you can’t manage it” stipulates that an organization’s performance can be positively affected by measuring fundamental success factors (Kaplan & Norton, 1996, p. 21).

## **2.6 Influencing an Organization**

According to Engert et al. (2016), organizational influences are the context that forms the fundament for any type of activities in the organization and are concerned that must be addressed to manage business operations properly. Both internal and external factors can pressure organizations to improve their sustainability performance (Engert et al., 2016; Morioka & de Carvalho, 2016). The literature argues that the organization’s size, scope, and structure influence the internal sustainability processes, hence integration into strategic management (Engert et al., 2016). Notably, an organization’s size affects its capability to facilitate CS as financial resources, while access to skilled and motivated employees is crucial to conduct costly and specialized work (Zharfpeykan & Akroyd, 2022). Scholars argue that the organization’s size can also define its resource access. Since resources are limited, organizations must make trade-offs between sustainability and other values (Morioka & de Carvalho, 2016).

External organizational factors such as sector, structure, and position in the industry affect the organization’s strategic position in terms of sustainability (Engert et al., 2016). One big challenge in the shipping sector is that multiple authorities regulate the industry and its ambition towards sustainability (e.g., IMO, EU, nations). Hence, it can be a challenging task for shipping companies and their leaders to implement an appropriate strategy that optimizes the challenging social, environmental, and economic factors. However, there are some regulations that shipping companies are obligated to comply with to continue with international trade. Mirvis et al. (2010) argued that organizations that implement sustainability initiatives because they are or feel obliged to, might allocate fewer resources to the strategy than an organization that is highly motivated by the environmental, social, and economic aspects. As a result, it can also influence the level of sustainability implementation in the organization (Engert et al., 2016).

## 2.7 Managerial Behaviors

The leaders of any organization have substantial influence over strategy formulation and implementation, where financial performance often leads managers (Engert et al., 2016). Burnes (2004) claimed that change is an inherent characteristic of organizational life, both at a strategic and operational level. Hence, there should be no doubt regarding the importance of an organization's ability to identify where it needs to be in the future and how to implement the changes necessary to get there (By, 2005). Consequently, the organizational change shall not be separated from corporate strategy, or the other way around (Burnes, 2004b). Managing change is central to the repositioning of organizations in the uptake of new technologies and techniques, developing the business to facilitate new services and products, and formulating and implementing strategies to secure competitive advantage (Dawson & Andriopoulos, 2017). Even though the successful management of change is accepted as a necessity for organizations to survive and succeed in today's dynamic and highly competitive environment (By, 2005), there is substantial evidence that 70% of all change initiatives fail (Burnes & Jackson, 2011).

Kotter (1995) appeals for managers to embrace the future and focus on learning how to manage effective change successfully. He further argues that leadership of change is not all that matters but forming a powerful guiding coalition that together drives change forward by engaging others in a vision for change. As Kotter stated, "*Leaders who successfully transform businesses do eight things right (and they do them in the right order)*" (Kotter, 1995, p. 2). These eight steps are *Establish a sense of urgency, form a powerful guiding coalition, Create a vision, Communicate the vision, Empower others to act on the vision, Plan for and create short-term wins, Consolidate improvements and produce more change, and Institutionalize new approaches.*

Although the literature highlights communication and transparency as essential aspects when implementing sustainability in organizations, they are discussed relatively rarely (Engert et al., 2016). According to Engert et al. (2016), transparency reduces complexity and makes sustainability manageable, while internal and external communication enhances the transparency of sustainability issues within organizations, contributing positively to the organization's objectives.

The authors further argue that communication is vital for employees to understand and put trust in the sustainability mission and embrace the strategy, which seems to be by Kotter (1995) and Gill's (2002) perception. Essentially, top management support is needed to succeed in a value-driven business, but to foster values, a two-way communication and participation are required, not just commands from above (Mirvis et al., 2010). Gill (2002) argued that lack of communication could result in misunderstanding of the organization's goals and change process, which can lead to rumors that demoralize people and harm their commitment to change.

## **2.8 Culture and Change in an Organization**

An organization's culture is a set of basic assumptions that members believe in and influence their thinking and behaviors (Schein, 2017). Therefore, organizations should strive to create a culture that is sustainability-oriented (Engert et al., 2016). Sustainability aligned organizational culture is defined as a culture where members have common beliefs and views about the significance of balancing environmental responsibility, economic efficiency, and social equality that are leading the actions and decision-making process of managers and employees (Paraschiv et al., 2012). The literature emphasizes that sustainability must be embedded in the organization's culture to overcome obstacles to sustainability implementation (Bonn & Fisher, 2011; Engert et al., 2016; Zharfpeykan & Akroyd, 2022).

Kurt Lewin's field theory is an approach to understanding group behavior by trying to map out the totality and complexity of the field in which the behavior occurs (Back, 1992). According to Lewin, group behavior is a complex set of symbolic interactions and forces that affect group structures and have the ability to modify individual behavior. Therefore, individual behavior is a function of the group environment or "field", as Lewin called it. As a result, any changes in behavior stem from changes in the forces within the field (Lewin, 1951). Lewin's idea was that if one could identify, plot, and establish potency of these forces, it would be possible to both understand why individuals, groups, and organizations behave as they do, as well as identify which forces that are more important than others to bring about change (Burnes, 2004a).

Group dynamics refers to the forces operating in groups and the study of these particular forces, such as what gives rise to them, what conditions modify

them, and what consequences they have (Burnes, 2004a). Group dynamics emphasize that group behavior should be the main focus of change rather than individuals (Dent & Goldberg, 1999). Lewin (1947) claimed that it is useless to focus on changing the behavior of individuals because the individual is constrained by group pressure to conform. Consequently, change must be concentrated at group level. It should focus on factors such as group norms, roles, interactions, and socialization processes to create an imbalance of the forces, which leads to change (Schein, 1988).

Despite expressing a great amount of cooperativeness and readiness to face the problem, and tackle it, people tend to find themselves inside a “fog”, as Lewin coined it. He argued that in the fog, people face three uncertainties: What is the present situation? What are the dangers? And most importantly, what shall we do? (Burnes, 2004a). Lewin argued that for groups to handle these three questions, firstly, they must emphasize that change requires action. Secondly, they need to recognize that successful action is a result of analyzing the situation accurately, identifying every possible alternative solution, and choosing the most appropriate one for the given situation. At last, to be successful, there must be a «felt-need», which means that individuals have a realization that change is necessary. This aligns with Kotter (1995) view, that a good starting point in a successful change process is connecting a sense of urgency and importance to change. Kotter argues that it is vital to develop dissatisfaction with the status quo and a unified understanding of the need to change. Introducing change in a group or organization where felt-need is low, would become problematic (Burnes, 2004a).

Lewin also recognized behavior as a dynamic balance of forces working in opposing directions (Kritsonis & Hills, 2004). Driving forces facilitate change because they push employees in the desired direction, whereas restraining forces hinder change because they push employees in the opposite direction (Kritsonis & Hills, 2004). Lewin argued that a successful change project involved three steps (also known as the Three-Step Model), *Unfreezing* the status quo, *Moving* to the desired end state, and *Refreezing* the new change to make it permanent (Robbins & Judge, 2013).

The first step, *unfreezing*, consists of destabilizing (unfreeze) the status quo, also called the equilibrium state, such that old behavior can be discarded (unlearned) and new behavior successfully adopted (Burnes, 2004a). This must happen in one

of three ways. The driving forces can be increased, such that behavior is directed away from the status quo. The restraining forces can be decreased because they hinder movement away from the equilibrium. The last alternative is to combine the two first approaches (Robbins & Judge, 2013). Research indicates that companies that have been successful in the past are likely to experience restraining forces because people question the need for change (Audia et al., 2000). A few activities that can assist in the unfreezing step are motivating the participants by preparing them for the change, building trust and making participants aware of the need to change, and actively participating in identifying problems and brainstorming solutions within a group (Kritsonis & Hills, 2004).

Expanding on Lewin's ideas, Schein (1996) argued that the key to unfreezing was to acknowledge that change was an intense psychological dynamic process. To achieve unfreezing, Schein identified three necessary processes: disconfirmation of the validity of the status quo, the induction of guilt or survival anxiety, and creating psychological safety (Schein, 1996). He claimed that unless adequate psychological safety is created, the disconfirming information will be contradicted, and no survival anxiety will be felt. Consequently, no change will take place. In other words, those involved have to feel safe from loss and humiliation before they are able to accept the new information and resist old behaviors (Burnes, 2004a).

In the second step, *Moving*, Lewin addressed that it's necessary to move the target system to a new level of equilibrium. According to Schein (1996) unfreezing creates motivation to learn but does not necessarily control or predict the direction. This is in accordance with Lewin's view that predicting a specific outcome of planned change is very difficult because of the complexity of the forces involved (Burnes, 2004a). Some actions that can assist in the movement step are convincing employees that the status quo is not beneficial for them and encouraging them to view the situation from a new perspective, work together to gather new relevant information, and further connect the view of the group to well-respected and powerful leaders that also support the change (Kritsonis & Hills, 2004). Research on organizational change indicates that to be effective, the change must happen quickly (Robbins & Judge, 2013).

The final step in the Three-Step Model is *Refreezing*. This step seeks to stabilize the group at a new quasi-stationary equilibrium in order to secure that the

newly adopted behaviors are relatively safe from regression (Burnes, 2004a). Without this last step, change tend to be short-lived and employees will attempt to revert back to the previous equilibrium state (Robbins & Judge, 2013). Schein (1996) argued that new behaviors must be harmonious with the rest of the behaviors, personality, and environment of the learner or it will likely lead to a new round of disconfirmation. Lewin saw successful change as a group activity because without group norms and routines being transformed, changes to individual behavior will not be sustained (Burnes, 2004a). In regards to organizations, refreezing often requires changes to the organizations' culture, policies, norms, and practices (Cummings et al., 2020). Paraschiv et al., (2012) argued that to develop a required structure and to create a guiding vision, organizational change must be top-down, but at the same time bottom-up to motivate participation from all employees.

## **2.9 Readiness for Change**

Whereas the process of change can be theoretically perfect on paper, the reality often does not comply. Most of the change projects started by organizations fail (Burnes & Jackson, 2011), due to a variety of reasons. One will thus need to create an understanding of why projects fail in order to address the problem. One interesting theory is readiness within the organization as well as among individuals. Readiness is associated with change (Dalton & Gottlieb, 2003), and can be viewed as both a state as well as a process. Readiness in organizations can in many ways be viewed as similar to Lewin's concept of "unfreezing", and relates to the member's beliefs, attitudes, and intentions regarding the extent to which the changes are needed (Armenakis et al., 1993). It is a cognitive precursor to the behaviors of both resistance to, or support of a change effort (Armenakis et al., 1993). Before a change is about to occur, one needs to be ready for the change (Dalton & Gottlieb, 2003), and it is therefore highly important that the organization can count on the readiness of its members in order for the change to have an effect. According to Armenakis et al., (1993), readiness for change may act to preempt the likelihood of resistance to change, thus increasing the potential for the change effort to be more effective.

In order to tackle the problem, Armenakis et al., (1993) propose to use change agents within the organization, i.e., organizational leaders or managers. The message for change is described as the primary mechanism for creating readiness

for change among members of an organization (Armenakis et al., 1993, p. 684). Dawson & Andriopoulos, (2017) goes a long way of supporting the theory of communication as being one of the most important factors in creating readiness for change. Dawson & Andriopoulos, (2017, p. 204) claim that communication needs to extend beyond conventional concerns and refers to the notion of the ‘harbinger of change’ in the messages of what is occurring and what lies ahead. Holt & Vardaman, 2013, cited in Dawson & Andriopoulos, (2017, p. 205) explains that “...individual attitudes to change will be influenced by broader views on the appropriateness of change and the degree of management support”, and thus claims that there are both individuals as well as structural factors that occur at both individual and organizational levels.

While the message itself is highlighted as an important factor in creating readiness for change, the effect can vary based on how the message is delivered. A study found that referential justification caused a drop in the perceived trustworthiness of management, and elevated levels of dispositional resistance to change (Arnestad et al., 2019). This indicates that the justification for the change is a highly important factor in organizational readiness for change. If the change is not justified well enough, resistance to change may rise, causing the change to fail - or fall back to norms before the change was introduced.

## **2.10 Organizational Learning**

To effectively implement sustainability in organizations, Siebenhüner & Arnold (2007) argued that organizational learning is an essential factor to succeed. The continuous process to obtain organizational knowledge and experience over time can be defined as organizational learning (Iqbal et al., 2020). According to Siebenhüner & Arnold (2007), its crucial to develop a mutual understanding of the concept (e.g., sustainability) through training, to get the employees engaged in the change process. An organization’s ability to learn, enable them to sustain competitive advantages in highly dynamic markets (Guinot et al., 2016). According to Sattayaraksa & Boon-itt (2016), organizational learning is strongly influenced by knowledge sharing, open communication, and leadership. Additionally, participation in decision-making, transformational leadership, and openness are perceived as powerful predictors as well (Park & Kim, 2018). Iqbal et al., (2020), argued that employees are motivated to go above and beyond what is required in



areas such as resource efficiency when influenced by organizational learning. The authors further argue that organizational learning fosters active participation amongst employees, resulting in positive contributions to organizational performance.

### **2.11 Leadership Fostering Change**

Sustainability implementation and organizational change are critical concerns that entail new ways of thinking, perspectives, and business structure, all of which often begin with leadership (Millar et al., 2012). With global markets becoming more demanding and competitive, changing socio-political pressures and world conflicts, financial crises and uncertainties, fluctuating commodity markets, fierce business competition, and increasing demanding customers, processes of change are central to organizations and have never been more topical (Dawson & Andriopoulos, 2017). Given the importance of organizational change, management expertise is becoming increasingly important (Senior, 2002). Disruptive innovations and shifts in consumer behaviors appear to be accelerating in pace, which underscores the importance of being able to successfully manage change. Kotter & Cohen (2014) highlight the importance of leadership in all levels of the organization to overcome the enormous barriers to change. He further argues that it is leadership that creates change whilst managers keep things under control. Clearly, both positions are important in organizations, but leadership is the engine for transformational change (Dawson & Andriopoulos, 2017).

While there is no evidence that one type of leadership style is particularly better equipped to lead an organization through sustainability implementation, Gill (2002) proposes that change has to be subject to effective leadership in order to be successful. He argues that while change needs to be well managed, planned, organized, directed, and controlled – it most importantly needs effective leadership in order to introduce change successfully (Gill, 2002, p. 307). He developed the effective leadership model for change, which explains the elements of effective leadership practice: vision, values, strategy, empowerment, motivation, and inspiration (Gill, 2002, p. 312).

Metcalf & Benn (2013) claims that leadership for sustainability requires leaders of extraordinary abilities, such as thinking through complex problems,

engaging groups in dynamic organizational change, and having high emotional intelligence. It is argued that sustainable leadership creates opportunities for organizations through innovation, continuous improvements, sustained competitive advantage, and long-term success (Iqbal et al., 2020). According to Iqbal et al., (2020), sustainable leaders have the ability to reduce costs and increase potential revenue, enhancing the organizations' financial performance. Sustainable leaders are characterized as having a proactive approach, which they use to scan the environment to track external changes in the market (Gerard et al., 2017) and strengthen the relationship with internal and external stakeholders (Iqbal et al., 2020). In terms of internal activities, creating a long-term vision, encouraging innovation, emphasizing green initiatives, and introducing green management systems are of importance for sustainable leaders (Avery & Bergsteiner, 2011).

Good leaders can be characterized by their ability to set optimistic goals and objectives while steering the operation of a company towards those goals through effective strategies (Hao & Yazdanifard, 2015). According to Hao & Yazdanifard (2015), intelligent leaders are needed to guide an organization forward effectively and efficiently in the face of an uncertain future, while decreasing the feelings of insecurity in their employees caused by that uncertainty. In other words, good- and intellectual leaders are needed in order for organizations to maintain operational functions when change of any sort is inevitable.

### **2.12 Effective Leadership**

Burns (1978) distinguished between two types of leadership, transactional and transformational. Transactional leadership refers to the wide range of leadership models that focus on the exchange that occurs between a leader and their followers (Burns, 1978). A leader in an organization who offers promotions to employees that exceed their goals is demonstrating transactional leadership. Despite that such type of transaction is a natural component of employment contracts, research indicates that employees do not find transactional leaders as most capable of creating trusting, mutually beneficial relationships between leaders and followers (Notgrass, 2014). Instead, according to Notgrass (2014), leaders who express transformational behaviors such as recognizing accomplishment, encouraging creativity, and trying to help followers reach their maximum potential are preferred amongst employees.

Leading an organization through change can be difficult. Bass & Riggio (2006) suggested that transformational leadership has gained popularity due to its emphasis on intrinsic motivation and the development of followers, which align with today's workforce, who desire inspiration and empowerment to succeed in times of uncertainty. As defined by Lussier and Achua “*transformational leadership seeks to change the status quo by articulating to followers the problems in the current system and a compelling vision of what the new organization could be*” (Lussier & Achua, 2016, p. 328). The leadership style can be summarized by six behaviors of the leader: vision, supportive leadership, empowerment, innovative or lateral thinking, leading by example, and charismatic personality (Carless et al., 2000). Transformational leaders are able to express their thoughts about the future to the organization, and communicate this vision using frequent statements (Carless et al., 2000, p. 390).

In addition, transformational leadership is often connected to sustainability. A study conducted in 2006 found that CEO intellectual stimulation was significantly associated with the propensity of the firm to engage in ‘strategic’ sustainability (Waldman et al., 2006). The study also claimed that other studies, that might choose to ignore the leadership aspect in sustainability may yield imprecise conclusions regarding the antecedents and consequences of the activities (Waldman et al., 2006). However, Waldman et al., (2006) criticize the current transformational leadership theory by explaining the overemphasis on the charismatic form of leadership. A transformational leader is also observant of the needs and motives of followers, while connecting with them, the level of morality and motivation is increased in both parties (Northouse, 2019). According to Lussier & Achua, transformational leaders value change, especially if the change improves the status quo. Whereas, transactional leaders value stability, especially in the efficiency and effectiveness of the organization as it works to achieve short-term and long-term objectives.

Transformational leadership is a process that changes and transforms people, focusing on emotions, ethics, values, standards, and long-term goals (Northouse, 2019). In transformational leadership, an exceptional form of influence is present, which directs followers to accomplish more than what is usually expected of them. During this process, charismatic and visionary leadership is often expressed. Transformational leadership describes a wide range of leadership, which

can be very specific attempts to influence followers on a one-to-one level, to very broad attempts to influence entire organizations and cultures (Northouse, 2019). However, transformational leaders focus so heavily on the relationship with their followers that this bias may limit explanations for transformational leadership on organizational effectiveness (Andersen, 2015).

Bass (1985) transformational theory suggests that most leaders possess both transactional and transformational characteristics, where the most effective leaders utilize both leadership styles in various situations depending on the task and the followers. In most situations, where the objectives are within a short-term perspective, transactional leadership is preferred (Asrar-ul-Haq & Anwar, 2018). On the contrary, transformational leadership is favored in long-term strategies and objectives since it facilitates development and change (Asrar-ul-Haq & Anwar, 2018). In an increasingly technological and competitive era, Ansrar-ul-Haq & Anwar (2018) argued that most organizations prefer transformational leaders because of their ability to motivate and assist their workforce to achieve greater goals. Improving followers' performance is of special importance in transformational leadership theory (Avolio, 2010).

To better understand the process of leadership effectiveness, Bass and Avolio (1994) developed the Full Range Leadership Model (FRLM) (Asrar-ul-Haq & Anwar, 2018). The model includes transformational, transactional, and Laissez-Faire (passive) leadership styles and suggests that leaders use various behaviors to influence their followers. Within these three leadership styles, nine variables are found. In the transformational leadership specter, the factors *Idealized Influence*, *Inspirational Motivation*, *Intellectual Stimulation*, and *Individualized Consideration*, also called the four I's, are present. Transactional leadership factors include *Contingent Reward*, *Management by Exception*. Lastly, the Non-leadership factor is *Laissez-Faire*.

Scholars argue that transformational leadership produces superior effects compared to transactional leadership (Awdah Alatawi, 2017). While transactional leadership results in expected outcomes, transformational leadership results in performance that goes far beyond what is expected (Northouse, 2019). In a meta-analysis containing 39 studies on transformational leadership, researchers found evidence that people who displayed transformational leadership factors were recognized as more effective leaders with better work results than transactional

leaders (Lowe et al., 1996). Researchers have argued that an additive effect gained from the four I's in transformational leadership is the reason for its superiority (Awdah Alatawi, 2017).

Interestingly, research indicates that leaders are most effective when they combine behaviors from transactional leadership with elements from transactional and laissez-faire leadership (Antonakis & House, 2014). This implies that all types of leadership have advantages and disadvantages, and since monitoring followers, status quo, internal and external needs and pressures are crucial to effective leadership, the best approach might be a combination of different leadership styles.

### **3.0 Methodology**

The aim of this dissertation was to shed light on a field in which there has been a lack of previous research. The hope was therefore to generate a theory by conducting a series of interviews with members of the shipping industry. Deciding which research methodology would be appropriate for the master thesis was a complex task, and several variables determined which methodology was best suited for the thesis and research question. This section will therefore showcase different thoughts and reasoning for the chosen methodology. Overall, a qualitative study with a grounded theory research design was applied.

### **3.1 Research Design**

When deciding which research design was best suitable for the study, the chosen research question was an essential part of the reasoning. As the research question can be viewed as broad, a qualitative research design would be appropriate for this master thesis. Using a qualitative research design can be helpful to “... *understand the contexts or settings in which participants in a study address a problem or issue.*” (Creswell & Poth, 2018, p. 46). The purpose of qualitative research is to describe, explore, and explain the phenomena that are being studied (Ploeg, 1999).

The design of the study has guided the authors by providing a structure to follow which helped organize ideas that could be grounded in literature (Creswell & Poth, 2018, p. 65). There are five different research approaches to qualitative studies: narrative, phenomenological, grounded theory, ethnographic, and case study. For this study, the chosen research design was grounded theory, as the

authors seek to generate a theory to answer the research question. According to Creswell & Poth, (2018, p. 82), the grounded theory design can help the researchers “... generate a general explanation of a process, an action or an interaction shaped by the views of a large number of participants.”

### **3.2 Approach**

When using a qualitative study with a grounded theory research design, there are two popular approaches: the systematic procedures of Anselm Strauss and Juliet Corbin and the constructivist approach of Charmaz (Creswell & Poth, 2018, p. 84). Whereas the systematic procedures seek to systematically develop a theory that explains process, action, or interaction on a topic, the constructivist approach has a larger emphasis on the views, values, beliefs, feelings, assumptions, and ideologies of individuals rather than on the methods of research (Creswell & Poth, 2018, pp. 85–86). In the context of this master thesis, the constructivist approach was applied to the grounded theory design, as the data collection was based on individuals' views, beliefs, and assumptions.

### **3.3 Sampling and Recruitment**

In a grounded theory study, it is important to choose participants who can contribute to the development of the theory (Creswell & Poth, 2018, p. 157). The interviewees were theoretically chosen, thus theoretically sampling helps the researchers to best form their theory (Creswell & Poth, 2018, p. 85). According to Creswell & Poth, (2018, p. 159), a sample size of 20 – 30 individuals is recommended in order to develop a well-saturated theory. However, because of limitations in time as well as the number of informants in shipping companies meeting the thesis criteria, the authors decided to make do with a smaller sample size. However, Thomson, (2010) argues that “...steps can be taken to reduce the number of interviews needed.” By careful management of the research design factors and focus on the research question, the researchers can assist in reducing the number of interviews required (Thomson, 2010), thus maintaining validity of the study with a smaller sample size.

The sample consisted of top-management officials who worked for shipping companies situated within the geographical area of Vestland, Norway, and the companies in question needed to have international operations. The sampling

method was quite flexible, and the authors were willing to perform more interviews if saturation was not adequate. The informants were sampled with the help of the thesis supervisor as well as family within the industry. Two informants referred the authors to other employees within the same organization because they believed their employees would be a better fit for the interviews, resulting in a snowball sampling method (Patton, 2015). Six individuals were invited to participate in the study, and all accepted the invitation. One individual replied that they were not able to participate after previously saying yes due to unforeseen circumstances. The sample pool consisted of members of top management of five different shipping companies in the Bergen area. The companies varied in size and revenue. Four of the informants were male and one was female. All of the informants had previous experience within the industry before their current position at their firms.

### **3.4 Data Collection**

In order for the data collection to be as comparable as possible, the research was conducted within the Norwegian shipping industry, more specifically with informants situated in the Vestland region. As a result, it was possible to conduct one-to-one interviews with the participants. The research question was focusing on the challenges of the shipping industry, conducting interviews with individuals from other industries did not seem relevant.

The authors aimed to collect data in order to generate a theory as an answer to the research question, and thus asked the informants if they would agree to participate in the study. The informants were asked if they wanted the interview to be conducted in person or via Microsoft Teams. All of the informants received a brief excerpt from the interview guide, allowing them to reflect on the main questions prior to the interview. The informants were allowed to choose the location for the interview in order for the informants to be as comfortable and relaxed as possible. Due to different circumstances, three out of five interviews had to be conducted via Microsoft Teams. The digital interviews provided participants with flexibility and allowed them more time to consider and respond to requests for information, which could lead to a deeper reflection on the discussed topics (Nicholas et al., 2010).

### *3.4.1 Primary Data*

The research question, as well as the methodology for this study, was the foundation for the choice of primary data collection. By using a grounded theory approach, the aim was to obtain a deeper understanding of how shipping companies could efficiently adapt to sustainable changes. Semi-structured interviews were used as a primary data collection method. Interviewing is the primary form of data collection when using grounded theory, as the researcher is constantly comparing data gleaned from participants with ideas about the emerging theory (Creswell & Poth, 2018, p. 84). The traditional way of collecting primary data is by using the commonly known “zigzag” process: gather information in the field, analyze the data, and back to the field again (Creswell & Poth, 2018, p. 85). Creswell & Poth (2018) considers the process finished when all of the data is saturated, i.e., when there are no more new emerging ideas, and when the theory is elaborated in all of its complexity. However, due to the short time span of this thesis, all the interviews were conducted in a timely manner and analyzed afterward to save time.

The interviews were conducted as a semi-structured interview, which can be viewed as a verbal interchange where the interviewer attempts to elicit information from another person by asking questions (Longhurst, 2003, p. 143). An identical premade interview guide was used for all informants in order to gather enough data to analyze the findings and make transcription easier. Although the main questions were identical, the interviewers had the possibility to ask follow-up questions that were deemed relevant to the study. The semi-structured interview thus helped the authors compare answers from the informants, in addition to unfold in a conversational manner. This can offer participants the chance to explore issues they felt important (Longhurst, 2003, p. 143). All of the interviews were conducted with Kvale's, (2012) 10 criteria of a successful interviewer in mind.

### *3.4.2 Secondary Data*

Although the semi-structured interviews with representatives from Norwegian shipping companies are the prioritized and primary data, the thesis also relied on data provided by other researchers. The combination of primary and secondary sources helped answer the thesis research question and is believed to have strengthened the validity of this thesis. Secondary sources are also highly obtainable through the use of the internet (Saunders et al., 2009, pp. 69–70). Secondary data,



however, is thoroughly examined before being used in the study. The study purpose, operationalization, sampling criteria, entities being studied, and biases were verified before it was used as a source in the thesis in accordance with the framework provided by Hox & Boeije, (2005, p. 598). In order to utilize secondary data, the authors have made sure that the data is trustworthy.

However, this thesis will rely more on primary sources, as secondary sources relevant to the research question are difficult to obtain due to its previous limited research. While searching for journals, books, and other secondary sources, Google Scholar was the primary search engine due to its highly extensive database. The search engine provides information such as the number of citations for each article, as well as the name of the journal. Consequently, the authors are able to quickly pre-assess the validity and trustworthiness of each article.

### **3.5 Ethics**

When conducting a qualitative study with interviews, ethical aspects had to be considered. There are human variables that may influence the informants' answers, and thus the authors had to take ethical considerations throughout the entire process. This was to ensure the integrity of both participants in the study as well as this thesis. The aim of the study and the interview guide was therefore submitted to, and approved by, Norwegian Centre for Research Data (NSD) prior to the interviews. All informants were given a written document stating the thesis' purpose prior to accepting to be a part of it, which they had to sign if they gave their consent (see appendix B for the consent form). This document promised anonymization of both the informants as well as their companies, with the additional promise of deleting every audio file, as well as transcription, before the due date of this thesis. The informants were also able to, at any time, request information about their part of the thesis, and the option to withdraw themselves until the due date 01.07.2022.

### **3.6 Qualitative Analysis**

Whereas previous parts of the methodology have been about collecting data, analyzing the data is perhaps even more crucial. The process of analyzing the data involves organizing, preliminary read-through of the database, coding, representing, and forming an interpretation (Creswell & Poth, 2018, p. 181). The

most common frameworks for analyzing strategies are interpretive, systematic, and traditional (Creswell & Poth, 2018, p. 183).

As this thesis aims to generate a theory for efficient adaptation of sustainable changes within the shipping industry, the qualitative analysis follows the interpretive structure of Charmaz (2006). The theory-building emerges through the simultaneous and iterative data collection, analysis, and memoing process (Creswell & Poth, 2018, p. 87). The authors structured the various analysis procedures as open, axial, and selective coding. The goal was to reach a stage of saturation of information, where new coding or data collection would not be needed. The authors were then able to classify and sort the data. The sorted data leads to a discussion where the thesis highlights findings from the semi-structured interviews and pair them with appropriate literature. The thesis will then be able to propose a theory that answers the research question based on the methodological analysis and existing literature on the subject.

All the interviews were taped using a voice recorder. The media file was then played back while transcribing each interview into Microsoft Word. The interviews lasted between 51 minutes and 1 hour 53 minutes, resulting in 92 pages of transcription. The recordings were deleted as soon as each interview was transcribed. All of the interviews were conducted in Norwegian, which thus meant that the quotes have been translated. The interviews have been translated with the aim of preserving the informants' content.

For coding, the qualitative data analysis program Nvivo for Macintosh, release 1.6.2, was used. Every transcript was uploaded to the program before the analysis began. Main themes that corresponded well with the interview guide were quickly discussed before we began coding separately. Both authors coded every transcribed interview. This contributed to the possibility to pair the codes as well as provide quality control for each other and strengthen the validity and reliability of the findings. It was quickly understood that the authors shared a high degree of consensus. After analyzing the five interviews, a total of 129 codes were found. The codes were then sorted into categories and subcategories, as well as removing overlapping codes. Further analysis of the codes resulted in six factors that were found to be working together, to create the final output, *Agility*. The themes, which are further explored in the findings are *Vision*, *Communication*, *Core Values*,

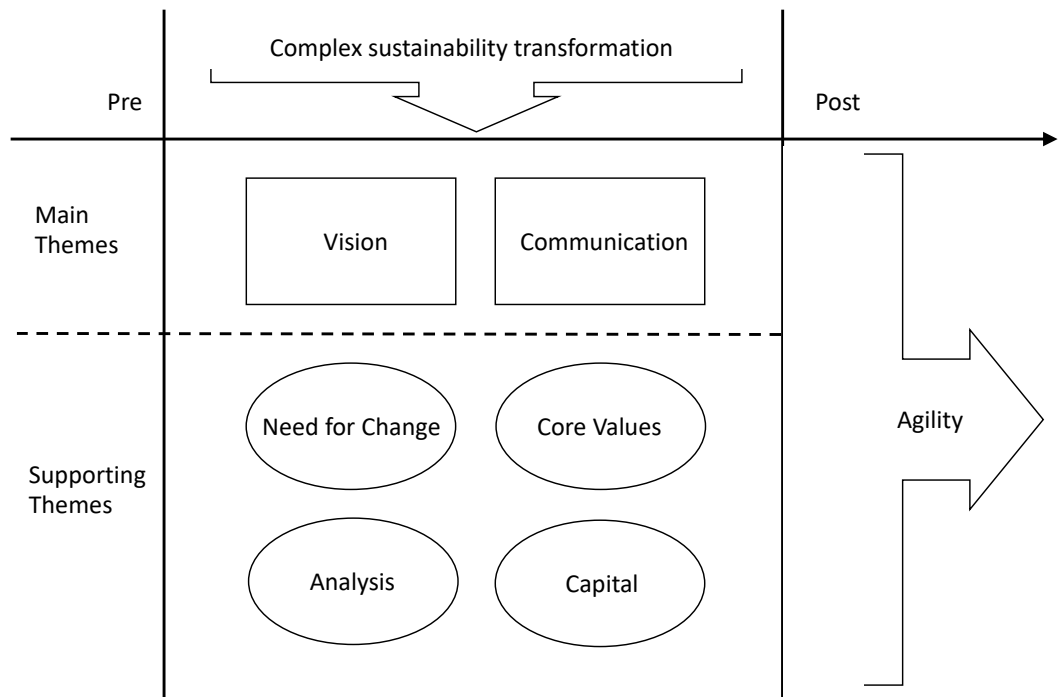
*Analysis, Need for Change, and Capital*. In the findings, “*Figure 1*” shows the thematic map for the authors’ analysis.

In the next step, the findings were divided, and the factors identified were written about in more depth, such as what they represented and how they related to each other. Lastly, in the discussion, the findings were compared to the literature review, investigating if there are any connections between the findings and existing research.

#### **4.0 Findings**

In this section, the findings of the study will be presented to highlight aspects that the shipping informants point to as important during a sustainability transformation in their respective industry. *Vision, Communication, Core Values, Analysis, Need for Change, Capital, and Agility*, were aspects that all the informants emphasized. Firstly, it is important to have a common understanding of the terminology used for the reader to have a clear understanding of the messaging. This section will therefore provide a short description to prevent any ambiguity. In the findings, “all informants” refers to all 5 informants, “most informants” refers to 3-4, and “several informants” refers to 2. The shipping informants are referred to with the letter “S” and their number in the interview line (e.g., S3). When quoting the informants, the term “...” indicate excluded information either because of anonymity concerns or because it was considered irrelevant, whereas text inside brackets (e.g., [text]) has been used to clarify information provided by the informants.

The model below was made by the authors to portray the aspects that the informants emphasized during a complex sustainability transformation in the shipping industry. The informants highlighted several factors that seem to be interconnected and which this thesis argues generate an output variable.



*Figure 1 (Own source).* A thematic map emphasizing organizational factors during a complex sustainability transformation. The horizontal arrow at the top denotes a timeline (i.e., pre, during, and post complex sustainability transformation). The rectangles symbolize main themes (i.e., the organizations' vital aspects during a complex sustainability transformation). The ovals symbolize supporting themes (i.e., support the organizations' vital aspects during a complex sustainability transformation). The wide arrow to the right is generated by the six themes and denotes an output. All themes are interrelated.

#### 4.1 Vision

The leaders' ability to portray and share the company's vision was identified as a main theme, which all of the shipping informants reflected upon. A vision can provide followers with an understanding of where the company needs to be in the future. However, getting the organization to where it needs to be may require change, and some followers might experience fear of losing their jobs in such processes. One informant explained the importance of creating a vision of growth and encouraging employees to be a part of it:

“You have to create a vision of future growth... you have to be a visionary and draw a picture of a future that people believe in... a vision which makes them say “god damn, we are going to achieve this”, in that way the drive comes from the bottom and up.” (S1).

The leaders' ability to sell the vision to followers and motivate them was emphasized as a way to manage the followers' fear:

“Motivation. It's connected to the fact that you [the leader] have to sell the need, and get the employees to buy in on it... When I talk about digital transformation, people tend to get a little scared. Therefore, we renamed it to something that we call “Smart Shipping Journey” which sounds a bit cooler. Then we have to explain to the employees what it actually is and that we are going to create jobs. We have to create motivation.” (S5)

Being able to get the followers to participate in the journey was something that most informants discussed. The informants highlighted that being able to motivate the followers and get them to feel ownership of the process was important. One informant elaborated on how the organization gathers the employees to discuss and reflect on the future:

“I invite them to form thoughts, reflect, and get ownership [of the change] ... It's not something that has been dragged down people's heads... We have to create motivation and portray the journey - where are we and where are we going?... You have to make people excited about the journey. Then you'll succeed.” (S5).

Another informant emphasized how important the vision could be in terms of how the followers acted by making the right decisions:

“We [everybody in the organization] make thousands of decisions every single day, and those decisions must be as correct as possible. Those decisions are in some way based on the vision and the picture that the leader has created. If the leader manages to create the right picture, then the decisions will be made in that spirit.” (S1).

Having a shared vision of the strategy, which is embedded in the board of the company and throughout the whole organization was reflected upon by one informant. It is crucial that the leader and the followers' vision are aligned, so the company moves in the desired direction. The informant proceeded with a quote from Winnie the Pooh:

“For those who don't know where they're going, it does not matter where they go.” (S3).

To get the followers to buy in on the leader's vision, simply portraying it is not sufficient. The organization and its leaders have to act in accordance with the vision. The leader must be able to show the value of it, not only communicate it:

“It has to be “walk the talk” across the board. It was like that in ... [name of a shipping company] also, the CEO was amazing at portraying and communicating the importance of sustainability, and that we based our existence on it – and therefore had to prioritize – nobody in the company shall be irresponsible towards our sustainability efforts.” (S2).

There seem to be several ways for a leader to show the value of the vision. One informant emphasized that expanding the fleet was in accordance with a vision of future growth:

“The market is expanding. So, if we have 100 ships today, we should have 102 ships next year to keep up with the market. Our goal is to make that expansion with the employees we have today, not by hiring new ones. Therefore, we need to become more effective.” (S1).

Moving the organization towards the vision may involve new processes and a new way of doing business, which can result in failures and setbacks along the way. One informant described that organizations must be daring and have courage towards their vision:

“One must dare to fail and dare to change. That is not easy. In my opinion, where we are heading now is not a continuous improvement approach, it is a transformation. In these times, you need different types of decisions and risks, and that requires courage.” (S5).

## **4.2 Communication**

The second main theme uncovered during the interviews is that good communication is viewed as an absolute necessity for shipping companies in order to be able to change. Whenever an organization is facing a change of any sort, communication is essential between every part of the organization. All informants explained that communication is the foundation of every change. Without proper communication, the change becomes highly difficult to implement. The following

quotation from one of the informants explains how a CEO communicated with his employees:

“I like to gather everybody and talk. What is our situation, and where are we going? [I like to] create a situational picture and make them participate and provide input. What is our situation, and what is our need? I have strived to become close with those who work ‘on the floor’. I make sure that I talk directly with them and not just through the middle management.” (S5)

Another possible positive outcome of good communication is that it can help reduce resistance to change. Resistance to change can often occur when the future is uncertain. That doesn’t necessarily mean that the idea of change is bad, but rather that employees might fear that the change can result in them being redundant for the company. When asked about resistance to change, an informant explained:

“You must remove the fear of losing their job. You can probably do this in many ways, but one way to do it is by saying: “listen, as CEO I guarantee that not a single employee will be fired”. I have never promised something I cannot keep, but I have been extremely conscious of what I have promised. IE., the words coming out of my mouth are carefully considered. That is a message you will have to spend time getting through, saying: “Listen, we need to be more effective and if no one shall lose their job, I expect that you are positive about the changes that are coming.” The employees must thus trust their leadership, and you need to remove the fear and at the same time prove that what you are saying is true. You need to create a vision of a better future.” (S1).

In addition, communication can be used as a tool to change resistant employees’ mindset regarding a possible change. Those resistant to change may also believe that the change will not improve anything, but rather be a costly affair for the company.

“You must meet these employees with good argumentation that this change helps us profit. We need to document that change is a good thing. Most will understand that numbers and documentation show that the change is good for the company, and they will thus adjust to the change.” (S2).

Communication can also be helpful as a tool to build a sense of belonging and improve organizational culture. An informant explained that digitalization, as well as the pandemic, had changed the way employees talk to each other:

“We send emails, chats, and everything in between instead of talking to each other. We need to sit down and experience the ‘good conversation’.” (S3).

The ‘good conversation’ may act as a catapult for changing the mindset of employees where they are able to contribute themselves and explain what their views of the matter may be. When asked about employees’ resistance to change, an informant answered:

“They would need a good reason [to resist]. We would firstly try a dialogue with the employee(s), but I think that if many [employees] resist the change – is the change really for the better? However, sometimes we must implement a change for purely economic or safety reasons. If that is the case, it does not really matter what the employees think, it must be done.” (S4).

However, when it comes to sustainability and change, all the shipping informants discussed in some way the need for a foothold throughout the organization.

“You need to have control of the financial situation and a commitment throughout the entire organization. It’s not much help if the technical part of the company is on board, but the operational part onboard each vessel shakes their head saying: “this makes our profitability worse.” We need to make sure that every part of the organization is on board, and no one takes shortcuts.” (S2).

The foothold is often achieved by communicating the company’s beliefs and vision for the future. The need for becoming more sustainable needs to be embedded within the organizational culture, and constant communication is an important tool and a constant reminder. Furthermore, communication is also highly important outside the shipping company. Most of the informants elaborated on communication between themselves and other companies, as well as political influences. When asked about political decisions and agendas outside of the company, an informant explained:



“I have faith in the authorities, yes. I like that the dialogue is good. Our government and authorities are interested in a good dialogue, especially between the companies and the departments. It’s not too long ago that we had the pleasure of a visit from the Minister of Climate and Environment, as well as the minister of Finance. There are often political proposals we view as suboptimal where we believe they do not fully see the big picture. Then it’s our job as an industry to report back to the governmental institutions in a constructive way.” (S5).

### **4.3 Core Values**

One of the supporting themes identified after the interviews were conducted, was sustainability as a core value and solidarity throughout the entire organization. As mentioned earlier in the ‘communication’ part, the need for a foothold of sustainability in the organization can be crucial. All of the informants did in some way explain the necessity of sustainability being deeply embedded in the organizational culture.

“If the machinist understands that if he only needs one engine running, there is no need to turn on the second engine. If he understands the importance, he might think twice before turning on the second engine he would have previously turned on ‘just in case’. It is all about the consciousness where every employee understands that sorting the garbage or refilling their water bottles instead of purchasing a new plastic bottle...It’s an awareness, and everyone needs to participate. Everyone needs to understand the importance.” (S4).

It can be hard to implement a sustainability initiative without support from the organization. Whereas the largest changes may be directed and wanted from the management (top-down), smaller day-to-day tasks may grow from each department or subdepartment (bottom-up).

“My definitive position is that change needs to a large extent arise from the bottom and up. You must have the support of your ‘players’ if you want to achieve change. If the players do not agree, you can as a coach or manager scream as much as you would like – but the players won’t do what you want on the field.” (S1).

Having sustainability as a core value applies to every part of the organization. A shipping company might achieve a positive change within one area, but in order to make groundbreaking impact, every employee in every department needs to find the sustainable solution or choice. Although the future of sustainable shipping might involve great investments, the informants explain that small non-costly changes can have a positive effect on sustainability:

“It’s a mix of technical changes and a natural replacement of tonnage, better routes, and adapt both vessel speed and course according to the weather. It’s part of a package of changes we implement in order to become more sustainable.” (S2).

In fact, one of the most efficient ways to cut GHG-emissions is by slowing the speed of each vessel. All shipping informants described the need of slowing down their vessels’ cruising speed in order to reduce emissions. However, by reducing speed, there will be a delay of transfer which can create possibilities for other companies – thus the industry will grow and emit larger sums of GHG-gasses in total, even though each ship reduces individually. Therefore, there is a necessity to think sustainable, also outside the shipping company.

“What has been the tragic part until now, which we hope is about to change, is that our clients have been completely uninterested in our emissions. In a special case a couple of years ago we competed against the world’s least energy-efficient chemical ship. The vessel was built 20 years ago when the bunker oil cost was close to nothing. Nobody cared if the vessel used 10, 20, or 50 tons of fuel per 24 hours. The client, who had publicly stated their grand sustainability goals, chose the least energy-efficient vessel because they were a tiny bit cheaper. That’s how deep it goes. We believe it will gradually change, but the management of those companies must inform their logistics departments and explicitly order them to account for sustainability, not just price per tonnage.” (S1).

#### **4.4 Analysis**

A supporting theme that all the informants mentioned in some way is the need for analysis. When the shipping industry is in a continuous state of change as described earlier, thorough analyses need to be conducted to measure the company’s progress.

As the industry moves towards a more digital future, more data will be measurable, making it easier to spot weaknesses, challenges, and opportunities. It is therefore highly important to analyze both the company's and each vessel's own performance:

“We are consecutively analyzing our own performance. Both the direct performance in order to view the effects and how we are performing, but also concrete measurements and assessments of implemented changes [in our vessels]. Typically for us, we usually go through a process where the change is piloted in one or two vessels. We then measure the effect of the change, before we can implement it to other vessels.” (S5).

Testing a change where one can measure effects makes each company sure of what they can expect from the change before the cost of implementation is too high. However, it's also important to make sure that the change is for the better. Change is not always a good thing, and through analysis of data from the vessels, the following quote explains that expectations cannot always be met:

“We experienced when building our D-class [type of vessel] that our expectations of the vessels were not met. That has been a lesson for us.” (S3).

Newer vessels are often more sustainable than older vessels. That doesn't necessarily mean that every shipping company needs to scrap their old vessels, but rather find ways to improve their tonnage. Analysis of their own performance can thus help the companies with older tonnage to find solutions to be compliant with regulations:

“We started early to analyze our tonnage. Our tonnage is not the newest, to put it bluntly. We do not have many newbuilds. To make our vessels pass the first step [of regulations], we have had to analyze our data. By having thorough planning and testing, you will at last have your database for change.” (S2).

Analyzing the company's own performance is important, however, perhaps equally important is analyzing the industry. Shipping depends on the free market of supply and demand and is highly volatile. A decent understanding and analysis of where the market is going are therefore necessary to stay in business.

“Even though the world wants to move away from it [coal], our understanding is that the transport of coal is highly important. Coal is used in the steel-industry, and in the power industry. Oil is in high demand, and the prices increase on a day-to-day basis. We are already hitting \$100 per barrel. There is not much evidence for the demand to decrease in the short term, but it will naturally come a time where it starts decreasing again.” (S3).

Being able to understand supply and demand is therefore an essential factor for the industry. However, as explained earlier, the industry is also regulated and has different governing mechanisms. If the shipping company can predict and understand upcoming regulations, there can be a competitive advantage by being the ‘early bird’.

“We were early and decided what we thought EU would decide. We adopted what we thought was coming our way. We had our share of luck by being early and experienced a lot of positive attention.” (S1).

Lastly, one can be blinded and biased when attempting to implement change. When wanting to do something, your analysis might be biased towards your own goal. That’s why it’s essential to understand that analyses and thorough testing need to be conducted prior to a change.

“We conduct large analyses ahead of a change as well as decision-making processes. However, it’s easy to be colored when you want to achieve something, and it may bias your analysis. Sometimes we cannot experience the full effect of our change. If you experience 70% of your expectations, perhaps that’s OK.” (S5).

#### **4.5 Need for Change**

The organization’s perceived need for change was another supporting theme that all the interview objects emphasized. By having a genuine need for change, the organization can be more responsive to changing its behavior and experiences less resistance to change. The informants highlighted aspects such as leaders addressing the importance of the needed change to followers, and that it could affect the existence of the shipping company. The informants also emphasized that when followers are experiencing a genuine need for change, implementation and the

acceptance of the change become easier. One of the informants described how the shipping company needed to change due to equity problems:

“In ... [a company], we were not on the verge of bankruptcy, but we got to a point where the company had such a low equity ratio that we had to go to the banks and say “Listen, we currently have less than 25% in equity”. What happens next is that the banks take control, and it becomes a completely different ball game. Suddenly, they decide much of the development of the company.” (S1).

The informant further elaborated on how the organization’s employees contributed to this process, which led to a more economically favorable and sustainable approach:

“During the restructuring of the company, several employees pointed out that “if we need to save money, there are actually a few million dollars to be saved from being more energy-efficient”. That was the big turning point. Until then we had done a little, but that's what really got the snowball rolling.” (S1).

Environmental regulations from the IMO, the EU, and nations are becoming stricter as we approach Net Zero in 2050. As a result, shipping companies need to change their ways of operating to comply with these new regulations to become more sustainable. With the increased focus on sustainability all around the globe, resisting and ignoring the regulations could be catastrophic for organizations. The informants addressed that it is a necessity to become more sustainable and that their future existence depends on it:

“In terms of business, there is no way around it, it is absolutely crucial [sustainability]. You have to be aboard the train that is running now, you have to be on the right track.” (S2).

One informant argued that sustainability is the new foundation for shipping companies in terms of conducting business worldwide in the years to come:

“In my view, you won't have a foundation to exist in the future if you don't have a focus on it.” (S4).

When complying with regulations set by the IMO or other governing authorities, the shipping companies are faced with a need for change. While being in such

situations, the shipping informants highlighted important factors when moving the organization in the desired direction:

“Situational awareness and involvement in solutions. That’s the most important thing. That we actually understand that there is a need for change from where we are today and where we need to be.” (S5).

As argued by another shipping informant, creating a foothold through the organization that change is needed could generate a bottom-up process:

“The most important thing is that you create a foothold throughout the organization, that you make [the employees] understand what we want to achieve and why we want to achieve it. By doing so, you establish ownership of the process from the bottom and up - and not something that is just dragged down people’s heads.” (S3).

Most of the informants also emphasized that the shipping industry is becoming more digital as new technologies emerge. In a fast-moving world, it’s crucial to not get left behind. As stricter environmental regulation is being introduced, new technology is arguably one of the solutions to green shipping. According to our informants, change is therefore evident for shipping companies to continue with international trade. Hence, leaders should address that new ways of doing business are crucial for the future of the organization:

“We cannot continue to do business in the same way as we have done the last 100 years, it is just not possible.” (S4).

#### **4.6 Capital**

Capital was identified as a supporting theme that was emphasized by all the shipping informants. The informants' description of capital entails that the theme affects the organizations in various ways, such as the Poseidon Principles, green funding, subsidy, customer contracts, and investment from owners. With the tremendous focus on sustainability from most stakeholders, the ability to get funding and contracts with customers relies on the organization's way of operating. As the world works to improve its GHG emissions, customers have increased their attention to the footprint of their cargo. Most informants argued that being

sustainable could be a competitive advantage when competing on customers contracts:

“It is an important signal to the market that we take sustainability seriously, and its necessary to have a relationship towards it if you want to operate in the substantial part of the market.” (S3).

After elaborating on the fact that there will always be shipping companies trying to take an easy way out, and take shortcuts in terms of sustainability, the informant argued:

“... it’s going to become more and more [customers focus on sustainability]. There are certain customers that expect a sustainability statement. ... You fool yourself if you think you can get around it.” (S2).

Being at the forefront, innovating and exploring new solutions to improve emissions attracts attention from stakeholders. One informant described the positive attention the shipping company got from customers when conducting two low emission pilot projects:

“As of now, we are noticing some positive effects from the market, we have been running two pilot projects... In both cases, customers have been very interested and want to participate. The positive response from these types of projects tells us those customer requirements are right around the corner.” (S5).

However, it seems like some customers have already shifted their focus from low-cost actors to more sustainable shipping actors. One of the informants explained that the shipping company had won a contract because they were more sustainable than their competitors, despite being more expensive:

“...we were bidding on a contract where there were multiple actors with better rates than us. We then approached the customer and said, “we are going to convert these ... ships to run on LNG, we are building ships that are more sustainable”. As a result, they offered us that contract. It is a sign that we have done something right [in terms of both sustainability and business].” (S4).

Stakeholder's sustainability focus affects shipping companies in multiple ways. Many banks and financial institutions, e.g., BNP Paribas, Credit Suisse, Danske

Bank, DNB, and Nordea, which lend money to shipping companies, comply with the Poseidon Principles. The principles establish a framework for investors in the shipping industry to assess and disclose the climate alignment of their portfolios (Poseidon Principles, 2022). Most of the informants emphasized that being sustainable is crucial for getting loans from banks or similar institutions:

“DNB has set a clear goal that a certain part of their portfolio shall be carbon-neutral within 2030, which is significantly stricter than IMO. So, if you want access to capital in the future, one has to readjust.” (S5).

One informant explained how sustainability always comes up during negotiations to finance new vessels or acquire new contracts with customers:

“When we are negotiating on financing new contracts [new vessels], sustainability always comes up. As you are familiar with, we have the Poseidon Principles. In regard to banks, sustainability reports have become something that banks throw themselves over - including customers.” (S3).

Another informant emphasized that sustainability is being prioritized by the whole shipping sector, affecting the company’s ability to obtain capital in several ways:

“We see it across the board [focus on sustainability]. One thing is the restrictions that will come, but the banks comply with the Poseidon Principles, and many of our customers are concerned with the footprint of their cargo.” (S4).

All shipping informants emphasized that being innovative and investing in green projects are very expensive. Additionally, there is a lot of uncertainty in regard to what kind of fuel source will become the new standard towards Net Zero. As of today, technology that uses alternative fuels is considered immature and not fully developed. Therefore, exploring new solutions to eradicate GHG emissions requires a tremendous amount of capital, and involves a high degree of risk:

“The sad truth is that these green projects are extremely expensive. You simply cannot find support for them economically... In terms of sustainability, we find it unproblematic as long as it is economically sensible. If we start to invest in new technology which doesn't benefit us economically, we would have issues with our bottom line and our shareholders.” (S1).



One informant argued that with no comprehensive solution, investing a vast amount of capital in new green technology involves a lot of risks:

“Newbuild prices are too high. Tomorrow's technologies and energy carriers are too immature. So, you lack comprehensive solutions. There's a lot of money at stake. Nobody wants to invest in rotor sail if steam suddenly becomes the new solution. We invest for 25-30 years, and in such hybrid times it is extremely demanding to be able to reduce the risk.” (S5).

Making long-term investments in uncertain times could have big impact on the shipping company, as elaborated by one informant:

“At the moment, I find it very hard to make long-term investments into the future, because there are considerable uncertainties. Especially in regard to what kind of fuel will be the one for the future... if we build ships that are very different from the current market in terms of technology, you have the risk of investing in the wrong solution. Therefore, we just dip our toes into the water to see what the future brings.” (S3).

#### **4.7 Agility**

Finally, agility has been identified as an important factor during the interviews. Companies within the shipping sector need to be agile and ready to implement changes on short notice. As the industry is heading in a more sustainable direction, the shipping companies may need to be more transparent about their emissions and environmental impact. For instance, sustainability reports have in a short timespan become a 'necessity' according to our informants:

“Sustainability reports are now a document that the banks want, as well as customers. We are aware that the insurance companies are starting to pay attention to them as well. That's because those who are transparent and dutiful when it comes to sustainability and know what they want – are most likely transparent and dutiful in other matters as well.” (S3).

The companies are also expected to be in a state of continuous change. The shipping industry can turn overnight, where variables such as the pandemic, or the current war in Ukraine can play a significant role. These events are difficult to forecast, and it can thus be a challenging task to prepare beforehand. That's why the agility of a

shipping company is highly important, to be able to tackle different situations within a short time period and continue operation.

“I would say the shipping industry might be the industry where most changes occur, all the time, and every employee in the industry is therefore used to dealing with changes.” (S4).

Another informant elaborated on the shipping company’s employees’ state of mind by connecting competitiveness and resources which may differ from nation to nation:

“I believe our employees understand that we need to be in a continuous state of change in order to survive and be competitive in one of the world’s most expensive countries against Greek, Asian, and Middle Eastern companies.” (S1).

When it comes to proactivity, innovation might play a big part. The shipping companies know that they need to comply with regulations from governing authorities within a given timeframe. The shipping companies thus need to be proactive and pay attention to new trends within the industry. If a company can be proactive, there are possibilities to profit from being a company at the forefront in terms of sustainability.

“How can you be innovative with a fleet of 10 – 30-year-old vessels? It is demanding. However, there are always advancements in technology. Almost weekly, we have contact with businesses which bring innovative solutions that may provide better effect or solutions than previously possible.” (S5).

However, proactivity might come at a cost. Investments in new technology and innovation are often expensive. It can be helpful to split the cost and run projects with competitors to share the risk of potential failure. Depending on each company’s financial situation, different approaches to innovation are viewed as options.

“Sharing of risk is important. We all depend on that, and it can be viewed in the industry structure. The ship owners want to diversify the risk, and it is a necessary move in the transitional phase we’re in right now. Many

companies want to participate in projects of a promising nature, but very few can manage to take 100% of the risk.” (S5).

Whether the company can innovate alone, together with others, or become a “close second” may depend on the company’s financial situation. Nevertheless, all informants argued that innovating and being proactive is the way going forward.

“We have a strategy in our company that we cannot be the first, but we will be a “close follower”. It’s got something to do with the financials of being the first, now we can pay attention to what might and might not work.” (S4).

## **5.0 Discussion**

The purpose of this study was to investigate how Norwegian shipping companies effectively can adapt to sustainability regulations being enforced on the industry. There seems to be a research gap within this particular field, which emphasizes important factors when implementing a sustainability strategy. Through an in-depth analysis of the top management officials’ perceptions, the thesis has obtained important insight into relevant aspects of implementing a sustainable approach in the shipping industry.

In line with the research question, subjects addressing a shipping company’s everyday operations and processes were excluded from further discussion. By interviewing the informants, the authors have gained an understanding of how management views the desirability of change, why change is needed, and how to implement change throughout the company efficiently. Whether other parties impose the change, or the change is primarily wanted by the company to gain a competitive advantage, the process of change has highlighted several areas management regard as essential factors. Through the analysis, a great deal of the codes identified was reduced to six comprehensive themes emphasizing the shipping companies’ ability to effectively implement a sustainable strategy, which resulted in one output variable. The themes were *Vision*, *Communication*, *Core Values*, *Analysis*, *Need for Change*, *Capital*, and the output variable *Agility*, all of which were elaborated on by the shipping informants. The appearance of these themes across the thesis data set may justify a noted place in the body of knowledge regarding sustainability implementation in the Norwegian shipping sector.

## 5.1 Vision

After analyzing all the data, *Vision* emerged as a main theme. The shipping informants emphasized that developing a genuine vision was key when implementing change and transforming the organization to become more sustainable. This finding seems to correlate with Kotter (1995), who argued that an organizational change would only be successful in the long term if the approach were based on the vision. The aim of the vision is to portray a picture of where the organization needs to be in the future and at the same time outline a path (Mirvis et al., 2010). With stricter regulations being introduced regularly from governing authorities, the industry is forced to change and use new technologies and approaches to be compliant. Therefore, shipping companies' vision should communicate to both internal and external stakeholders that sustainability is embedded in their business approach (Bonn & Fisher, 2011).

Most of the informants emphasized that new technology and digitalization make the industry more efficient and that investments in green technology are a substantial cost for shipping companies. The informants also addressed that many employed in the industry have a genuine fear of losing their jobs, which likely leads to increased resistance towards implementing change. According to the thesis findings, creating a vision of future growth may assist leaders in managing the employee's fear. By being a visionary and portraying a better future, employees can be motivated to work towards achieving the change and drive the change from the bottom and up. However, this only seems reasonable if the company doesn't intend to downsize the workforce to achieve future growth. Consequently, the leader should communicate the vision to emphasize that the current workforce is a part of that future. This seems to be in accordance with Gill (2002) who had a similar view and argued that the leader's ability to define and communicate an engaging vision is the foundation of effective leadership.

The findings indicate that choosing the right words to describe the vision and change process could affect the success of its implementation. As one informant elaborated, their company had renamed a digital transformation to "Smart Shipping Journey". For most people, digital transformations are generally associated with computers or robots replacing human beings in various tasks. However, in this particular shipping company, the digital transformation would generate new jobs. Instead of associating the digital transformation with a process that generally results

in downsizing, the employees may be more open towards the new change since it appears less intimidating and may rather be perceived as intriguing. The finding suggests that the leader renamed the digital transformation to “Smart Shipping Journey” to act as a vision of where the company is heading, as well as to manage the employees’ fear and resistance to the change. The name itself creates a meaningful and imaginable picture for internal and external stakeholders, which aligns with Gill’s (2002) and Kotter’s (1995) perception of what a vision should contain. This finding seems to be in accordance with an earlier study by Hao & Yazdanifard (2019), which emphasizes that intelligent leaders are needed to guide organizations effectively when facing an uncertain future and decrease their employee’s insecurity caused by uncertainty.

During the interviews, most shipping informants elaborated on the need of getting the employees to form thoughts, reflect and participate in the journey. According to Kritsonis & Hills (2004), these actions build trust and prepare the employees for the change process. The findings suggest that if leaders manage to create a shared vision, employees could feel ownership of the change process and their actions will likely be in accordance with the vision that the leader has created. If the leaders’ and followers’ perception of the vision differs, reflections and participation in the company’s vision would be demanding. These contrasting views of the vision could result in behaviors and actions from employees that affect the shipping companies’ achievability of their long-term goals. The informants highlighted that when the leaders and the followers’ vision are aligned, the employees get excited about the journey and move the organization in the desired direction. This finding seems to correlate with Kotter & Cohen (2014) view of a shared vision, which they found to motivate people to take actions in the right direction, align individuals, and coordinate their actions effectively.

However, the findings indicate that portraying a vision is not sufficient to succeed with the implementation of SSM. The shipping informants emphasized that communicating the vision is important but to show the true value and act in accordance with it is crucial. By demonstrating that the organization base its existence on becoming sustainable, actions such as investments in green technology, innovation, or removing structures that undermine the vision should be taken. In terms of future growth, the organization could increase its market share by acquiring new contracts or expanding its current fleet. When the organization

and its leaders “walk the talk”, or lead by example, employees could perceive that risk-taking and new ways of doing business are encouraged. When top management and other leaders communicate the vision through behaviors, it might be easier for employees to realize that these behaviors are needed, instead of emails, newsletters, and internal meetings. As the famous quote state, “Actions speaks louder than words”.

Additionally, it is reasonable to assume that these behaviors would create psychological safety for the employees, which Schein (1996) argued was evident for change to happen. Accordingly, such behaviors seem to correlate strongly with Lewin’s first step in the three-step model, unfreezing. By destabilizing the status quo, new behaviors can be adopted, further information accepted, and old behaviors can be resisted by the employees (Burnes, 2004a). Arguably, the core values of the organization can be a supporting theme of its vision, as this thesis model indicates. However, this also highlights the importance of leadership behaviors, as followers may recognize and adopt their leader’s actions. Northouse (2019) argued that transformational leaders act as role models, by having high standards of moral and ethical conduct, they obtain deep respect and trust, providing employees with a vision. Consequently, leaders should act in ethical and desired ways that reflect the shipping company’s vision, or the journey to achieve it may become difficult.

Reflecting on the findings, the authors find it interesting that the informants’ perception of vision and its importance seems to correlate strongly with the literature. One explanation could be that all the shipping informants have experience in leadership and have been in situations where communicating the company’s vision to employees has been on their agenda. Additionally, the interviewers found the informants to be highly passionate and energetic when reflecting on sustainability related questions. This could be reasoned by the fact that this sustainability transformation is a process that the shipping companies are currently involved in.

## **5.2 Communication**

One of the main findings from the data collection was that *Communication* was highlighted among all shipping informants. The communication aspect of change can prove crucial when implementing change. Lack of communication might result in misunderstanding the organizational goals and can demoralize and harm the

commitment to change (Gill, 2002). In creating readiness for change, communication may be one of the most critical factors. Dawson & Andriopoulos (2017) claim that communication needs to extend beyond conventional concerns and refers to the 'harbinger of change' in the messages of what is occurring and what lies ahead. This corresponds well with several of the informant's ways of gathering the employees and discussing the future and changes that may be heading their way in the plenum. However, while literature often highlights communication as an essential aspect when implementing sustainability in organizations, it is rarely discussed (Engert et al., 2016).

One of the main advantages of proper communication may be found in Lewin's three-step model. Kritsonis & Hills (2004) explain that participants need to be motivated and prepared for change in the unfreezing step. Building trust and making participants aware of the need for change, as well as letting them actively participate in problem-solving and brainstorming can assist towards this step. Some of the shipping informants explained that brainstorming, having workshops, and other forms of team building were a form of incentives that they thoroughly believed in. This could indicate that teambuilding as an incentive increases motivation and awareness of the need for change. Kritsonis & Hills (2004) continue by mentioning that working together to gather new and relevant information and further connect the group's view to well-respected and influential leaders that also support the change may be beneficial.

Communication is also a powerful tool to express the vision of the shipping company. Whereas the vision itself is an essential factor, communicating it in a way that every employee, shareholder, and stakeholder understands was mentioned by several of the informants. The vision for the future may, if communicated correctly, inspire, motivate, limit possible resistance to change, and increase readiness for change. Kotter's 8-step model expresses that communication is a key element and is often identified as something generally underestimated in the change process. He highlights the importance of communicating the vision and explains that executives use all existing communication channels to broadcast the vision (Kotter, 1995).

One informant emphasized the need to celebrate the employees and crews that did well in the shipping company, asking them to explain to the rest of the organization what they did well and how they achieved it. The reasoning was that this could act as a motivator throughout the entire organization – both as a

confidence boost for those who deserved praise and as a motivational guide for those who might be the next to deserve recognition. Kotter's 8-step model discusses planning for and creating short-term wins, and Kotter highlights the importance of rewarding small wins along the way. The theory is that without celebrating short-term wins, people can give up and resist the change (Kotter, 1995). This corresponds well with the practice explained by the informant. However, one pitfall may be premature celebrations. Kotter explains that declaring victory too soon can be a significant reason why many change initiatives fail (Kotter, 1995). It is reasonable to believe that celebrating and communicating milestones can be a motivational factor – but celebrating victory before the transformation is complete may have the opposite effect.

Keeping motivation up and providing emphasis on the development of the workforce are also mentioned in the literature on transformational leadership (Bass & Riggio, 2006). They argue that a transformational leadership style has gained popularity through inspiration and empowerment in times of uncertainty. The ability to communicate and connect with the workforce, praise those who accomplish victories, and help those who struggle were all mentioned as necessities in a leader by the shipping informants. It is a fair assumption that a leader cannot be a motivator or inspirator without communicating regularly with their employees. An example could be a leader in a shipping company who motivates employees to excel in their work by encouraging words and motivational talks that clearly communicate the importance of their role in the company's future growth. For instance, a leader can express the importance of the employees' work in reaching the organizations' sustainability goals.

Accordingly, the thesis argues that communication plays an important role in the transformational leadership style, but it can be equally as crucial for transactional leadership. The ability to thoroughly express what needs to be done relies on proper communication, in order to avoid mistakes and confusion. During the interviews, it became clear that some shipping companies utilize incentives as a motivational tool for their employees to find new solutions and improve. Such types of behaviors can be recognized as a transaction between the employees and the leader, which can be a characteristic of transactional leadership (Asrar-ul-Haq & Anwar, 2018). However, for the incentives to be effective, employees must comprehend the company's new direction and where change is necessary.



Therefore, the thesis finds it reasonable to assume that communication plays an important role for both transactional and transformational leaders.

Even though all informants elaborated on the importance of communication, the authors find it somewhat odd that few of the informants discussed the importance of which medium is used for communication. The thesis findings highlighting communication as an important factor are thus general in nature. Which communication medium that is best suited for the shipping sector while undergoing organizational change is subject to future research.

### **5.3 Core Values**

The shipping companies' *Core Values* were identified as a supporting theme in the findings. There seemed to be a consensus amongst the shipping informants that for a sustainability transformation to take place, a sustainable mindset had to be embedded in the corporate culture. In the entire shipping organization, there had to be a sustainable mindset of 'how can we do this task as sustainable as possible?'. It became clear that sustainability needed to be a core value of the shipping companies, and not just a word without meaning. Therefore, the demand for sustainability needs to be a priority set by the top management and go all the way down throughout the organization. This particular finding corresponds well with previous research and is a prerequisite for the change to be the new norm. In the three-step model, Lewin explains successful change as a group activity, because without group norms and routines being transformed, changes to individual behavior will not be sustained (Burnes, 2004a). The successful implementation of change can therefore be understood as dependent on participation from every part of the shipping company.

The organization's core values define both the shipping company and its employees. The values reflect what the employees and management consider important in all aspects of their work environment and include guidelines for the workplace such as the importance of sustainability and environment, employee satisfaction, and human resources. The shipping informants emphasized that the core values of a company are highlighting what is important for that particular organization and is true for every employee. An example could be a CEO of a shipping company who seeks to change the company's corporate values to have

more work efforts towards the SDG's. While going through such a process, both leaders and followers could emerge with a higher set of moral values. Mason et al., (2014) suggest that transformational leadership can result in positive psychological outcomes for both leader and follower. However, the thesis did not seek to identify if these particular findings were true, but some of the shipping informants emphasized that becoming more sustainable made them feel good about themselves.

Even though shipping companies have sustainability as a core value, change does not happen immediately. One of the informants explained that changing behaviors on board vessels was difficult because the workers might be foreign with a different set of beliefs and cultures. Whereas Norwegian tap water is safe to drink, this is not the case in countries in south-east Asia. It was therefore difficult to reduce the usage of plastic bottles among crew members from Asia on board the vessels, despite installing new water fountains with fresh water. The informant further elaborated that when the company gave the crew members aluminum bottles, which some of them started to refill, the usage of plastic bottles got reduced substantially.

This particular finding can be reflected in Lewin's theory of group dynamics, where he claims that change needs to be concentrated at the group level and should focus on factors such as group norms, roles, interactions, and socialization processes to create an imbalance of the forces (Schein, 1988). Lewin considered change as a group activity because without group norms and routines being transformed, changes to individual behavior will not be sustained (Burnes, 2004a). Lewin argued that to achieve *refreezing*, changes to the organization's culture, policies, norms, and practices are often required (Cummings et al., 2020). The informants seem to share the same view as Lewin and argued that sustainability must be embedded throughout the whole shipping company in order to achieve a successful transformation.

#### **5.4 Analysis**

The need for thorough *Analysis* was also evident in the findings, where the informants talked about the difficulties to analyze the present and predict the future. It is reasonable to assume that thorough analyses might provide a competitive advantage in the shipping industry. The need of conducting analyses was also

mentioned as one of the key components to finding possible solutions for change, as well as measuring whether the implemented change has been effective. This is in direct accordance with Dawson & Andriopoulos, (2017), who explains that companies must identify and discuss current problems, potential crises, and opportunities.

The shipping companies can utilize analyses to understand what is going well, why it is going well – but most importantly, what can be improved? As mentioned, the shipping industry, and the informants' respective companies, have invested heavily to digitalize their entire fleet. This digitalization allows data to be transferred in real-time, making it possible to analyze information in a more efficient and smarter manner than previously. The findings suggest that digitalization can be a great resource for companies to enable better analyses. In addition, digitalization may at an earlier stage recognize whether the shipping company and its employees have made improvements. This data can enable the leader to give recognition when subgoals are reached to increase the employees' motivation. Dawson & Andriopoulos, (2017) stated that to sustain employee motivation and commitment, it is crucial to recognize and reward them for improvements at regular stages throughout the long-term transformation of the organization. Kotter's 8-step model acknowledges that short-term wins are important for employee motivation.

We do not dismiss the possibility of employees becoming motivated by recognition of short-term wins alone. However, we argue that this acknowledgment by itself might not be sufficient to drive the needed motivation. One of the informants explained that through analyzing data, they found several minor mistakes in a part of the shipping company's operation. To address the issue, the company connected the mistakes to the financial bonuses, meaning that the employees would only receive the maximum bonus if they managed to minimize the number of mistakes. In a very short time span, the mistakes were down by 83%. Through analyzing continuous data information, the shipping company managed to minimize the mistakes.

According to Burnes (2004a), the important factor when finding a new equilibrium is to stabilize it as a new quasi-stationary equilibrium to secure that the newly adopted behaviors are relatively safe from regression. Robbins & Judge (2013) argued that changes tend to be short-lived, and employees often revert back

to the previous equilibrium state without *refreezing*. The authors found it interesting that none of the shipping informants had a strategy on how they would establish a new equilibrium. When asked to describe this topic, most informants explained that this was not a problem they had experienced. This could indicate that the changes these shipping informants have experienced have been of a such nature that it would be counter-effective to revert. Another explanation could be that the leaders unconsciously are able to eliminate the possibility for the employees to revert back to the previous equilibrium, or that they find it hard to reflect upon this particular topic.

### **5.5 Need for Change**

During the research, *Need for Change* was identified as another supporting theme. All informants emphasized the importance of a genuine need to change in order to drive the organization forward. Today's shipping industry and global markets are experiencing more intense competition and demanding customers in terms of sustainability. Additionally, they face operational uncertainties regarding new technology, stricter regulations, the war in Ukraine, and financial uncertainties as inflation and interest rates are spiking in most parts of the world following Covid-19. All of which can explain some of the unusually volatile commodity markets the world is currently faced with. Consequently, the need to change and adapt has never been more vital.

With all the current uncertainty and complexity in the world, the leader's role of communicating the need for change, and why change is necessary was elaborated on by the shipping informants. The thesis findings indicate that some changes can be so evident that the future of the shipping company depends on it, such as sustainability. Accordingly, leaders should make employees understand that their jobs could be at stake if the shipping company does not change its way of doing business. However, it should be communicated in a way that does not create fear amongst employees, but rather make them aware of the changes' importance. By communicating and portraying the need for change, employees could experience a loss of faith in the current status quo, which could lead to survival anxiety. In accordance with Schein (1996), these steps, including creating psychological safety, which was discussed under *Vision*, provide three necessary processes to achieve *unfreezing* in the organization. By achieving unfreezing, employees should

be able to accept new information and habits that can discard old behaviors. Eventually, this could lead the shipping companies to experience less resistance to change.

An example of such behaviors can be found in the thesis findings. One informant addressed that during a restructuring process of the shipping company due to equity issues, the employees came forward with great initiatives. These initiatives resulted in both financial and environmental positive outcomes for the shipping company. The informant further elaborated that this was the starting point for the organization in terms of sustainability. It can be argued that the shipping company's need for change was the tipping point in terms of Lewin's first step, unfreezing, or brought readiness to change in the organization, as elaborated on by Armenakis et al., (1993). The shipping company's involvement of the employees seems to be in accordance with Kritsonis & Hills (2004) suggestions, which emphasized that making employees aware of the need for change, while including them in identifying problems, could assist in the unfreezing step. The thesis findings indicate that allowing employees to be hands-on and experience the challenges that shipping companies face, provides them with a better understanding of the situation and may cause them to feel a moral duty to participate in the solution process.

However, achieving unfreezing alone is not sufficient for implementing a new sustainable strategy in the shipping company, but it is rather a step in the right direction. Schein (1996) argued that unfreezing creates motivation to learn but does not necessarily predict the direction. As the findings suggest, the need for change is a supporting theme of the main themes, vision, and communication. The vision should work as a guiding star for the organization's employees, and leaders must communicate the vision thoroughly to move the organization towards a future desired state.

Environmental regulations being implemented are becoming stricter as the world moves closer to Net Zero in 2050. These regulations are a direct contribution to the shipping companies' need to change. The informants also addressed that there is no way around sustainability, it is crucial for the shipping industry to comply with regulations moving forward. Accordingly, the findings suggest that shipping companies should convince both employees and shareholders that the status quo is not beneficial for the organization, which was supported in earlier research by Kritsonis & Hills (2004).

As mentioned in this paper, the shipping industry has previously been relatively free from regulations that could interfere with international trade. By complying with new sustainability regulations, shipping companies must adopt new processes and ways of operating their vessels. Some employees could perceive these changes as a burden or feel overwhelmed by all these initiatives being enforced on the companies. The thesis findings suggest that leaders struggle with change when it is enforced on the employees. If the change is not justified well enough, resistance towards the implementation could arise, resulting in a failed process, or fall back to previous behavior before the change was implemented. This could be connected to earlier research, which emphasized that change processes usually fail when introducing change in organizations where “felt -need” is low (Burnes, 2004a). Or that successful organizations are likely to experience more resistance to the change process because employees question the need for change (Audia et al., 2000). Therefore, the thesis suggests that thorough communication and making the employees grasp the need for change should be a priority when implementing a sustainability strategy.

An interesting point was that all informants elaborated thoroughly on the need for change, while the organizations’ readiness for change was a topic that most of the informants seemed to overlook. One explanation could be that the informants’ companies has already moved past this process. In other words, the companies find themselves in the middle of a sustainability transformation, thus readiness for change have already been introduced. Another explanation could be that media, politicians, organizations, celebrities, and other influential persons have been focused on sustainability during the last decades. Thereby, individuals and organizations could have developed readiness toward this topic unconsciously.

## **5.6 Capital**

Another factor that all the informants emphasized was the shipping companies’ need for *Capital*. When implementing a sustainability strategy in a shipping company, it is important to get the employees onboard, as well as persuade shareholders to understand the concept and its possibilities. The findings indicate that implementing sustainable solutions and new green technology is extremely expensive, and the informants found it hard to justify investments in unmaturing technology to the companies’ shareholders. This corresponds well with earlier

literature, which emphasizes that investments in sustainability are perceived as a hinder to the implementation process (Goklany, 2007; Giunipero et al., 2012; Engert et al., 2016; Trianni et al., 2017).

However, with growing consumer concerns in regard to the environment, green shipping initiatives are increasing simultaneously (Lister, 2015a). The findings indicate that being sustainable is perceived as a competitive advantage. Being at the forefront of negotiations with shipping customers, most of the informants highlighted the increased sustainability focus. The research indicates that organizations fool themselves if they try to work their way around sustainability. Shipping companies that try to avoid the ongoing sustainability transformation could be associated with short-termism, which can result in suboptimal outcomes for both the environment and organization, volatile earnings, and organizational failure (Bansal & DesJardine, 2014). The findings further indicate that customers have become more focused on the footprint of their cargo. One informant addressed that despite being more expensive than competitors, a customer appreciated the shipping company newly implemented green initiative onboard their ships, eventually securing them a new contract.

On the other hand, this contradicts with another informant's perception of the customers' focus on sustainability. The informant's view was that customers did not care about GHG emissions at all and that they apparently choose the cheapest alternative regardless. One explanation to these opposing views can be that the shipping companies in the study operate in different shipping segments. As most of the informants emphasized that customers' focus on sustainability is increasing, the thesis argues that investments in green initiatives and long-term value creation could lead to increased revenue in terms of new customer contracts. This seems to support Halme & Laurila (2009) argument, that investments in corporate responsibility can result in positive financial outcomes for organizations.

Another aspect of capital is the organization's ability to obtain funding and loans from banks and other financial institutions. Most informants elaborated on the Poseidon Principles, which shipping investors use to disclose the climate alignment of their portfolios. During the interviews, it became clear that DNB has set a strict goal that certain parts of their portfolio shall be carbon-neutral within 2030 and that banks "throw" themselves over sustainability reports when negotiating loans with shipping companies. The findings suggest that access to new

capital is becoming increasingly more reliant on the sustainability performance of the shipping companies. Consequently, implementing a clear sustainable strategy and investing in green technology should be of high importance, in order for shipping companies to acquire loans in the future.

However, all the informants highlighted that green projects and innovation are extremely expensive. Furthermore, they address another issue, tomorrow's technology is too immature, and comprehensive solutions are not available yet. It could be argued that the shipping companies in this study had an anthropocentric view, by prioritizing profit over societal goods (Borland et al., 2016). With high financial risks involved, shipping companies must be careful and selective when investing in green technology and make sure to not put all the eggs in one basket regarding long-term investments. Being aware of this could arguably be a step in the right direction, as Kotter (1995) addressed that successful change efforts start when organizations examine their competitive situation, technological trends, and financial performance. This will likely lead shipping companies to identify and discuss present problems, possible crises, and opportunities with the implementation of sustainability.

Therefore, the findings indicate that if shipping companies want access to capital in the future, change is necessary. Accordingly, implementing a sustainability strategy, while investing in green initiatives should be of importance. Earlier studies support this claim and argue that sustainability has the ability to generate positive financial outcomes for organizations (Halme & Laurila, 2009; Mirvis et al., 2010; Whelan & Fink, 2016; Alshehhi et al., 2018). Porter & Kramer (2011) shared a similar view and argued that long-term value creation should be prioritized over short-term gains.

The thesis found it interesting that most of the informants had a positive view of the EU carbon tax, which is set to come into effect in early 2023. Despite being a cost for the informants' shipping companies, it may benefit the companies that have already been taking steps in the right direction. It can be argued that they get a form of return on their investments, by having to pay less tax than companies that have been slow to implement green initiatives in their organization.



## 5.7 Agility

For a shipping company to achieve *Agility*, the thesis proposes that the six previous interconnecting factors assist activation in the entire organization. In other words, the organizations' ability to grasp complex situations and transform new information into new knowledge and behaviors, makes it possible for shipping companies to adapt quickly. The informants emphasized the ability to be agile and proactive in various ways and saw it as a necessity to survive in the ever-changing shipping industry. The industry is highly volatile, and the market can change overnight by a variable that was not present the previous day.

One of the informants explained that the employees understood that it is necessary to be in a continuous state of change to survive and be competitive in the shipping industry. This fact has been highlighted latest by the war in Ukraine, with blockages of traffic in the Black Sea, Ukrainian and Russian employees onboard the same vessels, and sanctions from countries who refuse to trade with Russia. All hands were suddenly on deck, finding new routes for vessels, new ports, crew management, as well as deciding whether further business should be conducted with Russian actors. Furthermore, being in a continuous state of change could be one of the aspects leading to an earlier finding in this thesis, where the informants elaborated that they face little resistance when introducing change.

Research on organizational change indicates that to be effective, change must happen quickly (Robbins & Judge, 2013). The argument by Robbins & Judge (2013) could be reflected by an experience the authors had when conducting an interview during the early stages of the Ukrainian war. One interview was cut short, due to crisis management. The informant stressed that even though the shipping company was not highly exposed, changes had to be made swiftly and effectively to achieve the best possible outcome.

Apart from sudden major changes, such as warfare, agility is also linked to leadership. Asrar-ul-Haq & Anwar (2018) argued that to achieve change objectives within a short-term perspective, transactional leadership is preferred. The researchers argued that transformational leadership is favored in long-term strategies and objectives because of its possibility to facilitate development and change. This seems to be somewhat aligned with the findings in this study. As explained earlier, one of the informants described a highly positive outcome when connecting financial bonuses to the number of mistakes in data handling, which

resulted in the mistakes dropping 83% within a couple of months. Accordingly, it could be argued that transactional leadership could have a great impact on short-term objectives.

However, one of the informants argued that financial incentives, such as increased salary, will not be sufficient in the long run. The informant justified the statement by explaining that motivation connected to financial incentives would have the possibility to decrease motivation and productivity when the goal is met, meaning there is nothing left for employees to strive after. The informant emphasized that a transformational leadership style, where incentives and bonuses are replaced with participation, pride, and praising the ‘heroes’ of the company, was the preferred method to increase motivation.

In a meta-analysis containing 39 studies on transformational leadership, researchers found evidence that people who displayed transformational leadership factors were recognized as more effective leaders with better work results than transactional leaders (Lowe et al., 1996). Effective leadership can thus be connected to agility, as the thesis perceives agility as the ability to change quickly and easily. On the contrary, a study by Antonakis & House (2014) indicates that leaders are most effective when they combine behaviors from transactional leadership with elements from transactional and laissez-faire leadership. This implies that all types of leadership have advantages and disadvantages, and monitoring followers, status quo, internal and external needs, to mention a few, are crucial to effective leadership.

This thesis findings suggest that the best approach to being agile might be a combination of different leadership styles. Further, the thesis argues that by focusing on the six factors, *Vision*, *Communication*, *Core Values*, *Analysis*, *Need for Change*, and *Capital*, shipping companies could be able to effectively adapt to stricter regulations in the industry.

## **6.0 Strengths, Limitations, and Future Research**

The current study has some methodological flaws that must be addressed. Firstly, a qualitative research method has some limitations, such as the inability to produce causal conclusions, limiting the results to observations and characterization rather than prediction. The authors considered the exploratory, qualitative approach to be

pertinent to the goal of this study, given the research gap and limited knowledge within this particular field. This design was beneficial since it offered access to detailed and thorough descriptions of the informants' perspectives and experiences.

The authors of the current study had no previous experience in the shipping industry nor implementing a sustainability strategy in organizations, which could have affected the research process in advantageous and disadvantageous ways (Maxwell, 2013). With this in mind, it is possible that the authors' ability to follow up on essential subjects with appropriate questions was influenced during the interviews. On the other hand, it also offered a more open and exploratory method throughout the interviews. The authors' impartial eyes may be reflected in the vast number of codes recognized at the early stages of the analysis. As argued by Denzin & Lincoln (2018), being outside researchers may have provided the ability to observe and discover insights without being restricted by the insider's propensity to ignore phenomena so common that they are taken for granted and become invincible.

The informants were asked to elaborate on strategies and aspects that their organizations utilized to become more sustainable and comply with sustainability regulations. During the interviews, all informants were in a current change process regarding a sustainability transition. Additionally, the war in Ukraine started during the data collection period. Thus, the informants were interviewed while they were affected by changes from several events. Consequently, it could be argued that the factors the informants emphasized, are a result emerging directly from ongoing changes in the shipping sector. One should note that if the interviews were conducted in a period after these events, it is possible that the informants would have emphasized other aspects. This suggests that future research may benefit from being conducted after the change process has occurred.

Initially, the study should have consisted of a more extensive sample pool, but due to the war in Ukraine, one of the informants had to withdraw their acceptance. The sample pool might be relatively small, but the authors felt saturation during the interviews. This implies that the sample size could be sufficient for this study. Additionally, the study was conducted in the shipping sector in a specific geographical area in Norway, which likely affect the generalizability to other countries. However, this was not the aim of the study, and thus the authors consider the sample relevant for its purpose. It would be interesting

to see if future research could benefit from a more extensive sample pool and include top management officials in shipping companies from other countries.

The informants were asked to elaborate on experiences and information that could be perceived as classified information by the organization where the informants were employed. Therefore, the interviewers addressed both before the interview and on the day of the interview, that the informants were granted complete anonymity, with the possibility to withdraw their answers until the 1<sup>st</sup> of July. The aim was to create psychological safety for the informants, ensuring their answers were as honest and descriptive as possible. However, sharing this information with outsiders may have influenced their descriptions and opinions.

As mentioned earlier, the study was conducted in the middle of a sustainability transformation in the Norwegian shipping industry. This could suggest that the authors established an artificial distinction when investigating and asking about organizational factors necessary for the transformation. There could also be essential aspects to an organization both before and after the change, which highlight elements regarding this phenomenon that the authors might have missed out on. However, the authors believe that investigating this topic when it occurs provided valuable insights into important factors that shipping companies emphasize during a sustainability transformation. The authors consider this study a contribution to a limited topic. To better understand this phenomenon, future studies could benefit from combining all three stages, since effective handling of a sustainability transformation could depend on what happens before and after.

Another point worth mentioning is that all the informants had a higher educational background and leadership experience. This could imply that their theoretical knowledge may have influenced their answers. The authors asked the informants to elaborate on their prior experience and personal opinions to contribute with raw and unedited information. Still, their academic knowledge may have influenced their responses. However, the vast amounts of codes identified during the first steps of the analysis indicate that the informants utilized a variety of wordings, which may suggest that their responses are not strictly theory-driven. The authors argue that access to some valuable and unpolished information has been achieved. The vast amounts of codes could also represent the sustainability transformation's complexity. Additionally, all informants were employed in top management of their respective shipping companies. As a result, the data may not

include factors that might be perceived as necessary further down the hierarchy. However, the authors did not seek to investigate this issue from a follower's perspective. Thus, the sample is considered relevant for the aim of this study. It would be interesting to see if future studies investigating the topic, containing middle management and workers, found other emerging factors.

While researching a topic that seems to be categorized as a research gap, minimum information in terms of sustainability transformation in the shipping sector was found. Accordingly, the present study applied an open and exploratory research approach. The informants established the direction and content of the interviews, consistent with the experimental technique. This is perceived as a benefit to the study, strengthening its applicability to the subject. On the other hand, quantitative hypothesis testing is required to validate the emerged factors and the interconnection between them. This is also important for determining whether the results can be generalized to a larger population (Hesse-Biber & Johnson, 2015).

## **7.0 Conclusion**

The master thesis aimed to explore how Norwegian shipping companies could effectively adapt to sustainability regulations being enforced in the industry. Many have experienced the industry as being in a continuous state of change, with regulations being enforced by the IMO, the EU, and nations. In recent years, customers and stakeholders have begun to address the sustainability issue, putting additional pressure on the industry. Vessels must be updated, and the companies must think about sustainability in every part of their organization. The future of the industry is also unclear, as the next type of environmental-friendly fuel is yet to be determined. Thus, the continuous state of change is likely to continue moving forward, and a transformation of the entire industry might be approaching.

After conducting interviews with top-management officials in Norwegian shipping companies, the authors found six factors that are believed to be essential to improve the effectiveness of adapting to sustainability regulations. The shipping companies need a *Vision* to portray a picture of where they are going and guide the employees on the right path. The company's *Communication* is essential to get every individual to participate in the sustainability transformation. The authors argue that these two factors are the main aspects of a sustainability transformation

and are further enhanced by four supporting factors. Implementing sustainability in the shipping companies' *Core Values* will highlight the importance of its presence. The companies' ability to use *Analysis* during their transformation can assist in investigating whether implementations are beneficial or if further changes are necessary. A genuine *Need for Change* can make the transformation easier, as the shipping company would likely experience less resistance towards the change. Sustainability initiatives are needed but costly, and the shipping companies' ability to acquire *Capital* can be crucial for the transformation to succeed. The authors argue that these six factors are interconnected and result in the output variable *Agility*. Being agile is perceived as a necessity in order to implement changes effectively in a dynamic industry. Consequently, shipping companies must be agile to become sustainable and survive the complex business environment.

To conclude, the thesis argues that by focusing on the six factors, shipping companies could become agile and able to effectively adapt to stricter regulations enforced in the industry.

## 8.0 Bibliography

- Abbasov, F. (2020, October 30). *Shipping body's climate plan 'ignores Paris Agreement.'* Campaigning for Cleaner Transport in Europe | Transport & Environment. <https://www.transportenvironment.org/discover/shipping-bodys-climate-plan-ignores-paris-agreement/>
- Alger, J., Lister, J., & Dauvergne, P. (2021). Corporate Governance and the Environmental Politics of Shipping. *Global Governance: A Review of Multilateralism and International Organizations*, 27(1), 144–166. <https://doi.org/10.1163/19426720-02701001>
- Allcott, H., Braghieri, L., Eichmeyer, S., & Gentzkow, M. (2020). The Welfare Effects of Social Media. *American Economic Review*, 110(3), 629–676. <https://doi.org/10.1257/aer.20190658>
- Alshehhi, A., Nobanee, H., & Khare, N. (2018). The Impact of Sustainability Practices on Corporate Financial Performance: Literature Trends and Future Research Potential. *Sustainability*, 10(2), 494. <https://doi.org/10.3390/su10020494>
- Andersen, J. A. (2015). Barking up the wrong tree. On the fallacies of the transformational leadership theory. *Leadership & Organization Development Journal*, 36(6), 765–777. <https://doi.org/10.1108/LODJ-12-2013-0168>
- Annie Leonard. (2010). *The story of stuff*. Free Press. <http://archive.org/details/storyofstuffhowo00leon>
- Antonakis, J., & House, R. J. (2014). Instrumental leadership: Measurement and extension of transformational–transactional leadership theory. *The Leadership Quarterly*, 25(4), 746–771. <https://doi.org/10.1016/j.leaqua.2014.04.005>
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating Readiness for Organizational Change. *Human Relations*, 46(6), 681–703. <https://doi.org/10.1177/001872679304600601>
- Arnestad, M. N., Selart, M., & Lines, R. (2019). The causal effects of referential vs ideological justification of change. *Journal of Organizational Change Management*, 32(4), 397–408. <https://doi.org/10.1108/JOCM-11-2018-0323>

- Ashkin, S. P. (2018, July 16). *Sustainability: History of the Word & Its Meaning Today*. <https://www.randrmagonline.com/articles/88041-sustainability-history-of-the-word-its-meaning-today>
- Asrar-ul-Haq, M., & Anwar, S. (2018). The many faces of leadership: Proposing research agenda through a review of literature. *Future Business Journal*, 4(2), 179–188. <https://doi.org/10.1016/j.fbj.2018.06.002>
- Audia, P. G., Locke, E. A., & Smith, K. G. (2000). The Paradox of Success: An Archival and a Laboratory Study of Strategic Persistence Following Radical Environmental Change. *The Academy of Management Journal*, 43(5), 837–853. <https://doi.org/10.2307/1556413>
- Avery, G. C., & Bergsteiner, H. (2011). Sustainable leadership practices for enhancing business resilience and performance. *Strategy & Leadership*, 39(3), 5–15. <https://doi.org/10.1108/10878571111128766>
- Avolio, B. J. (2010). *Full Range Leadership Development*. SAGE Publications. <http://ebookcentral.proquest.com/lib/bilibrary/detail.action?docID=1994963>
- Awdah Alatawi, M. (2017). The Myth of the Additive Effect of The Transformational Leadership Model. *Contemporary Management Research*, 13(1), 19–30. <https://doi.org/10.7903/cmr.16269>
- Back, K. W. (1992). This Business of Topology. *Journal of Social Issues*, 48(2), 51–66. <https://doi.org/10.1111/j.1540-4560.1992.tb00883.x>
- Baker, A. (2021, November 11). *Planes, Trains and Automobiles Are Cutting Emissions. Will Big Ships Do It Too?* Time. <https://time.com/6116582/shipping-cop26-emissions/>
- Bansal, P. (2005). Evolving sustainably: A longitudinal study of corporate sustainable development. *Strategic Management Journal*, 26(3), 197–218. <https://doi.org/10.1002/smj.441>
- Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic Organization*, 12(1), 70–78. <https://doi.org/10.1177/1476127013520265>
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press ; Collier Macmillan.



- Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership: Vol. 2nd ed.* Psychology Press.  
<https://login.ezproxy.library.bi.no/login?qurl=https://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=167375&site=ehost-live&scope=site>
- Beusch, P., Frisk, J. E., Rosén, M., & Dilla, W. (2022). Management control for sustainability: Towards integrated systems. *Management Accounting Research*, 54, 100777. <https://doi.org/10.1016/j.mar.2021.100777>
- Bonini, S., Görner, S., & Jones, A. (2010, March 1). *How companies manage sustainability* | McKinsey. <https://www.mckinsey.com/business-functions/sustainability/our-insights/how-companies-manage-sustainability-mckinsey-global-survey-results>
- Bonn, I., & Fisher, J. (2011). Sustainability: The missing ingredient in strategy. *Journal of Business Strategy*, 32(1), 5–14.  
<https://doi.org/10.1108/02756661111100274>
- Borglund, T., DeGeer, H., Sweet, S., Frostenson, M., Lerpold, L., Nordbrand, S., Sjöström, E., & Windell, K. (2017). *CSR and sustainable business* (First edition, Vol. 1–326). Sanoma Utbildning.
- Borland, H., Ambrosini, V., Lindgreen, A., & Vanhamme, J. (2016). Building Theory at the Intersection of Ecological Sustainability and Strategic Management. *Journal of Business Ethics*, 135(2), 293–307. <https://doi.org/10.1007/s10551-014-2471-6>
- Brancaccio, G., Kalouptsi, M., & Papageorgiou, T. (2020). Geography, Transportation, and Endogenous Trade Costs. *Econometrica*, 88(2), 657–691.  
<https://doi.org/10.3982/ECTA15455>
- Broughton, E. (2005). The Bhopal disaster and its aftermath: A review. *Environmental Health*, 4(1), 6. <https://doi.org/10.1186/1476-069X-4-6>
- Burnes, B. (2004a). Kurt Lewin and the Planned Approach to Change: A Re-appraisal. *Journal of Management Studies*, 41(6), 977–1002.  
<https://doi.org/10.1111/j.1467-6486.2004.00463.x>
- Burnes, B. (2004b). *Managing Change: A Strategic Approach to Organisational Dynamics*. Pearson Education.

- Burnes, B., & Jackson, P. (2011). Success and Failure In Organizational Change: An Exploration of the Role of Values. *Journal of Change Management*, 11(2), 133–162. <https://doi.org/10.1080/14697017.2010.524655>
- Burns, J. M. (1978). *Leadership*. Open Road Integrated Media, Inc. <http://ebookcentral.proquest.com/lib/bilibrary/detail.action?docID=1804019>
- By, R. T. (2005). Organisational change management: A critical review. *Journal of Change Management*, 5(4), 369–380. <https://doi.org/10.1080/14697010500359250>
- Carless, S. A., Wearing, A. J., & Mann, L. (2000). A Short Measure of Transformational Leadership. *JOURNAL OF BUSINESS AND PSYCHOLOGY*, 14(3), 17.
- Carroll, A. B. (1999). Corporate Social Responsibility: Evolution of a Definitional Construct. *Business & Society*, 38(3), 268–295. <https://doi.org/10.1177/000765039903800303>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. sage.
- Cheng, T. C. E., Zanjirani Farahani, R., Lai, K., & Sarkis, J. (2015). Sustainability in maritime supply chains: Challenges and opportunities for theory and practice. *Transportation Research Part E: Logistics and Transportation Review*, 78, 1–2. <https://doi.org/10.1016/j.tre.2015.03.007>
- Cook, J. (2020). Deconstructing climate science denial. In D. Holmes & L. Richardson, *Research Handbook on Communicating Climate Change* (pp. 62–78). Edward Elgar Publishing. <https://doi.org/10.4337/9781789900408.00014>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (Fourth Edition). SAGE Publications, Inc.
- Cummings, T. G., Worley, C. G., & Donovan, P. (2020). *Organization development and change* (EMEA edition). Cengage.
- Dalton, C. C., & Gottlieb, L. N. (2003). The concept of readiness to change. *Journal of Advanced Nursing*, 42(2), 108–117. <https://doi.org/10.1046/j.1365-2648.2003.02593.x>

- Davis, K. (1973). The Case for and against Business Assumption of Social Responsibilities. *The Academy of Management Journal*, 16(2), 312–322.  
<https://doi.org/10.2307/255331>
- Dawson, P., & Andriopoulos, C. (2017). *Managing change, creativity and innovation* (3rd edition). SAGE.
- Decker, S. O. (2004). Corporate social responsibility and structural change in financial services. *Managerial Auditing Journal*, 19(6), 712–728.  
<https://doi.org/10.1108/02686900410543840>
- Denchak, M. (2021, February 19). *Paris Climate Agreement: Everything You Need to Know*. NRDC. <https://www.nrdc.org/stories/paris-climate-agreement-everything-you-need-know>
- Dent, E. B., & Goldberg, S. G. (1999). Challenging “Resistance to Change.” *The Journal of Applied Behavioral Science*, 35(1), 25–41.  
<https://doi.org/10.1177/0021886399351003>
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2018). *The SAGE handbook of qualitative research* (Fifth edition). SAGE.
- Dutta, S. K., Lawson, R. A., & Marcinko, D. J. (2013). Alignment of performance measurement to sustainability objectives: A variance-based framework. *Journal of Accounting and Public Policy*, 32(6), 456–474.  
<https://doi.org/10.1016/j.jaccpubpol.2013.08.008>
- Earth Overshoot Day. (2022). *Earth Overshoot Day 2021 Home—#MoveTheDate*. Earth Overshoot Day. <https://www.overshootday.org/>
- Eide, T. M. (2020). *Regulatory Uncertainties of the Sustainability Transition*. 66.
- Engert, S., Rauter, R., & Baumgartner, R. J. (2016). Exploring the integration of corporate sustainability into strategic management: A literature review. *Journal of Cleaner Production*, 112, 2833–2850.  
<https://doi.org/10.1016/j.jclepro.2015.08.031>
- Farman, J. C., Gardiner, B. G., & Shanklin, J. D. (1985). Large losses of total ozone in Antarctica reveal seasonal ClO<sub>x</sub>/NO<sub>x</sub> interaction. *Nature*, 315(6016), 207–210. <https://doi.org/10.1038/315207a0>

- Galbreath, J. (2009). Building corporate social responsibility into strategy. *European Business Review*, 21(2), 109–127.  
<https://doi.org/10.1108/09555340910940123>
- Galpin, T., & Lee Whittington, J. (2012). Sustainability leadership: From strategy to results. *Journal of Business Strategy*, 33(4), 40–48.  
<https://doi.org/10.1108/02756661211242690>
- Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The Circular Economy – A new sustainability paradigm? *Journal of Cleaner Production*, 143, 757–768. <https://doi.org/10.1016/j.jclepro.2016.12.048>
- Gerard, L., McMillan, J., & D’Annunzio-Green, N. (2017). Conceptualising sustainable leadership. *Industrial and Commercial Training*, 49(3), 116–126.  
<https://doi.org/10.1108/ICT-12-2016-0079>
- Gill, R. (2002). Change management–or change leadership? *Journal of Change Management*, 3(4), 307–318. <https://doi.org/10.1080/714023845>
- Gillis, J. (2017, June 6). Short Answers to Hard Questions About Climate Change. *The New York Times*.  
<https://www.nytimes.com/interactive/2015/11/28/science/what-is-climate-change.html>, <https://www.nytimes.com/interactive/2015/11/28/science/what-is-climate-change.html>
- Giunipero, L. C., Hooker, R. E., & Denslow, D. (2012). Purchasing and supply management sustainability: Drivers and barriers. *Journal of Purchasing and Supply Management*, 18(4), 258–269.  
<https://doi.org/10.1016/j.pursup.2012.06.003>
- Goklany, I. M. (2007). Integrated strategies to reduce vulnerability and advance adaptation, mitigation, and sustainable development. *Mitigation and Adaptation Strategies for Global Change*, 12(5), 755–786. <https://doi.org/10.1007/s11027-007-9098-1>
- Guinot, J., Chiva, R., & Mallén, F. (2016). Linking Altruism and Organizational Learning Capability: A Study from Excellent Human Resources Management Organizations in Spain. *Journal of Business Ethics*, 138(2), 349–364.  
<https://doi.org/10.1007/s10551-015-2603-7>

- Hahn, R. (2013). ISO 26000 and the Standardization of Strategic Management Processes for Sustainability and Corporate Social Responsibility. *Business Strategy and the Environment*, 22(7), 442–455. <https://doi.org/10.1002/bse.1751>
- Halme, M., & Laurila, J. (2009). Philanthropy, Integration or Innovation? Exploring the Financial and Societal Outcomes of Different Types of Corporate Responsibility. *Journal of Business Ethics*, 84(3), 325–339. <https://doi.org/10.1007/s10551-008-9712-5>
- Hao, M., & Yazdanifard, Assoc. Prof. Dr. R. (2015). How Effective Leadership can Facilitate Change in Organizations through Improvement and Innovation. *Global Journal of Management and Business Research (A)*, 15, 1–6.
- Henriques, A., & Richardson, J. (2013). *The Triple Bottom Line: Does It All Add Up*. Routledge.
- Hesse-Biber, S. N., & Johnson, R. B. (2015). *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*. Oxford University Press, Incorporated. <http://ebookcentral.proquest.com/lib/bilibrary/detail.action?docID=2044599>
- Hopkins, M. S., Townend, A., Khayat, Z., Balagopal, B., Reeves, M., & Berns, M. (2009). The Business of Sustainability: What It Means To Managers Now. *MIT Sloan Management Review*, 51(1), 20–26.
- Hox, J. J., & Boeije, H. R. (2005). *Data collection, primary versus secondary*.
- IMO. (2018, April 13). *UN body adopts climate change strategy for shipping*. <https://imopublicsite.azurewebsites.net/en/MediaCentre/PressBriefings/Pages/06GHGinitialstrategy.aspx>
- IMO. (2021). *Fourth IMO GHG Study 2020 Executive Summary*. <https://wwwcdn.imo.org/localresources/en/OurWork/Environment/Documents/Fourth%20IMO%20GHG%20Study%202020%20Executive-Summary.pdf>
- IMO. (2022a). *International Convention for the Prevention of Pollution from Ships (MARPOL)*. [https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](https://www.imo.org/en/About/Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)

- IMO. (2022b). *Introduction to IMO*.  
<https://www.imo.org/en/About/Pages/Default.aspx>
- International Maritime Organization. (2021). *Fourth Greenhouse Gas Study 2020*.  
<https://www.imo.org/en/OurWork/Environment/Pages/Fourth-IMO-Greenhouse-Gas-Study-2020.aspx>
- International Transport Forum. (2021). *ITF Transport Outlook 2021*. OECD.  
<https://doi.org/10.1787/16826a30-en>
- Iqbal, Q., Ahmad, N. H., & Halim, H. A. (2020). How Does Sustainable Leadership Influence Sustainable Performance? Empirical Evidence From Selected ASEAN Countries. *SAGE Open*, 10(4), 2158244020969394.  
<https://doi.org/10.1177/2158244020969394>
- ITF. (2020). *Navigating Towards Cleaner Maritime Shipping: Lessons from the Nordic Region*, *International Transport Forum Policy Papers* (p. 90). OECD Publishing. <https://www.itf-oecd.org/sites/default/files/docs/navigating-cleaner-maritime-shipping.pdf>
- Jollands, S., Akroyd, C., & Sawabe, N. (2015). Core values as a management control in the construction of “sustainable development.” *Qualitative Research in Accounting & Management*, 12(2), 127–152. <https://doi.org/10.1108/QRAM-04-2015-0040>
- Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Harvard Business School Press.
- Kim, S. K. (2019). *Global Maritime Safety & Security Issues and East Asia*. Brill | Nijhoff. <https://doi.org/10.1163/9789004389908>
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15. ed., global ed). Pearson.
- Kotter, J. P. (1995, May 1). Leading Change: Why Transformation Efforts Fail. *Harvard Business Review*. <https://irp-cdn.multiscreensite.com/6e5efd05/files/uploaded/Leading%20Change.pdf>
- Kotter, J. P., & Cohen, D. S. (2014). *Change Leadership*. Perseus Book LLC (Ingram).  
<https://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=4966382>

- KPMG. (2020). *The Time Has Come: The KPMG Survey of Sustainability Reporting 2020*. 63.
- Kritsonis, A., & Hills, D. (2004). Comparison of Change Theories. *International Journal of Scholarly Academic Intellectual Diversity*, 8.
- Kvale, S. (2012). *Doing interviews*. Sage.
- Lantos, G. P. (2001). The boundaries of strategic corporate social responsibility. *Journal of Consumer Marketing*, 18(7), 595–632.  
<https://doi.org/10.1108/07363760110410281>
- Lewin, K. (1951). *Field theory in social science: Selected theoretical papers (Edited by Dorwin Cartwright.)* (pp. xx, 346). Harpers.  
<https://ia902905.us.archive.org/4/items/in.ernet.dli.2015.138989/2015.138989.Field-Theory-In-Social-Science-Selected-Theoretical-Oaoers.pdf>
- Lindstad, E., Lagemann, B., Riialand, A., Gamlem, G. M., & Valland, A. (2021). Reduction of maritime GHG emissions and the potential role of E-fuels. *Transportation Research Part D: Transport and Environment*, 101, 103075.  
<https://doi.org/10.1016/j.trd.2021.103075>
- Linnenluecke, M., & Griffiths, A. (2010). Corporate Sustainability and Organisational Culture. *Journal of World Business*, 45, 357–366.  
<https://doi.org/10.1016/j.jwb.2009.08.006>
- Lister, J. (2015). Green Shipping: Governing Sustainable Maritime Transport. *Global Policy*, 6(2), 118–129. <https://doi.org/10.1111/1758-5899.12180>
- Longhurst, R. (2003). Semi-structured interviews and focus groups. *Key Methods in Geography*, 3(2), 143–156.
- Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the mlq literature. *The Leadership Quarterly*, 7(3), 385–425.  
[https://doi.org/10.1016/S1048-9843\(96\)90027-2](https://doi.org/10.1016/S1048-9843(96)90027-2)
- Lueg, R., & Radlach, R. (2016). Managing sustainable development with management control systems: A literature review. *European Management Journal*, 34(2), 158–171. <https://doi.org/10.1016/j.emj.2015.11.005>

- Lussier, R. N., & Achua, C. F. (2016). *Leadership: Theory, application & skill development* (Sixth edition). Cengage Learning.
- Mahajan, S. (2019, January 10). *Charting the 2019 maritime regulatory landscape—GARD*. <https://www.gard.no/web/updates/content/26910125/charting-the2019-maritime-regulatory-landscape>
- Mambra, S. (2020, November 23). The Complete Story of the Exxon Valdez Oil Spill. *Marine Insight*. <https://www.marineinsight.com/maritime-history/the-complete-story-of-the-exxon-valdez-oil-spill/>
- Manninen, K., & Huiskonen, J. (2022). Factors influencing the implementation of an integrated corporate sustainability and business strategy. *Journal of Cleaner Production*, 343, 131036. <https://doi.org/10.1016/j.jclepro.2022.131036>
- Mason, C., Griffin, M., & Parker, S. (2014). Transformational leadership development: Connecting psychological and behavioral change. *Leadership & Organization Development Journal*, 35, 174–194. <https://doi.org/10.1108/LODJ-05-2012-0063>
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed). SAGE Publications.
- Metcalf, L., & Benn, S. (2013). Leadership for Sustainability: An Evolution of Leadership Ability. *Journal of Business Ethics*, 112(3), 369–384. <https://doi.org/10.1007/s10551-012-1278-6>
- Meuer, J., Koelbel, J., & Hoffmann, V. H. (2020). On the Nature of Corporate Sustainability. *Organization & Environment*, 33(3), 319–341. <https://doi.org/10.1177/1086026619850180>
- Miljødirektoratet. (2020). *Klimakur 2030*. <https://www.miljodirektoratet.no/globalassets/publikasjoner/m1625/m1625.pdf>
- Millar, C., Hind, P., & Magala, S. (2012). Sustainability and the need for change: Organisational change and transformational vision. *Journal of Organizational Change Management*, 25(4), 489–500. <https://doi.org/10.1108/09534811211239272>



- Mirvis, P., Googins, B., & Kinnicutt, S. (2010). Vision, mission, values. *Organizational Dynamics - ORGAN DYN*, 39, 316–324.  
<https://doi.org/10.1016/j.orgdyn.2010.07.006>
- Morioka, S. N., & de Carvalho, M. M. (2016). A systematic literature review towards a conceptual framework for integrating sustainability performance into business. *Journal of Cleaner Production*, 136, 134–146.  
<https://doi.org/10.1016/j.jclepro.2016.01.104>
- Moser, S. C. (2010). Communicating climate change: History, challenges, process and future directions. *WIREs Climate Change*, 1(1), 31–53.  
<https://doi.org/10.1002/wcc.11>
- Nicholas, D. B., Lach, L., King, G., Scott, M., Boydell, K., Sawatzky, B. J., Reisman, J., Schippel, E., & Young, N. L. (2010). Contrasting Internet and Face-to-Face Focus Groups for Children with Chronic Health Conditions: Outcomes and Participant Experiences. *International Journal of Qualitative Methods*, 9(1), 105–121. <https://doi.org/10.1177/160940691000900102>
- Northouse, P. G. (2019). *Leadership: Theory and practice* (Eighth Edition). SAGE Publications.
- Norwegian Ministry of Climate and Environment. (2019). *The Government's action plan for green shipping*.  
<https://www.regjeringen.no/contentassets/2ccd2f4e14d44bc88c93ac4effe78b2f/the-governments-action-plan-for-green-shipping.pdf>
- Notgrass, D. (2014). The relationship between followers' perceived quality of relationship and preferred leadership style. *Leadership & Organization Development Journal*, 35(7), 605–621. <https://doi.org/10.1108/LODJ-08-2012-0096>
- Nyhus, E. (2020, August 18). *Environmental regulations: Shipowners must stay vigilant to the challenges ahead - Industry Insights - DNV*. DNV GL.  
<https://www.dnv.com/expert-story/DigitalMagazineDefault>
- Paraschiv, D. M., Nemoianu, E. L., Langă, C. A., & Szabó, T. (2012). Eco-innovation, Responsible Leadership and Organizational Change for Corporate Sustainability. *Amfiteatru Economic Journal*, 14(32), 404–419.

- Park, S., & Kim, E.-J. (2018). Fostering organizational learning through leadership and knowledge sharing. *Journal of Knowledge Management*, 22(6), 1408–1423. <https://doi.org/10.1108/JKM-10-2017-0467>
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (Fourth edition). SAGE Publications, Inc.
- Ploeg, J. (1999). Identifying the best research design to fit the question. Part 2: Qualitative designs. *Evidence-Based Nursing*, 2(2), 36–37. <https://doi.org/10.1136/ebn.2.2.36>
- Porter, M. E., & Kramer, M. R. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78–92, 163.
- Porter, M. E., & Kramer, M. R. (2011, January 1). Creating Shared Value. *Harvard Business Review*. <https://hbr.org/2011/01/the-big-idea-creating-shared-value>
- Poseidon Principles. (2022). *Poseidon Principles*. Poseidon Principles for Financial Institutions. <https://www.poseidonprinciples.org/finance/>
- Prehn, M. (2021). Climate strategy in the balance who decides? *Marine Policy*, 131, 104621. <https://doi.org/10.1016/j.marpol.2021.104621>
- Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: In search of conceptual origins. *Sustainability Science*, 14(3), 681–695. <https://doi.org/10.1007/s11625-018-0627-5>
- PwC. (2019). *23rd Annual Global CEO Survey*. PwC. <https://www.pwc.com/gx/en/ceo-survey/2020/reports/pwc-23rd-global-ceo-survey.pdf>
- Robbins, S. P., & Judge, T. A. (2013). *Organizational behavior* (15. ed., global ed). Pearson.
- Robinson, D. (2021, August 2). *10 Companies and Corporations Called Out For Greenwashing*. Earth.Org - Past | Present | Future. <https://earth.org/greenwashing-companies-corporations/>
- Román-Palacios, C., & Wiens, J. J. (2020). Recent responses to climate change reveal the drivers of species extinction and survival. *Proceedings of the National*

*Academy of Sciences*, 117(8), 4211–4217.

<https://doi.org/10.1073/pnas.1913007117>

Rosen, A. M. (2015). The Wrong Solution at the Right Time: The Failure of the Kyoto Protocol on Climate Change. *Politics & Policy*, 43(1), 30–58.

<https://doi.org/10.1111/polp.12105>

Sattayaraksa, T., & Boon-itt, S. (2016). CEO transformational leadership and the new product development process: The mediating roles of organizational learning and innovation culture. *Leadership & Organization Development Journal*, 37(6), 730–749. <https://doi.org/10.1108/LODJ-10-2014-0197>

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Schein, E. H. (1988). *Organizational psychology* (3d ed). Prentice-Hall.

Schein, E. H. (1996). Kurt Lewin's change theory in the field and in the classroom: Notes toward a model of managed learning. *Systems Practice*, 9(1), 27–47. <https://doi.org/10.1007/BF02173417>

Schein, E. H. (2017). *Organizational culture and leadership* (5th Edition). Wiley.

Senior, B. (2002). *Organisational change* (2. Aufl). Financial Times Prentice Hall.

Shukman, D. (2018, April 13). Global shipping in “historic” climate deal. *BBC News*. <https://www.bbc.com/news/science-environment-43759923>

Siebenhüner, B., & Arnold, M. (2007). Organizational learning to manage sustainable development. *Business Strategy and the Environment*, 16(5), 339–353. <https://doi.org/10.1002/bse.579>

Steurer, R., Langer, M. E., Konrad, A., & Martinuzzi, A. (2005). Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business?Society Relations. *Journal of Business Ethics*, 61(3), 263–281. <https://doi.org/10.1007/s10551-005-7054-0>

Stone, M., & Li, J. (2021, April 12). *How to decarbonize global shipping: An interview with Bo Cerup-Simonsen* | McKinsey.

<https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/shipping-and-carbon-zero-an-interview-with-bo-cerup-simonsen>

- Strickland, J. (2010, August 10). *Why do small changes in Earth's temperature have a big impact?* HowStuffWorks.  
<https://science.howstuffworks.com/environmental/green-science/changes-earth-temperature-impact.htm>
- Thomson, S. B. (2010). *Sample Size and Grounded Theory* (SSRN Scholarly Paper ID 3037218). Social Science Research Network.  
<https://papers.ssrn.com/abstract=3037218>
- Tran, T. M. T., Yuen, K. F., Li, K. X., Balci, G., & Ma, F. (2020). A theory-driven identification and ranking of the critical success factors of sustainable shipping management. *Journal of Cleaner Production*, 243, 118401.  
<https://doi.org/10.1016/j.jclepro.2019.118401>
- Traxler, A. A., Schrack, D., & Greiling, D. (2020). Sustainability reporting and management control – A systematic exploratory literature review. *Journal of Cleaner Production*, 276, 122725. <https://doi.org/10.1016/j.jclepro.2020.122725>
- Trianni, A., Cagno, E., & Neri, A. (2017). Modelling barriers to the adoption of industrial sustainability measures. *Journal of Cleaner Production*, 168, 1482–1504. <https://doi.org/10.1016/j.jclepro.2017.07.244>
- Turrentine, J., & Denchak, M. (2021, September 1). *Global Climate Change: What You Need to Know*. NRDC. <https://www.nrdc.org/stories/global-climate-change-what-you-need-know>
- UNCTAD. (2021). *Review of Maritime Transport 2021* (Review of Maritime Transport). [https://unctad.org/system/files/official-document/rmt2021\\_en\\_0.pdf](https://unctad.org/system/files/official-document/rmt2021_en_0.pdf)
- UNFCCC. (2022). *The Paris Agreement | UNFCCC*. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
- United Nations. (2022). *Agenda 21 .:. Sustainable Development Knowledge Platform*. <https://sustainabledevelopment.un.org/outcomedocuments/agenda21>
- Waldman, D. A., Siegel, D. S., & Javidan, M. (2006). Components of CEO Transformational Leadership and Corporate Social Responsibility\*. *Journal of Management Studies*, 43(8), 1703–1725. <https://doi.org/10.1111/j.1467-6486.2006.00642.x>

Wang, X., Yuen, K. F., Wong, Y. D., & Li, K. X. (2020). How can the maritime industry meet Sustainable Development Goals? An analysis of sustainability reports from the social entrepreneurship perspective. *Transportation Research Part D: Transport and Environment*, 78, 102173.

<https://doi.org/10.1016/j.trd.2019.11.002>

Whelan, T., & Fink, C. (2016, October 21). The Comprehensive Business Case for Sustainability. *Harvard Business Review*. <https://hbr.org/2016/10/the-comprehensive-business-case-for-sustainability>

WHO. (2021, October 30). *Climate change and health*.

<https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>

Wolff, S., Brönnner, M., Held, M., & Lienkamp, M. (2020). Transforming automotive companies into sustainability leaders: A concept for managing current challenges. *Journal of Cleaner Production*, 276, 124179.

<https://doi.org/10.1016/j.jclepro.2020.124179>

Yuen, K. F., Li, K. X., Xu, G., Wang, X., & Wong, Y. D. (2019). A taxonomy of resources for sustainable shipping management: Their interrelationships and effects on business performance. *Transportation Research Part E: Logistics and Transportation Review*, 128, 316–332. <https://doi.org/10.1016/j.tre.2019.06.014>

Zharfpeykan, R., & Akroyd, C. (2022). Factors influencing the integration of sustainability indicators into a company's performance management system. *Journal of Cleaner Production*, 331, 129988.

<https://doi.org/10.1016/j.jclepro.2021.129988>

## Appendix A Coding

### Code list

- **Vision**
  - Better future
  - Manage fear
  - Motivate and guide
  - Shared vision
    - Employee ownership
    - Participation
  - Lead by example
- **Communication**
  - Fundamental
  - Reduce resistance
  - Create discussions
    - New viewpoints
  - Internal/External stakeholders
- **Core Values**
  - Organizations' culture
    - Shared values
  - Think sustainable
  - Wanted behaviors
- **Analysis**
  - Data
  - Measure change
  - Testing and pilot projects
  - Predictions
- **Need for Change**
  - Future existence
  - Internal/External pressure
  - Reduce resistance
  - Communicate need
- **Capital:**
  - Financial risks
  - Access to capital
  - Expensive initiatives
- **Agility**
  - Proactivity
  - Innovate
  - Continuous change
    - Complex world
    - Adapt quickly

## Appendix B Consent form

# Vil du delta i forskningsprosjektet

## «*Implementing sustainability in the shipping sector*»

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å *analysere og utvikle en teori med hensikt å finne best mulig fremgangsmetode for å imøtekomme bærekraftige pålegg og krav i shippingnæringen i Norge*. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

### Formål

Vi ønsker å forske på utfordringene norske rederier støter på når krav om bærekraft og miljøbevissthet i større og større grad blir en nødvendighet for videre handel.

Iverksetting av IMO-krav samt nasjonale reguleringer for den maritime næringen er ansett å være en stor utfordring. Hvordan vil norske rederier imøtekomme disse endringene, og hva ser de for seg er den mest effektive måten å iverksette kravene? Finnes det konsensus om hvilken fremgangsmåte som er korrekt? Denne masteroppgaven søker derfor å finne svar på spørsmålet:

*«How can Norwegian shipping companies effectively adapt to IMO - and government regulations? »*

### Hvem er ansvarlig for forskningsprosjektet?

*Handelshøyskolen BI* er ansvarlig for prosjektet.

### Hvorfor får du spørsmål om å delta?

Vi ønsker å intervju maritime organisasjoner påvirket av IMO, som oppfølger følgende krav:

- Geografisk beliggenhet (Vestland)
- Omsetning på over 5 millioner NOK
- Internasjonale operasjoner

Grunnlaget for denne avgrensningen er for å få et godt nok representativt utvalg som samtidig kan gi tyngde til masteroppgavens validitet.

### Hva innebærer det for deg å delta?

Metoden for innhenting av data vil være et intervju.

Når intervjuet offisielt begynner, vil vi benytte lydopptak for mulighet til å transkribere senere.

Vi ønsker å kunne samle inn så mye informasjon som mulig om selskapets tanker rundt bærekraft, filosofi på endringsledelse, samt hvordan selskapet agerer på reguleringer. Vi

vil derfor gjennomføre et semi-strukturert intervju, og følge en semi-strukturert intervju-guide. Intervju-guide kan om ønskelig bli sendt på forhånd dersom det er ønskelig å stille forberedt til spørsmålene. Vi gjør oppmerksom på at et semi-strukturert intervju kan føre til oppfølgingsspørsmål som gjerne ikke står i intervju-guide. Vi anslår at intervjuet vil ta rundt 1 – 1,5 time.

### **Det er frivillig å delta**

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

### **Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

Kun master-studentene og masterveileder vil ha tilgang til opplysninger.

Navn og kontaktopplysninger vil bli adskilt fra øvrige data, og kun benyttes til å strukturere og klassifisere hvilket rederi som har sagt hva.

### **Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?**

Opplysningene anonymiseres når prosjektet avsluttes/oppgaven er godkjent, noe som etter planen er 01.07.2022. Alle personopplysninger og eventuelle opptak vil bli slettet ved prosjektslutt.

### **Hva gir oss rett til å behandle personopplysninger om deg?**

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra *Handelshøyskolen BI* har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

### **Dine rettigheter**

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke opplysninger vi behandler om deg, og å få utlevert en kopi av opplysningene
- å få rettet opplysninger om deg som er feil eller misvisende
- å få slettet personopplysninger om deg
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger

Hvis du har spørsmål til studien, eller ønsker å vite mer om eller benytte deg av dine rettigheter, ta kontakt med:

- *Handelshøyskolen BI* ved *Olav Kjellevold Olsen*, epost: [olav.k.olsen@bi.no](mailto:olav.k.olsen@bi.no)
- Vårt personvernombud: *Vibeke Nesbakken*, epost: [personvernombud@bi.no](mailto:personvernombud@bi.no)

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:



- NSD – Norsk senter for forskningsdata AS på epost ([personverntjenester@nsd.no](mailto:personverntjenester@nsd.no)) eller på telefon: 53 21 15 00.

Med vennlig hilsen

*Olav Kjellevold Olsen*  
*Teigland*  
(Forsker/veileder)

*Kim André Ylvisåker Aaberg*

*Halvor Hekland*

---

## Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- å delta i intervju.

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

---

----  
(Signert av prosjektdeltaker, dato)

## Appendix C Interview guide

IMO har fremmet en rekke krav for den maritime næringen som skal iverksettes senest 2030, deriblant 40% utslippskutt på CO<sub>2</sub>. Statlige reguleringer påvirker også den maritime næringen i Norge, og krav til vrakfjerningssertifikater, opphugging av skip med mer påvirker rederinæringen. Vi anser derfor at shipping-industrien står overfor store utfordringer i årene som kommer med tanke på bærekraft, og dette vil trenge en god ledelse for å imøtekomme. Vår masteroppgave bygger på en «grounded theory» metodikk, hvor vi vil forsøke å etablere en teori for best mulig besvare vårt forskningsspørsmål: «hvordan kan norske rederier effektivt adaptere og implementere reguleringer fra IMO, samt reguleringer fra EU». Vi ønsker derfor i tråd med forskningsmetoden å gjennomføre et semi-strukturert intervju, som betyr at vi stiller en rekke nøkkelspørsmål - men kan også stille oppfølgingsspørsmål. I dette intervjuet ønsker vi å få innblikk i hvordan du og eventuelt rederiet anser både motstand mot endring, endringsledelse, generell ledelse i den maritime næringen, bærekraft samt andre utfordringer knyttet til både statlige- og internasjonale reguleringer.

I løpet av intervjuet vil vi dermed stille 17 spørsmål knyttet til dette. Vi vil gjennom intervjuet gjøre opptak av samtalen, for å senere ha mulighet til å transkribere og diskutere svar opp mot teori i både endringsledelse og bærekraft i organisasjoner. Vi vil igjen minne på at svar når som helst kan trekkes tilbake før masteroppgaven er innlevert, og det er dermed også mulighet for å trekke seg fra prosjektet som helhet dersom dette skulle være ønskelig. Både selskap og deg som person blir anonymisert i oppgaven, og vi håper derfor at du kan svare så ærlig som mulig på spørsmålene - slik at validiteten i oppgaven vår blir så sterk som mulig.

Innledningsvis ønsker vi at du starter med å fortelle litt om deg selv, din egen bakgrunn og din nåværende jobb i selskapet.

### Holdning til bærekraft

- Hva er rederiets holdning til bærekraft?
  - Hva mener du **egentlig**? Er det så viktig som enkelte vil ha det til?
  - Er det slik at IMO driver bærekraft-fokuset, eller er det kunder som stiller egne krav til bærekraft?
- Hva er opplevelsen av IMO-påleggene for 2030? Hvordan er dine holdninger til dette?
- I hvilken grad oppleves IMO-reguleringene som ønsket?
  - Er dette svaret politisk korrekt, eller er det reelt?
  - Gjelder svaret for hele organisasjonen, eller deg som individ?
- Hva er deres planlagte strategi for å implementere både IMO- og statlige reguleringer?

## **Imøtekomme endringer**

- Hvordan anser rederiet en vellykket implementering av endring
- Hva er konsekvensene hvis man ikke lykkes med implementeringene?
  - Har dere noen erfaringer med dette, enten i henhold til IMO-krav eller statlige krav?
  - Hva er forklaringene for at man ikke lykkes slik som intervjuobjekt anser det?
- Hva er det som skal til for å lykkes og få en effektiv implementering?
  - Er det teknologi / penger / andre ting?
- Hvis rederiet skal i gang med en litt større endring grunnet pålegg fra myndigheter eller organisasjoner - hva er man eventuelt bekymret for basert på tidligere erfaringer?

## **Readiness for change og motstand mot endring**

- Hva skal til for å få organisasjonen med på endring slik som du erfarer
- Hvordan gjør dere det for å få reelle endringer? Hva er typiske erfaringer, og ting som lykkes?
- Hva skal til for å få endringen til å bli gjeldende og ny norm?
- Hvilke typer motstand har dere møtt på ved gjennomføring av endringer, og hvordan forholder rederiet seg til dette?
- Finnes det eksempler på utfordringer som gjør at man ikke får motivert ansatte til å imøtekomme en endring?

## **Ledelse**

- Hva skal til fra ledersiden for å få en forandring til å finne sted?
  - Kan incentiver være et godt virkemiddel? Hvilke incentiver da i så fall? [transaksjonsledelse]
  - Teambuilding? [Transformasjonsledelse]
- Hva gjør dere hvis dere opplever at ansatte er negative til endringene?
- Hva har dere selv erfart er viktig å få til?
- Hvilke personlige egenskaper mener du selv er viktig at en leder innenfor den maritime næringen har?