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Managing External Pressures in the Maritime Industry

Strategic responses to climate-induced management pressures

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Master's thesis

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The climate crisis is a tumultuous topic that has gained global traction and interest among political and business leaders. From an international business perspective, the issue is perpetuated by the infinite need for economic growth and the resources with which said growth is produced. Resource-intensive growth results in ever-increasing carbon emissions, which in turn exacerbate the climate crisis. The issue is wicked and complex to the extent that individual organizations are otiose in attempting to fix it. Thus, mitigating the effects of the climate crisis with collective action is imperative.

The maritime industry fuels world trade and is thus a major contributor to increased carbon emissions. Maritime operators strive for efficiency as industry profit margins are low, which predisposes most businesses to desist from sustainable reform. Hence, there is a dire need for sustainable value promulgation research in the industry.

By combining resource dependence theory and institutional theory, Oliver (1991) theorized a framework for strategic responses to institutional processes. This thesis studies resource dependence theory, the maritime institutional environment, and Oliver's (1991) framework to identify how managers confront external sustainability pressures to ensure their company's survival in the maritime industry. This amalgamation of theory is juxtaposed against interviews with maritime researchers and experts to produce insights on how external factors shape organizational management decisions. The research design thus addresses a previously identified research gap introduced by scholars of maritime sustainability.

Antecedents, namely cause, constituents, content, control and context, affect an organization's choice of strategic management responses in face of external pressures. Strategic responses include acquiescence, compromise, avoidance, defiance and manipulation. A key finding in this thesis is that the scope of strategic responses to external pressures is not necessarily limited to resistance, as hypothesized by Oliver (1991). Proactive conformance is suggested to be a sixth viable strategic option that may increase profit margins and augment the size of the overall market for sustainable business.

Findings also suggest that the financial limitations that are known to hinder the industry's green transition can be circumvented through differentiation and specialization. Moreover, shaping high sustainability performance markets and organizations within them could be an efficient first step for those entities looking to promulgate sustainable change. Further research is required to confirm and explore how proactive conformance augments the toolbox of discretionary action available to organizations in the face of external pressures.

Key words: Sustainability management, resource dependence theory, institutional theory, maritime sustainability, value networks, promulgating values, corporate activism.

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Ilmastokriisi on mittava maailmanlaajuinen ongelma, jota on pitkään puitu kansainvälisessä keskustelussa. Kansainvälisen liiketoiminnan näkökulmasta ongelma kiteytyy kasvukeskeiseen talousajatteluun ja erityisesti resurssipohjaiseen kasvuun. Resurssien kulutus kasvattaa hiilidioksidipäästöjä, mikä syventää ekologista kriisiä entisestään. Koska maailmantalous perustuu monimutkaiseen yritysverkostoon, ei ilmastokriisiä voi ratkoa ilman monitahoista yhteistyötä.

Meriteollisuus on keskeinen osa maailmantaloutta ja samalla suuri ilmastopäästöjen aiheuttaja. Koska ala on kilpailtu ja katteet jäävät useilla yrityksillä pieniksi, monet meriteollisuuden yritykset keskittyvät taloudelliseen tehokkuuteen, jolloin kestävä kehitys jää tausta-ajatuksiksi. Siksi on mielekästä tutkia kestävä liiketoiminnan edistämistä meriteollisuudessa ja kestävä kehityksen hyötyjen laajamittaista tunnustamista yritysverkostoissa.

Oliver (1991) yhdisti resurssipohjaisen ja institutionaalisen talousajattelun piirteet viitekehikseksi, jonka avulla voidaan tulkita liiketoimintaympäristöjä ja ennakoita organisaatioiden strategisia valintoja niiden kohdatessa ulkoisia paineita. Tällä tutkimuksella pyritään selvittämään millä tavoin johtajat käsittelevät ulkoisia kestävyyspaineita pärjätäkseen meriteollisuuden kilpaillussa toimintaympäristössä. Tutkimus yhdistää resurssipohjaisen teorian meriteollisuuden liiketoimintaympäristöön Oliverin (1991) viitekehiksen avulla. Teoriaa peilataan alan asiantuntijoiden haastatteluvastauksiin ja näkemykset avaavat ulkoisten tekijöiden todennäköisiä vaikutuksia organisaatioiden päätöksentekoon. Tämä tutkimusmalli täyttää aiempien tutkimusten jättämiä aukkoja meriteollisuuden kestävä kehityksen tutkimuksessa.

Tulosten valossa Oliverin (1991) nimeämät ennakoititekiäjät näyttävät vaikuttavan johtajien tekemiin päätöksiin. Ennakoititekiäjiä ovat paineiden alkuperä (eng. cause), sidosryhmät (constituents), sisältö (content), hallinta (control) ja asiayhteys (context). Strategisia vaihtoehtoja ovat Oliverin mukaan myöntyminen (acquiescence), kompromissit (compromise), välttely (avoidance), uhmaaminen (defiance) ja manipulaatio (manipulation). Tässä tutkimuksessa kuitenkin havaitaan, että organisaatioiden ei aina tarvitse vastustaa ulkoisia paineita, toisin kuin Oliver (1991) väittää. Tulosten perusteella paineisiin voi myös mukautua proaktiivisesti. Proaktiivisuuden havaitaan kehittävä katetuottavuutta ja kasvattavan kestävä liiketoiminnan markkinaa.

Tulosten perusteella ehdotetaan, että meriteollisuuden taloudellisia haasteita voidaan lieventää erottautumalla ja erikoistumalla – tämä luo myös edellytyksiä kestävä liiketoiminnan harppaukselle (green transition). Kestävä liiketoiminnan edistäminen tulisi aloittaa maista, joissa kestävä kehitys on jo valmiiksi pitkällä. Näissä maissa on lähtökohtaisesti suurempi institutionaalinen paine mukautua kestävyysvaatimukseen. Tulevien tutkimusten tulisi keskittyä proaktiivisen mukautumisen tutkimiseen ja tässä tutkimuksessa esitetyn uudistetun teorian vahvistamiseen ja soveltamiseen eri tutkimusasetelmissä.

Avainsanat: Kestävyysjohtaminen, kestävä liiketoiminnan edistäminen, resurssiperusteinen teoria, institutionaalinen teoria, kestävä meriteollisuus, arvoketjut, yritysaktivismi.

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1 Introduction

1.1 Drivers behind the impending climate crisis

According to recent international summits, research publications and increased regulation, the climate crisis is an escalating global wicked problem that needs to be addressed urgently (IPCC 2021; COP26 2021; Fit for 55 2021). However, the issue is of such overwhelming complexity that the likelihood of an individual organization or entity remedying it is very low. Therefore, academics and world leaders call for collaboration across multiple fields of industry and regulation in working towards the same goal – reducing greenhouse gas (GHG) emissions and mitigating the extent and effects of anthropogenic climate change. (IPCC 2014.)

Half of the anthropogenic GHG emissions accumulated since 1750 occurred between 1970 and 2010. As depicted in Figure 1, carbon dioxide (CO₂) equivalent emissions between 2000 and 2010 increased absolutely by almost a quarter, which means that their trajectory has steepened during the 21st century, despite increased climate awareness. Of this 10 gigaton increase, 47 % came directly from energy supplies, 30 % manifested from industry, 11 % was transport-born and 3 % came from building sectors. (IPCC 2014.)

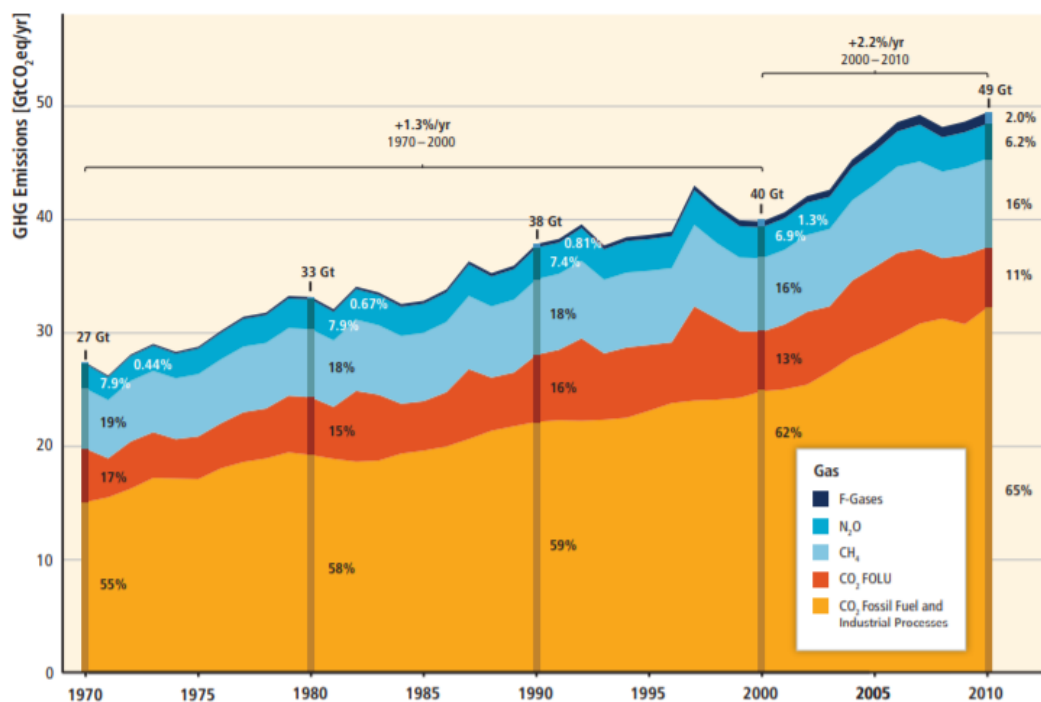


Figure 1 – Total annual anthropogenic GHG emissions 1970–2010 (IPCC 2014)

The distribution of increased emissions into sectors highlights important pain points in climate change mitigation. Tremendous joint efforts are required on multiple fronts, including but not limited to innovating new energy solutions to replace fossil fuels, reorganizing industrial operations to improve energy efficiency, and improving large-scale carbon sequestration capabilities. These measures work towards decreasing GHG emissions, enabling less energy-intensive economic growth and repairing some of the damage already inflicted in past decades.

The maritime industry is to some extent involved in all sectors where emissions are significantly increasing. Indeed, international shipping is estimated to contribute to global GHG's by almost 3% of total emissions. However, although maritime operations both create and participate indirectly in increasing CO₂ emissions and other GHGs, international shipping is estimated to cover over 80% of world trade volume. (IMO 2014; UNCTAD Executive summary 2017.) This means that shipping is a massive contributor to the global value chain. The industry's strong position in world trade has been facilitated with the introduction of twenty-foot equivalent container units, which have greatly increased productivity and advanced global interconnectedness (Menon 2021). As putting world trade to an abrupt halt would clearly be ill-advised, the best solution for mitigating the climate impact of the maritime industry is to pivot it onto a more sustainable track.

1.2 The green transition in maritime business

The maritime green transition has been stagnant, as regulators' attempts at reform have proved inadequate against a diligently stalled shipping industry. Recently, however, the International Maritime Organization (IMO) and the European Union have both proposed new regulations for sanctioning carbon-intensive operators. (Stone 2021.) The problem remains that even if regulations were up to par, the burden of implementation is on the operators. If overly regulated, shipping and cargo-handling operators would wither from lack of profitability. Therefore, sanctions and regulation do not suffice to influence the maritime industry remarkably. Rather, it would seem that the motivation to change needs to stem from within, ergo, sustainability must make business sense.

To that end, the consistent communication of corporate responsibility objectives and performance reportedly increases brand equity, an intangible asset widely considered to be a fundamental measure of competitiveness. Branding helps companies differentiate themselves from competition in saturated markets. As sustainable business models

increase brand equity, developing these business models for branding purposes makes business sense in saturated markets. (Brondoni 2010.)

There are individual maritime operators that have committed to sustainable development goals, but the industry as a whole has been slow to transition into the green economy (Stone 2021). The laggard pace can be attributed to multiple factors, notably low-margin profitability and high global interconnectedness (Hasanspahić et al. 2021) – these factors are scrutinized later in this thesis.

Moreover, an individual organization cannot address its environmental impact sufficiently without considering its broader supply chain and stakeholder map (Fabbes-Costes et al. 2011). The World Resource Institute (2009) has estimated that 80% of a company's total supply chain emissions are generated outside of the focal company. A drastic example is Marks & Spencer, which reports that 97% of its carbon impact is in the realm of scope 3 emissions, that is, generated by either suppliers or customers (M&S 2022). As these percentages illustrate, businesses cannot induce change unless they manage to promulgate their sustainability agendas across the supply chain.

A network approach thus needs to be pursued to implement sustainable change in the maritime industry. As managing networks is notoriously challenging (Ojasalo 2004), the question arises: how can networks be managed to implement impactful sustainable change? Albeit a challenge as is, the nature of maritime business adds complexity to the multifaceted issue. If the entire scope of the problem were merely a question of how, hitherto solutions proposed by maritime scholars would have already been implemented.

Maritime companies operate in multiple diverse institutional environments simultaneously, subjecting them to a profusion of external demands. Adhering to all demands would require resources to an extent that would diminish the operators' finite profit margins (Pfeffer & Salancik 1978). This variety of external demands is exacerbated by a polarization trend in social media, which is dividing people into subgroups within their own cultural contexts (Centola 2020). Thus, the maritime industry's operating environment is not only complex due to its inherent cross-border nature, but the industry also faces increasingly conflicting external demands in individually fragmented institutional environments.

It follows that to adequately account for both the complexity of managing external demands and the intricacies of maritime sustainability pressures, both topics are examined in this thesis. However, as there is little normative research on promulgating sustainability in networks, this thesis focuses on managing maritime sustainability pressures to ensure a company's survival in a networked market. The results provide a basis for inferring how organizations in a maritime network might respond to external sustainability pressures. Such research could be useful for organizations that wish to expedite their own transition towards a sustainable operating model by including their networks in the process.

1.3 Research problems and structure

If a large company assumes sustainability responsibilities and justifies the decision with business parameters, say brand equity, it needs a network of responsible clients and value chain partners to follow suit (Meehan et al. 2006). As the maritime industry is under great pressure to decrease carbon emissions and overall environmental pollution, the importance of industry leaders' capabilities to promulgate sustainable values in their networks is highlighted. Successful promulgation is exceeded by an understanding of the climate challenges that maritime operators encounter and the motivations behind their intentions to confront challenges presented by environmental decay and consequent external demands.

To better understand how maritime operators encounter the challenges presented by the climate crisis, a central research problem is formulated:

How can managers confront external sustainability pressures to ensure their company's survival in the maritime industry?

The central research problem is divided further into the following subproblems:

- What prompts and hinders action against the climate crisis in maritime business?
- How can a business manage external pressures within a network?
- What strategies can a business employ in confronting maritime sustainability pressures?

The research is structured to first guide the reader through the background of the research problem and to then define the problem and the scope of the research. After identifying the building blocks of the thesis, an academic literature overview ensues through two chapters. In these chapters, central theoretical frameworks for scrutinizing network

management challenges and institutional pressures are introduced. Central arguments and findings of the academic literature are presented in the synthesis of the latter theory chapter (3). The purpose of introducing these theories elaborately is to reach a unified approach through which subsequent research interviews are examined. Research interview questions are largely based on the findings of the theory section, and the purpose of the interview approach is to combine existing literature and interviewee insights to produce additional information, through which the research problem can be explored.

More information on the purpose and validity of interviewing as a research method can be found in the methodology chapter. In addition to research design and data collection, the chapter covers data analysis methods, evaluations thereof and ethical considerations relevant to this thesis. The interviews are dissected and analyzed in the results chapter. Following the results, conclusions from the entire research process are outlined, and answers to research questions are presented and discussed. Theory, results, and implications are discussed and analogized against secondary references in their respective sections throughout the thesis. The final chapter is a general summary of the thesis, succeeded by a list of references and relevant appendices.

1.4 Definitions and delimitations

The scope of this thesis requires delimitations, as multiple broad domains are considered. Moreover, some of the presented terminology can be ambiguously interpreted. To increase the rigor and trustworthiness of this thesis, the definitions and delimitations of concepts such as sustainability, institutional and ecological environments, maritime operations, organizational survival, and management are discussed below.

The definition for sustainability has not been unanimously recognized, but this thesis defines sustainability according to the widely approved triple-bottom-line approach coined by Elkington (1998). The triple-bottom-line refers to the harmonious coexistence of economic, ecological and social achievements in business. However, this thesis focuses on ecological issues in maritime business, as justified by the impending climate crisis introduced above. Therefore, in this thesis sustainability is considered a long-term approach to business that most acutely emphasizes planetary ecological issues, without omitting the economic and social repercussions of practicing ecological business.

Some researchers claim that corporate social responsibility (CSR) and sustainability can be used interchangeably – sustainability can even be seen overtaking CSR in popularity over time, due to its unbiased connotations, whereas CSR is sometimes seen as a more normative construct. (Strand et al. 2015.) Although some still deny the parallel correlation, CSR and sustainability are interpreted synonymously in this thesis. However, the text consistently refers to sustainability in pursuit of coherence.

This thesis builds on two classical theories: resource dependence theory (RDT) by Pfeffer and Salancik (1978) and strategic responses to institutional processes by Oliver (1991). Oliver's theory builds on RDT, and although the two discuss institutional pressures and external demands respectively, these can be considered roughly synonymous phenomena in the context of this thesis. Institutional pressures are a sort of external demand, whereas external demands can originate from institutional environments among others. Hence, the terms are used interchangeably when their semantic differences do not alter the original conveyed meaning.

RDT scrutinizes the operational environment of organizations in detail – this is not to be confused with the ecological climate environment, which is an entirely different yet equally important concept in this thesis. The term environmental alludes to an organization's operating environment throughout this thesis, unless specified to refer to the climate. RDT assumes organizational interconnectedness, and thus focuses on management in networked industries. Therefore, a separate network focus is not necessary for this research.

Throughout the thesis, maritime operators are referred to as representatives of the maritime industry. For this purpose, maritime operators are defined as shipping companies, ship manufacturers, ports, cargo-handling companies, maritime transportation providers and other businesses that contribute to maritime world trade, and the high GHG emissions associated with it. Organizational management is at the center of scrutiny, and as one of the interviewed informants is a maritime business executive, his management decisions are reflected on the organization that he represents, Elomatic. Therefore, Elomatic is consistently mentioned in the results and conclusions of this thesis to portray how the phenomena and results apply to a real-world maritime operator.

Organizational survival can be interpreted as a literal binary question of existence. In such cases, the survival of an organization would likely depend on other factors besides

sustainability performance. However, this thesis interprets organizational survival as an attempt at longevity and prosperity instead of a literal, binary question of existence. Moreover, survival semantically highlights the gravity and the need to act on the climate crisis.

Finally, the concepts of management and leadership, which are rooted in different etymologies, are often seen as divergent tasks in business literature. While management is considered to be an outdated concept with an overly intense focus on coordinating activities and processes, leadership has been considered an effort to influence people to do things. A management focus has even been portrayed ineffective in guarantying business success. However, recent conceptual research reveals that the two concepts are overlapping and quite synonymous. (Nienaber, 2010.) Moreover, the central theoretical framework of this thesis by Pfeffer and Salancik (1978) does not differentiate between the two. Therefore, this thesis refers to management as the coordination of the entire organization, activities and people included, and any references to leadership do not imply a semantic difference, they merely serve to increase the legibility of the text.

2 Resource dependence theory

As the business economy has long been increasing in complexity, connectivity and globality, relationships between organizations have also become more intricate and manifold. Customers, suppliers and competitors are seldom private partners – instead they form a network that requires dynamic management. (Ojasalo 2004.)

Networks can be perceived from copious points of view, the amalgamation of which has resulted in multiple theories on how networks are organized. Some theories propose that, by definition, networks cannot be managed, while others insist that they inherently possess several managers. (Biem & Cashwell 2008, 2; McGuire 2011, 436.) For example, the industrial network perspective purports that a firm's performance is specifically tied to its position in the network. It suggests that actors are companies, other institutions and individuals that perform specific activities with a set of resources – these three dimensions are all interlinked within the network, where actors form bonds, activities form links and resources form ties. This ARA model predisposes that networks merely depict the dynamics of an industry, and that the dynamic entity is inherently unmanageable. (Biem & Cashwell 2008.)

Gulati (1998) however, identifies several success factors in networks, and proposes that they are indeed manageable. Formulas for success include flexible management, trust, identifiable patterns for information exchange, and effective conflict resolution. In this thesis, networks are perceived to be extremely complex entities that can be managed, but their management is difficult and not entirely discretionary. This builds on the classical resource dependence theory by Pfeffer and Salancik (1978).

Resource dependence theory elaborates on the management of external dependencies and is therefore a formative framework in management literature. Understanding the theory behind management decisions is essential to examining the research questions of this thesis, which is why the key concepts of RDT are introduced below.

2.1 External control over organizations

Pfeffer and Salancik (1978) see organizations as resources. They are markets where influence and control are tradable goods, transactions of sorts. As participants of an organization tend to have diverse objectives and even incompatible goals, the actions of

the organization are determined by whose interests rise above others'. Therefore, measures such as effectiveness or performance are not accurate on their own – they depend on whose interests are being served.

Those that seek resources from the organization need to be able to control and influence it. Participants will thus try to offer their own resources, a performance for example, in exchange for more control over the collective effort. Said control is then used to initiate appropriate actions for promoting the participant's own interests. This means that, according to RDT, power is organized around important resources that are hard to come by. The more critical and less widespread a resource, the more power its holder will have over the organization – both internally as well as externally. Not all participants that provide resources for the focal company are bound to it – such external participants include other organizations, groups, and individuals. These participants form the context for the organization, i.e., the social environment where the organization acts. (Pfeffer & Salancik, 1978.)

According to RDT, outside participants can influence organizational action when they have control over critical resources. Pfeffer and Salancik (1978, 260) provide a set of contingencies that facilitate this external control over an organization:

- The possession of some resource by the social actor
- The importance of the social resource to the focal organization; its criticality for the organization's activities and survival
- The inability of the focal organization to obtain the resource elsewhere
- The visibility of the behavior or activity being controlled
- The social actor's discretion in the allocation, access, and use of the critical resource
- The focal organization's discretion and capability to take the desired action
- The focal organization's lack of control over resources critical to the social actor
- The ability of the social actor to make its preferences known to the focal organization

The above conditions are not exhaustive, nor inexorable – they can be amended by participating parties. In general, the focal organization can augment its discretionary influence by avoiding the conditions. Reversely, external participants can proactively influence the conditions to increase their control over the organization. (Pfeffer & Salancik, 1978.)

RDT explicitly states, however, that an organizational environment is not predetermined or objective. Environments are defined by diverse perceptions, involuntary attention and subjective interpretations, although they are influenced in part by information systems and other structures within the focal organization. Interestingly, individuals and most information systems have a tendency to attribute organizational outcomes to individuals within the organization. Thus, they search for solutions to problems within the focal organization, which directly contradicts the suggested emphasis on external participants highlighted above.

Pfeffer and Salancik (1978) propose that organizations will adjust their operation to soothe external demands, when problems visibly eat away at the position of those whose interests are prevalent in an organization – the dominant coalition. Consequently, when individuals manage to solidify their position of control over an organization, external demands become less imminent to these individuals, who are thus less enthusiastic to address the demands.

If an organization's alacrity to disregard environmental demands becomes inappropriate, it begins to inhibit the organization's ability to acquire resources. The multitude of competing external demands is thus what makes management difficult. As an organization has limited resources, each selection is simultaneously a deselection. Ergo, complying with demands is inherently insufficient. Organizations attempt to address this problem by denying external access to their information. They can avoid external influence by discrediting demands as illegitimate, branching out with their dependencies to meet more diverse demands, and increase their own legitimacy by presenting convenient information. (Pfeffer & Salancik 1978.)

Organizations seek to avoid external control, but simultaneously aspire towards stability and certainty. While the organization wishes to adapt to future environments autonomously, stability presupposes interorganizational coordination, which results in some loss of autonomous discretion. The dilemma is shared by all collective structures: gaining control over another organization entails forfeiting proprietary discretion. (Pfeffer & Salancik 1978.)

The mutual demand for certainty and discretion is what leads organizations to pursue strategic collaboration such as joint ventures, cooptation, mergers and acquisitions, as well as other strategic actions like growth and political investments. Environmental

factors thereby affect how power and control are distributed in organizations. Subsequently, power and control accelerate career succession. Those with power ascend to leading positions in organizations, where they begin to shape the trajectory of the organization's actions. This forms an ecosystem of sorts, where environmental contingencies affect who receives power and control, which in turn affects how the organization manages its interdependencies with the environment. (Pfeffer & Salancik, 1978.)

A recent example of this ecosystem portrays the classical theory's relevance in today's business environment. In 2021, three pro-climate-action directors were nominated to the executive board of ExxonMobil, one of the world's largest oil corporations, by a coalition of environmentally concerned activist shareholders. The CEO of ExxonMobil sternly protested the nomination but was forced to yield to insuperable external pressures. The directors, known for their ecologically considerate approach to fossil fuels, were eventually appointed to the board. (Sharfman 2021.) On the board of an influential oil and gas corporation, the three directors can begin shaping the industry towards a more sustainable trajectory, as per the requests of activist shareholders. In effect, environmental contingencies affect who receives power and control, which influences how the organization manages its interdependencies with the environment.

RDT highlights key aspects of control within organizational management, which are fundamental to the research problem – the allocation of internal control greatly influences the direction that a focal organization takes. The following subchapter delves deeper into the roles that managers enact in an organization.

2.2 Symbolic, responsive and discretionary management

Pfeffer and Salancik (1978) propose that managers of organizations act through three managerial roles: symbolic, responsive and discretionary. The roles differ in terms of how an organization's actions relate to its environmental constraints. Management is symbolic when actions are seemingly unrelated to constraints. In the responsive role, managerial actions are responses to environmental demands. Managers assess extant interdependencies and determine with which actions they can best confront the demands. Actions and constraints are thus related. The discretionary role of management is to oversee the handling of multiple constraints and environments according to the

organization's best interests. Management attempts to negotiate favorable environments and direct the organization toward these environments.

Managers of organizations will typically encounter all three roles in their job descriptions, and all may even be enacted simultaneously. Moreover, although each role emphasizes different skill sets, all are potentially important. (Pfeffer & Salancik 1978.) The three roles have been utilized to dissect, among others, academic leadership and entrepreneurship (see e.g. Kohtamäki 2019; Hsu et al. 2020). The classification has also been criticized, as symbolic roles are frequently emphasized over responsive and symbolic roles (Lakshman 2012). The three roles are discussed in further detail below.

2.2.1 The symbolic role of management

Managers are often thought of as scapegoats – symbols for the success and failure of an organization. Not only do they symbolize results, managers represent individual control over actions and their outcomes. They are rewarded for positive organizational outcomes, and reprimanded when things go poorly. Managers symbolize control over chaos: if an organization succeeds, managers seem to have everything under control. If an organization faces hardship, in turn, managers are swiftly dismissed and replaced, so as to communicate regained control. (Pfeffer & Salancik 1978.)

Organizations are often eager to devote time and resources to finding new management. The search is usually an elaborate process, and new managers are assigned high symbolic value, which communicates to observers that the appointee's future actions will have a great impact. Generally, leaders are invested with privileges and extensive authority to remind others of their importance, as well as reward the managers for being accountable for the entire organization. In this respect, an executive manager is intrinsically noteworthy, even if its contribution to organizational outcomes is pedestrian – the symbolic status represents stability to the internal organization. (Pfeffer & Salancik 1978.)

Besides communicating stability internally, the symbolic role of management offers organizations a mechanism with which they can deal with external demands. Dismissing a manager can be a way to communicate to external stakeholders that the organization intends to comply with pressures. This procedure may already alleviate pressures, although the organizational outcome is yet to change. Moreover, replacing leaders may

have relatively little impact in the future of the organization, as new leaders with similar stances can be appointed as replacements. In effect, changing administrators can be a way of alleviating external pressures by keeping up appearances, without losing discretion. (Pfeffer & Salancik 1978.)

Inductive field research by Zott and Huy (2007) outlined that the symbolic management role does not only pertain to large organizations that face abundant external pressures. The study discovered that through symbolic management, entrepreneurs can effectively acquire resources. Symbolic actions were identified to convey credibility, a knack for organizing, hitherto achievements of the venture, and established stakeholder relationships. Ergo, the symbolic role of management has been verified in later research.

Pfeffer and Salancik (1978) highlight an interesting example in which scapegoating managers has become so ubiquitous that it is evidenced in multiple modern legal systems. Usually, organizations will not be condemned criminally liable for a committed offense, instead their figureheads are often imprisoned or sentenced to fines. Company leaders are usually the targets of legal investigations, and organizations will rather communicate their dismay toward managers' actions than risk becoming liable as institutions. They dismiss the managers that are found guilty, effectively complying with external pressures in the process.

2.2.2 The responsive role of management

More often than not, managers will contribute to actual organizational outcome. In the responsive role, this is enacted through context analysis. Managers will assess a social environment, determine how the organization should adapt to meet the constraint requirements of the environment and, in the end, implement the soundest adaptations. This should not, however, be mistaken for limitless discretion. Responses and adaptations are triggered by external demands that the organization confronts. The focus of this role is not to develop responses, but to choose which responses and courses of action are the most appropriate for the organization. The de facto selection of responses is determined by the various participants and stakeholders tied to the organization. (Pfeffer & Salancik 1978.)

Demands will often be copious. As mentioned earlier, there is a natural dichotomy to selecting responses, as submitting to one demand automatically suggests noncompliance

with an opposite demand. At the very least, complying with external demands leads to a decrease of discretion. RDT argues that managers tend to comply with demands that most present interdependence synergies with others. Organizations will limit their actions to satisfy the requests of those with resource control, as the support of important resource suppliers is pivotal to most operations.

Knowledge of significant interdependencies and relevant demands is clearly central in making informed decisions. Therefore, managers must acquire information on the environment and alternative consequences of diverse actions. With adequate information, the choice is often quite straightforward. (Pfeffer & Salancik 1978.)

In light of these arguments, management is not necessarily about making decisions, rather it is an information gathering effort. As a social context surrounds each decision, contexts will inevitably constrain the end result of the process, if the decision is to be considered effective in said context. It is important to distinguish that the responsive role is not inconsistent with the widely accepted decision-making role of management. Instead, the role emphasizes the significance of processing organizational contexts and responding to them. (Pfeffer and Salancik 1978.)

In line with the responsive role of management, research by David et al. (2007) studied the effects of stakeholder requests on corporations' social performances. Managerial responses were characterized as either symbolic or substantive, based on the effect of the request on overall performance. The relationship between proposals and substantive outcome was negative, and therefore authors suggested that requests led to increased symbolic action, that is, mitigation of increasing requests instead of the desired increase in social performance. Managers were found to weigh their options and the subsequent consequences, and to arrive at the strategy that resulted in the least erosion of organizational discretion.

2.2.3 The discretionary role of management

Discretionary management is conscious altering of organizational dependencies, such as merging organizations, lobbying or coopting with other organizations. Discretionary management shapes social contexts and thereby differs from responsive management, where the focus is on choosing which environments to respond to. Both are more effective

when contexts are correctly analyzed and interpreted, and thus the roles are not mutually exclusive. (Pfeffer & Salancik 1978.)

The nature of shaping organizational contexts is quite challenging, as few organizations have enough resources or scale to significantly alter their external environments. The discretionary role emphasizes a manager's role in shaping contexts, although organizational success is recognized to be in the hands of many participants outside the control of the focal organization. This is due to the organizational need to interlock activities with external environments in order to survive, as all organizations within a network are interdependent. The definition of interdependence is that the structure of activities – how they are interlocked – is never in the hands of a single manager. (Pfeffer & Salancik 1978.)

DiMaggio and Powell (1983) argued that external pressures force large organizations in established markets to homogenize in profile, because perceived legitimacy requires adherence to isomorphic pressures. On the contrary, Hambrick et al. (2004) found in a steel industry study that the established market along with its numerous external pressures had become increasingly heterogeneous. They argue that the isomorphic pressures introduced by DiMaggio and Powell (1983) would likely lead to homogeneity, but that the pressures were decreasing instead of increasing. Thus, the discretionary role of management can be considered increasingly noteworthy, as variety has become a norm within industries.

These managerial roles depict the effects that managers have on their organizations, emphasizing the management's effect on organizational outcome. Still, organizations do not operate in vacuums, and are therefore subject to external demands. The following subchapter discusses how organizations are affected by their operating environments.

2.3 Conflicting demands and organizational environments

Organizations decrease the extent to which they depend on their environments by diversifying and growing their businesses. Paradoxically, the same strategy also increases the amount of external interest in the organization. As the number of interested groups and organizations increases, so does the diversity and number of demands it encounters. Critically speaking, size does not affect the complexity of demands – the extent to which others perceive an organization as a desirable resource or tool is more significant.

Organizations that possess useful resources for external participants face more demands than others. (Pfeffer & Salancik 1978.)

While differentiation reduces external dependence, it also enables the management of conflicting demands. Although demands do not reduce due to diversification, the obligation to respond to certain demands diminishes. When dependency is dispersed among several participants, ignoring individual demands becomes less impactful. Conversely, the number of demands that are addressed may actually increase, if there are diverse groups that can be satisfied simultaneously. If the external interests are not tightly interconnected, organizations may even satisfy conflicting demands intercurrently by addressing diverse interests through different subunits. Employee interests may be addressed by a human resource subunit, while a communications subunit addresses public concerns. This differentiation can persist for as long as the organization's resources suffice. This is how complex organization structures have formed; subunits are established to deal with subsegments of heterogeneous interests. (Pfeffer & Salancik 1978.)

Size, therefore, does not directly impact structural differentiation. Structural differentiation is a product of the number and importance of conflicting external demands – and organizational size is a byproduct of the same function. Differentiating organizations to simultaneously satisfy multiple constituencies is an evidently common practice, easily identifiable from the abundance of modern, complex organization structures. However, it should be noted that this differentiation effort only satisfies conflicting demands when the established subunits are mutually relatively independent. If a subunit's actions are constrained by others, it loses discretion in taking action and legitimacy in soothing external demands. Notwithstanding, loosely coupled sub-units can accommodate interest groups with small actions so as not to redirect the entire organization, effectively buffering subunits from each other. Small symbolic action of course feigns solutions to actual problems and, therefore, only works with relatively insignificant issues. (Pfeffer & Salancik 1978.)

Organizational differentiation also creates a bond of cooption between subunits and their correspondent interest groups. As interest groups gain access to the focal organization, they cherish the relationship as primary and critical. Thus, in the name of maintaining limited access and representation, they are less likely to pose extreme demands on the

focal subunit. Therefore, differentiation will not only result in internal buffers, but also decrease the magnitude of external influence. (Pfeffer & Salancik 1978.)

Neither structural differentiation nor diversification of activities reduces an organization's dependence on the environment. Instead, the activities provide structure for addressing these challenges. The repercussions of noncomplying with specific demands become less ominous when organizations face numerous demands, as most demands address a minuscule part of the total organization. However, if organizations do not possess the slack resources to deal with a large set of diverse environmental elements, they may face difficulties managing the competing groups. (Pfeffer & Salancik 1978.)

Recent research confirms that slack resources contribute significantly to how responsive a company is towards external demands. However, the surrounding institutional environment has an equal effect. In countries where the overall sustainability performance is relatively low, companies that possess slack resources will tend to be more amenable to external demands than competitors that do not possess the same slack resources. On the contrary, in countries where sustainability performance is executed at a relatively high level, larger amounts of slack resources do not correlate significantly with corporate responsiveness to external pressures. This means that while slack resources are significant, so too is the institutional environment in which an organization operates. (Xiao et al. 2018.)

Similarly, the perspective of external control on organizations strongly argues that, as organizational actions are formed in response to environmental demands, organizational behavior can be shaped largely by designing the organization's environment. Thus, in attempting to change organizations and their future directions, Pfeffer and Salancik (1978) propose the focus ought to be in shaping the organizations' contexts. By shaping or replacing their contexts, organizations may also be externally controlled. As economists have long purported, individuals will tend to aspire towards personal gain and seek their own best interests. Therefore, social contexts must be so structured that while individuals aspire to benefit from their own actions, they simultaneously build towards increasing collective social welfare.

Pfeffer and Salancik (1978) raise an interesting example of this phenomenon – one that is perhaps outdated today, but therefore illustrates accurately the authors' point back in the 1970's. The example is that of employment agencies, which [decades ago] frequently

participated in discriminatory hiring practices – the agencies would propose to employing companies applicants of a specific race or gender, as per the request of the employers. Efforts to sanction these practices were futile for long, given the multitude of employment agencies and lack of positions to be filled. If an agency passed up on an inappropriate request, the employing company would simply move on to the next service provider. Agencies were not keen to pass on job orders, as they were evaluated against peers on the number of completed placements. Employers had external control over the agencies, so enforcing the agencies' actions with other means, such as legislations, would not solve the problem. It would only put the agencies in an untenable situation. Pfeffer and Salancik (1978) concluded this wicked example with the prognosis that “Enforcement directed against the employing organizations [would be] much more likely to change the situation of discriminatory referrals.”

The quoted change is happening in today's society, as organizational diversity is under increased scrutiny by scholars, institutions, and individuals (see e.g, Dale-Olsen et al. 2013; Reguera-Alvarado et al. 2017). Organizations have also become increasingly aware of the benefits of nurturing diversity and multiculturalism (Martin 2014). Society has therefore effectively pressured organizations to consider the broader implications of discriminating against certain groups of people, by redesigning societal contexts to produce desired outcomes. In effect, the prognosed change has happened exactly as Pfeffer and Salancik (1978) estimated decades ago.

As depicted with the above example, understanding the ideas behind resource dependence theory is paramount to answering the research problems of this thesis – the effects of seemingly separate entities on the focal organization cannot be understated. The following subchapter addresses the relationship between an organization and its external stakeholders. In chapter 3, these ideas are built on with different perspectives and an increasingly external focus.

2.4 Promulgating sustainable values

It seems then that networks are indeed manageable, but extremely complex entities. Brondoni (2010) argues that in managing networked organizations, intangible assets become especially important. The high intensity of global competition promotes the adoption of intangible assets in those organizations with high external dependencies, which in turn spawns network policies for corporate economical, ecological and social

responsibility. Essentially, intangible assets provide companies a competitive edge in saturated markets – simultaneously these markets are shaped toward a more responsible direction.

As legal compliance and customer satisfaction have already demonstrated, universally accepted requirements often become prerequisites for survival across all market participants, although they remain insufficient assets for overcoming competitors (Brondoni 2010). It is possible sustainability may too become a similar requirement, with which all must comply but from which few will yield profits.

Lafferty et al. (2002) suggest that a positive corporate image correlates with purchase intentions. Subsequently, consumers will discriminate against organizations that fail to keep up appearances. Meehan et al. (2006) agree and argue that sustainability can indeed promulgate business success instead of draining it. The contrary view stems from early literature, and thus scholars are quick to dismiss the possibility of sustainability as a competitive resource.

Meehan et al. (2006) propose that a network is exactly as strong as its weakest link, at least in terms of perceived sustainability. Partnerships are a prerequisite for modern networked business, but if an organization chooses its partners poorly, it may lose legitimacy. Fair trade is an example of an external standard that requires transparent disclosure of partnerships and minimum quality in partners. It has become a stamp of approval especially in certain ethically disputed fields of trade, where ingredients are harvested in remote locations – coffee, sugar or bananas, for example. Value networks in general must be consistent and credible in order to maintain customer relationships. Credible consistency requires that the organization works towards its set goals. This extends to partnerships as well: partners must be able to commit to the same values that the focal organization promulgates.

As the networked economy has turned consumers savvy to a wider array of ethical and social business metrics, price and quality have long since ceased to be the only factors of a purchase decision. Sustainability commitments are not one-off deals that ensure business continuity – they require continuous relationship maintenance, since organizations that espouse certain social values without disseminating the values across their entire business network will suffer a stakeholder deficit. (Meehan et al. 2006).

Stakeholder deficits occur, for example, when organizations resort to signaling. Signaling and greenwashing are symbolic efforts executed by companies to be positively considered in the eyes of stakeholders, despite lacking in effort to positively impact the surrounding society. They have become increasingly prevalent in the 21st century, as organizations look to reap the benefits of being perceived as good corporate citizens, without significantly altering their operations. (Mahoney et al. 2013.) Organizations are thus exposed for communicating a responsibly inclined orientation without walking the talk. In effect, those that genuinely and consistently promulgate responsible action within a network can circumvent detrimental rivalries and competitors' resource advantages with their positive corporate images, while those that merely feign doing so damage their operation with a narrow reputation management approach. (Meehan et al 2006.)

Meehan et al. (2006) thus conclude that organizational success entails a threefold approach to sustainability: commitments, connections, and consistency. In order to extract a competitive resource out of sustainability and establish legitimacy, the three C's must collaborate simultaneously and interactively. Inconsistent organizations with weak management systems suffer performance deficits. Narrowly focused, poorly connected organizations suffer a stakeholder deficit. Uncommitted organizations with narrow profit orientations experience sustainability deficits. Each deficit has negative ramifications for companies that signal intent without implementing due action.

3 Institutional pressures and maritime sustainability

Institutional theory is a paradigm that considers how institutional environments affect organizations, their processes and outcomes. It has been criticized for rendering organizations passive in conforming to institutional processes. RDT, among other resource-based theories, has been credited for seeing organizations as active agents that resist, act and manipulate instead of conforming, pacifying and accepting. Both institutional and resource-based theorists agree that organizations look to increase stability and legitimacy, and that the institutional environment of an organization affects its operation. The theories differ in how organizations respond to these effects – institutional theory states that conforming to institutional pressures enhances an organization’s likelihood of survival, whereas RDT states that organizational survival depends on the organization’s ability to manage and control external pressures. (Oliver 1991.)

Table 1 – Benefits of organizational conformance and resistance (Oliver 1991)

<i>Benefits of conformance i.e. institutional theory</i>	<i>Benefits of resistance i.e. resource dependence theory</i>
Increased prestige, stability, legitimacy and social support	The ability to maintain discretion or autonomy over decision making
Increased internal and external commitment, and attraction of personnel	The flexibility to permit continual adaptation as new contingencies arise
Better fit into administrative categories, access to resources, acceptance in professions and invulnerability to questioning	The latitude to alter or control the environment in accordance with organizational objectives

This chapter introduces a compound theory that consolidates institutional and resource-dependent views to outline the potential strategic responses with which managers address institutional pressures. The theory is illustrated with examples from academic maritime sustainability research. The amalgamation by Oliver (1991) is based on underlying antecedents, which denote whether organizations will pursue passive or active strategies. Passive strategies are conformant in that they do not seek to actively resist external pressures, whereas active strategies resist external control. The two categories present diverse benefits, although the motive behind pursuing each strategy is promoting

organizational longevity, as discussed above. The different benefits are summarized above in Table 1.

3.1 Strategic responses to institutional pressures

Drawing largely on Pfeffer and Salancik (1978) as well as other institutional and resource-based organizational theorists, Oliver's (1991) framework theorizes organizations' potential strategic responses to institutional pressures. This framework has since been elaborated on and adapted to specific disciplines and industries, such as work-family issues and the steel industry (Goodstein 1994; Etherington & Richardson 1994; Milliken et al. 1998; Clemens & Douglas 2005). Oliver (1991) agrees with other institutional theorists and defines the institutional environment – the source of pressures – to consist not only of the state and various experts, but also of public opinion and interest groups, who likewise exert institutional pressures.

According to Oliver (1991), organizations' attitudes toward the institutional environment vary between the extremes of five distinct dimensions: resistance, awareness, proactiveness, influence and self-interest. The variations in these dimensions provide a foundation for five strategic responses, with which organizations react to the institutional environment. The responses are acquiescence, compromise, avoidance, defiance, and manipulation, as depicted in the table below.

Table 2 – Strategic responses to institutional processes (Oliver 1991)

<i>Strategies</i>	<i>Tactics</i>	<i>Examples</i>
Acquiesce	Habit	Following invisible, taken-for-granted norms
	Imitate	Mimicking institutional models
	Comply	Obeying rules and accepting norms
Compromise	Balance	Balancing the expectations of multiple constituents
	Pacify	Placating and accommodating institutional elements
	Bargain	Negotiating with institutional stakeholders
Avoid	Conceal	Disguising nonconformity
	Buffer	Loosening institutional attachments
	Escape	Changing goals, activities, or domains
Defy	Dismiss	Ignoring explicit norms and values
	Challenge	Contesting rules and requirements
	Attack	Assaulting the sources of institutional pressure
Manipulate	Co-opt	Importing influential constituents
	Influence	Shaping values and criteria
	Control	Dominating institutional constituents and processes

As shown in table 2, each strategic response considers three varying approaches, all of which are defined briefly through examples on the right-side column. These strategic responses and tactics are practiced by organizations in accordance with the pressures that are being exerted on them. The strategies represent different degrees of organizational resistance. Acquiescence is closest to absolute conformity, while the other strategies are variations that span from negligence to near conformity. More importantly, the responses vary in how active they are. Passive conformity is placed highest on the table and the most active, manipulative strategies are on the bottom. Conformity can also be ceremonial when organizations want to appear cooperative but are, in reality, fighting institutional pressures. (Oliver 1991.)

An example of ceremonial conformity is the incongruity of attitudes and practices in port sustainability. Ashrafi et al. (2019) conducted a survey on port executives in North America to map their attitudes and actions toward confronting sustainability issues. The findings portray a definite interest toward the subject, with almost 90% of the 14 respondents stating that the importance of sustainability is either high or very high. However, some answers indicated contradictions between the values directors or managers fostered and the actions being taken by the ports they represent to promote those values, as seen in the pie charts below: (Ashrafi et al. 2019.)

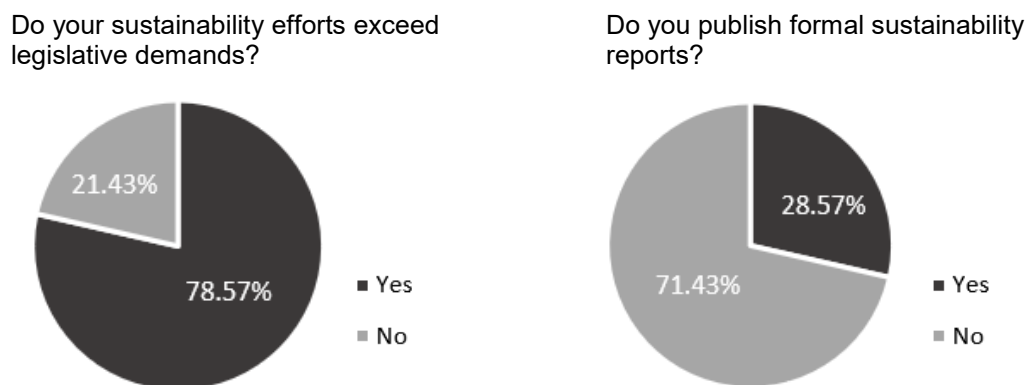


Figure 2 – Port sustainability strategies and reporting practices (adapted from Ashrafi et al. 2019)

When asked if their sustainability strategies extended beyond that which is legally required of them, 79% of the respondents replied affirmatively. However, only a quarter of the respondents replied that they formally and separately report their sustainability efforts. Moreover, the study found that the ports that produce standalone reports considered sustainability a strategic core value, whereas half of the non-disclosing ports

did not see sustainability as a key priority. Ashrafi et al. (2019) conclude that, while sustainability is considered important in most ports, it is usually not effectively incorporated into their strategies and processes. These ports also seem to lack clear and ambitious sustainability practices. Paradoxically, while sustainability is of high importance to ports, it still falls shy of a key priority in practice. Ports may conform to stakeholder sustainability expectations ceremonially, without putting in the required effort. Ports' nationalities and, thus, institutional contexts have been shown to explain differences in ports' active sustainability reporting performances (Santos et al. 2016).

As the institutional environment affects an organization's choice of strategic response, scrutinizing elements of the environment can shed light on why organizations arrive at a specific response. How the institutional environment can be analyzed to anticipate likely strategies, is discussed below.

3.2 Predictive antecedents and maritime sustainability pressures

The likelihood of an organization choosing a specific strategy from those listed in Table 2 can be evaluated through predictive antecedents. These antecedents are used to examine the institutional pressures that an organization faces – in this thesis, relevant pressures relate to maritime sustainability. The antecedents denominated cause, constituents, content, control and context, are best illustrated with five questions, which examine institutional pressures from distinct points of view: (Oliver 1991.)

- Why have the pressures originated? (*Cause*)
- By whom are they being exerted? (*Constituents*)
- What types of pressures are they? (*Content*)
- How are they being exerted? (*Control*)
- In what instance do they occur? (*Context*)

These antecedents and their relations to strategic responses are examined in the following sections. The use of antecedents is illustrated with topical examples of maritime sustainability pressures. Moreover, Oliver's (1991) generic hypotheses and conclusions are examined in the context of the maritime institutional environment.

3.2.1 Cause and international differences in legitimacy

If the cause of an institutional pressure is seen as legitimate and thought to boost efficiency, firms are likely to acquiesce. On the other hand, if the organization does not agree on the benefits of conforming to the exerting party, the result will likely be reverse – the organization will compromise, avoid, defy or manipulate the terms of conformity. (Oliver 1991.)

For example, shipping emissions can be considered pollution on two different accounts: air pollution from nautical GHGs and ocean acidification triggered by ship-based CO₂ dissolving into oceans (Shi 2016), container ships being the primary contributors to emissions in the shipping sector (Psaraftis & Kontovas 2009). Some impactful nations, such as the USA, have regulated CO₂ as a dangerous pollutant to enable state-level emissions regulations, while other efficiently developing economies such as China, India and Brazil are yet to introduce legislation to regulate GHG emissions. Falling in between, Australian regulators regard GHG emissions as pollution, but have failed to incorporate it into national legislation (Shi 2016.) The differences between effective regulations in these countries can be attributed to Oliver's cause factor, as different societies have distinct attitudes toward CO₂ emissions and the legitimacy and effectiveness of sustainability regulations.

3.2.2 Constituents and conflicting demands

The influence of constituents is a key antecedent. As the normative environment is not unanimous, constituents tend to pose conflicting demands on organizations (Pfeffer & Salancik 1978). The more constituents, especially if they represent different motives, the less likely an organization is to acquiesce. When an organization deals with an abundance of constituents, likely strategies will be compromise, avoidance, defiance and manipulation. (Oliver 1991.) Ports are versatile organizations that are usually managed by port authorities. Port authorities exercise regulatory power over all the operators in their jurisdiction or area, rendering them accountable to multiple constituents at a time. (Alderton 2008.) As ports are key junctions of international trade, they are in a rare position of having true impact on global sustainability practices and requirements (Klopott 2013). Not only do these practices influence the port industry, they also set an

example for pivotal agents within the broader international trade value chain (Kang & Kim 2017).

Port authorities are understood to possess four roles, depending on the constituent: they act as landlords who provide facilities, as regulators who set costs and standards of services, as operators who offer facilitative services with their own maintenance and supervisory fleets, and as community managers who unite a network of stakeholders in ports, aiming to enable cooperation and boost performance. (Verhoeven 2010.) These roles enable port authorities to encourage operators toward more sustainable practices. To name a few examples, port authorities can, as regulators, enforce sustainable legislation and standards, or even implement their own set of rules to preserve the environment. As landlords they can, through acquiring modern facilities, integrate sustainable infrastructure and tools into their own business or utilize alternative energy sources. (Verhoeven 2010; Lam & Notteboom 2014.) However, multiple simultaneous roles also force port authorities to balance between constituent expectations, as theorized by Pfeffer and Salancik (1978) and Oliver (1991).

Compromise is especially viable if diverse pressures are being exerted by different constituents, and the organization is looking for middle ground. Pressures from sources that organizations are somewhat independent from, can be avoided or manipulated as they have little to no impactful consequences. (Oliver 1991.)

Ports are local institutions, yet most of the economic value they produce manifests elsewhere in distant locations. Nevertheless, the negative by-products of port activities, such as noise pollution, water contamination and other social and environmental hazards, are predominantly local. (Ashrafi et al. 2019.) Denktas-Sakar and Karatas-Cetin (2012) claim that strong and persistent relationships with stakeholder groups in the supply chain are a key prerequisite to sustainability in ports. Therefore, as communities surrounding ports have inherent motivations to exert sustainability pressures onto port authorities, these concerns must be addressed. As Chang and Wang (2012) point out, deploying a novel power supply system onto berths could reduce CO₂ emissions by up to 60 %, but would require mutually coordinated investments from both port authorities and shipping liners. On the other hand, these investments would answer to the pressures that local stakeholders inflict on the port authority. To successfully implement sustainability into port operations, executives and directors of ports must be committed to inducing change

(Ahsrafi et al. 2019). The choice that port authorities must make, is whose pressures to address and whose to ignore.

Intuitively, the more dependent organizations are of the constituents, the more likely they are to acquiesce (Oliver 1991). Large shipping companies decide which ports become central nodes in the supply chain, which means that they carry the ultimate responsibility of choosing which ports and practices to support. It is up to the ports to make themselves attractive destinations. (Alderton 2008.) Thus, ports will see large shipping liners as key constituents, likely to adhere to their demands.

3.2.3 Content and voluntary standards

The content of institutional pressures is scrutinized through consistency and constraints. Pressures that are consistent with an organization's goals are likely to be acquiesced to. (Oliver 1991.) For example, increasingly complex cross-border transactions bring a practical need to establish voluntary regulations when formal legislation, mandatory sustainability reporting and best practices overlap. (Coady et al. 2013; Yliskylä-Peuralahti & Gritsenko 2014.) Therefore, shipping companies generally comply with a combination of regulated and voluntary standards and rules. This is also partly due to gaps left unattended by international treaties. Thus, shipping companies will abide by the rules that are in line with their goals. Comparative analysis shows that especially large shipping companies have seen a surge in voluntary standards and collaborations during the 21st century. (Coady et al. 2013.) Summarizing the key findings of over 100 research papers over decades, Skovgaard (2014) even correlates voluntary sustainability practices with increased profits.

However, when the pressures are only somewhat consistent with organizational goals, compromises and avoidance strategies are predictably the most frequent. If pressures constrain autonomous discretion and dictate outcomes to the degree that it becomes a nuisance, organizations seize avoidance strategies. When decision-making is constrained to a great extent, organizations will rely on manipulative and defiant strategies. (Oliver 1991.)

3.2.4 Control and coercive legislation

When institutional pressures are exerted due to strict underlying legislation – formal control – organizations tend to acquiesce to expectations in fear of punitive consequences (Oliver 1991). In addition to national and voluntary maritime regulations and standards, there are also international regulatory bodies, such as the IMO within the United Nations (Lampe 1983). For example, the IMO introduced compulsory regulations that came into effect in January 2020. The new regulation, dubbed IMO 2020, set a sulfur cap on ships' fuel emissions at 0.5%, which is a remarkable reduction from the previous cap of 3.5%. Still, despite the radical drop, the emissions from marine fuel remain higher than that of land diesel. (Halff et al. 2019.) The IMO (2019) delegates the supervision of compliance to flag and port states, which suggests that organizations will acquiesce in fear of penalties.

However, if supervision is lenient and sanctions are not excessive, organizations look to compromise with the pressures. (Oliver 1991.) A pertinent example of flexible legislation is the Kyoto protocol, which obliges nations to control emissions but does not force immediate deadlines or specific actions to reach set targets (Kyoto protocol 1997).

According to Oliver (1991), legal coercion is not the only aspect of the control factor, as voluntary diffusion of norms can also lead to acquiescence, as discussed above. If others in the same industry conform to institutional pressures, a member of that industry is likely to follow suit. In shipping, voluntary standards are commonly internationally negotiated regulations that become obligatory once adopted by states. A ship that sails under a flag state that has accepted a standard is then obliged to comply with said standard. Ships can choose and change under which flag they are registered, thereby voluntarily adhering to that state's standards. Higher standard registries form clubs with each other, whence low standard operators are excluded. Club members offer each other advantages, such as less scrupulous inspections, an increase in workforce stability or more valuable quotes. (DeSombre 2009.) Vice versa, if a voluntary practice is not widely diffused, it will face resistance in organizations. As Oliver (1991) points out, armies historically avoided conscribing and even hiring women into the military, until work force equality became such a widely demanded notion that discriminating against female officers was deemed illegitimate and banned.

3.2.5 Context and maritime interconnectedness

Lastly, Oliver (1991) summarizes that context interacts with the other antecedents. Context is analyzed through uncertainty and interconnectedness within the industry. In uncertain situations, organizations will predictably favor acquiescence, compromises and avoidance. In uncommonly uncertain conditions, organizations will even imitate each other's decisions and practices (Galaskiewicz et al. 1989). Institutional interconnectedness promotes acquiescence among organizations, as norms and practices are ubiquitously diffused and the disadvantages that multiple stakeholder groups impose are downplayed (Oliver 1991). An interesting example here is the International Transport Workers Federation – a union that shipowners can enroll their vessels into – sometimes doubling the labor costs but simultaneously ensuring skilled labor and excellent treatment in ports, where the union's presence is strong. If the presence were not as widespread, shipowners would not be motivated to enroll. (DeSombre 2009.)

Similarly, firms that are more likely to cooperate with peers of industry – such as operators in ports that host multiple interdependent organizations – are also likely to prefer less active strategies and to acquiesce to stakeholder pressures (Clemens & Douglas 2005; Denktas-Sakar & Karatas-Cetin 2012). Rationally, the less interconnected and more fragmented the institutional environment, the less conformed and more defiant or manipulative the agents in the industry. Interconnectedness also increases the number of compromising organizations, as negotiations are facilitated through institutional networks. (Oliver 1991.)

Oliver (1991) also presents multiple real-world examples of applications to her pioneering study across different industries. For example, avoidance in the context of constituents can be the only resort for an oil company, if a major oil spill were to occur. The company would be compelled to hide the spill, as cleaning it up would displease shareholders due to increased costs, while the public would demand a clean-up due to environmental threats. Multiple scholars have studied balancing stakeholder expectations (Reynolds et al. 2006; Bridoux & Stoelhorst 2014), which proves that these types of contradictions between constituencies are common. Similar analysis ensues from a maritime sustainability context in chapter 5. The validations of Oliver's framework and contributions in different industries are examined below.

3.3 Applications of the strategic response framework

Oliver's framework has been utilized in the context of maritime sustainability before. Vejvar et al. (2017) studied inland ports' strategic responses to institutional pressures and identified each of the five strategies in their research data. They concluded that cause, control and constituents are most likely to lead to increased sustainability investments and compliance. They also suggested a causality between the wide diffusion of sustainable norms and the high degree of interconnectedness in the maritime industry. On the other hand, ports were proposed to most likely resist pressures that do not present immediate payoffs.

Other industries have also been scrutinized through Oliver's framework. Clemens and Douglas (2005) investigated a contemporary environmental issue in the steel industry by surveying trade association members on the effectiveness of Oliver's five strategic responses as posited earlier in Table 2. This and other adaptations of Oliver's framework have yielded generic findings that assist in analyzing organizational behavior across industries. For example, Clemens and Douglas (2005) found that respondents were highly inclined to seize manipulative strategies when incentivized by economic factors. Similarly, in a different study, organizations were likely to acquiesce to pressures when they were necessary to maintain economic benefits (Etherington & Richardson 1994).

Scholars have also used Oliver's framework to scrutinize organizational phenomena, such as balancing professional careers with family lives (Goodstein 1994; Milliken et al. 1998). Goodstein (1994) found that company size affected a firm's responsiveness to institutional pressures; the larger a company, the less likely a firm was to actively resist pressures. Clemens and Douglas (2005) could not duplicate this result for the steel industry, but neither did their findings discredit Goodstein's conclusion. They rationalized that, due to experience with previous predicaments, the leaders of the steel industry may be more proactive toward societal issues as opposed to other industries' agents. This notion that not all discoveries could be replicated regardless of industry was introduced by Milliken et al. (1998). They proposed that organizations in a specific industry may favor particular responses, distinct to the preferences of other industries.

Upon surveying faculty members at Canadian universities, Etherington and Richardson (1994) found that, when the parties that insisted on change were also in charge of resources, respondents routinely opted for a compromise strategy. When demanded

changes were in line with the goals of the university, manipulation strategies were frequent and defiance and avoidance strategies uncommon. When a university's autonomous discretion was threatened by pressures, respondents were likely to choose defiance and avoidance strategies, as was the case when pressures were perceived to increase uncertainty. These discoveries are consistent with Oliver's theoretical projections (Etherington & Richardson 1994).

A key finding in empirical literature is that out of Oliver's five strategic responses to institutional pressures, organizations are not limited to pursuing just one strategy at a time. Different pressures will result in diverse strategies due to distinct motives, but their timing may well overlap. (Clemens & Douglas 2005.) This is in line with RDT, which suggests that multiple choices are made simultaneously by different subsets of the focal organization to cope with mutually divergent external interests (Pfeffer & Salancik 1978).

3.4 Synthesis of the theoretical framework

This synthesis summarizes the key points in theory chapters 2 and 3. Presented academic literature delves deep into specific phenomena, which can affect the legibility and cohesiveness of the study. Therefore, a synthesis of the central principles and guiding ideas of the thesis increases accessibility and bridges the gaps readers may have encountered between the two theoretical frameworks. Moreover, it is a useful exercise for coding theoretical topics for subsequent data analysis.

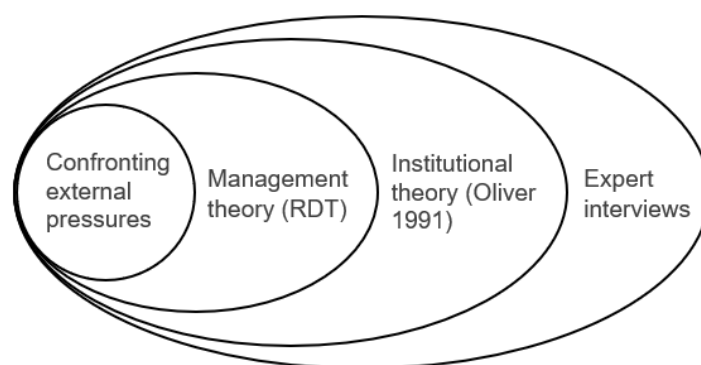


Figure 3 – Connecting theory to the research problem

The above figure depicts the relationship between presented theories and the central research problem. Resource dependence theory is the baseline of this research, as it focuses on management roles and the impact of conflicting demands and organizational

interdependence on management. Oliver's (1991) framework includes elements of institutional theory and thereby augments RDT's narrow perception of the impact of institutional factors on management decisions. The framework is a tangible tool for analyzing antecedents to strategic responses as well as the responses themselves. These two theories are the base on which additional research interviews are conducted to answer the research question. Research design is discussed further in the following chapter.

Resource dependence theory by Pfeffer and Salancik (1978) is a classical perspective on how organizational leaders approach management. RDT builds on the necessity of organizational resistance to external demands for securing an organization's survival. Managers can either avoid external demands or disarm them by succumbing partially – this is achieved by discrediting demands as illegitimate or branching out with dependencies to meet small demands more diversely. Organizations can also increase their own legitimacy by denying external access to their information and by disclosing information at their convenience.

While managers wish to adapt to future environments autonomously, their demand for stability presupposes interorganizational coordination, which also means they forfeit some proprietary discretion. Organizations that possess useful resources for external participants face more demands than others, and managers tend to comply with those demands that most present interdependence synergies with others. Organizations will limit their actions to satisfy the requests of those with resource control, as the support of important suppliers is pivotal to any operation.

Pfeffer and Salancik (1978) propose that organizations interact with their external environments through their managers. Specifically, managers have three roles through which they can comply with multiple external demands simultaneously: symbolic, responsive and discretionary. However, managing multiple demands requires slack resources, and even so, all external demands cannot be adhered to, as they are often inherently conflicting.

From a symbolic management perspective, managers represent control over chaos: if an organization succeeds, managers seem to have everything under control. If not, they are swiftly replaced to communicate regained control. Changing administrators is also a mechanism for alleviating external pressures without losing discretion.

Organizations are most likely to adjust their operation when external demands visibly eat away at the position of their leadership. Environmental contingencies affect who receives power and control, which in turn affects how the organization manages its interdependencies with the environment.

When organizations disregard environmental demands to an inappropriate extent, it begins to negatively affect their resource acquisition. Thus, they are forced to comply with some demands. Each compliance decision is simultaneously a disengagement from conflicting demands. However, if the external interests are not tightly interconnected, organizations may satisfy conflicting demands intercurrently by addressing diverse interests through different subunits.

Neither differentiation into subunits nor diversification of activities reduces an organization's dependence on the environment. Instead, the activities provide structure for addressing these challenges. As interest groups gain access to the focal organization, they cherish the relationship as primary and critical. Thus, in the name of maintaining limited access and representation, they are less likely to pose extreme demands on the subunit they are dealing with.

The nature of shaping organizational contexts is quite challenging, as few organizations have enough resources or scale to significantly alter their external environments. The discretionary role of management emphasizes shaping contexts, although organizational success is recognized to be in the hands of many participants outside the control of the focal organization. In attempting to change organizations and their future directions, Pfeffer and Salancik propose the focus ought to be in shaping the organizations' contexts. By shaping or replacing their contexts, organizations may also be externally controlled.

In countries where the overall sustainability performance is relatively low, companies that possess slack resources will tend to be more amenable to external demands than competitors that do not possess the same slack resources. On the contrary, in countries where sustainability performance is executed at a relatively high level, larger amounts of slack resources do not correlate significantly with corporate responsiveness to external pressures. This means that while slack resources are significant, so too is the institutional environment in which an organization operates.

As legal compliance and customer satisfaction have already demonstrated, universally accepted requirements often become prerequisites for survival across all market participants, although they remain insufficient assets for overcoming competitors. It is possible sustainability may too become a similar requirement, with which all must comply but from which few will yield profits. Intangible assets provide companies a competitive edge in saturated markets – simultaneously these markets are shaped toward a more responsible direction.

Those that genuinely and consistently promulgate responsible action within a network can circumvent detrimental rivalries and competitors' resource advantages with their positive corporate images, while those that merely feign doing so damage their operation with a narrow reputation management approach. Organizations that espouse certain social values without disseminating the values across their entire business network will suffer a stakeholder deficit. Meehan et al. (2006) thus conclude that organizational success entails a threefold approach to sustainability: commitments, connections, and consistency. In order to extract a competitive resource out of sustainability and establish legitimacy, the three must collaborate simultaneously and interactively.

The third chapter's central theoretical framework by Oliver (1991) is not incoherent with this threefold approach. It builds on RDT by combining institutional and resource-dependent theories to present a more cohesive theory on external control over organizations. According to Oliver (1991), organizations respond to pressures exerted by the institutional environment with five distinct strategies. The strategic responses are acquiescence, compromise, avoidance, defiance, and manipulation.

These strategic responses are practiced by organizations in accordance with the pressures that are being exerted on them. The strategies represent different degrees of organizational resistance. Acquiescence is closest to absolute conformity, while the other strategies are variations that span from near conformity to negligence and even counter measures. In other words, the strategies reflect an organization's activity. Acquiescence is a passive strategy whereas manipulation is active resistance. As a bottom line, the more legitimate an institutional pressure is thought to be, the less resistance it will meet.

Oliver's (1991) framework includes five questions that help predict the likelihood of an organization choosing a specific strategy. The questions represent five respective antecedents for organizational behavior: cause, constituents, content, control and context.

These antecedents are examined in chapter 3 through topical examples from the maritime industry.

As posited both by RDT and Oliver (1991), constituents attempt to wield external control over organizations. Compromise is an especially viable strategy if diverse pressures are being exerted by different constituents and the organization is looking for middle ground. Pressures from sources that organizations are somewhat independent from can be avoided or manipulated as they have little to no impactful consequences. Firms that cooperate with industry peers are also less likely to actively resist external demands. The more fragmented an institutional environment, the less conformed and more defiant or manipulative its operators are. Interconnectedness also increases the number of compromising organizations, as negotiations are facilitated through institutional networks.

The content of institutional pressures is analyzed through consistency and constraints. Pressures that are consistent with an organization's goals are likely to be acquiesced to, which is evident in voluntary shipping regulations. Large shipping companies have increasingly participated in voluntary standards and collaborations during recent decades, possibly due to saturated markets and the promise of added brand equity. At least sustainability practices seem to correlate with increased profits. The more inconsistent a demand's content is compared to the organization's goals, i.e. the more it constrains the organization's actions, the more actively the demand will be resisted.

When institutional pressures are exerted due to strict underlying legislation – formal control – organizations tend to acquiesce to expectations in fear of punitive consequences. However, if supervision is lenient and sanctions are not excessive, organizations look to compromise with the pressures. Oliver also emphasizes the influence of club mentality on acquiescing to voluntary control – widely diffused voluntary norms will often be acquiesced to in hopes of network benefits.

Context is analyzed through uncertainty and interconnectedness within the industry. In uncommonly uncertain conditions, organizations will imitate each other's decisions and practices. Institutional interconnectedness promotes acquiescence among organizations, as norms and practices are ubiquitously diffused and the disadvantages that multiple stakeholder groups impose are downplayed. This is a common occurrence in the maritime industry.

Finally, conformance can also be ceremonial when organizations want to appear cooperative but are in reality fighting institutional pressures – an example of this is signaling and greenwashing, as evidenced in port sustainability reporting.

In effect, RDT theorizes how managers approach organizational decision making, and Oliver's (1991) framework interprets how institutional pressures lead these managers to respond to institutional pressures. This combination effectively conceptualizes management decisions and underlying antecedents thereof in the maritime industry. For the purpose of this research, insights are generated in iteration, as the first subproblem addresses the institutional environment of maritime sustainability, the second subproblem considers RDT, and the third subproblem applies these prior insights to Oliver's (1991) framework for strategic responses. Theory is then juxtaposed with academic and managerial expert insights on the maritime industry.

4 Methodology

This chapter outlines how the research is designed, why these choices have been made and how they affect the outcome and trustworthiness of the study. Each section also discusses ethical dilemmas and considerations for the author and reader of this thesis.

4.1 Research approach

According to Eriksson and Kovalainen (2008), appropriate research methods are dictated by the research question. The wide array of tools at a researcher's disposal is both a liberty and a liability; there are myriad tools available, but the chosen combination must convincingly answer the research question.

A popular division of research methodology is that of quantitative and qualitative research. Quantitative methods aim to produce quantifiable results by testing hypotheses through statistical analysis. These positivist methods are suitable for understanding correlations and consequential relationships. Qualitative methods are interpretivist in nature, which means that reality is socially constructed, and methods aim to depict research problems from a holistic perspective. (Eriksson & Kovalainen 2008.) On a more practical level, whereas quantitative methods are suitable for testing hypotheses through deduction from large pools of data, qualitative methods can be used to induce theories from small amounts of data. Therefore, qualitative research is apt in fields where research is scarce, while quantitative research is applicable for contributing to popular research areas. (Terho 2021.)

As the motivation of this paper is to develop an understanding of management perspectives within maritime sustainability, the nature of the enquiry is to holistically scrutinize a complex topic. This entails formulating a perspective from which the enquiry is conducted, which gives the research design an interpretivist twist. This philosophical approach is often complemented with qualitative research (Merriam 2009). Moreover, as value promulgation within supply chains as well as maritime sustainability are relatively new areas of interest both for scholars and practitioners, all-encompassing research on either topic is quite hard to come by. Thus, the holistic nature of this research and scarce existing knowledge on the topic further argue for a qualitative approach. Finally, Doz (2011) elaborates that qualitative research is apt for understanding organizational processes and the "how" and "why" questions in research, which is in line with the

research problem of this thesis. Qualitative research is central to formulating business and management theories as well as producing data about people's perceptions, which are prominent features of international business research.

An optimal research setting features three components: easy access, immediate understanding among informants and the prospect of gathering data that is in direct relation with the research questions (Taylor et al. 2016). By collecting research data through one-on-one interviews with maritime scholars at University of Turku and operational leaders in maritime business, all three objectives are met.

Maritime scholars were accessed through the university, and maritime business experts were suggested by a maritime cargo handling company to whom this research is topical. Ergo, not only was the access effortless, but immediate understanding among informants was also implicit in that the interviewees were referenced to the researcher by knowledgeable parties. Interviewing as a data collection method is inherently suitable for gathering data directly related to research questions, as interviewees have to directly address the topics that surface in conversation – thus it is up to the researcher to ask apt questions. Indeed, interviewing is a suitable method for interpreting abstract phenomena (Puusa & Juuti 2011).

As the study is qualitative, choosing the interviewees with careful consideration is more appropriate than randomly choosing from a sample (Jankowicz 1995). The choice to proceed with expert interviews is also justified by the complexity of the topic and research problems, which include understanding how interviewees respond to external sustainability pressures. Moreover, interview situations enable follow-up questions and unstructured data formulation, which may result in more honest and exposing answers than, say a content analysis of companies' web pages. Expert interviews are apt for gathering data, when good results are needed fast (Bogner et al. 2009), and this research is executed at a fairly rapid pace.

This research follows the ethical integrity principles set by the Finnish Advisory Board on Research Integrity, which apply to all disciplines of science in Finland (TENK 2012). Ethical consideration in research is pivotal for a number of reasons, the most tangible of which is that researchers are in a unique position to call out social injustices, which is a great responsibility. Those that fail to recognize or pay attention to shortcomings in the status quo may lose a footing in their communities, especially if this results in ethically

ambiguous research from their part. Moreover, the intention and consequences of invading people's lives and discussing their experiences with the entire scientific community present countless ethical issues. (Aluwihare-Samaranayake 2012.)

In effect, ensuring that the research contributes positively to its surrounding environment requires critical ethical consideration. Even then, the choice of ethical criteria arises, as well as the fundamental problem: who decides what is good and what is bad? (Aluwihare-Samaranayake 2012) Fortunately, the effects of ethical problems are often less invasive in qualitative research, as opposed to quantitative research (Orb et al. 2001). Be as it may, ethical considerations are presented throughout the methodology chapter of this thesis.

Regarding research design, an interesting notion in ethics research is that perhaps participants of a research are not alone in facing ethical challenges – researchers may also face similar challenges (Aluwihare-Samaranayake 2012). In this thesis, ethical consideration is obviously pertinent to discussing corporate responsibility and sustainability efforts at length. As an example, omitting active crisis mitigation may render the world inhabitable to humans, which presents an ethical challenge because a select few would benefit financially now, at the expense of entire generations in the future. While this ethical dilemma is relatively prominent and straight-forward, the issue of researchers facing ethical challenges in promulgating sustainable business is much more complicated – although the consequential aim of this thesis is to indirectly mitigate climate change, it could be argued that in attempting to understand how businesses resist external demands, the rights of business managers are infringed. The question is of deontological nature: is it wrong to enable people with similar agendas to affect businesses that have differing objectives?

Van Manen (1990) posits that reflecting on an experience is not possible while the experience is taking place. Reflection requires retrospect, because assessing one's feelings and biases as they occur cannot produce accurate results. Thus, however diligently this research is self-evaluated from an ethical perspective, the analysis remains biased. Hence, answering the above deontological question is a moot effort – it is a question to be addressed at a later time, perhaps by an unbiased separate party.

4.2 Data collection

Qualitative research can leverage either primary or secondary data sources. A primary source is that which is produced for the purpose of the research that it is presented in. A secondary source is one that quotes data from other research. (Hirsjärvi et al. 1996.) The theory sections in this thesis comprise of secondary data – findings from others that were deemed suitable for this purpose. The empirical data used in this study has been produced by the author of the paper during 2021 and 2022 to develop an understanding of current and emerging maritime sustainability challenges and trends, as well as an understanding of external demand management in the maritime sector. Both themes serve the purpose of this research, ergo, the interviews are a primary data source.

Generally, there are three interview structures to choose from. The first of the three, a structured interview, follows a certain framework and question pattern. Questions in the second type, unstructured interviews, are less premeditated and may seem more like a casual conversation to bystanders. Finally, semi-structured and themed interviews are a medley of the two, where interview questions form a less strict pattern. (Eriksson & Kovalainen 2008.) As there are several interviewees in this study, a relatively structured interview framework is followed to ensure that the data is comparable for analysis – structured data is also easier to analyze (Metsämuuronen 2006). However, follow-up questions and clarifications are asked to ensure quality answers, and as such, the structure is not as strict as in, say formal surveys. Moreover, the interviews are structured within their respective categories, which is to say not all interviews are identical.

Interviewing is a common method of data collection that presents both benefits and disadvantages. Information that originates from interviews is usually rich in substance because interviewees can be widely descriptive with their answers. The same does not apply to all qualitative data, such as text surveys. The information also addresses a direct and established need, as questions are formulated to answer the central research problem. Interviewers can also modify their questions to match the expertise and wishes of the interviewee. (Daniels & Cannice 2004.)

On the other hand, the interviewer's skills may influence the interview, as an interviewer's knowledge on the topic at the time of the interview may be incomplete. Fortunately, this thesis is the final paper in a trilogy of maritime sustainability research, and the researcher is quite well versed in with the topic. Interviews are also quite unique

situations in that the knowledge acquired from an expert in an interview is often all that is extracted of them. Researchers seldom go back and ask follow-up questions after the de facto interview situation, which is also the case in this thesis. (Hirsjärvi et al. 1996.)

Interviewees have been divided into categories to clarify the use of two interview question sets, each respective to its category (appendix A). As there are two interview question sets, there are also two categories of interviewees: maritime scholars (category 1) and a maritime business manager (category 2). The two diverse interview question sets comprise of questions and themes related to the interviewee's expertise. The interview questions are premeditated to address the different themes discussed in the academic literature review. This further enables the formation of an accurate overview of the situation and, ultimately, provides answers to research questions (see table 3).

The academic literature reviews in chapters 2 and 3 form a basis for research questions and interview frameworks. Interview questions derive from topics that have already been researched, and the questions aim to verify and build on views previously put forth by other scholars. Ideally, empirical findings in the interview data engage in a dialogue with the academic theory, confirming, conflicting, and supplementing previous knowledge.

Table 3 – Interview operationalization

<i>Purpose of the study</i>	<i>Theories</i>	<i>Subproblems</i>	<i>Interviewee category</i>
How can managers confront maritime sustainability pressures to ensure their company's survival in a networked market?	Resource Dependence Theory	How can businesses manage institutional pressures within a network?	2
		What strategies do businesses employ in confronting maritime sustainability pressures?	1,2
	Strategic responses to institutional processes	What prompts and hinders action against the climate crisis in maritime business?	1

Appropriate interviewees were first inquired in 2021 from the head of the supply chain management discipline at Turku School of Economics. The department head suggested D.Sc. Tomi Solakivi, who was then vetted on the university's personnel page to see if their expertise fit the research topic. After this, Solakivi was contacted by email. This email contained a brief description of the study – preparatory research for the master's thesis – information on the course that the study pertained to, and relevant details of the

upcoming interview situation. Solakivi accepted the invitation and an interview date was set for early 2021. The other academic interviewee, Tapio Karvonen, was acquired through a snowball-sampling approach, that is, referenced by the original candidate, and was similarly vetted and contacted. The third interviewee, D.Sc. Patrik Rautaheimo, was similarly acquired as a suggestion from an industry informant. Rautaheimo was contacted and interviewed in early 2022. Each interviewee received a reminder of the interview date and time a few days in advance, along with an informed consent form. All interviewees replied with their consent.

All interviews were held on online call applications, recorded, and transcribed using either transcription software or the audio file. The interviews lasted from 25 to 40 minutes and were successful throughout. With the exception of one phone call, all interviews were uninterrupted. No connection, audio or other problems occurred during the interviews. The General Data Protection Regulation of the European Union was applied to data collection and informed consent practices (EUR-lex 2016).

Two university research scholars (interview category 1) were interviewed with an emphasis on the broader array of maritime phenomena. D.Sc. Tomi Solakivi of Turku School of Economics is an expert in maritime transport, transport markets, supply chain management and logistics costs. He has published over 20 peer-reviewed articles in multiple major journals. Senior Researcher Tapio Karvonen of the Centre for Maritime Studies at University of Turku is an expert in the maritime cluster, economic and social impacts, the marine industry, the shipping industry and ports. Karvonen is also a widely published scholar. The experts were easily accessible as they pertain to the same university organization, they are direct experts in relevant fields of research, and share the language in which the interviews were originally planned to be conducted – this is to say they fulfill criteria for an optimal research setting.

An individual interviewee was also selected to represent the practical business perspective (category 2). D.Sc. (Tech) Patrik Rautaheimo is CEO of Elomatic and a long-time maritime business professional, who has over 15 years of top management experience in shipping engineering. Elomatic is a 50-year-old Finnish industrial engineering company that offers consulting services, turnkey deliverables and software applications for maritime and other transportation clients. A key competitive advantage for Elomatic is its wide array of sustainable development engineering knowhow. As the

company's business model and external context are suitable for external demand analysis, the CEO is very experienced and knowledgeable, and access to the company was easy to attain, this interview also fulfilled the criteria of an optimal research setting. Two other shipping companies were also approached, but their representatives were unable to set interview dates.

Table 4 – Interviewees and respective areas of expertise

<i>Interviewee</i>	<i>Category</i>	<i>Areas of expertise</i>
Tomi Solakivi	1	Maritime transport, transport markets, supply chain management, logistics costs
Tapio Karvonen	1	Maritime cluster, economic and social impacts, marine industry, shipping industry and ports
Patrik Rautaheimo	2	Over 15 years of top management experience in shipping engineering

These three interviewees are elite experts and can therefore provide an abundance of relevant information during an interview. Interviewing elite experts expedites the data collection process, as adequate information can be extracted from fewer interviewees. Top scholars and business executives qualify as elite interviewees due to their organizational seniority, positions of responsibility, wealth of experience and extensive networks within the maritime industry. Interviewing elite informants has been identified to pose both advantages and challenges in business research. While the data is centrally important and academically relevant, there are research technical issues associated with elite interviewees, such as interviewee access, power distance, openness, and feedback. These issues may affect the reliability and validity of research, which is why the research design must support the decision to interview elite informants. (Welch et al. 2002.) This thesis scrutinizes management views and practices, which requires the use of elite informants. The mentioned challenges did not significantly impede the research, and issues related to reliability and validity are discussed later in this chapter.

Mero-Jaffe (2011) highlights a possible ethical dilemma regarding spoken interviews, making a case for going over conversation transcripts with interviewees. She showcases

through examples how interview transcripts may appear an entirely different conversation to informants when reviewed on paper. In her study, many wished to alter their statements, for example to restate things less emphatically or more correctly, or to delete unnecessary mentions of people and places as well as harmful content. In gathering data for this thesis, the transcripts of conversations were not shared with any of the informants. Although every interviewee was informed of the possibility to review or withdraw information, the ethical dilemma persists, as informants may not be consciously aware of everything that they have said in an interview situation. Omitting transcript revision improves the integrity of research data, while compromising the ethical rigor of this thesis. However, Mero-Jaffe concludes that sharing transcripts with interviewees provides such rife disadvantages to the research process that the revision should be seriously reconsidered.

4.3 Data analysis

Data analysis seeks to clarify collected data and transform it into information that sheds light on the research topic. This entails modifying data and selecting which issues are pertinent for producing relevant information. Naturally, the interpreter of the data affects which selections are highlighted, thereby affecting the outcome of the analysis. Therefore, the researcher's knowledge of the topic influences what data is seen as pertinent. Scrutinizing the rationale and limitations of chosen methods adds objectivity to this discretionary process in data analysis. (Eskola & Suoranta 1998.)

There are two mainstream approaches to analyzing data: confirmatory and exploratory analysis. The choice between these two is dictated by the analytical purpose, i.e. the intended outcome of the analysis. Thus, the approaches have different drivers: confirmatory analysis is driven by hypotheses, whereas exploratory analysis is content-driven. Most inductive behavioral research is exploratory and consists of scrutinizing data to find recurring key themes to analyze. In contrast, confirmatory analysis leverages data to assess and affirm hypotheses. (Guest et al. 2012.) Although this thesis partly builds on previous hypotheses, the data analysis approach is exploratory. Indeed, several exploratory analysis characteristics set forth by Guest et al (2012) are met. For example, the entire research problem builds on open-ended questions, and purposively sampled data is generated primarily for this research and coded for recurring themes – as is customary for exploratory data analysis.

As mentioned earlier in this chapter, all interview questions are based on academic literature presented in chapters 2 and 3. The purpose for basing interview questions on previous theory is that experts can either validate, negate or supplement existing theory with more contemporary data. This is also how the analysis is structured: the topics covered in the theoretical review are re-examined based on the experts' answers to the same topics. Similarities and discrepancies between the interviews and existing theory are sought after, along with differences in the answers of informants. Considering the amount of previous research on the topic by the researcher, and especially in the context of mirroring new data and findings to previous knowledge, it is important to not let previous understanding limit the interpretations of the newfound data (Eskola & Suoranta 1998).

The interview with maritime business manager D.Sc. Rautaheimo serves an additional analytical purpose. His questions consider the intricacies of managing external demands from a business perspective, and his answers are mirrored against the findings of Pfeffer and Salancik (1978) on managing external demands, as well as Oliver's (1991) parameters of organizational resistance to institutional pressures. The purpose of this is to analyze whether and how the theoretical findings in chapters 2 and 3 surface in business practice.

The process for analyzing interviews has two stages: the first stage includes a revision of the interview transcripts and notes, where answers are scrutinized within the interview for frequent and recurring themes and applicable insights. Once the patterns within separate interviews have been recognized, the same scrutiny is applied to the combination of interviews to see where the interviewees' answers align or skew – the second stage. (Fossey et al. 2002.) After these two stages, the interview findings are cross-referenced with the theories presented in chapters 2 and 3. Congruent data is considered validation for presented hypotheses, and incongruencies in the data will likely surface interesting areas of future research or highlight research gaps in the domain. Both congruent and incongruent answers will provide insights for answering the research questions.

Critical ethical thinking requires that researchers accurately capture the meaning behind participants' answers. The objective is to represent informants' experiences in their truest possible form, which means that people should be studied in their natural environments where possible, by interacting with them directly. One way to understand informants'

social worlds and avert misinterpretations is to use the informants' own words to describe their perspectives. (Aluwihare-Samaranayake 2012.) This notion of true representation has been taken into account in this thesis. Attention is put into presenting informants' views in their intended contexts and manipulating the information as little as possible. To this end, interviewees are quoted directly when it conveniently adds meaning to conveyed thoughts.

4.4 Evaluation of the study

Academic research is evaluated by analyzing its trustworthiness. In short, this boils down to how readers and the author of a research paper can stand behind i) the findings and ii) the methodology, analysis, and logic behind said findings in a study. In conventional natural sciences, this evaluation has been reiterated time and again to arrive at four questions: is there truth value to the study, is the study applicable in diverse contexts, would the findings be consistent if replicated, and are the results neutral and – as such – as unbiased as possible? These conventional yet extremely accurate questions have been quantified with four measures: Internal validity (truth value), external validity (applicability), reliability (consistency), and objectivity (neutrality). (Lincoln & Guba 1985.)

However, these are not the measures used to justify the trustworthiness of this paper. Lincoln and Guba (1985) specify that while the above constructs are well appropriate for measuring a naïve reality, researchers in qualitative research can seldom afford to simplify a potpourri of perceived realities into one, quantitatively valid truth. Therefore, the definition of objectivity has to be redefined to fit a naturalist reality in which naïve realism is replaced with multiple constructed realities – the opinions and expertise of human beings. Ergo, Lincoln and Guba (1985, 290) summarize the measures of trustworthiness in qualitative research as follows:

Credibility, transferability, dependability, and confirmability are a naturalist's equivalents for the conventional terms: internal validity, external validity, reliability and objectivity.

These four criteria of trustworthiness have become a staple of qualitative research. They are frequently used with the same assurance as reliability and validity in quantitative

research, and have been widely adopted as the go-to standard for qualitative trustworthiness. (Eriksson & Kovalainen 2008). The four criteria are assessed against this research below.

Credibility evaluates the degree of truthfulness in research. Scholars evaluate the accuracy of the information acquired through research and the insights presented in the findings, and investigate whether the results link to reality. A researcher can increase the credibility of their study by spending more time studying the subject of research and finding out as much as they can about it. (Lincoln & Guba 1985.) In this thesis, the author has conducted previous university course work and a bachelor's thesis on maritime sustainability. The motivation for this study comes partly from a maritime cargo-handling partner that is investigating the same issues in a professional capacity. The author also has professional experience in said cargo-handling company and a global transshipment hub port in Spain, and is therefore well acquainted with the topics at hand.

Triangulation is a method that can be used to increase the credibility of research. One way to triangulate data is to cross-reference multiple diverse sources of data, research methods, scholars or theoretical viewpoints. (Lincoln & Guba 1985.) Academic literature is cross-examined with the insights of three expert interviewees throughout this thesis, and thus all data is subject to academic and professional scrutiny. The most relevant talking points were extracted from theory and tailored into interview questions for scholars. The scholars in interview category 1 had no issue with the interview questions, suggesting that the topics were seen fit by the top maritime scholars in the Finnish university field. The questions for the second interview category are quite grounded in that they directly address the research problem of this thesis. These questions were cross-referenced across both theories (chapters 2 & 3), and aim at understanding the drivers behind sustainable business decisions, as well as the effect of external demands on those drivers. Ergo, the interview frameworks have been scrutinized from several perspectives, as per the triangulation method. Admittedly, a more systematic approach could have been taken to setting the research questions. However, the insights procured from this less systematic approach are valuable.

To prevent any misrepresentations of data, the data should be observed, interpreted and evaluated in order to reach an adequate understanding of it (Lincoln & Guba 1985). As all interviewees are experts of maritime business and agreed to speak under their own

name, there is no reason that they would misrepresent their views or knowingly give false statements in the interviews. The probability of the author misrepresenting interviewees' views is slightly higher, but as all interview questions were based on academic theory and are scrutinized through the same theoretical lenses, misunderstandings are mitigated to a high extent.

Transferability is evaluated to see whether findings in one paper are applicable to other contexts. It cannot be assessed without bias by the author of the paper, but the author can help outside evaluators by describing the research process and methodology as accurately as they can. By providing accurate descriptions on how the study was conducted and what criteria were used in the decisions along the way, the author helps peers and supervisors review the process for any mistakes or inaccuracies that may affect the trustworthiness of the paper. (Lincoln & Guba 1985.)

The motivation for the research topic, along with selection criteria for the research questions and interviewees as well as the outline of the entire study are presented in chapter 1. The methodology is elaborated on in the beginning of this chapter. Academic sources have been peer-reviewed and quoted papers are mostly featured in prominent business journals. The researchers in interview category 1 largely agreed with each other's statements without knowing what the other had said, which adds to the transferability of the findings in this research. Because three experts were interviewed instead of just one, the scope of the study also covers a broader base.

Dependability boils down to how repeatable the data acquired through research is. This is analyzed by assessing whether similar results could be obtained when replicating the research. This also entails an assessment of the extent to which the findings of the research can be attributed to the researcher and their surroundings. Interviewing as a research method can be both widely subjective and relatively objective, depending on the research framework. Therefore, researchers should be as unbiased and objective as possible to attain the most dependable results. (Lincoln & Guba 1985.) This research builds on classical theories of external control, which in practice means that previous research is repeated for similar purposes in a new context. The research is thus inherently repeatable, although the results may of course vary depending on e.g. the preferences and business principles of interviewed managers. The interview topics are also quite contemporary and answers may differ if the research is repeated in the future.

There may be discrepancies in results due to the data collection process of this thesis. Data was collected on two separate occasions in 2021 and 2022, and the data collected in 2021 (interview category 1) originally served a different albeit similar purpose for other schoolwork. The data was collected for a preparatory master's degree course, which also revolved around maritime sustainability. However, the data collected in 2021 built on the same theoretical framework that is fundamental to this thesis, and further data collection in 2022 (interview category 2) was designed to supplement the previous data.

The researcher spoke very little in all interviews. Although the interviews were held online, visual and audio connectivity was stellar throughout each interview and no disturbances occurred, with the exception of Solakivi's rejected phone call in the first interview. This being said, subconscious factors naturally affect conversations and therefore, the full extent of the researcher's effect on interview results cannot be stated with absolute certainty.

Finally, *confirmability* in research evaluates the extent to which other scholars can confirm the findings of a paper, i.e. whether the results are indeed linked to the presented data. Confirmability can be enhanced with a clear structure that facilitates its auditing, such as the data gathering tools and methods, and structured themes in the analysis process. (Lincoln & Guba 1985.)

Seen as this paper combines theoretical knowledge with the opinions and viewpoints of two merited scholars and an active business manager in the field, the results should be evidently confirmable. Moreover, the results of the paper are structured according to coded themes which were first identified in academic literature, before they were cross-referenced with interview data. Thirdly, the data-gathering and analysis processes are depicted earlier in this chapter (3.2–3.3), which ought to help other researchers confirm the results. However, the confirmability of this study could have been increased by letting the subjects of the research confirm the findings and conclusions of the research.

5 Results

This results chapter scrutinizes the data collected in interviews against the resource dependence theory and Oliver's conceptual elaboration on strategic responses to institutional pressures. Practical business examples demonstrate how organizational action is steered by managers' responses to their environment. Elomatic represents the focal organization as scrutinized in academic theory, and exemplifies the relationship between manager and organization. This chapter presents findings in theory and data, and addresses the subproblems outlined in the introduction:

- What prompts and hinders action against the climate crisis in maritime business?
- How can a business manage external pressures within a network?
- What strategies can a business employ in confronting maritime sustainability pressures?

The foremost subproblem is first addressed in chapter 3, where Oliver's strategic responses and antecedents thereof are introduced through topical maritime sustainability challenges. To elaborate further on these challenges and their proponents, the data from interview category 1, featuring maritime researchers Solakivi and Karvonen, is analyzed in chapter 5.1. This depicts the institutional environment in which the executive interviewee operates.

The theory behind the second subproblem, managing external pressures, is presented in chapter 2. The data collected from interview category 2 builds on this theory and assesses the interviewee's strategic management choices and answers to external pressures from the resource dependence perspective. This analysis ensues in chapter 5.2.

The third subproblem is also addressed in chapter 3, as Oliver's framework for responding to institutional pressures presents five different strategies for confronting maritime sustainability pressures. The validity of this theory as well as presented links between antecedents and strategies are examined in chapter 5.3. by combining the scholarly industry insights from interview category 1 with the management choices of the executive interviewee in category 2.

Ideally, the combination of theory and expert insights around these three subproblems will suffice to answer the central research problem: how can managers confront external sustainability pressures to ensure their company's survival in the maritime industry?

These conclusions as well as central findings and limitations are presented in the conclusions chapter (6).

5.1 Challenges in the maritime institutional environment

This section focuses on understanding which maritime sustainability challenges and trends prompt or hinder conformance to external sustainability pressures. The findings accurately depict the institutional environment in which maritime managers operate, and provide social context for analyzing management decisions.

Financial reasoning is consistently at the center of attention but divides the informants in interview category 1 to an extent: Solakivi believes that financial incentives are an impediment to all sustainable business, and sustainable decisions can be made only when the foreseeable actions result in increased business value. Karvonen disagrees in that sustainability is an imperative for many companies, but economic factors often dilute the enthusiasm for developing sustainable solutions. This incapacity to agree on the extent of problems and the most applicable solutions is an industry-wide trend, as evidenced in academic literature. The combination of financial restraints and conceptual disagreements seem to be the key hindrances to sustainable developments in the maritime industry.

5.1.1 GHG's and other environmental hazards

Karvonen and Solakivi agree on the fundamental problem in maritime sustainability: greenhouse gas emissions. The challenge according to Solakivi is that, traditionally, ships and port equipment run on diesel. Byproducts of burning shipping fuel such as carbon dioxides (CO₂), sulfur dioxides (SO₂), nitrogen oxides (NO_x) and other smaller particles, create emissions and are considered major climate issues. Karvonen brings up an initiative by IMO to reduce greenhouse gas emissions by at least 50% from 2008 to 2050 (IMO 2021), but states that the initiative is quite ambitious. However, he adds that changes in the right direction have been made.

As both Karvonen and Solakivi point out, SO₂ emissions have been contained to some extent by tightening sulfur limit regulations in shipping fuels. They refer to the IMO 2020 initiative introduced in chapter 3. To comply with tightened SO₂ regulations, shipping companies have begun using liquified natural gases (LNG's) to fuel their ships. Although LNG's have low sulfur contents, they are not the solution to reducing GHG emissions

sufficiently, as sulfur is but one of the sources for problematic emissions in fuels. In addition to LNG's, there are biofuels such as methanol. However, Karvonen states that it remains unclear as to which biofuels will become most used and which can be considered most favorable for the climate.

Solakivi infers that although maritime operators have taken steps to automatize and electrify both vessels at sea and cargo handling equipment in ports, the changes require major investments and thus don't happen in an instant. Moreover, Karvonen points out that although electricity has been suggested as an alternative energy source to fuel, it has insofar been the answer only to short distance voyages, such as car ferries across Nordic seas. The reason for this boils down to two problems: efficiency and power storage. Car ferries can run on electricity because they travel short distances and can recharge in ports overnight – these luxuries are not available to long sea shippers.

In addition to emissions, Solakivi and Karvonen point out that shipping yields other environmental hazards including ballast water discharges, underwater noise and antifouling practices. Of these, the scholars mention attempts to contain at least the ballast waters through a ballast water treatment convention. In the academic literature review, Ashrafi et al. (2019) point out how negative by-products of port activities, such as noise pollution, water contamination and other social and environmental hazards are predominantly local, and are thus appointed to ports. This leads to a situation where ports create economic value for the entire maritime value chain, but the surrounding ecosystem pays the price. However, the value that ports produce is distributed globally, creating a responsibility dilemma for the maritime value chain.

Besides the ballast waters, antifouling, underwater noise and fuel emissions, no other environmental hazards surfaced in either the academic literature review or the interviews with maritime scholars. It would appear that there are other environmental repercussions of shipping that have not yet been highlighted, as the scope of the current focus is quite narrow. It could of course be argued that a relatively narrow focus should promote faster engineering of solutions to the most pressing issues, as the focus is not scattered on lesser problems. Whether the narrow sightedness will lead to a surge in surprising ecological issues or reward rapid advances to the foremost wicked problems, time will tell.

5.1.2 Ceremonial Conformity

Solakivi and Karvonen concur on the basic principle – most shipping is not high profit business. There is a financial reality of cost structures and market situations that limit how much can be done to improve maritime sustainability. Karvonen specifies that consuming alternative fuels and buying machinery that operates on eco-friendly power creates additional costs.

The cynical reality is that everyone is trying to do as little as they can, because it is above all a cost issue. – Tomi Solakivi

Therefore, both scholars look to regulators as the entity to motivate maritime sustainability. Solakivi argues that the regulatory framework and its enforcement have played a major role thus far. Karvonen emphasizes the need for outside entities to make tough decisions, as businesses naturally focus on costs and finances. However, Karvonen believes that nearly all operators want their businesses to be more sustainable, but the financial resources limit the extent that they are capable of. Still, he believes the attitude towards sustainability to be, all in all, positive. This inherent motivation is where the two scholars disagree.

Solakivi mentions that commercial operators in the IMO try to adjust the agreed-upon limitations to fit their own agendas. Their goal is to set restrictions, insofar as they do not affect the commercial operators' own businesses, thus rendering these companies at a relative advantage to their competitors. Karvonen disagrees:

Certainly, there will be some greenwashing everywhere you look, but I believe that it's not a big issue in this [shipping] business. I think they are quite honest in doing things to be more sustainable and eco-friendlier.

According to Solakivi, operators can also gain from environmental actions in certain situations. He observes the example of Slow Steaming, which builds on the laws of fuel consumption. When the speed of a vessel increases linearly, fuel consumption grows roughly according to the cubic rule, depending on the vessel and engine types. Similarly fuel consumption shrinks drastically when vessel speeds decrease. A situation where this could be leveraged is when international trade has an overcapacity of vessels – shipping

companies may begin slow steaming to adjust the available capacity on the market. Simultaneously, the vessels cut down remarkably on fuel consumption, which is both financially sound and environmentally friendly. In this example, operators make business decisions based on financial facts but can also notify the public about their green decisions. Thus, the inherent motivation is financial, but aligns conveniently with a sustainable agenda.

However, the principle of slow steaming also works in the opposite direction. There are examples of instances where container ships arriving to Europe from the Indian Ocean have sailed around Africa on full throttle instead of paying passage fares to go through the Suez Canal. This can happen when oil prices drop to the point where even dramatic increases in fuel consumption are more affordable than passage fees. With this example, Solakivi determines that financial reasons trump environmental motivation every time. He concludes:

If they balance environmentally sound actions on one hand, and financial ones on the other, the financial reasons always win.

The above points from the two scholars shed some light on the interesting sustainability paradox presented in chapter 3, where Ashrafi et al. (2019) conclude that, while sustainability is considered important in most ports, it is usually not effectively incorporated into ports' strategies and processes. They add that ports seem to lack clear and ambitious sustainability practices. The paradox is at least partly explained by the low-margin nature of the business. While ports want to be sustainable, they cannot afford to implement sustainable practices. Perhaps the ceremonial conformity boils down to inadequate investment capital instead of signaling as a means to a business end.

5.1.3 Cold Ironing

Expert interviewees mention a major maritime sustainability development that was not introduced in chapter 3 – cold ironing. Cold ironing is the term for using land-side electricity in ports to power vessels that are not on the move. When ships are on standby, be that in berth, anchorage or otherwise, they normally use auxiliary engines to create power, as the main propulsive engines are shut off. The auxiliary engines create added

emissions, which is why shipping companies and ports have begun utilizing cold ironing. It is a major opportunity in maritime sustainability but also presents new problems.

According to Solakivi, the principal challenge with cold ironing is generating enough power. Currently, a standard grid is not capable of providing enough power to cold iron multiple vessels in ports:

Consider that just a single outlet is 10 megawatts. So [cold ironing one vessel] is as if you put 2000 sauna stoves on at the same time. You need the capacity equivalent to an entire village going to the sauna at once. And when you have multiple vessels in the port, you multiply that capacity demand.

There are also other challenges beyond the grid's capacity. For example, the number of power outlets needed for cold ironing is very high, which creates a bothersome practical challenge. Karvonen also highlights that a lack of standardization has previously hindered cold ironing, but steps have been taken to overcome these diversities. In chapter 3, Chang and Wang (2012) state that, by deploying a novel power supply system onto berths, ports could reduce CO₂ emissions by up to 60 %, but it would require mutually coordinated investments from both port authorities and shipping liners. This accurately sums what Karvonen means with a lack of standardization. It seems that advances in collaboration between shipping liners and ports have been made over the last eight years, since the publication of Chang and Wang's article.

Despite its exigent obstacles, regulators in Europe are planning on making cold ironing compulsory, at least for part of the EU fleet. Solakivi believes this will be a central maritime sustainability trend in the near future. Karvonen mentions that short sea shipping, car ferries and passenger ships are already utilizing cold ironing to an extent, but these transport modes have a small effect on maritime sustainability altogether, as cold ironing has hitherto not been a plausible solution for moving the massive amounts of cargo that is shipped across oceans.

Cold ironing was not highlighted in the academic research observations in chapter 3. The phenomenon was referred to in passing by Chang and Wang (2012), but the exact terminology did not surface in any of the material. Moreover, Karvonen considers cold ironing a predominantly local solution and does not emphasize its future potential to the same extent as Solakivi.

5.1.4 Short and long-term energy solutions

A short-term global trend per Solakivi and Karvonen is that equipment is being electrified. However, storing the electricity in batteries takes up space, which is why large amounts of electrical power cannot be leveraged conveniently for continuous use. As the sufficient range required for operating cargo handling equipment is quite narrow, electricity is a convenient source of power in port equipment and onboard ships. Long range applications however, such as powering long-sea shipping voyages, require more efficient alternative solutions. This notion raises the bigger question of whether all-encompassing electrical solutions will be the long-term fix for climate problems. Electrified solutions did not surface in the academic literature, perhaps for this very reason.

Solakivi mentions hydrogen as an alternative energy source for powering vessels. He emphasizes that hydrogen solutions are far down the road, but also stresses that there are many alternative possibilities, of which some may even emerge in the short term. The bottom line is that the use of fossil fuels in shipping will decline. As a short-term solution for alternative fuels, both Solakivi and Karvonen mention Liquified Natural Gases, which produce less CO₂ emissions than fossil fuels. Solakivi points out that the methane slips in LNG's are even more detrimental to the environment than the CO₂ emissions in traditional marine diesels, which is of course counterproductive from a sustainability standpoint. Karvonen specifies that since LNG's are eco-friendlier than fossil fuels, but still not sustainable enough, they are a convenient and easy short-term solution for alternative shipping fuels.

Solakivi also mentions biofuels that are produced from sustainable feedstock as another short-term solution for shipping. The problem with biofuels is the amount of sustainable feedstock available, which is currently not enough to produce the needed quantities of biofuel. Solakivi refers to the International Energy Agency's estimate, where the total amount of sustainable biomass would enable the production of under 200 million tons of biofuel per year in the near future. Lamentably, the shipping industry consumes twice the potential biofuel capacity, and the consumption is expected to rise up to 600 million tons by 2050. (IEA 2020.) So even if the entire capacity were used for shipping, biofuels would only account for a fraction of the needed energy. Moreover, biofuels are not cheap. In brass tacks, the more profitable divisions of the transport industry are likely to be capable

of paying for the biofuel. The IEA (2020) estimates that aviation will be brought into the realm of CO₂ regulation at some point, and Solakivi seems quite sure that the biofuel capacities will be consumed by the aviation industry when that happens.

Due to the above considerations, Solakivi believes that hydrogen and ammonium will be the long-term energy solutions for shipping. Of course, there are practical challenges with using hydrogen to power main engines in long-sea shipping, although the gas would be quite energy efficient. For instance, ships would need large containers for the hydrogen – i.e. occupy precious cargo-carrying capacity – and the pressure needed for controlling such quantities of gas would present its own challenges. Then again, ammonium may be the liquified gas of choice. Although burning ammonium has its own problems, further research may enable scientists to overcome issues such as low flammability and NO_x emissions. According to dedicated scholars, ammonium indeed seems to be the cutting edge for decarbonized combustion fuels, producing near-to-none GHGs. (Kobayashi et al. 2019.)

However, Solakivi points out that hydrogen and ammonium are currently only in trial phase and will likely not be used for at least another ten years. Therefore, they are long-term solutions. Solakivi sums up the combustible conversation well:

The thing is that, well, shipping is not going to change rapidly. In any case, the lifecycle of a vessel is 25 or 30 years. That is why we need more sustainable drop-in fuels in the short term, but also have to look at what the new generation of ships will run on in the future.

5.1.5 Responsibilities

Solakivi and Karvonen both find it difficult to identify who is ultimately responsible for promulgating maritime sustainability, due to complex maritime regulation structures and the intricate supply chain networks that they attempt to control. While Karvonen finds it obvious that, on the operator side, shipping companies are directly responsible, he points out that ports, customers and other stakeholders also play their part. Karvonen highlights both the role of end-customers and subcontractors in the supply chain, and whether they are willing to pay more for sustainably transported products. On the passenger side, it is more lucrative to offer sustainable services as passengers are individuals who can decide

whether they want to pay a sustainability premium for their passage. In shipping, choices do not have as obvious repercussions. In some senses, the entire comparative advantage system that international trade is built on can be held accountable to an extent – a key issue in networked economies seems to be the shared responsibility. Solakivi concurs that all operators should be held accountable for their own actions.

On the other hand, the entities that regulate shipping are national, regional and global – how do their responsibilities weigh against each other? Karvonen posits that as the shipping business is inherently global, it also needs to be regulated globally. When legislation is regulated on an IMO level, it is impossible to escape or ignore. In contrast, national and even regional regulations can be evaded by changing registries. However, regional regulation (such as EU directives) can create positive outcomes when regional ambitions surpass global ones. The EU's high interest in cold ironing is an example of sustainability regulation that would not happen as fast on a global level. Finally, Karvonen mentions specific national regulations, which are practical when global and regional regulations are too broad for certain needs – like coastal trade. Another example is that ports are predominantly local operators and as such, nations have incentives to regulate ports in their jurisdiction to reduce emissions, creating health and environmental benefits to near vicinities. To conclude, Solakivi argues that the majority of the world's commercial fleet sails under a handful of national flag registries, which makes these nations and their coalitions the most influential constituents of the IMO.

As presented in the academic literature in chapter 3, nations such as USA have regulated CO₂ as a dangerous pollutant to enable state-level emissions regulations, while other rapidly developing economies such as the BRIC nations are yet to introduce legislation to regulate GHG emissions. Falling in between, Australian regulators regard GHG emissions as pollution, but have failed to incorporate it into national legislation (Shi 2016.) These differences highlight the institutional environment of a nation on the maritime sustainability regulation that is imposed on operators.

Solakivi emphasizes that although all are responsible, no operator can be singled out – for example, ports can be deemed responsible for enabling sustainability in shipping: shipping companies cannot recycle their ballast waters without the proper equipment and resources offered by ports. Nor can ships utilize cold ironing to power their ships, if the proper infrastructure is not provided landside. This notion has the same motivation and

elements, but a contrary conclusion to that of Alderton (2008) presented in chapter 3: Where large shipping companies decide which ports become central nodes of the supply chain, they simultaneously choose which ports and practices to support. Is a shipping liner responsible for choosing ports that offer green infrastructure and services, or are ports responsible for enabling sustainable shipping practices?

The academic literature in chapter 3 specifically discusses the role of ports in maritime sustainability. Verhoeven (2010) ascribes port authorities a four-dimensional role: facility administrator, service regulator, support fleet operator, and community manager. A few examples as to how these roles could enable port authorities to implement sustainable practices are mentioned. The role of the landlord or facility administrator stand out, as ports can integrate sustainable infrastructure and even utilize alternative power sources in their operations, thereby enabling sustainable practices in other operators as well. (Verhoeven 2010; Lam & Notteboom 2014.) This notion is present throughout both expert interviews, although it is not explicitly expressed. However, cold ironing is an example of a sustainability effort that requires massive investments and facilitation from port administrations.

5.1.6 Maritime sustainability regulation

Outside the IMO, efforts to shape maritime sustainability have been unstructured and minute thus far, as per Solakivi and Karvonen. Solakivi is quick to mention that the efforts are not inexistent, however. For example, the Green Deal put forth by the European Commission in 2020 discussed including shipping in the emissions trading system. The EU is also tightening regional emissions standards that affect the European Trade Area. Moreover, because they realize that shipping is international in nature and tightening national regulations may prompt a surge in business emigrations, some nations are looking to find innovative ways to cut down emissions instead of imposing regulations. Solakivi mentions Norway as an example, as they have invested heavily in electrical vessels and testing hydrogen power drives, among others.

Karvonen highlights that national organizations voluntarily collaborate with the IMO and try to influence their decision making, because local entities always know which decisions have the most beneficial or detrimental impacts on local trade. For instance, Finnish and Swedish shipping companies were affected by sulfur regulations for years before the IMO 2020 sulfur regulation act came into force, which was naturally a grievance for local

operators in the Nordic area. With heavy lobbying and negotiation, the regulations were imposed worldwide, effectively leveling the playing field. Furthermore, the unparalleled regulations in Nordic and Baltic areas and the subsequently higher bunker fuel prices led to Finnish environmental innovations in LNG's, scrubbers and other emission and cost reducing solutions.

Ultimately, Karvonen concludes, the IMO has both the right to regulate shipping on a global level and most of the substantial knowhow of what regulations are feasible both hypothetically (technology-wise) and in practice (financially). IMO is the most appropriate authority to analyze how regulations can be measured, and which regulations are likely to have the biggest impact on a given issue.

5.1.7 Voluntary standards

Solakivi says it may be hard to distinguish between what are voluntary and regulatory actions, as most environmentally friendly actions are usually also business decisions. This may be a result of shipping companies generally complying with a combination of regulated and voluntary standards and rules, as mentioned by Coady (2013) in chapter 3. Solakivi brings up Maersk, which has declared that their new vessels will soon be running on something other than fossil fuels. The biggest reason behind this decision is that in the lifespan of a vessel, which is over 25 years, the world will have changed remarkably and even if vessels that run on alternative power are not financially viable yet, Maersk predicts that they will be during the lifecycle of the next generation of vessels.

*Even though fossil fuels haven't yet been ruled out, they [Maersk] are trying to be proactive and move in that direction. It's hard to say whether they are expecting regulation to catch up or whether they want to be sustainable. I would claim the prior – that they're waiting for the regulation to catch up. —
Tomi Solakivi*

Karvonen does not believe voluntary measures and standards to be very frequent, although there are firms that make environmentally sound choices for sustainability's sake. Both interviewees seem to think that most big companies are primarily concerned with their income. As the general public tends to be concerned with sustainability, there are passenger traffic companies that try to take the environment into consideration. However, as Solakivi also mentions above, the ultimate motive is financial.

This contradicts the quantitative findings of Skovgaard (2014) presented in chapter 3, where voluntary sustainability practices correlate with increased profits. This theory builds on network benefits and validates the alternative that Solakivi introduces, where Maersk sees business opportunities in decarbonizing its fleet. However, Skovgaard's (2014) findings may merely depict correlation, without proving causality.

Karvonen reiterates that the same passenger traffic pressures have reached maritime B2B operators as well, in instances where customers want to practice sustainable business and supervise their network's carbon footprint. Then again, this does not apply to all industries, such as bulk fuel transportation. Besides creating oil spills, customers that ship fossil fuels in bulk tend to have little concern for emissions.

Karvonen concludes that most Finnish companies are taking great strides in becoming more eco-friendly, and they all comply with the latest regulations at the very least. After all, it is an image issue for firms to take into account the ecosystems and networks in which they operate.

5.2 Resisting external control in a networked industry

This section cross-references Rautaheimo's perceptions of managing external demands through the general findings of the resource dependence theory. The section covers Rautaheimo's priorities in adhering to external demands as well as the prospect of sustainable business as a key competitive advantage for Elomatic. Elomatic exemplifies the concept of a focal organization that has been present throughout this thesis.

Rautaheimo's answers indicate an organizational behavior congruent with RDT and the underlying assumptions are, in many cases, validated. This suggests that Pfeffer and Salancik (1978) may have successfully theorized the effect of the external operating environment on a company that operates almost 40 years after the initial publication of the theory. External control over organizations in highly interconnected networks is possible, and interviewees even suggest that the most influential network operators will set off a green transition in the maritime industry. The manifold conclusions that can be derived from this section are discussed in chapter 6.

5.2.1 Prioritizing external demands

As highlighted in RDT, managers interact with their environment through three roles: symbolic, responsive and discretionary. Rautaheimo mentions that Elomatic's most pressing challenges have to do with employee attraction and retainment, as well as the economic environment in Finland – Rautaheimo refers to the high cost of doing business, such as taxes and different payments that are exacted of businesses in Finland.

From a symbolic perspective, Rautaheimo seems to be performing well. He has stayed in his position for over six years, which suggests that there have been no visible crises leading to his replacement. Moreover, the company's performance has been steady over this six-year period. Publicly disclosed turnover and profit figures are on a rising trajectory, despite a brief slump in operating income over 2018–2019. (Fonecta 2022.) However, the combination of solid turnover figures and a sudden decrease in operating income suggests that major changes occurred in the operation, such as a big investment. A browse through recent news articles on Elomatic's website confirms that the company acquired new business units and hired over 100 new employees over the 2018–2019 period. (Elomatic 2018; 2019.)

Rautaheimo mentions that a key external challenge for the company is the accelerating competition for talent. According to Rautaheimo, employee retainment is currently a major issue for companies in competitive markets. An increasingly networked and disrupted economy indeed exacerbates the need for retaining employees (Ludike 2018). This challenge can be interpreted from the symbolic perspective of management. Managers must appease employees' concerns over the state of the company and convince them that the company is competitive and stable. Keeping an executive in their position is one way to communicate this stability. Naturally, Rautaheimo mentions that retaining talent also requires keeping employees motivated and offering them competitive salaries:

Our personnel are highly specialized ladies and gentlemen, and our challenge is to keep the good guys. -- We should treat people well, motivate them highly, pay them enough. We hire people that could leave us anytime and find other work.

As environmental contingencies affect who receives power and control in an organization, it could be argued that the choice of CEO reflects Elomatic's need to

differentiate from competition through specialized knowhow. A high level of expertise is symbolized by a chief executive who has a PhD in engineering and is specialized in operational shipyard improvements. The manager of the organization is not an administrator by trade, but a solution expert. Organizations are quite prudent to preempt any erosion of managerial status by selecting managers that address clients' needs and symbolize the core value promise of the organization. Ergo, it may be that Rautaheimo's selection to lead the organization is a symbolic effort at appeasing client demands. However, this is mere conjecture as the premise of Rautaheimo's appointment was not subject to scrutiny in the interview.

The discretionary role of management emphasizes shaping organizational contexts. However, the nature of shaping contexts is challenging, as few organizations have enough resources or scale to significantly alter their external environments. Rautaheimo refers to this by mentioning the challenging institutional environment in Finland:

It's pretty expensive to work here in Finland, lots of different payments and taxes -- and we're competing with offices and companies outside of Finland, so cost-wise it's a challenging picture.

A clear disadvantage of the globally interconnected shipping market is that competition is also global. Although the global market presents greater opportunities with "plenty more fish in the sea", Finnish companies suffer higher tax, social security, and overhead costs than rivals outside the realm of Nordic welfare societies. Hence, competitors have lower cost structures and can offer their solutions at a better price.

Pfeffer & Salancik (1978) suggest that in attempting to change the future direction of an organization, the focus ought to be in molding its societal contexts. In the example of expensive cost structures in Finland, maritime operators could hypothetically benefit from higher profit margins in that they could utilize slack resources to generate sustainable solutions to climate crisis challenges. This would entail a decrease in taxes, social security payments or other overhead costs. RDT posits that an organization with enough resources and scale to alter organizational environments could thereby shape the organizational context of Finnish maritime operators, and as Pfeffer and Salancik (1978) hypothesize, gain external control over these organizations.

However, Elomatic's solution to the relentless pricing battle is to create highly specified sustainable solutions that behave like luxury commodities, in that quality matters more than price. Effectively, the expensive institutional environment has led the company into pursuing a sustainable, high-end strategy. In the case of Elomatic, an expensive institutional environment seems to be promulgating sustainable business – as opposed to an environment with abundant slack resources.

Indeed, as mentioned in chapter 2, larger amounts of slack resources do not correlate significantly with corporate responsiveness to external pressures in countries where overall sustainability performance is already high. According to a yearly comparison by investment engineering company Robeco (2022), the sustainability performance in Finland is world-class. Therefore, it would seem that adding slack resources might not increase corporate responsiveness in Finnish companies.

Rautaheimo explains that Elomatic is constantly looking for different opportunities to increase its positive influence on society. While the company mainly focuses on providing technical solutions as a service, it simultaneously seeks new kinds of cooperation models with partners, clients and suppliers. This is consistent with RDT's view of management's responsive role as an information gatherer. Managers assess social environments to determine how their organizations could adapt to best meet external demands and eventually implement the adaptations.

According to RDT, the strongest management responses and adaptations to external demands are triggered by demands that present interdependency synergies with others. Organizations will limit their actions to satisfy the requests of those with resource control, as the support of important resource suppliers is pivotal to the operation. Elomatic is subject to sustained external pressure from clients and the institutional operating environment, hence, Rautaheimo constantly seeks new ways to appease these pressures together with partners, clients and suppliers.

As mentioned in chapter 2, the effectiveness of the chosen response depends on how well it suits the surrounding social context. Therefore, if decisions are to be considered effective in their contexts, these contexts inevitably constrain the end results. In Elomatic's case the societal environment is a high sustainability performance country where the costs of doing business are reportedly high. Thus, Rautaheimo's inclination to

seek new forms of collaboration to meet these specific external demands and create new business value is well in line with RDT.

When asked which external participants most affect Elomatic's organization, Rautaheimo appoints clients to be the obvious answer, and regulation comes second:

There's a lot of things going on with this green EU future, and these will have a very big influence on our business.

Although regulation is important, Rautaheimo says that Elomatic does not closely follow the latest developments in maritime regulation. He believes the general direction is quite clear:

You don't have to know exactly when some regulation is coming into force but more or less, you should be ready to look at alternative ways of powering ships, for example.

5.2.2 Sustainability as a key competitive advantage

As interest groups gain access to the focal organization, they cherish the relationship as primary and critical. Thus, in the name of maintaining limited access and representation, they are less likely to pose extreme demands on the subunit they are dealing with. (Pfeffer & Salancik 1978). Elomatic attempts to turn client relationships into this format, where clients are willing to pay more and exceed less, because Elomatic offers unique competencies for solving clients' sustainability problems.

In the optimum case, we are the only one who can solve the problem [and can therefore charge higher prices]. But most of the time that is not the case, so we are in a cost competition business.

Research suggests that sustainability is an intangible asset that provides companies an edge in saturated markets (Brondoni 2010). Rautaheimo believes this to be the case for his company. Elomatic can charge higher prices because it delivers more difficult projects with better quality. The company often ends up choosing sustainability related projects

due to its wide range of expertise, which is an effective tool for differentiating from competitors:

We brand ourselves as sustainable solutions providers. In some places we're even starting to go outside of our consulting business and offering solutions — and these solutions aren't traditional engineering company work.

In chapter 2, value promulgation research uncovered that universally accepted requirements, such as widespread CSR issues including equal pay and non-discriminatory hiring, often become prerequisites for survival across all market participants. This suggests that sustainability too may eventually turn into a requirement with which all must comply, but from which few will yield profits. Indeed, this is in line with RDT, as managers tend to comply with demands that produce organizational interdependence synergies. Rautaheimo highlights an excellent example, where a large industry operator could have a tremendous effect on the sustainable development of the maritime industry:

If, for example, Amazon made a decision that all their goods would have to be transported CO₂-free – that would change our market.

Rautaheimo believes that the customers of ship manufacturers will coerce the transportation industry into making the green transition. He thinks cost of transportation may be too influential of an issue for Amazon's business, but high-end brands like Adidas or Nike could make a point of decreasing the carbon footprint of their entire production chain, including transportation. As evidenced in chapter 5.1, short-sea shipping companies have already applied cold ironing and alternative energy solutions to car ferries and passenger vessels, as a means of standing out and attracting climate-aware consumers. Karvonen even expects that, as the climate crisis escalates, end-customers and subcontractors will play a bigger part in sustainable shipping as consumers become more willing to pay a premium for sustainably transported products.

Elomatic's sustainability projects usually begin on the clients' initiative. In most cases, a client has a need or an idea for doing something in a more sustainable way, and Elomatic is approached to consult or execute. Elomatic is often selected for its pertinent references and valuable knowledge in the areas where help is required.

Pfeffer and Salancik (1978) argue that organizations will limit their actions to satisfy the requests of those with resource control, as the support of important suppliers is pivotal to most operations. This is again evident in Rautaheimo's emphasis on the need for a truly large operator to upgrade its disposition on supply chain sustainability. A large operator that demands decarbonized shipping or the use of alternative fuels would motivate several other pieces of the product value chain to invest in sustainable technologies. The effect on the price of consumer goods would generally be minuscule:

“If you look at the end product, a big part of the cost is not the transportation. The transportation cost could even be doubled, but still it's minor for the whole value that is transported. But we're not there yet”

Rautaheimo emphasizes that although Elomatic is involved in pioneering sustainability projects – such as a mechanical grid that increases water resistance and thereby the thrust propulsion power of ships, and producing hydrogen to serve as a power source – the shipping industry, alongside its clientele, is not ready to make the green transition. He says that a ship that operates on hydrogen could already be built, but the cost of that ship would be so high that no-one would be willing to pay for the solution or the transportation. Rautaheimo can even explain from where the hitherto unwillingness stems, although he is quick to add that this does not absolve shipping companies:

If you have to transport something from point A to point B, it's most sustainable to transport it with shipping. However, I'm not saying there isn't a lot to do to make it even better. But we need to remember that the starting point for shipping is pretty good, because of the transportation sizes and the water and so on, not because the shipping companies have done very wise things.

Rautaheimo believes that focusing on sustainable projects, in Elomatic's case, is easier, less risky, and requires less knowledge increasing investments than pivoting to other engineering projects. Most importantly, Rautaheimo wants to steer clear of projects that enter the company in a tough cost competition.

5.3 Strategic management of external demands

This section elaborates on Oliver's (1991) strategic responses to institutional pressures and the antecedents that spark such responses. The antecedents posited by Oliver along with their key takeaways are applied to the maritime industry and scrutinized against Rautaheimo's management preferences, to develop a better overview of the different strategies with which maritime sustainability pressures can be managed. The hypothesized effects of the antecedents accurately fit the maritime domain and are mostly consistent with Elomatic's strategic choices. In some cases, however, Elomatic has chosen to pursue manipulative strategies that, in lieu of acquiescing, promulgate external maritime sustainability demands. Proactive conformance is introduced later in this chapter as a strategic response that is not consistent with those set forth by Oliver, suggesting that Oliver's framework is not exhaustive. The implications of this are further discussed in chapter 6.

5.3.1 Forerunners acquiesce to legitimate causes

Oliver (1991) argues that if the cause of an institutional pressure is seen as legitimate and thought to boost efficiency, firms are likely to acquiesce. On the contrary, if the organization does not agree on the benefits of conforming to the demands, the demands will likely meet resistance – the organization will compromise, avoid, defy or manipulate the terms of conformity.

RDT argues that organizations can discredit demands as illegitimate or branch out with their dependencies to meet small demands more diversely. Organizations can also increase their own legitimacy by denying external access to their information and by disclosing information at their convenience.

Some impactful nations, such as the USA, have regulated CO₂ as a dangerous pollutant to enable state-level emissions regulations, while other efficiently developing economies such as China, India and Brazil are yet to introduce legislation to regulate GHG emissions. Falling in between, Australian regulators regard GHG emissions as pollution, but have failed to incorporate it into national legislation (Shi 2016.) The differences between effective regulations in these countries can be attributed to Oliver's cause antecedent, as different societies have distinct attitudes toward CO₂ emissions and the legitimacy and effectiveness of sustainability regulations.

As Finland is a high sustainability performance environment for organizations (Robeco 2022), Finnish organizations often deem sustainability pressures legitimate. In Elomatic's case, sustainability demands seem to be the cornerstone of business. In such situations, Oliver hypothesizes that organizations are likely to acquiesce to external demands. Elomatic would thus be expected to habit invisible norms, imitate existing models and comply with rules. Rautaheimo explains that Elomatic was born in 1970 out of the need to build a more environmentally friendly asphalt machine – before Elomatic's invention was implemented, asphalt production released foul smells and toxins. In this sense, the company has served an institutionally legitimate purpose from the very beginning. Besides complying with rules and imitating existing models, Elomatic has been a forerunner in conforming and adapting to the needs of the institutional environment.

5.3.2 Growth by manipulating constituents

As shipping yields multiple environmental hazards in addition to GHG's, ports often suffer from a great degree of negative by-products to their activities, such as noise pollution, water contamination and other social and environmental hazards. The effects of these by-products are predominantly local, which leads to a situation where ports create and distribute economic value globally throughout maritime value chain, but the surrounding ecosystem pays the price. Ports could use this argument to deflect external demands onto its constituents.

Oliver (1991) hypothesizes that the more constituents with different motives an organization encounters, the less likely it is to acquiesce. When an organization deals with an abundance of constituents, likely strategies will be compromise, avoidance, defiance and manipulation. Compromise is especially effective when seeking a common middle ground, with tactics such as balancing expectations, pacifying disagreements and bargaining with stakeholders. Key constituents are those with resource control, and their demands are more likely to be acquiesced to. In the dynamic relationship between ports and shipping liners, the latter chooses which ports it wishes to employ. This makes shipping companies key constituents for ports.

As there are myriad shipping liners, each equipped with its own motives, ports are likely to compromise with demands. Following the logic of RDT, if a demand from an especially large shipping company is deemed impactful enough, ports will seek interdependency synergies with the company, and the compromise will tilt in favor of that

company due to resource control. Rautaheimo confirms this view in chapter 5.2.2 with his example of the likes of Amazon, Nike or Adidas boasting considerable leverage and bargaining power to change the maritime industry.

Solakivi in turn emphasizes that although all are responsible to an extent, no operator can be singled out as ultimately responsible for promoting sustainability – ports can be deemed responsible for enabling sustainability in shipping, but ports cannot offer cold ironing or hydrogen fuels to incompatible ships. Nor can ships utilize cold ironing if the proper infrastructure is not provided landside. Solakivi mentions that IMO is keen to listen to big commercial operators when agreeing on regulations. According to Solakivi, these operators often try to set restrictions that have minimum effects on their own business, thereby alleviating the collectively experienced external pressures for sustainability in the maritime industry, without having to adjust their own operation and lose on returns. This manipulation of external demands renders these large companies at a relative advantage to their competitors.

Manipulation also seems to work in the opposite, pro-demand direction. Rautaheimo emphasizes that Elomatic collaborates with its clients, partners and suppliers to find new cooperation models. The company strives to develop new technical solutions that, as Rautaheimo states in chapter 5.2.2, are not comparable to traditional engineering. In this sense, Elomatic too looks to manipulate its operating environment by actively seeking to produce solutions such as hydrogen fuel, even though Solakivi explicitly states in chapter 5.1.5 that hydrogen and ammonium fuels will not come into use for at least another decade. These projects are consistent with Oliver's manipulation tactics of influencing and controlling institutional constituents and processes (Table 2). By promulgating sustainable solutions, Elomatic looks to increase the market size for sustainable solutions.

5.3.3 Aligning content with intent to facilitate conformance

The content of institutional pressures is scrutinized through consistency and constraints. Pressures that are consistent with an organization's goals are likely to be acquiesced to. The greater the constraint on autonomous discretion, the more actively organizations will resist demands. When the demands are only somewhat consistent with organizational goals, compromises and avoidance strategies are predicted to be the most frequent. (Oliver 1991.)

The complex nature of cross-border shipping presents companies with myriad coercive and voluntary regulations, which presents both business impediments and opportunities. When the regulatory domain consists of formal legislation, mandatory reporting, voluntary standards and best practices, companies tend to comply with different combinations of regulations, voluntary standards and rules. Thus, shipping companies select combinations that best align with their goals. Voluntary standards and collaborations have reportedly surged of late, and these practices have even been correlated with increased profits. (Coady et al. 2013; Skovgaard 2014.)

The strategy of aligning regulatory combinations with organizational objectives resonates with the responsive management role depicted by Pfeffer and Salancik (1978), where management is an information gathering exercise. Managers assess social environments to determine how their organizations could adapt to best meet external demands and eventually implement the adaptations.

From this perspective, Rautaheimo seems to cope with external demands through project selection. When asked what criteria Elomatic considers in picking projects, Rautaheimo lists: a good fit between personnel capabilities and project objectives, matching values such as sustainability, financial competitiveness, and most importantly, the ability to add value to the project. In selecting criteria such as matching capabilities and values, Rautaheimo may be ensuring that the content of institutional pressures is in line with previous projects. Perhaps he adds consistency and eliminates constraints by not accepting each assignment, making it easier for Elomatic to acquiesce to external demands.

5.3.4 Acquiescing to control to promote differentiation

Karvonen and Solakivi agree that GHG emissions from shipping fuels are detrimentally problematic in maritime business. Karvonen mentions IMO's ambitious initiative to reduce GHG emissions by at least 50% during the next 20 years (IMO 2021), and believes efforts toward that end are already being pursued.

IMO's initiative represents the control antecedent in Oliver's (1991) framework for strategic responses. Oliver expects organizations to acquiesce to formal control when legislation is coercive and tightly supervised. If supervision is lenient and sanctions are not excessive, organizations look to compromise with the pressures. If the controlling

efforts are deemed voluntary, organizations acquiesce when conformance presents interdependence synergies. Voluntary practices that are not widely diffused, will thus face resistance in organizations.

In effect, when control is actively supervised and widely dispersed, it will likely be acquiesced to despite the degree of coercion or lack thereof. Depending on whether the control is unsupervised or presents a narrow scope of interdependence synergies, organizations will respectively compromise or resist external control. Elomatic operates in a high sustainability performance environment, and thus the company's focus on sustainable solutions presents high interdependence synergies with the domestic institutional environment. The institutional pressures in this environment are coercive to an extent with IMO's global regulations, which are impossible to ignore as per Karvonen's interview, regional regulation such as the upcoming cold ironing EU regulation, and national legislations that are often stricter. However, the control that these regulations exert focuses on Elomatic's clients, benefitting the focal company's business indirectly. Obviously, clients that look for sustainable solutions also supervise their partners' sustainability performances. The voluntary adherence to external control seems to be more cost effective for a solutions provider that focuses on sustainable business, as profit margins increase when expertise demands grow and become harder to meet.

Regardless of the degree of coercion, the wide dispersion and active supervision of control – as hypothesized by Oliver (1991) – suffice to encourage Elomatic in pursuing a sustainable business model. Rautaheimo confirms this with his comment on Elomatic's active sustainability branding, and adds that the company tries to mitigate its own relatively small carbon emissions by utilizing solar power, cycling to work and engaging the personnel in other joint efforts to combat the climate crisis.

5.3.5 Activism inspired by context

Lastly, Oliver (1991) concludes that context interacts with the other antecedents. Context is scrutinized in terms of industry interconnectedness and uncertainty. In uncertain situations, organizations are predicted to resist less, that is, to acquiesce, compromise, or avoid demands. In uncommonly uncertain conditions, organizations may even imitate each other's decisions and practices (Galaskiewicz et al. 1989). Institutional interconnectedness promotes acquiescence among organizations, as norms and practices

are ubiquitously diffused and the disadvantages that multiple stakeholder groups impose are downplayed (Oliver 1991).

Firms that are more likely to cooperate with peers of industry – such as operators in ports that host multiple interdependent organizations – are also likely to prefer passive strategies and to acquiesce to stakeholder pressures (Clemens & Douglas 2005; Denktas-Sakar & Karatas-Cetin 2012). Rationally, the less interconnected and more fragmented the institutional environment, the less conformed and more defiant or manipulative the agents in the industry. Interconnectedness also increases the number of compromising organizations, as negotiations are facilitated through institutional networks. (Oliver 1991.)

Similarly, the RDT perspective strongly argues that, as organizational actions are formed in response to environmental demands, organizational behavior can be shaped by designing the organization's environment. Thus, in attempting to change organizations and their future directions, Pfeffer and Salancik propose the focus ought to be in shaping the organizations' contexts. By shaping or replacing their contexts, organizations may also be externally controlled. If those contexts are uncommonly uncertain and complex, organizations within the contexts are likely to acquiesce to pressures.

The voluntary maritime standards introduced in chapter 3 exemplify the compromising strategies of organizations that gain network benefits from succumbing to common external demands. DeSombre (2009) highlights an example of social sustainability where ship-owners increase employee welfare despite incurring massive additional labor costs – this also grants the shipowners access to high-end ports and financially lucrative companies. Moreover, it attracts skilled labor and appeases trade unions.

Throughout this thesis, the inherent uncertainty and interconnectedness of the maritime industry have been assumed true. Myriad financial, technical, legal, political, social and ecological factors have been presented that constantly push for industry change, effectively rendering the domain uncertain. As the maritime industry is a key enabler of globalization, interconnectedness is an inherent aspect of business. However, there are clearly fragmented aspects in the industry, from regulation to the diffusion of responsibilities, and ultimately to the scientific verification of the best fuel solution for long distance shipping.

Oliver (1991) suggests that uncertainty and interconnectedness promote organizational acquiescence to external pressures. Elomatic seems to be an exception, as the uncertainty and high interconnectedness have led to a manipulative strategy: the company is always on the lookout for new collaboration and partnership opportunities. Rautaheimo mentions at least new propulsion technologies to increase energy efficiency and a hydrogen fuel collaboration. Instead of acquiescing to the pressures, Elomatic is actively promulgating these pressures onward, because it yields business profits. The model is not inconsistent with the financial reality proposed by Karvonen and Solakivi: financial reasoning will always trump sustainable motives. When sustainable motives are not compared against financial growth, rather they become the source of growth, this same rule applies.

These insights suggest that, when an institutional environment is interconnected and uncertain enough, a manipulative strategy to increase profits by proactively siding with the external pressures becomes an effective alternative to mere passive conformity. Corporate activism is a term that has been coined to convey this same notion, where companies take a stand on an institutional issue, be it social, political, economic or environmental, in hopes of spurring societal change. Copious examples from the past decade argue that the phenomenon has become widespread and is, to an extent, even expected of companies. Corporate activism stems from the effect of internet and social media on society – a highly interconnected world has fast become interested in removing barriers of progress towards mitigating climate change and other global wicked problems. (Davis & White 2015; Eilert & Nappier Cherup 2020.)

In retrospect, there are multiple references to proactive conformance in this results chapter. In chapter 5.3.1, Elomatic is suggested to have acquiesced to legitimate sustainability pressures since its inception. However, Elomatic is more proactive than the acquiescent tactics suggest – instead of complying, habiting and imitating existing norms, Elomatic has been a forerunner in conforming and adapting to the needs of the institutional environment. Likewise, in chapter 5.3.2, Elomatic is deemed to manipulate its multiple constituents into a pro-demand direction. Rautaheimo seeks to find new cooperation models with constituents, not to actively resist external pressures, but to proactively conform. It is an easy misinterpretation, as the framework does not suggest a sixth option.

It seems that corporate activism could be a missing piece of Oliver's framework, as the current five strategies ranging from actively resistant to passively conformant seem to be inexhaustive. A sixth strategy, one that is actively conforming and consists at least of corporate activism, may be needed to explain the full range of strategic management behavior in responding to external pressures. Further research is needed to determine whether there are other tactics to proactive conformance besides corporate activism, and whether the amended framework would indeed exhaust all strategic options for responding to institutional pressures.

6 Conclusions

The climate crisis is escalating, and many have turned to businesses and organizations in hopes of finding solutions. As managers have a significant influence on the choices that are made in organizations, research ought to focus on exploring management decisions and the antecedents behind these decisions. By gaining a better understanding of what pressures and issues maritime operators deal with, how managers approach control and external pressures, and how these pressures affect organizational decision-making, outside participants may be able to affect the direction of an organization. This understanding is key to promulgating desired changes in complex networks. From this perspective, the extremely interconnected and complex maritime industry is an interesting object of scrutiny. Moreover, advances in maritime sustainability would go a long way to decrease the carbon intensity of world trade, effectively adding a gist of purpose into the research equation.

The central problem of this thesis is: how can managers confront external sustainability pressures to ensure their company's survival in the maritime industry? To answer this question, three subproblems are considered:

- What prompts and hinders action against the climate crisis in maritime business?
- How can a business manage external pressures within a network?
- What strategies can a business employ in confronting maritime sustainability pressures?

The research problems are addressed in this conclusions chapter. The chapter consists of theoretical contributions, managerial implications, limitations and suggestions for future research. As the subproblems are open-ended questions, their answers are non-polar and multifaceted deliberations. Therefore, the conclusions are an extension of the discussion in the results chapter, and feature a summary of research findings.

6.1 Theoretical contributions

This thesis addresses a prominent research gap highlighted in previous publications (see e.g. Vejvar et al. 2017). There is an urgent need to understand the drivers behind sustainable business, and a practical need to stimulate those drivers to address a mounting climate crisis. This thesis continues the discussion initiated by Vejvar et al. (2017) on combining resource dependent and institutional views in researching sustainability practice adoption research within the maritime industry. Moreover, the thesis questions existing conclusions and proposes an augmentation to original theory that may help interpret organizational management with more accuracy in the future. While Vejvar et al. (2017) focus heavily on organizational resistance and even provide managerial implications for enhancing resistant efforts, this research takes an opposite, proactively conformant approach.

The first subproblem highlights the complexity of the maritime industry. In short, promising sustainability developments are surfacing around the world as of late, but they are hindered by the financial constraints of capitalism and a collective ineptitude to arrive at conclusive best practices and decisions on how to go forward.

Maritime operators face myriad pressures to develop the industry into a more sustainable direction, effectively prompting action against the climate crisis. These pressures and trends include tightening emissions regulations; pressures to develop and adopt new fuels such as hydrogen and ammonium as well as temporary drop-in fuels like LNG's, methanol, and biofuels from feedstock; emerging methods and technologies like slow steaming and cold ironing; promising sustainability trends in short-sea shipping and consumer transportation; increased national interests towards sustainability innovations; active green regulation promulgation from high sustainability performance countries; and sustainable declarations of intent by prominent and networked industry operators.

However, there are also issues that hinder sustainable development, the foremost of which is financial performance. All interviewees agree that financial ambitions and realities curb the extent to which sustainable solutions can be implemented. Either the solutions are too expensive to develop or research, too problematic or ineffective to implement, or too costly to maintain. In some cases, such as cold ironing, developing appropriate infrastructure is a massive joint effort that is difficult to sting into action. Electrifying and automating equipment requires massive investments, and hence takes time. As Solakivi

puts it, companies are doing the bare minimum because sustainability is above all a cost issue.

Besides fossil fuel emissions, there are copious other environmental hazards to account for in shipping. These do not seem to be a big concern to interviewees, nor to the academic community in general. Moreover, the high interconnectedness of international trade presents issues of assigning regulatory onuses, identifying and distributing the created value, and determining aftercare and cleanup responsibilities.

Scholars cannot seem to agree on how to approach certain problems. For example, there seems to be no unanimous take on what will fuel ships five years from now. Solakivi believes that a hydrogen-based fuel will be the prominent solution in the long run, but the scientific community is split as to which drop-in fuel should be used in the meanwhile. Solakivi and Karvonen also disagree on how genuinely companies seek to promulgate sustainable business – whether they see it as a mandatory effort or an actual strategic focus – as well as the expected impact that cold ironing will have on maritime sustainability. Solakivi presents a compelling example that evidences the triumph of profit over ecological business: vessels sometimes race around entire continents if the additional fuel costs amount to less than the total cost of passage fees through central trade nodes.

The second subproblem builds on resource dependence theory. The key finding in RDT is that by altering the operating environment of an organization, that organization can be externally controlled. RDT also posits that managers have myriad ways of confronting external sustainability pressures. They can ignore pressures that they do not wish to comply with or deem them illegitimate, but encounter copious risks in doing so. Managers can also attempt to avoid pressures by disclosing convenient pieces of information, while controlling which information is not disclosed. In certain situations, managers may choose to succumb partly to the pressures, thereby electing which issues receive managerial attention.

The interview with CEO Rautaheimo provides a contemporary point of view to managing external pressures. His insights are compared to the theoretical implications set forth by Pfeffer & Salancik (1978). Findings suggest that the resource dependence view is accurate in predicting how managers respond to external pressures. Through examples of employee retainment, the economic environment in Finland and shaping the company's

solution offering, Rautaheimo confirms that he responds to external pressures through the roles presupposed in RDT. Indeed, managers seem to enact three roles in directing organizations: symbolic, responsive and discretionary.

Rautaheimo describes multiple occasions where his company has responded to external pressures as RDT hypothesizes. From a symbolic perspective, the company is driven by a need to attract and retain talent. Elomatic employs some of the best in the business, which creates pressure to perform well, keep employees happy and pay sufficient salaries. Rautaheimo believes that sustainable branding increases the brand equity of his company and looks to engage talent that promotes this brand potential. The appointment of Rautaheimo to lead the company may in itself be a symbolic response to external pressures, as he is first and foremost a maritime engineering expert, not an administrator.

From a responsive perspective, Elomatic leverages its high sustainability expertise in differentiating from competition – the competitive advantage this provides enables a higher pricing strategy. Ergo, Rautaheimo chooses to collaborate on sustainability engineering projects, and deselects the more ample but cost-intense traditional engineering market. Elomatic seeks to create interdependencies with clients, effectively satisfying the customers with resource control by shaping their offering to benefit the unique demands, which few others can address. This explains the above-mentioned need to retain the best talent.

From a discretionary perspective, Rautaheimo believes that a large industry operator could have a significant effect on the green transition of the industry. Influential companies like Amazon, Adidas or Nike could shape the market due to the elaborate interdependencies of maritime business – if a large school of fish moves to a new territory, those that feed off it will follow suit. Similarly, a large operator that decided to decarbonize its value chain would attract multiple domains to follow. This in turn would create additional pressure for other members in the maritime cluster. According to Solakivi, Maersk seems to anticipate such a development in its future.

If the cause of an institutional pressure is seen as legitimate and thought to boost efficiency, firms are likely to acquiesce. As Finland is a high sustainability performance country, external sustainability pressures are often deemed legitimate. Elomatic was born out of a need to comply with institutional pressures in the 1970's, and certainly sees benefits in complying with external demands. As Oliver hypothesizes, these antecedents

result in an acquiescent disposition towards institutional pressures within the organization.

When an organization deals with an abundance of constituents, they are likely to resist external demands. According to Solakivi, major operators often try to set restrictions that have minimum effects on their own business, thereby alleviating the collectively experienced external pressures for sustainability in the maritime industry without having to adjust their own operation and lose on returns. This manipulation of external demands renders these large companies at a relative advantage to their competitors.

Rautaheimo states that Elomatic strives to develop technical solutions that are not comparable to traditional engineering. In this sense, Elomatic too looks to proactively manipulate its operating environment by actively seeking to produce solutions such as hydrogen fuel, even though Solakivi explicitly states that hydrogen fuels will not come into use for at least another decade. These projects are consistent with Oliver's manipulation tactics of influencing and controlling institutional constituents and processes. By promulgating sustainable solutions, Elomatic looks to increase the market size for sustainable solutions.

The third subproblem combines the prior two and builds on Oliver's (1991) medley of institutional and resource dependence theory. Combining RDT with institutional theory enables a deeper understanding of the limited resistance and compliance options that organizations can choose from. Oliver hypothesizes that certain antecedents can help predict how organizations will resist institutional pressures. Based on the interviews and additional academic literature, the antecedents *cause*, *constituents*, *content*, *control*, and *context* are fairly accurate in explaining organizational behavior. Moreover, the consequential links between antecedents and strategies are mostly sound. The strategies are *acquiescence*, *compromise*, *avoidance*, *defiance*, and *manipulation*. However, analysis suggests that there may be at least one additional strategy unaccounted for in the original theoretical framework.

Oliver (1991) argues that pressures consistent with an organization's goals are likely to be acquiesced to. The greater the constraint on autonomous discretion, the more actively organizations will resist demands. According to the responsive management role presented by Pfeffer & Salancik (1978), managers assess social environments to determine how their organizations could adapt to best meet external demands and

eventually implement the adaptations. From this perspective, Rautaheimo seems to cope with external demands through project selection. In selecting project criteria such as matching capabilities and values, Rautaheimo may be ensuring that the content of institutional pressures is in line with previous projects. Perhaps he adds consistency and eliminates constraints by not accepting each stray assignment, making it easier for Elomatic to acquiesce to external demands.

Oliver's hypotheses on the control antecedent present interesting implications. In effect, when control is actively supervised and widely dispersed, it will likely be acquiesced to despite the degree of coercion or lack thereof. Depending on whether the control is unsupervised or presents a narrow scope of interdependence synergies, organizations will respectively compromise or resist external control. Regardless of the degree of coercion, the wide dispersion and active supervision of control suffice to encourage Elomatic to pursue a sustainable business model.

Lastly, Oliver (1991) concludes that from a context perspective, organizations are predicted to resist less in uncertain situations where the industry is highly interconnected. In uncommonly uncertain conditions, organizations may even imitate each other (Galaskiewicz et al. 1989). As organizational actions are formed in response to environmental demands, Pfeffer and Salancik (1978) propose the focus ought to be in shaping the organizations' contexts. If those contexts are uncommonly uncertain and complex, organizations within the contexts are likely to acquiesce to pressures.

Elomatic seems to be an exception, as the uncertainty and high interconnectedness have led to a manipulative strategy: the company constantly seeks new collaboration and partnership opportunities. Elomatic proactively promulgates sustainability demands because it yields the company business profits. The model is not inconsistent with the financial reality proposed by Karvonen and Solakivi, where financial factors trump all others. When sustainable motives are not compared against financial growth, rather they become the source of said growth, synergies are born. As the findings on context suggest, Elomatic's efforts to shape the institutional context to its own benefit may enable the company to shape future developments within its value network, especially if the newfound context is uncertain and highly interconnected.

A possibly remarkable finding in this thesis is that the strategic responses presented by Oliver (1991) may not be entirely exhaustive, as an additional strategy is identified based

on the analysis of Rautaheimo's answers in chapter 5. The analysis suggests that, while Oliver hypothesizes that the five strategic responses range from passive conformance to active manipulation, there may be a sixth strategy.

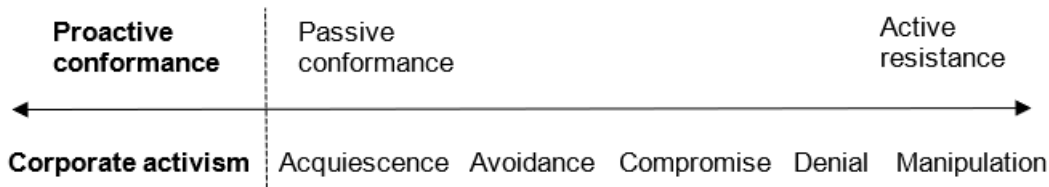


Figure 4 – Degrees of organizational resistance (amended from Oliver 1991)

When an institutional environment is interconnected and uncertain enough, a manipulative strategy to increase profits by proactively siding with the external pressures becomes an effective alternative to mere passive conformity. Such proactivity has been dubbed corporate activism, as introduced in chapter 5.3.5. It conveys a strategy, where a company takes a stand on an institutional issue, be it social, political, economic or environmental, in hopes of spurring societal change. Corporate activism is a proactive orientation towards external pressures that seeks to promulgate ecological, social and financial sustainability. This means that the spectrum of resistance presented by Oliver in 1991 may have amplified in the 21st century (see Figure 4).

6.2 Managerial implications

As the maritime industry is highly interconnected and complex, the ineptitude to engage in collective action is understandable. Moreover, the financial risks of investing in new technology and infrastructure without the promise of collective cooperation and returns can seem intimidating. However, certain institutional environments seem to favor sustainable action more than others. In Nordic countries where sustainable performance is high, the possibilities for collaborating on sustainable projects are aplenty. In fact, the trends canvassed in chapter 5.1. suggest that the institutional environment is developing into a more sustainably oriented direction. The window for gaining first mover advantages – such as the ability to shape the market and coerce others to acquiesce, as per RDT – seems to be closing. Weak signals such as Maersk deliberating the decarbonization of its fleet and the emergence of corporate activism suggest that the worldwide race to establishing a sustainable market may soon be afoot.

RDT posits that by altering the operating environment of an organization, that organization can be externally controlled. This presents interesting possibilities for companies seeking to promulgate sustainable business. All interviewees mention the network effect that one operator has on the other. If a major shipping line elects to decarbonize its fleet due to external pressures from a big client, its smaller constituents will follow suit. This is partly because the original client demands a decarbonized end-to-end supply chain – but more importantly, it is because at sustainability has begun making business sense. An organization with enough resources and scale to alter institutional environments could thereby shape the organizational context of Finnish maritime operators, and as Pfeffer and Salancik (1978) hypothesize, gain external control over these organizations. Ergo, as external control over an organization is theoretically possible, so too is the discretionary promulgation of sustainable values.

Elomatic's business logic builds on the fact that sustainable solutions are more profitable to produce, because it requires specific knowledge that the company has as long as it manages to retain key employees. The unique know-how in difficult areas of expertise enable a high-end pricing strategy, effectively relieving Elomatic from the limitations of a low-margin maritime industry. This may be a strategy worth considering for other Finnish maritime businesses that battle low margins in a highly competitive, cost-intensive industry. Operators in Finland incur remarkably high expenses compared to those in other institutional environments, which is why differentiating from competitors with high expertise and unique value propositions is a valid strategy.

The proposed sixth strategic response to institutional pressures provides interesting possibilities for maritime businesses. As the status quo in the industry has long been to collectively resist sustainable change, corporate activism may be a breath of fresh air to organizations further down the value chain – the organizations that deal with actively concerned and polarized consumers in fragmented institutional environments. A truly proactive approach to sustainability may well transpire an unexpected surge in business propositions. Perhaps waiting for coercive regulation is not necessary, as suggested by interviewees earlier in this thesis.

Moreover, as a wider diffusion of pressures is anticipated to promote acquiescence in other industry participants, organizations that pursue proactive conformance tactics effectively promulgate industry change into their desired direction. The more industry

participants there are pursuing sustainable business development, the higher the pressure for the remaining network to follow suit.

However, in the expert opinion of Rautaheimo, the shipping industry is not ready to make the green transition. He says that a ship that operates on hydrogen could already be built, but the cost of that ship would be so high that no-one would be willing to pay for the solution. Rautaheimo believes that the customers of ship manufacturers will eventually coerce the transportation industry into making the green transition. As suggested in the findings of this thesis, Rautaheimo's statements point towards a culture of assigning the onus of responsibility onto others in the maritime industry.

6.3 Limitations and future research avenues

A key limitation of this study is that the empirical data collected for analysis is exemplified through just one company. The original intent was to interview two to three business executives and establish a range of organizational behavior that could be compared against peers. The other managers were not available for an interview, which affected the approach of this thesis to some extent. The focus shifted from industry-wide comparison to the verification and analysis of classical theories in a contemporary setting. Fortunately, the analysis provides fruitful findings and implications that answer the research problem of this thesis.

Notwithstanding, there is a need for more ample, industry-wide research on promulgating value systems and sustainable business models throughout maritime networks. An excellent option could be a comparative cross-sectional study, where the dynamics between different participants of the same value chain are studied. Such research might yield more tangible results as to how companies could collaborate to influence more substantial change. However, such a study may surpass the scope of a master's thesis.

Another potential future research avenue would be to replicate this research as a case study on a considerably larger, less sustainably inclined company, where the answers of different managers could be cross-referenced for discrepancies. This would be an interesting research setting from the resource dependence perspective, where control over a company is not only an external struggle, but also entails internal bargaining. Moreover, RDT hypothesizes that organizations grow to better deal with external demands, and the number of demands increases as organizations grow. Thus, large organizations enact

structural differentiation to comply with multiple divergent demands simultaneously. This suggests that managers of multinationals may be more familiar with facing external demands and applying the strategies presented in academic literature.

Another key limitation is that corporate activism was merely mentioned in passing in the final chapters of this thesis. Its full extent and effects have not been broadly studied, and the conclusions that this thesis provides on corporate activism are somewhat frail in terms of verifiability. Moreover, the amendment of Oliver's framework (Figure 4) is questionable, as the framework originally focused heavily on resistance. Moreover, organizational activism may prove to be an extremely wide domain of research, and the amended scope of resistance may well prove insufficient. Further research on corporate activism in the context of organizational behavior, institutional pressures and external demands is needed.

Furthermore, the effect of corporate activism on the broader operating network should be researched in further detail in the future. The amended framework is recommended to be rebutted or reformulated entirely, supplementary tactics besides corporate activism ought to be canvassed, and the extent to which the six strategies exhaust all strategic response options ought to be evaluated.

7 Summary

The maritime industry is a major contributor to increased global carbon emissions, and a significant cog in world trade. The worldwide motivation to mitigate climate crisis effects has generated a need to understand drivers behind sustainable management decisions and the resistance to pursue these decisions in maritime business. To create a positive climate impact, organizations must include their value networks in mitigating the crisis, meaning that the sustainable values of an operator need to be promulgated across supply chains and partnerships. This inspires the scrutiny of management responses to external pressures, and segues the central research problem: how can managers confront external sustainability pressures to ensure their company's survival in the maritime industry?

To that end, a review of academic research literature uncovers numerous frameworks, models, roles, dimensions, strategies and antecedents with which organizational behavior towards external pressures can be scrutinized. Institutional pressures and external demands are exemplified through topical maritime trends and challenges. To answer the central research problem, sustainable maritime management is scrutinized through an amalgamation of resource dependence theory and institutional theory. The application of this combination of theoretical lenses addresses a previously identified research gap introduced by other researchers.

Resource dependence theory suggests that organizations resist external control with deliberate action. In contrast, institutional theory emphasizes the effect of the surrounding environment. This thesis discussed both views separately and in conjunction to provide added insights to both academic theory and sustainable value promulgation.

From a theoretical perspective, the maritime institutional environment proves to be extremely complex and interconnected – sustainability pressures are mounting and actions to promote sustainable business are becoming widespread. However, financial performance requirements significantly limit the extent to which maritime operators practice sustainable business, creating a rigid dichotomy of interests. This can also be expected from other highly interconnected networks.

The ongoing challenges and trends seem to be in line with the resource-dependent perspective. Managers have myriad tools for responding to external pressures and demands, which include but are not limited to neglecting and belittling demands, avoiding

them by controlling what is disclosed, and succumbing to them partially when convenient. Through three different management roles, pressures can be dealt with symbolically, responsively and with discretionary action to shape organizational contexts.

The compound theory of balancing resource-dependent management with institutional pressures provides an interesting array of strategies to resist external pressures. These strategies vary from passively conformant to actively resistant and can be forecasted with antecedents that interpret the surrounding institutional environment. This thesis applies the antecedents against a maritime institutional environment, specifically maritime sustainability pressures. The theorized outcome is juxtaposed against management insights from a maritime business expert, confirming several proposed connections between antecedents and strategies. However, discrepancies between theory and practice suggest that the framework may be outdated or incomplete, and that the full extent of organizational action is not limited to mere passive conformance. A proactively conformant strategy is identified that presents new tactics such as corporate activism. Further research is required to confirm and explore as to how proactive conformance amends the toolbox of discretionary action available to organizations in the face of external pressures.

From a managerial perspective, findings suggest that different institutional environments have different effects on an organization's susceptibility to external sustainable value promulgation – organizations in high sustainability performance countries are more likely to adopt actively or passively conformant strategies. Shaping these high-performance markets and their organizations could be an efficient first step for those entities looking to promulgate sustainable change.

The findings in this thesis also suggest that the financial limitations of maritime business can be circumvented through differentiation and specialization. Higher profit margins can be attained by focusing on difficult sustainable solutions that have not yet been widely disseminated. However, the economic laws of market saturation suggest that this benefit is only attainable to first movers and early adapters, as an increase in similarly differentiated market participants obviously decreases the extent to which a single operator stands out. Notwithstanding, a wider diffusion of sustainable business practices would increase the network pressures for other market participants to follow suit, further stimulating the collective green transition.

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Appendices

Appendix A – Interview questions

Interview questions – Category 1: Tomi Solakivi & Tapio Karvonen

- What sustainability challenges are ports facing? How about shipping companies?
- Are there signs of greenwashing or ceremonial conformity within ports or shipping companies? What does it look like? How does it surface? How common is it?
- A port creates value across the world, but it's pollution is very local. what kind of innovative, sustainable energy solutions can expect to see from ports, shipping companies or other maritime operators in the near future?
- Who is in your opinion ultimately responsible for maritime sustainability?
- What current or emerging national/international efforts to tackle maritime sustainability challenges are there? Can you think of any collaborations or initiatives?
- What voluntary standards do maritime operators adhere to?
- What is IMO's role in maritime sustainability?
- Are there any influential firms that are setting the bar for maritime sustainability? Which firms? Is this more common in a specific sector? What actions are they doing?

Interview questions – Category 2: Patrik Rautaheimo

- What led your company to develop its business model into a sustainable direction?
- Does your company attempt to shape its societal context? How? What causes the instinct to do so?
- What are the most important criteria for picking a project to implement?
- Do you believe sustainability produces business value? What does that require?
- Are there adverse effects to not doing sustainable business in your industry?
- Which external participants do you think affect your organization most? Why? What do you think affects the weight of a demand?

Appendix B – Interview consent form

Interview consent: master's thesis

Consent to take part in research

Researcher: Juho Mäkinen

Participant: Xx Yy

I voluntarily agree to participate in this research study. I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without consequences of any kind.

I understand that I can withdraw permission to use data from my interview within one week after the interview, in which case the material will be deleted. I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study.

I understand that I will not benefit directly from participating in this research. I agree to my interview being recorded. I understand that disguised extracts from my interview may be quoted in the master's thesis or other topics related to studies at Turku School of Economics.

I understand that signed consent forms, interview notes and original audio recordings may be retained until 1.1.2023. I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

Signature of research participant

Xx Yy

Signature of researcher

Juho Mäkinen

Date DD.MM.YYY