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Decades of Disclosure

*A qualitative study on how and why social and environmental reporting developed over time
in a company in an emission and regulation heavy industry*

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Abstract

This thesis explores the evolution of Social and Environmental Reporting (SER) within a multinational company tied to the Nordic shipping industry—an industry characterized by significant emissions and stringent regulations. Employing a qualitative, process-based longitudinal study framework, this research delves into the internal and external factors influencing SER development over several decades. The study draws on Contrafatto's (2014) institutional theory, analyzing the phases of SER development through semi-structured interviews and document analysis. This approach highlights how regulatory pressures, organizational changes, and industry standards have shaped SER practices. The findings reveal a dynamic interplay between regulatory compliance demands and the company's responses, which have evolved from basic compliance to more integrated and technically supported SER practices. This study contributes to the limited literature on longitudinal SER processes in emission-intensive industries, offering insights into the complexities of sustaining long-term environmental and social accountability within the corporate framework.

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Keywords: Sustainability, Social and Environmental Reporting, Longitudinal study, Process-based, Shipping

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1. Introduction

In the contemporary landscape of corporate governance, the integration of Social and Environmental Reporting (SER) alongside traditional financial metrics has become paramount in organizations. This approach acknowledges the essential link between long-term financial success and sustainability, aiming to fulfill the information needs of a broad array of stakeholders. As such, regulations around sustainability and reporting are evolving, becoming increasingly formalized and mandatory, highlighting the significance of sustainability reporting as a core component of companies' overall accounting frameworks (Oncioiu et al., 2020). This evolution is particularly pertinent with the introduction of the European Union's Corporate Sustainability Reporting Directive (CSRD), which mandates a new standard of sustainability reporting starting from 2024 (European Commission, 2023). One of, if not the biggest global treaty to fight climate change is The Paris Climate Agreement, which binds nations all over the world to work towards the 1.5°C target. Just as this treaty connects the world, so does an industry that has been around since forever, the shipping industry.

“The international shipping industry is responsible for the carriage of around 90% of world trade. Shipping is the life blood of the global economy. Without shipping, intercontinental trade, the bulk transport of raw materials, and the import/export of affordable food and manufactured goods would simply not be possible” (International chamber of shipping, n.d.)

The shipping industry stands for ~3% of global CO₂ emissions caused by humans, and at the same time it is one of the most energy-efficient modes of transport (UNCTAD, 2023). It is also an industry currently undergoing significant regulatory changes with both IMO and the EU pushing out new regulations, including the industry into the EU Emission Trading System in 2024 (European Commission, 2024). This combination of circumstances makes it an interesting industry to study in the context of disclosure, more closely around SER, as it enables exploration of an emissions heavy industry trying to adopt and adapt. There is in general a scarcity in looking at life cycles, that is, longitudinal perspectives towards understanding how and why organizations disclose sustainability (Contrafatto, 2019; Vinnari & Laine, 2013; Belal & Owen, 2015; Maughan, 2022)

particular through SER, an element which is growing in complexity and level of enforcement. At the same time, calls are also made to look into the internal processes of reporting (Adams, 2002).

1.1 Objective

This thesis aims to shed light on the development process of SER over time by looking at a Multinational company with ties to the Nordic shipping industry. By prioritizing the exploration of internal sustainability reporting processes within this specific context, the research aspires to bridge a gap in the existing literature, which is predominantly focused on quantitative research methods, and to provide longitudinal insights into how companies perceive sustainability and navigate the intricate demands of SER in an industry that is subject to intense environmental and social scrutiny. By employing Contrafatto's (2014) framework we explore three phase-processes, their sub processes, elements involved, institutional mechanisms towards isomorphic change, and outcomes.

Specifically, the research question is:

How and why has SER developed over time at a company in an emissions and regulation heavy industry?

2. Theory

The majority of previous research on SER has focused on various aspects of the reports themselves, overlooking the internal dynamics within organizations, such as the processes leading up to reporting (Adams, 2002). SER research in the shipping industry aligns with this, with studies generally surrounding content analysis of sustainability reports, prevalence of sustainability reports and broader sustainability communication (Drobotz, 2014; Li et al., 2020; Olsen, 2015; Di Vaio et al., 2020; Bonilla-Priego et al., 2014; Cikici & Sigali, 2020). Some research has also been done on the regulatory environment (Mateo-Márquez et al., 2019; Yang et al., 2020) as well as materiality within the shipping industry (Karagiannis et al., 2022).

2.1 Domain Theory

Previous research concerning organizational characteristics and processes in relation to preparing sustainability reports include perspectives on obstacles and incentives for reporting, the impact on organizational characteristics on reporting as well as report preparers' insights.

2.1.1 Broader SER research: *What is reported by which Type of Organization?*

There is rather extensive research on organizational characteristics' impact on sustainability reporting suggesting that factors such as firm size, public ownership and stakeholder accountability positively impact sustainability reporting (Dienes et al., 2016). The strength of corporate governance has also been found to have an impact on decisions such as producing a standalone sustainability report, having an auditor and having a sustainability committee (Kend, 2015) (Dienes et al., 2016). Further, public ownership was found to impact disclosure positively due to asymmetry of information in relation to its owners, in private companies with less direct communication with investors the disclosure levels were more similar to public peers. This emphasizes CSR reporting as a way to signal investors and different firms needs to do so. Similarly, having non-owner stakeholders also impacts reporting (Hickman, 2019). A firm's engagement in CSR reporting is also found to depend on engagement with external stakeholders as well as firm CSR experience on the board (Botchway & Bradley, 2023) (Liang, 2022). Continuing on the theme of leadership, some studies find positive effects of both managerial ability and managerial environmental values on sustainability reporting (Kao et al., 2023) (Larrinaga et al., 2019).

Other contextual factors in previous research includes countries' regulatory landscape, showing that firms in countries with stricter climate regulations are more likely to participate in voluntary carbon disclosure as well as produce better responses (Mateo-Márquez et al., 2019). As the case company's geographical location ranks high on regulatory stringency this should be a factor that contributes to the investigated company's willingness to report (OECD, n.d.).

2.1.2 The Organizational Process of SER: Examining *how Organizations Work with SER*

In a case study comparing British and German, Adams linked the companies' characteristics such as size, country and corporate culture to organizational processes. The factors formality,

stakeholder engagement and departments involved were found to be linked to the above characteristics and, in turn, influenced the reporting processes and decision making. The German companies had more shared responsibility, higher stakeholder engagement and higher degree of formality than the British sample (Adams, 2002), and albeit a small sample, it did bring a valid calling for further research and relevance of looking into the internal processes of reporting.

In a later action research study, Adams and McNicholas (2007) find that the obstacle for sustainability reporting is lack of knowledge of how to report, i.e. how to integrate reporting, what best practice is and what reporting systems to use, rather than an unwillingness to respond to stakeholder demands (Adams & McNicholas, 2007). This contradicts previous studies suggesting lack of interest in sustainability reporting is the main obstacle and implies that better organizational/industry knowledge can improve sustainability reporting. Further it implies that education is missing from the regulators and/or the organizations are lacking information-seeking/educational capabilities.

In line with this, Thomson and Bebbington (2005) examine SER through an educational lens, viewing reporting as internal and external communication of information to update the understanding of the organization. They examine the transformational potential of SER, arguing that transformative education should be a part of the SER process to enable preparers and users to understand the organizational context as well as “hidden” oppressive governance systems and become a political act rather than a means of communication. Further, they found that the control of SER matters in regards to transformative abilities and that reports need to focus more on the users rather than the owner (Bebbington & Thomson, 2005).

Further, examination of preparer’s perceived barriers to SDG disclosure have shown that disclosure complexity and lack of compatibility with existing performance tracking are sources of resistance from firms (Botchway & Bradley, 2023). In a different study on Southeast Asian companies, limited knowledge on integrated reporting was found to be a barrier expressed by preparers (Adhariani & de Villiers, 2018).

The organizational processes of preparing sustainability reports have also been found to be a source of barriers to SER. Tensions within the groups working with preparation of the report can impact the report. These tensions can surround differing perspectives on what a

sustainability report is, how it should be used, or a conflicting business case. Diverging internal perspectives and fragmented working groups can thus be explanatory factors to the outcome of reporting (Frostensson & Helin, 2017). Complementing this, a study on Lithuanian companies shows how fragmentation can affect reporting, finding that the majority of companies lacked connection between sustainability accounting information system and corporate strategy and thus failed to relate sustainability operations to business performance (Dagiliene & Šutiene, 2019).

Attempting to understand which processes are involved in SER, Georgakopoulos and Thomson (2008) analyzed the heavily regulated Scottish salmon industry's ESG reporting through an arena lens, identifying several key processes. Engagement dynamics among stakeholders, the use of social reports for objectives such as compliance and legitimacy, and how stakeholder motivations influence reporting practices. Their study revealed that reporting activities primarily targeted regulators and supportive stakeholders/voluntary rule enforcers rather than the public, with the reported data serving multiple, often compliance-oriented objectives, (Georgakopoulos & Thomson, 2008).

2.1.2.1 Technological Tools in SER- Exploring *How* and *Why* Organizations Employ new Infrastructures for SER

There are several examples of research that collectively suggests that understanding and enhancing sustainability reporting requires a nuanced approach that considers both human and technical dimensions.

Troshani and Rowbottom (2023) examined the technological infrastructures used for sustainability reporting, noting that such infrastructures are often developed to meet legislative requirements, leading to estimated and asymmetrical voluntary disclosures due to resource limitations. They emphasize the influence of cost and technical capabilities on the reliability of sustainability data (Troshani and Rowbottom, 2023).

Carruthers (1995) highlights the importance of integrating technical aspects of accounting reports with internal organizational dynamics, cautioning against the decoupling of norms from actual processes. Technical aspects of producing an accounting report have traditionally been seen as a separate process from the internal organizational dynamics, and thus while

accounting may appear as a technical process, it is deeply embedded within the social and cultural fabrics of organizations (Carruthers, 1995) .

Building on this, Troshani et al. (2022) analyzed the evolution of environmental management infrastructures in South Australia, describing them as complex systems shaped by social, technical elements, and human efforts. They advocate for a sociomaterial perspective, considering the interplay between organizational routines and technical systems in shaping these infrastructures (Troshani et al., 2022).

Supporting this view, other studies (Troshani & Rowbottom, 2023; Pickering, 1993) emphasize the interplay between human and technical agencies within organizations. Leonardi (2011) further explores how organizational perceptions of technology influence interactions with and adaptations of technology, affecting sustainability reporting processes. He argues that perceptions based on past interactions can lead organizations to either modify their technologies or their routines.

2.1.3 Longitudinal Perspectives on SER- Examining *how* SER Evolves within an Organization Over Time?

While the organizational context has been examined in a multitude of studies on SER and some investigations into the SER processes have been made, the longitudinal perspectives are quite limited (Contrafatto et al., 2019). In Adams & McNicholas (2007) as well as Contrafatto et al. (2015) the implementation stages of SER were investigated, and Troshani et al. (2022) did a longitudinal study on environmental management infrastructures, but few have looked further in the process of SER. Those who have, include Vinnari & Laine (2013), Belal & Owen (2015) and Contrafatto (2014).

Vinnari and Laine (2013) studied the introduction, diffusion and decline of SER in the Public Finnish Water sector during a 15 year period starting in the 1990s through interviews with water utility companies and analysis of their integrated and stand-alone SER reports in a qualitative field study. The study uses innovation diffusion theory to understand the development of SER (Abrahamson, 1991). They explain their findings of rapid diffusion of SER as a result of trends and the following gradual decline as a result of internal organizational factors combined with a lack of outside pressure. Such factors included perceived inefficiencies in organizational changes e.g mergers and strategic shifts often led to

reduced focus on SER practices, loss of internal champions as SER depended on the drive from dedicated individuals within organizations. Also, financial and human resource constraints prioritized other essential operational needs over the continuation of SER, doubts about the effectiveness of SER in influencing stakeholder behavior or decision-making, utilities found more direct and engaging methods of communication with stakeholders and, SER was initially often adopted more for its symbolic value than for substantive changes, which diminished over time as the novelty wore off (Vinnari & Laine, 2013).

Similarly, drivers of implementation and discontinuation of stand-alone CSR reports in a Tobacco subsidiary in Bangladesh between 2002- 2010 were studied by Belal & Owen (2015). They applied a legitimacy lens and found that the company had initiated SER to legitimize their operation in an increasingly regulatory heavy environment. This strategy aimed to garner moral legitimacy by portraying the company as a responsible entity committed to social and environmental standards, resulting in a renewal of their “social contract”. However, a discontinuation of these reports was prompted by a confluence of factors that made continuing the practice untenable. Key among these were regulatory shifts that introduced less supportive and instead unfavorable and stricter controls over tobacco products, conflicting demands from various stakeholders, and growing criticism from NGOs, anti-tobacco groups, and global health authorities such as the WHO. These groups questioned the sincerity and effectiveness of the CSR activities, particularly criticizing the alignment between the company’s reported social responsibility and its core business practices, which they viewed as inherently harmful, Belal & Owen (2015).

Contributing to the understanding of how and why SER emerged and evolved, Contrafatto (2019) conducted a case study of an Italian cooperative bank. Employing Thornton’s (2012) Institutional Logics model, the study found that changes in SER were enabled by rationalities and logics immersed in the institutions combined with contextual events in the organization and environment. The research identifies three distinct phases in the evolution of SER within the bank: emergence, implementation, and gradual de-structuring.

In the emergence phase, SER was initiated almost incidentally during the bank’s centenary celebrations, influenced by mimetic mechanisms where organizational leaders followed emerging practices in the broader business environment. This phase reflected an experimental

approach to SER, shaped significantly by external events and the innovative actions of institutional entrepreneurs within the bank.

The implementation phase saw SER becoming more structured and integrated into the bank's operations. It evolved from being a managerial experiment to a critical tool for managing reputational risks and engaging with community interests, particularly in response to crises like the Argentinian default, which pressured the bank to re-evaluate its mission and stakeholder relationships.

During the gradual de-structuring phase, despite the institutionalization of SER practices, there was a noticeable shift towards simplifying these processes. The bank adapted its SER approaches to make them more accessible and less bureaucratic, aligning them closely with its community-focused identity and the practical needs of its stakeholders, Contrafatto (2019).

Maughan (2022) studied the development of environmental management accounting and SER in a large family-owned unlisted company. Through employing theoretical frameworks of organizational identity and internal legitimacy as well as Contrafatto's (2019) phases of birth, structure and de/structure, Maughan finds that the discrepancy between the firm's identity claims and its enacted identity lead the organization to employ environmental management accounting and SER. The later decline of SER was a result of its failure to gain internal legitimacy, in contrast, the environmental management accounting was found to achieve this and bridge the gap between the firm's claims and actions. The study was conducted between 2007 and 2019 in a context where SER was seen as a potential tool for strengthening the organization's sustainability identity rather than a mandatory practice. Thus, when leading figures within the firm did not see the value of SER as a representational or performative tool, they could decide to phase it out due to it being voluntary at the time. It also highlights the benefits of adapting EMA to firm values in order to enhance internal understanding of sustainability practices.

The SER activities in both (Vinnari & Laine, 2013) and (Belal & Owen, 2015) reduced, in part, as an effect of the industry environment suggesting that the SER structures developed are quite fragile. Further, the effects of internal dynamics described in (Maughan, 2022) and (Contrafatto, 2019) reveal that the formal and informal organizational processes impact the

evolution and shaping of SER. In light of these findings within the longitudinal literature, there is reason to explore both the internal and external dynamics of a company to fully understand the development of SER.

2.1.4 Area of further research: understanding the organizational processes of SER

This thesis aims to contribute to the literature on SR processes through a longitudinal case study, specifically investigating SER processes in an emissions intensive industry. The organizational processes of reporting is in itself a quite scarce area of past research and practically non-existing within our industry. Further, the longitudinal perspective on SER development is limited to a handful of studies. We thus aim to contribute to this theory with insights from an industry that has quite recently had to adapt to the intense ramp up in SER requirements to understand how companies cope with a changing regulatory landscape. In addition, we hope to contribute to the literature on SER in the shipping industry.

Concretely, the research question is:

How and why has SER developed over time at a company in an emissions and regulation heavy industry?

2.2 Method theory

2.2.1 Taking an Institutional Perspective

Institutional theory has been used in organizational studies to understand how structures such as rules, routines and norms emerge in organizations. Institutions are seen as social structures characterized by socio-cultural, normative and regulative elements and exist in an environment with dominant rules and belief systems (Scott, 2014). Organizations will thus develop according to their environment towards similar processes and structures in a process called institutional isomorphism.

DiMaggio and Powell examined the aforementioned conformist change and found that even though rational actors try to change their organizations, this results in heightened similarity. They describe three processes; *coercive* driven by formal external pressures (e.g., regulations), *mimetic* driven by uncertainty in the field (hedging by mimicking other players in field), and *normative* driven by professionalization (e.g., more people in field having same education) a, that contribute to this convergence and suggest hypotheses concerning the

impact of higher resource centralization and dependency, goal ambiguity and technical uncertainty, and professionalization and structuration increase rate of isomorphic change (DiMaggio & Powell, 1991).

Oliver (1991) provides a framework of how an organization will respond to institutional pressures based on factors such as cause, control, context etc. In the instance of ESG disclosure, the type of pressure firms experience from external institutions and the characteristics of the firms can then explain the chosen reporting behavior of the firm. The firm's response can vary in active organizational resistance from proactively manipulating to passively conforming (Oliver, 1991). Using this framework, Esteban- Arrea & Garcia-Torrea (2022) found that Spanish listed companies responded to sustainability reporting regulation, NFRD, through disclosure of select topics relevant to specific stakeholders when faced with multiple stakeholder demands. In the context of mandated reporting, the companies with many stakeholder demands tried to skew reporting towards topics relevant to the most influential stakeholder strategy. This strategy is called a compromise strategy and was found to favor environmental reporting rather than social reporting due to the "environmentalists" being the most influential stakeholders. Further, the article adds to the view of legislative effect on SER through examining the variation in the responses to legislation based on stakeholder composition (Esteban-Arrea & Garcia-Torea, 2022).

The new institutional theory turns the attention to the cultural-cognitive aspects of organizational processes. This includes understanding the meaning systems, cognitive beliefs and symbols. The idea is that much of organizational processes are driven by the intangible ways in which humans create a common reality and institutionalized this reality in a way that does not necessarily conform to the formal rules and routines (Greenwood & Hinings, 1996)

In an experimental study Zucker, 1977 found a relationship between degree of institutionalization and cultural persistence. Where higher degree of institutionalization led to greater generational uniformity of cultural understanding, greater maintenance of such cultural understanding without exerting control as well as greater resistance to individual change agents (Zucker, 1977). This institutional persistence coupled with old institutionalism explanations of change, struggles of different values and interest, informed Greenwood & Hinings, 1996 to try to understand how radical organizational change occurs. They propose a combination of old and new institutionalism considering patterns of value commitments,

power dynamics, interests and organization's ability to act in addition to analyzing the institutional context. Further, they refute thinking about the nature of change as a result of external pressures, pushing towards conformity/uniformity, but rather encourage looking at organizations adopting change (Greenwood & Hinings, 1996).

Contributing to the intra-organizational research, Burns & Scapens, 2000 explains management accounting change through change in organizational rules and routines. The rules are described as formal knowledge of best-practice and the routines as thought and behavioral patterns that emerge within a group. The paper suggests that management accounting systems and practices are affected by institutional structures, day-to-day practices and the organizational members' thoughts (Burns & Scapens, 2000).

2.2.2 Theoretical Framework: a Longitudinal Application of Institutional Theory on SER

Through a prolonged field case study of an Italian multinational company in the energy sector Contrafatto (2014) theorizes how SER is constructed within a firm. The study highlights the role of cultural-cognitive elements in driving the institutionalization of SER and emphasizes the importance of understanding the complexities and contingencies of organizational behavior in this process. The institutionalization process is described through three phases. In the first phase (i) *the construction of the common meaning system* a shared understanding of through communication and interaction among employees. This shared meaning system was constructed through social interactions, making environmental responsibility a symbolic concept within BETA. It provided a framework for understanding and addressing the environmental impacts of the organization's activities. In the second phase (ii) *practicalization*, BETA's environmental reporting evolved from rudimentary beginnings to more sophisticated practices. External pressures along with internal change agents influenced this evolution. BETA formalized rules and routines for reporting, transitioning from basic principles to structured policies and guidelines, thus, internalizing the practices. These changes helped reinforce the internal commitment to environmental responsibility within the organization. In the last phase (iii) *reinforcement*, significant structural changes occurred to support SER initiatives. For example, the Environment and Safety Unit was elevated to a department under direct CEO control, allowing for more authority and resources, an environmental management system and control systems was introduced and a Social Responsibility Unit was formed to manage community investment and CSR-related issues.

These initiatives reinforced SER practices, making them institutionalized into BETA's operations (Contrafatto, 2014).

The study draws on meso- and micro institutionalist perspectives on the process of institutionalization, focusing on the organization and intra-organizational subsystems rather than the macro-level of society, sector and industry. The institutional elements are regulative-normative and cultural-cognitive. The dynamics involved for the respective elements are adoption, enactment and reproduction of organizational procedures, rules and routines and construction on common meaning systems: externalization; objectivation; internalization. The outcomes of these processes are seen as institutionalization of organizational procedures, rules and routines for the regulative-normative and institutionalization of symbolic structures, conceptual constructs and meaning systems for the cultural-cognitive.

3. Method

3.1 Research Design

As mentioned above, the purpose of this paper is to explore how SER develops at a company in an emissions and regulation heavy industry, using Contrafatto's (2014) framework. As the literature is scarce on longitudinal perspectives in the SER processes, the study aims to contribute to the research in the emerging tradition of qualitative longitudinal case studies. Qualitative longitudinal studies are less prevalent than quantitative longitudinal studies but are becoming more common. The method enables exploration of narratives and individual experiences of change, facilitating a dynamic investigation of change processes particularly interesting in transitional periods (Vogl, 2023). This method was thus chosen due to the possibility of understanding the complex interactions between regulations, internal organizational forces and contextual factors currently at play in developing SER within the shipping industry and NautiCo specifically.

The study was conducted in-depth, primarily through semi-structured interviews and supplemented by document analysis. This methodological combination is both common and highly effective in accounting research for the collection of qualitative data (Lee & Humphrey, 2006). Further, an iterative inquiry method is especially effective for examining

the progression of a process through time (Edmondson and McManus, 2007).

To enable agility in the method and hedge ourselves against negative surprises, we opted for an abductive approach, following Dubois and Gadde's (2002) observations on abductive research approaches where the, *“original framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process”*

3.2 Data Collection

3.2.1 Empirical context

The selection of industry and organization was made in alignment with the sustainability context. Shipping has a large climate impact, mainly from fossil fuels, and a prolonged history of environmental and social issues. The global economy is dependent on the functional stability of the industry, yet it often remains somewhat in the shadows of public attention. With CSRD knocking on the door for many companies, SER becomes a priority if it wasn't already, but what makes shipping even more interesting to explore is that, additionally, starting January 2024, the industry was also included into the EU ETS (Emissions Trading System), extending the reporting requirements further (European Commission, 2023b).

The case company was chosen due to accessibility of interview participants and its substantial public SER which together gave a sufficient foundation for analysis. Initially, employees at other shipping companies were interviewed as well in an attempt to capture the industry through a field study, however, as access proved difficult, a case study approach was chosen. The findings from the preliminary interviews with other companies were used as contextualizing information. On the case company's request, several precautions to keep anonymity were taken such as assigning the company a code name “NautiCo”, keeping role descriptions general and/or omitted when lacking relevance and showing interpretation in place of especially identifying citations.

3.2.2 Primary Data

Before each interview began, all interviewees were asked to sign a consent form that clarified

their confidentiality, data storage, personal data limits and GDPR rights. It also provided the aim of the study, researchers responsible, supervisor at the institute and type of personal data to be processed. The interviewee could withdraw their consent at any time.

Interviews have taken place in mixed settings, both in person and online and were held in the preferred language of the interviewee to minimize risks with language barriers. The researchers acknowledged the risks of issues with paraphrasing and translating colloquial native statements to English, but deemed them negligible. An interview guide was created in advance covering the main subjects but we also left room for situational follow-up questions and spontaneity to motivate the interviewees to become full participants, see Appendix 1 for interview guide (Kreiner & Mouritsen, 2005).

Following a semi-structured format allowed us to adapt based on the information we gathered from each session. We conducted future interviews dependent on the responses we received previously, constantly revising our understanding of relevant discussion topics. This meant that our focus could shift away from our initial assumptions about what was important, towards insights that emerged throughout the process. Interviews were conducted with a diversity aspect in mind to get a broad range of perspectives in the discussed topics, these include captains, chief officers, chief engineers, sustainability managers, environmental managers, and designated persons. Many of the interviewees were contacted outside of recommendations from previous respondents to avoid chain-referral bias effects such as homogenized views on the companies SER (Emerson, 2015). Two interviews at other companies were conducted to gain insight into the relevance of our findings to other organizations within the Swedish shipping industry, as well as one at a trade organization to gain an expert's perspective. In total 10 interviews were conducted. The interviews lasted between 25-71 minutes, with an average of 55 minutes, 5 interviews were held in person and 5 over Microsoft Teams. Every interview was recorded to enable both researchers to focus on active listening and participation over taking notes.

3.2.3 Secondary Data

Due to the long timespan and difficulty with obtaining historical perspectives when conducting retrospective interviews, the interviews were complemented with a document study. To mitigate this asymmetry between the different time periods, we made a document analysis of publicly available documents such as companies annual reports and sustainability

reports as well as document analysis of internal documents for calculation of carbon reporting metrics. This was done as it's essential to recognize that the information derived from document analysis can vary from that obtained through interviews. To maintain confidentiality, neither external nor internal documents will be cited in the references. Further, the findings were complemented with the creation of a regulatory timeline to better understand the regulatory context in each phase.

3.3 Data Analysis

After each interview, the recording was manually transcribed and translated if necessary. This step required both researchers to engage with the material several times to make sure that the transcriptions and translations were suitable.

Following the first step, discussions through an iterative process were held between the researchers to bring out key insights and differentiate answers. It also provided aid in figuring out potential misunderstandings and aligning the takeaways. This process also included previous interviews, secondary data and literature, and bouncing between them allowed the researchers to learn and adjust the interview guide for the purpose.

The next part of the data analysis developed a coding system for the empirics to be categorized. We used Excel and Google Docs to generate a table of thematic columns and following this, we extracted quotes from the interviews and placed them in the table as separate row entries, and assigned keywords for easier management. This resulted in an overview of the division of our empirics, directly showing information gaps in the tables, and exposing information asymmetries when findings were mapped in relation to (Contrafatto, 2014)'s framework of institutionalization phases. Once again tying back to the iterative approach of improvement. It also made it easier to compare the empirics with each other and identify common themes.

An iterative patchwork approach between the various data sources was eventually adopted to combat uncertainties, especially around retrospective processes in the earliest stages. Patchworking contributed to finding structure and generating traceability of SER development. As we moved from a retrospective to a contemporary perspective, the amount of patchwork needed was reduced, and we were able to rely more on the primary data

3.4 Limitations

We acknowledge that it's difficult to provide the same level of detail and confidence retrospectively, particularly for the 90's as there was a lack of reliable knowledge on this area within the findings from the primary data, as well as no accessible company generated documents from this time. Regulations and conventions serve as the main contributor in understanding this phase from our framework, with some insights from interviews. While this creates phase information asymmetry, it does still allow us to build the longitudinal narrative, and by addressing these issues, we maintain transparency and reinforce the integrity of our conclusions. Further, to present our conclusions and analysis convincingly, we have aimed to write clearly, critically and realistically, following the guidance of Baxter & Chua (2008).

4. Analysis of Findings

4.1 Historic Industry Context: Preceding Initiation of SER

According to several interviews, the shipping industry was long very environmentally unconscious with industry standard practices such as throwing waste overboard and emptying septic tanks straight into the ocean. One interviewee stated: *"50 years ago for example, I can't imagine it was as clear who reported what, and if you even reported anything at all, especially not globally. Then you threw most of the waste overboard or set fire to it"* (3NN, 2024). This was partly due to lacking infrastructure in the ports but also due to the attitude in the industry. This historic context reveals an emissions intensive and environmentally hazardous industry that has been forced to undergo significant changes during the past century, but with considerable challenges yet to come.

Regulations within the shipping industry have historically advanced as a reaction to maritime accidents. With this reactive evolution characterizing the regulatory landscape, shipping companies have been forced to regularly adapt. According to the environment and climate head at a Trade organization: *"the regulatory landscape has developed continuously, driven by reactions to large accidents starting with Titanic. That is when the industry has reacted, learned and tried to prevent it from happening again. The industry is more proactive now, we don't wait for accidents to occur"* (2T, 2024)

These regulatory reactions introduced new safety demands but also restrictions to reduce the risk of environmental disasters, e.g., oil spills, such as requiring ships to have double hulls. This is the lens that the environmental work within maritime started and that, with time, was broadened to include climate and social issues.

International regulations have long been considered the most effective way to enhance maritime safety. From the mid-19th century onward, numerous treaties aimed at improving safety at sea were adopted. Various nations advocated for the creation of a permanent international organization dedicated to maritime safety, but it was only with the founding of the United Nations that this vision was achieved with the establishment of the now called International Maritime Organization (IMO) (International Maritime Organization, 2019).

In 1973 IMO issued its first environmental convention, the International Convention for the Prevention of Pollution from Ships (MARPOL) (IMO, 2024). In the late 90s the external pressures were intensifying and regulators such as the IMO were starting to seriously include environmental considerations in their scope as a regulatory body. This effect was noticed as many countries continued with ratifications of treaties and subsequent amendments, for a more detailed regulatory timeline see Appendix 3.

In the earliest stages of the MARPOL and SOLAS conventions, the concept of formalized SER as we understand it today was not as developed or emphasized. Instead, the focus was predominantly on compliance through operational practices, equipment standards, and safety procedures, rather than through formal reporting mechanisms that monitored social and environmental impacts. However, there were elements inherent in both conventions that laid the groundwork for what would evolve into more structured reporting requirements, for example oil record books and safety certificates (International Maritime Organization, 1981; International Maritime Organization, 1978).

4.2 Phase 1: Responding to Increased Sustainability Demands from the Industry- Constructing a Common Meaning System for Sustainability

At NautiCo, SER as a formal area began to take more definitive shape in the late 1990s in line with the increasing globalization. This was a part of broader corporate responsibility efforts primarily influenced by the external regulations such as EU directives and

international frameworks such as GRI, launched in 2000, in addition to the already existing industry specific bodies. However, NautiCo reporting was still limited to statutory reporting to IMO, and no public reports were published yet.

The sustainability practices at the beginning stages were aligned with cost saving efforts of increasing energy efficiency, which facilitated a view of sustainability work as “business as usual”(Dyllick & Muff, 2015). As the economic incentives aligned with environmental goals, there was no significant push-back against developing a sustainability profile within the company. During this time, projects optimizing fuel-efficiency, such as route-optimization and speed- optimization, were reframed as combined sustainability and cost-saving initiatives.

“Our biggest environmental impact is surely our use of fossil fuel, but fossil fuels are also really expensive, so what we do is trying to reduce our usage as much as possible, which we have managed to do” (7NN, 2024).

“We have a unique situation where what actually benefits the environment also comes with a monetary gain for the shipping operator. Because our big environmental impact is fuel consumption, and every initiative that reduces fuel costs have always been desirable initiatives. This started before the environmental talk, especially as the prices of fuel have become more and more expensive” (5NN, 2024).

“The company took many initiatives in the 80’s/90’s, we have had waste sorting for a long time. An Chief Officier onboard was on to it early and made deals with waste collectors/ waste sorting companies, so we sorted approximately 14 fractions 25 years ago. He realized the importance of separating colored and clear glass, which we had not been doing previously, and we could then save money. The clear glass is more valuable because the transparency goes away if you just contaminate it a little, so he managed to arrange a system so that we sorted truly clear glass. And in conjunction with this, it (waste sorting) became a self-paid system due to a glassworks company willing to pay enough to finance all surrounding transports, so waste sorting did not cost any longer, it was amazing” (3NN, 2024).

Conversely, several interviews revealed that because the company served customers that required ISO certificates, creating an environmental image and getting certain certificates early was a business strategy. This meant that the inclusion of sustainability as a part of the company's responsibility towards stakeholders were reconcilable with the shareholder responsibility perspective, easing the construction of a common goal towards sustainable practices and rule adherence. Further, several long-term employees stressed the importance of being compliant with regulations in the shipping industry, especially as a company with passenger carrying vessels. This comes from operating in an industry where operations ultimately risk being shut down if non-compliance is discovered and ignored.

“We are ISO 14000 certified as well because several of our conference products have had to be certified for many, many years to get customers at all. Because, a ISO-certified customer often have requirements on not purchasing products from companies that are not also certified” (5NN, 2024).

The emergence of industry guidelines and standards in the shape ISO 14000 in the early stages, may have contributed to normative pressures on NautiCo, and the industry in general, toward isomorphic change in the construction of sustainability meaning systems (Contrafatto, 2014).

Due to the risky nature of the industry, the companies in the industry have been subject to increased regulatory demands within safety issues for over a century (since first SOLAS 1914), making continually adapting to new regulations a part of the operations. In light of this, regulatory pressures seem to be an effective and well-tested driver of change within the shipping industry. The regulatory landscape led to a row of sustainability practices laying the ground for the development of SER. In 1983, MARPOL entered into force requiring the keeping of an Oil record logbook, followed by a Waste Record Log Book 1989. The conventions also covered prevention of pollution by garbage (1988), harmful substances (1992), sewage (2003), and air pollution (2005). Further, a convention regarding prevention of the spread of harmful aquatic organisms by controlling ships ballast water and sediments was adopted in 2004 but did not enter into force until 2017. Looking at the regulatory advancements of the period, the environmental understanding that was developing mainly concerned environmental pollution up until the early 2000's when biodiversity and air emissions was brought to light.

The regulatory conversation aligns with the interview findings as several interviews have stated that pollution started the conversation: *“Back then (regarding late 00’s) it was in its infancy when it came to climate, it had been discussed earlier what you could do to reduce shipping’s climate impact, there were negotiations in that area in the beginning of the 2000’s but you could say they were deserted. It was a great deal environment in the beginning, various types of pollution, but during later years is it almost climate issues all the way, although some environmental issues might be getting a slight comeback. But you could say the area has expanded significantly in the past couple of years.”* (2T, 2024).

From the public reports, some environmental practices from these years can be traced, such as participation in voluntary environmental projects and voluntary rule adherence. These ranged from participating in one-time environmental events, collaborations with environmental organizations in the Nordics and implementing an IMO convention voluntarily.

To conclude, this phase was thus characterized by defining NautiCo’s sustainability identity through continuing energy-efficiency schemes, external compliance adherence, control of environmental pollution prevention and voluntary “goodwill” projects. The direction NautiCo was going towards, was answering customer and statutory demands through starting to create an identity for themselves as environmentally conscious as well as starting to introduce small initiatives aimed at bridging the gap between identity and practice (Maughan, 2022).

4.3 Phase 2: Practicing SER- Starting public reporting, Spreading, Redefining and Standardizing SER

There are some diverging perspectives within NautiCo on when discussions surrounding sustainability matters started, indicating that the dissemination of the meaning system of sustainability continued in Phase 2. While some interviewees recall conversations regarding sustainability starting in the late 90’s to early 00’s, others saw the early 10’s as the starting points for serious environmental conversations. These internal disparities can be characterized by one interviewee onboard a NautiCo ship: *“Some have more of an environment and climate mindset than others and find it more important than others. Some regard it as nonsense whereas others view it very seriously, and everything in between. But*

back in 2011, talk about energy-efficiency as an environmental measure emerged. Since then it has become more and more. Either way, one has gotten hunches that the regulations are going to tighten. In addition, an important consideration is the fact that we have a very exposed product as we carry passengers.”

It thus seems like the environmental mindset, or common meaning system, that was externalized and objectivized in the earlier years spread throughout the company in later years, well into the practicalisation, further establishing it as a fully internalized practice and identity.

The company’s public sustainability reporting started mid 2000’ when they published a standalone sustainability report. While they did not publish any numbers of emissions or employee data, the report contained their environmental policy and vision of themselves as a sustainable company. They stated that NautiCo is exceeding regulatory requirements in environmental preservation efforts.

and emphasized their commitment to being a frontrunner in sustainability within the industry. This outward publication of sustainability intent serves as a way of creating a common story with increased transparency around the company’s sustainability practices and values. In comparison, the other company interviewed started public sustainability reporting in the 2010’s.

“GRI framework was our main inspiration, picking and choosing the relevant info to report on, we did not fully follow any framework. We had people from PR, the Technical side and then people from Financial / accounting sides, and summarized data into reports which stakeholders could find interesting. They started from stakeholder-matrix analysis. (...) we identified what was important and in the first years we wrote everything down in the sustainability report and few years later we complied with NFRD demands, by including the most important points into the annual report, whereas another sustainability report was kept free form and separate as we noticed other stakeholders who liked that visual / overview format better” (8M, 2024).

Furthermore, the public reporting at this time was on a rather voluntary basis both in regards to format and contents which is exemplified by the differing approaches between companies

operating within the same space. However, there were efforts to formalize SER within NautiCo through adopting an environmental policy and developing a standardized structure for the public reports. This structure was redefined over the years to reflect new insights in what constituted relevant content for the company.

In this early stage of reporting the contents are consistent with interview findings, the focus of discussion was environmental considerations such as pollution and spill-prevention rather than climate and social issues. The company started recognizing the increased role of environmental matters within the industry and took steps towards communicating themselves as an environmentally-friendly player.

The report featured two sections covering Environmental and Social Responsibility, in which the topics Water, Air, Land and People were covered. Pollution was emphasized as a great concern with waste and spill management along with low sulfur fuel content were mentioned as key issues for Water and Air protection respectively, corroborating the findings from the interviews highlighting pollution as the emergence of sustainability conversations. Also aligned with the primary data accounts of energy efficiency initiatives, energy efficiency was highlighted.

Three reports were published before any data points show up FY 2010/2011, after which the reported metrics increased gradually both in quantity and specificity starting with fuel per passenger and employee geography, division, gender and age (based on headquarter geography). In 2013, an emissions metric was introduced, 2014 waste metrics, 2015 work related accidents, 2017 environmental incidents, 2021 management gender split and 2022 human rights incidents.

4.3.1 Changing Organizational Factors

In the year preceding the first report, NautiCo was introduced on the stock exchange which may have increased reporting pressures from additional stakeholders (Hickman, 2020). Further change in the organization occurred the following year, when a nordic shipping subsidiary was acquired. The subsidiary already held ISO 14001 certificates for their ships. The group as a whole got certified a couple of years later. Further, the nordic subsidiary operated under national laws already establishing certain standards for especially social conditions. In light of this, the acquisition may have contributed to the acceleration of

group-wide sustainability consciousness, benefitting from previous sustainability work within the Nordic acquired subsidiary. A captain that had worked at the Nordic Subsidiary prior to the acquisition stated: *“We were working a lot with this, competing against our competitors, we wanted to appear as environmentally friendly in our marketing etc. This was before the acquisition, later with the new owners it felt like there was a couple of years where this was deprioritized, there was a bottom line focus for a couple of years before it got picked up again.”*

Corroborating this narrative, the Head of Sustainability at a trade organization claimed: *“The Scandinavian ship operators are front-runners, they have a high climate and environmental pathos, they do not want to pollute, they want to conduct a business they can hand over to the next generation without having to be ashamed or go bankrupt”* (2T, 2022)

While the subsequent years after the acquisition did not seem to be years of profound environmental work, the public reporting practices began and the common meaning system constructed at the Nordic Subsidiary did not seem to be completely lost. However, the changes in organizational structure and the potential gap in environmental work after the acquisition could also be a source of the differing views on when environmental conversations began previously discussed, which is in line with Vinnari & Laine, (2013)

4.3.2 Restructuring and Facing Resource Constraints

Companies have had to allocate more resources, including personnel dedicated solely to sustainability reporting, reflecting a shift from a smaller, centralized approach to a broader, more integrated team structure. This change is in response to the growing complexity and volume of required reporting and started during this period with the appointment of a Head of Sustainability, but continued into Phase 3. At company NautiCo some interviews also expressed worries about resource constraints, stating that they would need more people working with SER exclusively but that they did not have the resources to create those roles. The structure remains somewhat ad-hoc although there are far more people and divisions involved now than when the first reports were produced.

“Initially, environmental responsibilities were managed by a single person (at Headquarters)...now my position is new, a bit scattered, focusing on port agreements and environmental management...now there are two of us” (1NN, 2024).

The training of crew members in environmental practices was seen as essential to be able to follow the strict requirements. To ensure this, all crew members received training as new hires and continually while working onboard as well as were tested on their knowledge periodically. The trainings included information on NautiCo's environmental policy, marine environment protection, pollution impacts and practical elements such as handling of waste water, oils and pollution prevention.

The focus on both understanding and implementing stringent reporting and environmental safeguards showcases the shift from theoretical guidelines to routine practices. The contrast between employees' understanding of data usage and the outlined requirements indicates ongoing challenges in fully integrating SER into everyday operations. Moreover, the incorporation of routine training and adherence to international conventions exemplifies the routinization and institutionalization of SER practices (Contrafatto, 2014),

4.4 Phase 3: Reinforcing SER- Formalization and Optimization

During this phase NautiCo started following a framework for reporting, adopted GRI core standards for their public SER reporting as well as adopted UN's SDG Standards. Additionally, they started using materiality assessment. The format of public reporting was changed three times during this period from standalone to consolidated with financial accounts in 2016, back to a separate report in 2021 and now consolidated again starting 2025. Since NautiCo started reporting data on emissions and social KPIs, no major changes have appeared. While some additional metrics have been added, the core of reporting CO2 emissions, waste and sewage on the environmental side and work-related incidents, demographic composition of employees as well as human rights incidents on the social side, the format has remained quite similar. The adoption of reporting frameworks during this period marked a move towards formalization and standardization. However, the latest reports have featured some significant changes such as inclusion of EU Taxonomy reporting, Scope 1 and 2 emissions as well as a new ESRD aligned double materiality assessment. These changes are directly linked to new statutory reporting requirements.

Further, In the most recent reports, the tone has shifted from hopeful frontrunners to more realistic ruleadherers with the goal being to comply. A “fact of life” attitude regarding SER is established.

The COO at the Swedish subsidiary stated: *“10 years ago no one asked us these questions (regarding emissions reporting), so we needed to hire two more people to work with these questions at the office to keep up with reporting demands. And it is becoming an IT job more and more”* (7NN, 2024).

This shows the diffusion of the reporting infrastructure throughout the global concern and the increase of formalization.

A new role of Port & Environment manager was installed in summer 2023, before that there was only one person in Tallinn with environmental responsibility.

“Partly we are growing, but the required work with reporting is almost doubling every year, so I don’t understand how he has done it on his own” (1NN, 2024).

The rigor of reporting also increased with the evolution of the regulatory landscape, the UN SDG Compact was implemented as a reporting system the same year, 2019, as the IMO requirement of CO2 emissions data collection and reporting entered into force. Further, EU taxonomy reporting was introduced in 2022. The effects of this rapidly expanding landscape are prone to be questioned, where many interviewees have voiced concerns.

“There should be some kind of reporting, some kind of a general information collection to be to form the, let's say the basis to get the regulatory landscape set for for certain purposes and and it started kind of a slowly but now as the years passed, I personally feel that that actually nowadays there is like an like an avalanche of different regulations storming in so it is extremely difficult to to navigate it through” (10N, 2024)

The latest addition is the inclusion of the maritime sector into the EU Emissions Trading System (ETS), which came into effect 2024. This raises the bar to a new level for the industry, where SER reporting is no longer only an increasingly administrative burden, but

also requires a proactive approach in estimating the emissions as accurately as possible to align with financial means.

“So we don't have the technology available, we don't have the new fuels available just to be able to to minimize the impact into our business.

Today we are simply paying for that and hoping that we can actually pay long enough when there is going to be some solutions to avoid that kind of additional cost.” (10N, 2024).

4.4.2 Digital Tools as Organizational Constituencies and Systems

In this growing stakeholder perspective, the integration of digital tools and systems has been crucial in managing the increased reporting demands. Automated data collection for carbon data has helped streamlining one branch of reporting, and now become useful for ETS as well. ESG management tools have been purchased for CSRD responsibility delegation and preparation. These optimizations aim to help reduce errors associated with manual entry and improve the efficiency of generating compliance reports.

“It takes a while to get people to understand that you don't need to write 20 Excel documents if you can automate it, and it also makes it easier for those verifying the data” (1NN, 2024)

Additionally, other investments in technological systems were made during these years to streamline SER data collection and management. The implementation of these systems, such as a common platform for data-input (digital logbook) and extraction as well as connected automatic measuring tools are still ongoing across the organization. The process of switching to a digital logbook started around 2023, at which point an external software developer was contracted to develop a system. The system was set in place at one of the ships in late April 2024. This transitioned the data collection of waste metrics as well as other non-environment related data points from a physical notebook to an internet server.

Prior to this, the data had been input into a digital tool once a month based on the physical logbook. While the system, at the point of interview, was only a week old, some onboard on the ships expressed hesitance to rely solely on the system and continued to note data measurements in the physical logbook as well. They stated that while the large amount of data reporting required needed a more efficient system, it made the ship more vulnerable as internet reliance is not ideal at sea. Further, one interview revealed that there was a lack of

knowledge of how to input the data correctly which led to employees inputting the data differently. The interviewee pointed to lack of information received in conjunction with implementation and that there was no protocol for how the data point should be measured partly due to the rapid roll-out but also due to uncertainty about which data was required by regulators.

In the context of increasingly stringent regulations in the past couple of years, the timing of implementing digital tools is consistent with (Troshani & Rowbottom, 2023). Interestingly, the choice of digital tool diverges from the industry standard. The company chose to contract an external developer to produce a customized software, incongruent with mimetic change and institutional isomorphism. From our primary empirics, this was due to two potential reasons. Firstly, it can imply difficulties in finding standardized or “one-fits-all” solutions down to a ship level, interviewee X voiced that: *“each ship is unique”*, *“aviation and cars don’t have the same lifetime as a ship, one upgrades ships, adds equipment continually which may result in two identical ships on paper, but in reality they are quite different”* (1NN, 2024).

Secondly, a decreased risk tolerance towards innovation due to uncertainty:

“It is hard developing a system when you have to regard various types of external systems, it is difficult having an internal system that becomes compatible with all external systems. It feels like the shipping business is in a bit of a limbo, we know there are going to be requirements on us, but no one knows exactly the way forward. We need alternative fuels, but which alternative fuels? We are generally hesitant, we don’t want to implement new own systems. The hardest thing is to dare to invest/go for it, because what should we go for?” (1NN, 2024),

While it seems like the uncertainty would drive NautiCo to adopt the industry standard, the cost of the system drove NautiCo to opt for developing their own system since the risk of implementing an expensive system that will not workout might have outweighed the uncertainty of choosing their own system. An alternative explanation could lie in the unambiguity of the goals of software implementation in the industry. While unsure of where the reporting requirements will land, the companies are acutely aware of the need to be able to produce data in order to comply with whichever requirement thrown at them which could

open up for heterogeneity in how they choose to reach that particular goal (Hambrick et al., 2004; DiMaggio & Powell, 1991).

While NautiCo did not opt for the same system, implementing digital systems to manage statutory reporting pressures and environmental work more generally is the industry standard with Head of Sustainability at another company stating: *“Earlier, it has been much more manual work, but when IMO demands came into force, we purchased this tool, digital tool which works like a database which replaced our earlier reporting program, if I take fuel consumption as an example, we pushed everything into the same place so that we would utilize it as a database, then it has as a reporting module that came as a side aspect. So we didn't do this change strictly because of the reporting necessity, we have a more holistic view on it”* (8M, 2024).

The investment towards standardization and automation is a clear example of *creating and implementing organizational constituencies and systems* characterizing Phase 3's *Reinforcement* (Contrafatto, 2014). A further step in the reinforcement is the appointment of an auditor of the public sustainability report as well as continuous auditing of statutory reporting from independent verifiers.

4.4.3 Challenges to the Reinforcement Process: Keeping up with Regulative Pressures

Companies face challenges with the rapid introduction of new regulations, which often require quick adjustments without sufficient time for proper implementation. New regulations often overlook industry specific situations leading to discrepancies in compliance and the efficiency of reporting processes. Further, there was a hesitation to commit to investments in new technologies since the incoming regulations might not allow that specific technology. There was no confidence that the regulatory bodies could allow for such different solutions as the regulations were already seen as inflexible and lacking industry expertise. Several interviewees at different companies expressed a distrust in the legislative process leading up to a regulation, stating that the political interests of pushing regulation fast might overshadow the prudence and solidity of the regulation. Across all people interviewed a common wish was that the regulatory environment would be more unified and standardized.

The speed of change in the regulatory landscape as well as the urgency of adhering to them was observed to have increased rapidly the last couple of years, with the global head of

sustainability recognizing a notable shift around 2020. This perception is corroborated by the new reporting standards the company committed to 2015, 2019 and 2022.

“New regulations are coming in, and they are changing, so you need a lot of flexibility to handle that. The implementation goes fast...sometimes I wonder what's what, it's very complex” (1NN, 2024).

Due to this increased uncertainty, the mimetic pressure towards isomorphic change increased. As the ambiguity in the industry regarding regulations and future is heightened, the companies within the industry will act more cautious and try to mimic peers (DiMaggio & Powell, 1991). This causes a more reactive approach which was observed in the later years of public reporting compared to the first two stages.

The increased complexity of the reporting processes was an obstacle, referring to varying types of data they were required to send to the different regulatory bodies. They felt that this was a factor dampening ESG enthusiasm even though they actually did want to comply. This “reporting fatigue” could be a result of the owners of the reporting process not taking the users sufficiently in regards (Thomson & Bebbington, 2005) (Botchway & Bradley, 2023). Further, ensuring the consistency and accuracy of data across various reports is a significant challenge due to different requirements from multiple regulatory bodies. This inconsistency can lead to errors and inefficiencies, increasing the workload and potential for reporting fatigue.

“With CII (Carbon Intensity Indicator) verification, we see that things that were written manually are mistakes. These are avoided if you have functioning automatic processes” (1NN, 2024).

In response to this, companies are increasingly participating in industry-wide committees and collaborations to influence regulatory frameworks. These efforts are aimed at standardizing reporting requirements to reduce complexity and streamline processes.

“We have a climate committee...we cannot work each shipping company by itself, we must work together to influence regulations” (1NN, 2024)

Further, the more demanding regulations have increased the importance of training and education at all levels. The Head of Sustainability at the Trade Organization stated:

“We dedicate a fair amount of time, effort and resources to explaining why the regulations require of them, why they require it. We often need to explain why it in many cases is a bit weird” (2T, 2024)

At NautiCo, the Nordic head of Sustainability continues:

“The information needs to be sorted out, it becomes way too much info, if you get something you do not understand you pass it on. That is also a part of my role, to be able to explain the regulations in an intelligible way, and if I don’t understand it I call the Global Head of Sustainability” (1NN, 2024).

Regarding the potential resistance to SER within the organization 1NN stated:

“The understanding of environmental importance is quite cemented. What is more difficult is getting people on board with why they have to sit and report so many different things, what happens with these numbers? Why are we sending them? For example, motivating people to use a digital log book when many prefers an analog book”

A person involved in the data input of SER numbers agrees:

“Of course there is resistance if it requires additional work and it complicates things. But then the challenge is to motivate and explain why it is in a certain way? Then everyone usually understands. But of course if you just push on without explaining there is going to be resistance”

In regards to the sufficiency of information and training received in the new SER digitalization effort, concerns were raised that there had not been enough information for the users, leading to disparities in input methodologies.

Continuous training and education for crew and office staff on new regulations and reporting systems are voiced as crucial. This ongoing education helps in maintaining compliance but also adds to the operational costs and complexity of the sustainability processes. However, the ambitions are hard to follow through on due to the regulatory pace. The challenges described with keeping up with reporting, are causing emerging cracks in the internal legitimacy of SER which have previously been observed as a factor contributing to the

dismantling of SER (Maughan, 2022). However, unlike in many previous longitudinal SER research cases (Vinnari & Laine, 2013; Belal & Owen, 2015; Contrafatto, 2019) when SER practices decline, the external pressures on reporting remains high.

5. Discussion

NautiCo's development of SER have been mapped according to Contrafatto's (2014) phases, resulting in clear indication of a development of a common meaning system preceding initial public reporting and ramp up of statutory reporting, practicalisation in the following years and finally, reinforcement of developed SER practices in the last phase. However, the existence of both statutory reporting and public reporting diverged from Contrafatto's (2014) study, which pertained to public reporting, inviting the discussion of how the statutory reporting practices and regulatory dynamic has shaped NautiCo's development in comparison to the previous longitudinal SER research. Further, this context leads to the discussion of how these differences have shaped the challenges of SER and its institutionalization. Through this discussion, we contribute to the longitudinal literature examining the internal and external factors affecting the evolution of SER within an organization.

5.1 Regulatory Dynamics Shaping SER Development: Reactive Versus Proactive Spectrum

The study has found statutory regulations to be the main driver of SER development. Examination of the specific regulatory context of the industry has revealed an industry particularly responsive to regulatory bodies.

The description of the reactive nature of the industry raises the question: would the SER development have looked different in an industry and/or company with a more proactive or neutral history? On a company level Sharma et al. (1999) found that among Canadian companies in the Oil industry there were drastically different responses to environmental concerns depending, partly, on their history of reactivity versus proactiveness. The companies that had historically acted reactively to legislation and environmental disasters were more likely to continue viewing environmental issues as a legislative concern whereas the historically proactive companies were more likely to be early adopters of environmental practices, setting them up for a better situation when the regulatory landscape became stricter. The habit to react to new regulations might thus be a double-edged sword, both setting

NautiCo up for easier adaptation compared to companies not used to regulatory induced overhauls of company operations but also contributing to organizational inertia hindering launching new SER initiatives that might have benefitted them long-term.

However, as NautiCo has been found to be one of the more proactive companies in the industry, due to its geography and customer-facing nature, the negative effects of reactivity should not be limited to NautiCo but should rather be worse in industry as a whole. This implicates a situation where many shipping operators are quite poorly positioned to meet the increasing regulatory pressure in an industry considered hard-to-abate, a speculation that will hopefully be proven wrong.

A less speculative conclusion is that NautiCo's focus on statutory reporting in favor of public reporting is driven by their regulatory habit. Compliance has historically been exceedingly important, leading to a continued weight of looking towards the regulatory bodies rather than the public. This can be connected to the considerable loss of income that can be lost if found non-compliant, which has guided which stakeholders to prioritize.

This aligns with Esteban- Arrea & Garcia-Torrea's (2022) compromise strategy. The company is in an industry with more mandatory environmental reporting than social; they are also faced with many stakeholder demands, and are thus in the same position in regards to environmentalists as in their study. This explains their choice of a compromise strategy, focusing on the most urgent metrics to environmentalists, responding to the stakeholder demands that will result in repercussions if not followed (Esteban- Arrea & Garcia-Torrea, 2022). In NautiCo's case this is showcased as the main focus for reporting the past years has been adhering to IMO and EU reporting, rather than developing the public reporting, choosing to prioritize the stakeholders that have the mandate to reprimand them rather than pleasing the shareholders.

5.2 Navigating the Iceberg: Challenges and Resistance in SER

Institutionalization

The examination of a company in an intense SER transition phase contributes to the insights into threats and challenges to the institutionalization of SER in a period where previous studies point towards an upward trajectory for SER (Vinnari & Laine, 2013; Belal & Owen,

2015). Increasing external pressures have been cited as a factor for initiation and development of SER in all previously mentioned longitudinal studies (Vinnari & Laine 2013; Belal & Owen, 2015; Maughan, 2022; Contrafatto, 2014), and conversely the decline (Belal & Owen, 2015) or lack of intensity (Vinnari & Laine, 2013; Maughan, 2022) of external pressures as a contributor to its decline. However, while the challenges faced in these studies, such as resource-constraints, organizational changes, changing external environment and identification with SER practice, are in many cases shared by NautiCo they are not in a position to deconstruct or challenge their SER due to the external requirements.

NautiCo expresses determination to comply with all sustainability and SER regulation, but still, some resistance is starting to build, and many challenges have been identified.

Unsupportive regulations are entering into force and the organization/industry is being backed into a corner of increased proactivity for compliance and financial distress. The issue is that, unlike in other studies such as Vinnari & Laine, (2013) and Belal & Owen (2015) where the same symptoms can be seen, our case organization can't voluntarily decrease or deinstitutionalize their processes as it will lead to the instant death of the organization.

Incremental technological advancements and investments are made towards coercive change to provide temporary stabilization effects by streamlining and reducing duplication of SER, in line with Troshani & Rowbottom (2023), but the mindset remains in a limbo, which can be seen as an effect of mimetic effects rooted in uncertainty of the future. The answer is so close, yet so far. Fossil fuels are the big culprit, but no sustainable solutions are perceived in tangible reach.

6. Conclusion

6.1 Summary

Managing to abate the emissions from the hard-to-abate industries is a daunting challenge, which the world must be up for. SER can be a tool in understanding the actual impacts of these industries as well as a potential tool in mitigating them. This paper has analyzed the development of SER within a company in one of the most emissions intensive industries through examining the construction of a *common meaning system, practicalisation and reinforcement* of sustainability as a practice and SER. Utilizing a mix of 10 in-depth

interviews, mapping of regulations and public reporting, the study has shown how and why the exhibited SER development dynamics have occurred. In particular, the specific relationship between the industry and regulatory forces, characterized by a long tradition of responding to reactive legislation and required statutory reporting, has been shown to be present in every stage of development seemingly leading to both willingness to adapt and decreased focus on public reporting practices. Our study further contributes by providing a regulatory overview due to a longitudinal approach.

6.2 Limitations

The longitudinal approach combined with the chosen method of retrospective interviews created a set of limitations for the study. The study has provided far less detailed insights into the emergence and early stages of SER compared to the more recent years. In an attempt to remedy this, historic public sustainability reports were included in the scope of analysis. While this contributed significantly to understanding the internal development of public reporting, the processes involved in statutory reporting remained rather vague in the early years. Therefore, the study focuses on describing the “matter of fact” development of actual reporting practices through examining the timeline of statutory regulations.

6.3 Areas of Future Research

Due to the limitations of our study, understanding the detailed internal organizational processes in phase 1 and 2 of an emissions heavy company would be an interesting area of possible future research. Additionally, we welcome research on a macro process-based perspective. Our initial plan was to conduct a field study to capture insights of the entire sector, but due to limitations this wasn't possible. Yet, with our small insights from contextual interviews outside the case company, interesting macro perspectives were identified, diverging from previous research, which could be interesting to dive deeper into. In the same vein, looking into the historic regulatory dynamics' interplay with industries, to which we hope to have made a small contribution, would be an interesting area to study further.

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8. Appendix

8.1 Appendix 1: Preliminary Interview Questions

General information:

- Can you provide an overview of your company's operations in the shipping industry?
- How long has your company been operating, and what are its primary areas of focus?
- Could you describe the size and structure of your company, including revenue, the number of employees and vessels?
- Ask about role in the company

Sustainability Reporting Practices:

- Does your company engage in sustainability reporting? If so, what prompted the decision to start reporting on sustainability?
- Which sustainability issues are most important to your company, and how do you prioritize them?
- Could you describe the process of collecting and reporting SER data within your organization?
 - A) Do you have someone/people responsible for the SER work? Are several divisions involved, i.e. how integrated is it in the whole company?
 - B) are those the same responsible for any reporting?
 - C) where are you getting sustainability data from?
 - D) is it a standardized process? or up to people currently involved?
 - E) Which metrics are you reporting on?
 - F) how long have you reported on those?
 - G) Do you utilize any internally developed or external software in production of numbers/reports?
 - H) Do you engage in communication with stakeholders regarding sustainability/reporting? ex. local communities, advocacy groups, legislative bodies, shareholders etc
- What methods or standards do you use for measuring and reporting sustainability performance?
- What are the major obstacles your company faces in implementing sustainability reporting practices?
- How are these obstacles mitigated or addressed?
- Is there a difference between what you report to IMO & EU vs what is shown publicly? How

Internal perceptions:

- Where does the drive for sustainability reporting come from? top-down from management? or are there other groups within the company advocating?
- How do sustainability perceptions differ between roles, what matters, what information do you get, from who? Aligned? How was this 20-30 years ago?
- Is all reporting that you have to do relevant, would you change / delete / add any aspects? Is it maybe too broad, should it be more industry specific?

8.2. Table 1. Interview Details (Titles altered for anonymity)

Code	Role	Date of interview	Organization	Duration
7NN	COO	27-03-2024	NautiCo, Nordic Subsidiary	46 min
10N	Global Head of Sustainability	19-04-2024	NautiCo	1 h 6 min
2T	Head of Climate & Environment	15-04-2024	Trade Organization	1 h 11 min
3NN	Captain	15-04-2024	NautiCo, Nordic Subsidiary	1 h 11 min
1NN	Head of Environment (Subsidiary)	05-04-2024	NautiCo, Nordic Subsidiary	50 min
9S	CEO	05-04-2024	Publicly Owned SME	44 min
8M	Head of Sustainability	02-04-2024	MariCo	48 min
4NN	Captain	01-05-2024	NautiCo, Nordic Subsidiary	1 h 5 min
5NN	Chief Officer	01-05-2024	NautiCo, Nordic Subsidiary	1 h 2 min
6NN	Chief Engineer	01-05-2024	NautiCo, Nordic Subsidiary	25 min
	Total		10 (7 with case company)	

8.4 Table 2. Our Application of Contrafatto's (2014) Process of Institutionalization

TIMELINE OF SER DEVELOPMENT	Early 2000's	2006- 2015	2015 →
PHASE-PROCESSES	Construction of common meaning system	Practicalisation	Reinforcement
SUB-PROCESSES	Externalization, Objectivation, Internalization	Adoption, implementation and re-definition of SER and related rules and routines	Creation and implementation of organizational constituencies and systems
ELEMENTS INVOLVED	Idea of "environmental responsibility" emerged, Idea of "environmental responsibility" and meaning system were socially constructed, Idea of "environmental responsibility" and meaning system were internalized	<p>Rules</p> <p>a) Published environmental policy</p> <p>Routines</p> <p>a) establishment of procedure for timing of statutory and public reporting</p>	<p>a) Appointment of new sustainability roles, Global Head of Sustainability and Nordic Subsidiary Head of Port and Environment</p> <p>b) Adoption of software streamlining reporting</p>
INFLUENCING ORGANIZATIONAL FACTORS	<p>a) Serving passengers</p> <p>b) incentives for energy-efficiency projects due to cost-savings</p>	<p>a) Acquisition of nordic subsidiary</p> <p>b) Becoming a publicly listed company</p>	<p>c) New roles appointed</p>
INSTITUTIONAL MECHANISMS TOWARDS ISOMORPHIC CHANGE	<p>a) Coercive: in terms of change in regulatory landscape</p> <p>b) Normative: in terms of existing guidelines and standards in other industries and customers</p> <p>c) Mimetic: in terms of looking at peers and best practice in the industry</p>	<p>a) coercive in terms of additional regulations</p> <p>b) Normative: in terms of existing guidelines and standards as ground for improvements of SER</p>	<p>a) Coercive in terms of intensifying regulatory pressure</p> <p>b) Normative in terms of increased standards</p> <p>c) mimetic in terms of uncertainty</p>
OUTCOMES OF THE PROCESS	Environmental responsibility becomes institutionalized and introduced as a goal in itself	SER and rules/routines become routinised	Investments in automation systems and increased relevancy as well as effort put towards SER