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ESG IN SHIPPING AND ITS IMPACT

Athina-Nefeli Pitsi

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The Members of the Defense Committee:

1. Mr. Polemis Dionysios
2. Mr. Pallis Thanos
3. Mr. Naoum Vasileios-Christos

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ΠΕΡΙΛΗΨΗ

Στον σύγχρονο κόσμο, οι επιχειρήσεις απαιτείται να κάνουν αλλαγές με σκοπό να ικανοποιήσουν την συνεχώς αυξανόμενη ανάγκη για βιώσιμη ανάπτυξη, η οποία βασίζεται στην ESG (environmental, social, and governance) στρατηγική. Κατά την διάρκεια των τελευταίων δεκαετιών, έχει δοθεί σημαντική προσοχή στην έννοια της βιώσιμης ανάπτυξης κατά τον σχεδιασμό στρατηγικής. Ωστόσο, δεν έχουν οριστεί κριτήρια, δείκτες ή πλαίσια ανάπτυξης για αυτή την έννοια. Ως συνέπεια αυτού, η αφομοίωση της σε πραγματικές πρακτικές ήταν ανεπαρκής. Το πλαίσιο ESG, το οποίο αξιολογεί πόσο καλά αποδίδει μια εταιρεία σε διάφορες κατηγορίες και τομείς, αποτελεί παράγοντα αυτής της διαδικασίας. Ο στόχος αυτής της διπλωματικής είναι να παράσχει στοιχεία που αποδεικνύουν γιατί η ναυτιλιακή βιομηχανία πρέπει να υιοθετήσει ESG πρότυπα και πρακτικές και γιατί αυτό είναι επωφελές. Αρχικά, θα παρουσιάσουμε την έννοια της βιώσιμης ανάπτυξης, καθώς και τις έννοιες της περιβαλλοντικής, κοινωνικής και κυβερνητικής βιωσιμότητας. Στην συνέχεια, θα παρουσιάσουμε εν συντομία τους παράγοντες και τις εξελίξεις στον βιομηχανικό τομέα, οι οποίοι είναι υπεύθυνοι για την διαμόρφωση αυτών των αντιλήψεων. Επόμενο στάδιο αποτελεί η εξέταση των διαδικασιών ανάπτυξης περιβαλλοντικής, κοινωνικής και κυβερνητικής (ESG) πολιτικής, καθώς και των κύριων προσεγγίσεων που ακολουθούν οι ναυτιλιακές εταιρείες και των μετρήσεων που χρησιμοποιούνται για την αξιολόγηση του επιπέδου επιτυχίας τους. Εν κατακλείδι, θα ερευνήσουμε εάν η περιβαλλοντική, κοινωνική και κυβερνητική πολιτική συνδέεται με την απόκτηση ανταγωνιστικού πλεονεκτήματος, όπως επίσης και πιθανά οφέλη και προκλήσεις που συνδέονται με την εφαρμογή τους στον κλάδο της ναυτιλίας.

Λέξεις κλειδιά: ESG, ναυτιλιακή πολιτική, περιβαλλοντικές, κοινωνικές και κυβερνητικές ανησυχίες, κίνητρα, στρατηγική, ESG λήψη αποφάσεων, μείωση εκπομπών άνθρακα, SEEMP (διαχείριση ενεργειακής απόδοσης πλοίων), Ευρωπαϊκή Ταξινόμια

ABSTRACT

In the modern world, firms are required to make adjustments in order to fulfill the ever-increasing need for sustainable development that is based on an ESG (environmental, social, and governance) strategy. The concept of sustainable development has been given a significant amount of attention in policy planning over the last several decades; yet, there have been no defined criteria, indicators, or development frameworks for this concept. As a consequence of this, the assimilation of it into real practices has been quite insufficient. The ESG framework, which evaluates how well a company performs in a number of different categories, is the product of this process. The objective of this piece is to provide evidence that demonstrates why the shipping industry should adopt ESG standards and why doing so is beneficial. To begin, we will provide a definition of sustainable development as well as the concepts of environmental, social, and governance sustainability. After that, we will briefly discuss the factors and developments in the industrial sector that were responsible for shaping these conceptions. Examining the process of developing an environmental, social, and governance (ESG) policy, as well as the primary approaches that shipping companies use and the metrics that are utilized to assess their level of success, is the next stage. Finally, we will investigate whether or not environmental, social, and governance (ESG) is associated with acquiring a competitive advantage, as well as the possible benefits and challenges associated with applying it in the shipping industry.

Keywords: ESG, shipping policy, environmental, social, and governance (ESG) concerns, incentives, strategy, ESG decision-making, decarbonization activities, SEEMP, social measurements, European Taxonomy

Table of Contents

ΠΕΡΙΛΗΨΗ.....	4
ABSTRACT	5
Introduction	7
Chapter 1st: The Shipping Industry's Motivating Trends and Drivers' Sustainability.....	11
1.1. Introduction	11
1.2. The Paris Agreement	11
1.3. The 17 SDGs for sustainable development (17 SDGs for SD).....	12
1.4. IMO strategies and the Green Deal	12
Chapter 2 nd : ESG strategies in shipping	14
2.1. Introduction to ESG strategies in shipping.....	14
2.2. The impact of ESG in shipping	17
2.3. Taxonomy in EU.....	19
2.4. The Poseidon Principles initiative	23
2.5. Ratings for ESG.....	24
Chapter 3 rd : Implementation and Adoption of ESG Principles	26
3.1. Introduction	26
3.2. Materiality analysis procedure.....	26
3.3. Modeling ESG practices.....	30
3.4. Formulation of environmental policies and strategies.....	33
3.5. Formulating social governance strategies.....	39
3.6. Formulating corporate governance strategies.....	45
Conclusion.....	55
References	58

Introduction

"Development that satisfies the needs of the present without compromising the ability of future generations to meet their own needs" is the definition of sustainable development found in the Brundtland Report, which was also referred to as "Our Common Future" in 1987. A company must be able to anticipate and handle prospective opportunities and risks to its financial, ecological, and social well-being in the future in order for it to be sustainable. This must be accomplished while keeping a commitment to equality and tolerance. For the purpose of achieving sustainability, which is a long-term goal (i.e., a planet that is more sustainable), sustainable development refers to the different procedures and techniques that are used to achieve sustainability. Sustainability is a separate concept from sustainable development. The concept of the Triple Bottom Line serves as the foundation for sustainable growth in the shipping industry. This model seeks to maximize profits for investors while concurrently benefiting society and the environment. More and more chief executive officers are beginning to see the significance of sustainable business practices in terms of resolving global issues, making the most of possibilities, and expanding their own businesses. The concept of the "triple bottom line" is a method of doing business that takes into account not only the financial aspects of a company's performance but also the social and environmental repercussions of that firm. Profit, other people, and the environment are the "three Ps" that comprise the totality. One of the most important indicators of a business's success in a capitalist economy is the financial performance of the firm, which may be defined as the profit that the company makes for its shareholders. Strategic planning initiatives and important firm decisions are designed to achieve the aims of maximizing profits while simultaneously reducing expenditures and minimizing risk. In the past, it was the culminating point for a great number of enterprises. A great number of influential individuals in today's society are able to use their businesses for the benefit of society without negatively impacting their profitability. The human part of the triple bottom line approach is the focus placed on the devotion of a firm to both its workers and the community as a whole. Identifying the differences between shareholders and other interested stakeholders in a firm is of the utmost importance. The value of a company's shareholders is one way to evaluate the performance of a business. In response to the rising trend of sustainability,

companies are altering their focus to ensure that all parties involved, including customers, workers, and the community, benefit from their operations. This may be done via a variety of efforts, including but not limited to the promotion of workplace volunteering, the cultivating of fair employment practices, the collaboration with external groups to bring about systemic change, and so on. In order to accomplish a goal that is comparable, a number of firms that are for profit have established productive relationships with organizations that are not for profit. With regard to the planet, this component of the triple bottom line is concerned with the positive effect that is exerted on the planet. Since the beginning of the Industrial Revolution, the bulk of the pollution that has contributed to the acceleration of climate change as a result of the acceleration of climate change has been produced by large corporations.

Many influential businesses are aware of the fact that, despite the fact that companies have historically been among the most significant contributors to climate change, they also possess the ability to influence the course of events by enacting policies that are constructive. It is not just the most well-known companies in the sector who are encouraged to participate in this project; any business that has the capability of implementing measures that reduce their effect on the environment is invited to do so. Some of the modifications that are being implemented include the use of materials that are provided in an ethical manner, the reduction of energy consumption, and the simplification of distribution systems. The ability of an organization to anticipate and manage future social, environmental, and economic opportunities and hazards while simultaneously preserving and producing value is one definition of sustainability (Alhaddi, H., 2015). This definition may be used to describe the existence of sustainability. To better integrate environmental, social, and corporate governance concerns into asset management, securities services, and other related activities, a number of financial institutions were requested to do so in the United Nations report "Who Cares Wins - Connecting Financial Market to a Changing World" (The Global Compact, 2004). This request was made in 2004. According to the findings of this study conducted by the United Nations, the incorporation of sustainability into financial markets may eventually lead to improved social results. The final report received the seal of approval from twenty different banks, asset owners, and other stakeholders. Goldman Sachs, Global Energy Research, HSBC, Asset management, and Deutsche Bank Global Equity Research were among the main brokerage houses that contributed to the publication of a research in 2004 that was titled "The materiality of Social,

Environmental, and Corporate Governance issues to Equity pricing" (UNEP FI, 2004). The research suggested that the "rigorous integration of environmental, social, and corporate governance issues" into the investment process is necessary in order to achieve long-term financial gains. The United Nations Environment Program's "Freshfield Report" (UNEP-FI) presented the concept of using environmental, social, and governance (ESG) data in investment decisions and produced the first figures on the financial significance of environmental, social, and governance (ESG) issues in 2005. In 2005, the United Nations presented the concept of global sustainable finance, which places a focus on environmental, social, and governance (ESG) problems. The PRI served as the basis for this concept. The ability of the model to function as a grading system that encourages sensible, long-term investments that are beneficial to companies, society, and the environment was praised. According to Sustainable Analytics (2022), the number of signatories to the Private Investment Regulation (PRI) has climbed from 63 in 2006, when assets were valued at USD 6.5 trillion, to more than 3,800 signatories, with assets valued at USD 121 trillion.

The increasing number of PRI signatories is evidence of the increased interest that investors have in environmental, social, and governance (ESG) issues and the inclusion of these issues into investment decisions. The number of organizations that have disclosed environmental, social, and governance (ESG) information has increased from 20 in the early 1990s to 8500 since then (Forbes, 2018). One of the most important aspects of ESG is the concept that it evaluates the whole environmental and social awareness of a firm. This grade is helpful for the purpose of evaluating potential investments in your portfolio. The environmental criteria focus on the manner in which the business handles the environment, while the social criteria investigate the manner in which the firm treats its employees, suppliers, customers, and the communities in which it operates. It is stated in Corporate Governance (2023) that the primary areas of focus in the field of corporate governance include the rights of shareholders, internal controls, executive compensation, and business leadership. The Environmental, Social, and Governance (ESG) idea is a relatively new method for evaluating the sustainability of a firm. This method makes implementation of ESG measurements and performance indicators. By including environmental, social, and governance considerations into policymaking, it may be possible to achieve environmental goals, improve social values, and enhance governance. As Kosmas Papadopoulos and Rodolfo Araujo (2020) point out, the term was first developed in the banking and finance sector, where it is

advocated that companies include environmental, social, and governance (ESG) considerations into their investment decisions and the formulation of their strategies. Increasing numbers of investors and fund managers that take into account a company's performance on environmental, social, and governance (ESG) concerns when making investment choices have sparked the public's interest in the adoption of ESG policies, as have the legal obligations that are associated with these policies. As a consequence of this, a number of sectors of the economy have been searching for data that is not related to finances in recent times. At one point in time, the capital market functioned on the presumption that the main responsibility of an investment was to provide value to its owners. Environmental, social, and governance (ESG) criteria, as well as the risks that are connected with them, are now attracting a great deal of attention from the general community of investors. The growing body of research that establishes a connection between environmental, social, and governance (ESG) policies and financial performance is causing investors to show a greater interest in environmental, social, and governance (ESG) data. In order to avoid disagreements regarding the application and interpretation of environmental, social, and governance (ESG) data, there must be consistent standards with a reasonable definition of the ESG metrics that each company will use in its report based on the industry in which it operates. This policy is comprised of three essential metrics that are not related to finances. As a consequence of this, it is not going to be the case that various businesses will come up with diverse approaches to measuring environmental, social, and governance factors (Robert et al., 2019).

Chapter 1st: The Shipping Industry's Motivating Trends and Drivers' Sustainability

1.1. Introduction

Now that the Sustainable Development Goals have been established by the United Nations and the Paris Convention, it is abundantly evident what the drivers of sustainability are and what the requirements for sustainability are. Within this context, the International Maritime Organization and the European Commission have set high decarbonization targets that they want to be closely adhered to. They want to ensure that these goals are met. A variety of causes, such as the work of non-governmental organizations (NGOs), charterers, the government, and other incentives, have contributed to the rise in popularity and demand for environmentally friendly services. Additionally, the responsibilities that economic and financial institutions like the Organization for Economic Cooperation and Development (OECD), the World Bank, the Poseidon Principles, and the International Finance Corporation (IFC) play are of utmost importance. These organizations have been under pressure to provide funding for programs that are ecologically benign. Lastly, but certainly not least, the increasing demand from investors for environmental, social, and governance (ESG) rating factors is helping companies boost sustainable practices.

1.2. The Paris Agreement

At the 21st Conference of the Parties (COP21), which took place in Paris on December 12, 2015, 196 countries joined together to reach an agreement on the legally binding Paris Climate Agreement. This agreement went into force on November 4, 2016, following the Kyoto Protocol. We will be able to avert the catastrophic consequences of climate change if we are able to restrict the increase in global temperature to 1.5 degrees Celsius over pre-industrial levels and maintain it at a level that is far lower than 2 degrees Celsius. This accord is a watershed moment in the history of the international climate change process because it is the first legally enforceable agreement to unite all nations in a shared objective. That objective is the adoption of strong measures to

mitigate the impacts of climate change and prepare for the inevitable consequences of climate change (Juda, 2022).

1.3. The 17 SDGs for sustainable development (17 SDGs for SD)

The Sustainable Development Goals (SDGs) of the United Nations were endorsed by the United Nations in the year 2015. These goals, which are sometimes referred to as the worldwide Goals, have the mission of eradicating poverty, saving the earth, and establishing worldwide peace and transparency by the year 2030. There is a unifying goal that all of the Sustainable Development Goals (SDGs) contribute to, and that is to relieve some of the most serious environmental challenges that exist on Earth. Not only do the Sustainable Development Goals declare that actions in one area will influence and drive outcomes in other areas, but they also state that development must encourage and balance social, economic, and environmental sustainability. This is a core premise of the Sustainable Development Goals. In an attempt to eliminate problems like as poverty, hunger, AIDS, discrimination against women and girls, and other similar challenges, a number of countries have committed to assisting the most vulnerable segments of society in advancing first. In order to achieve the United Nations Sustainable Development Goals (UN SDGs) in any environment, it is necessary to have the inventiveness, expertise, technological resources, and financial resources from all sectors of society (Junta, 2022). The Sustainable Development Goals (SDGs) framework provides a strategy for sustainable development, and companies may choose to adopt it in order to achieve a better future for everyone.

1.4. IMO strategies and the Green Deal

A ambitious plan to cut greenhouse gas emissions was authorized by the International Maritime Organization (IMO) in April of 2018, with the goal of decarbonizing the sector within a decade. The IMO is responsible for regulating international shipping and is responsible for regulating international shipping. This strategy takes into account

the Sustainable Development Goals (UN SDGs) that have been established internationally. When compared to the figures from 2008, this strategy aims to reduce annual greenhouse gas emissions by fifty percent by the year 2050. Additionally, by the year 2030, we want to have reduced CO₂ emissions per tonne-mile of transportation work by fifty percent, with the objective of achieving seventy percent by the year 2050. Specifically with regard to maritime transportation, the International Maritime Organization (IMO) places a high priority on technology advancements that result in game-changing solutions. For this reason, the United Nations sought the assistance of shipping companies in order to disseminate its concepts of sustainability. The International Maritime Organization (IMO) has mandated that gasoline must contain no more than 0.5% sulfur in order to comply with their pollution regulations on sulfur dioxide emissions from marine fuels. Nitrogen oxides and sulfur oxides are both contributors to air pollution; the latter is restricted by Tier I and II criteria, which are in turn depending on the speed at which a ship's diesel engine may run (SEA-LNG, 2020). Nitrogen oxides are lower in concentration than sulfur oxides. The European Union has established the ambitious goal of being the first continent and economy to reach carbon neutrality by the year 2050 (Papandreou et al., 2021). This goal was established in response to the Paris Agreement. According to Claeys et al. (2019), the European Green Agreement is a new development strategy that arose as a consequence of the aforementioned. The four foundations of the agreement are carbon pricing, sustainable investments, industrial policy, and a fair transition. Specifically, this agreement aims to achieve the following goals: the provision of clean, affordable, and secure energy; the mobilization of industry towards a clean and circular economy; the creation of an efficient way of providing energy; the mobilization of research and promotion of innovation; the preservation and restoration of ecosystems and biodiversity; the acceleration of the shift towards sustainable and smart mobility; the pursuit of a fair, healthy, and environmentally friendly life cycle of products and services; the imposition of a tax to prevent European companies from outsourcing production to countries with lower emission limits; and an extensive emissions trading system (EUROPA, 2019–2024). According to Claeys et al. (2019), the Green Deal's principal objective is to stimulate and facilitate the reinvestment of money into environmentally aware projects with the ultimate aim of decarbonization. This objective is in addition to the Green Deal's primary objective of promoting economic activity.

Chapter 2nd: ESG strategies in shipping

2.1. Introduction to ESG strategies in shipping

Due to the rising significance of sustainability and the need to evaluate how well businesses are doing in this area, Environmental, Social, and Corporate Governance (ESG) has become more popular as a screening method for investments. This is because ESG measures how well corporations are doing in this area. There is a growing demand for credible corporate disclosures as a result of new legislation and reporting standards. Additionally, there is mounting pressure on boards of directors and government leaders to improve their environmental, social, and governance (ESG) skills. All of these factors are likely to contribute to an increase in the demand for ESG content publications in the shipping industry. A second change is the increasing agreement that governments and corporations must take immediate, short-term action to achieve net-zero emissions, and that they must publicly report the outcomes of their efforts to achieve this goal. As businesses work to improve their supply chains and include social considerations into their strategies, environmental, social, and governance (ESG) will become more significant. In addition, the relevance of assessing the risks related with natural capital and biodiversity is projected to increase, and it is predicted that climate stress testing will be strengthened within the financial industry (Europa 2022). It is vital that managers actively engage in this arena by releasing ESG reports and implementing corrective steps when appropriate. This is because an increasing number of investors are showing interest in environmental, social, and governance (ESG) aspects. In this way, we have the potential to achieve more transparency and accountability. An additional development that should be monitored is the tendency of divesting from corporations that are not recognized for their social responsibilities, such as those who deal in nuclear weapons, tobacco, and coal, amongst other businesses. As a consequence of this, the company would be prudent to implement sustainable practices in order to avoid divestment and to monitor and report on its progress (Athoussaki, 2022).

The worldwide Sustainable investment Alliance (GSIA) is an international network of groups that work on responsible investment (SRI). It is all about respect for environmental, social, and governance (ESG) issues on a worldwide scale as well as

the present trend in Europe. The incorporation of sustainable investing into national and international investment policies and financial systems is one of the long-term objectives of the Global Sustainable Investment Alliance (GSIA). The GSIA has singled out seven major categories of responsible investment strategies that take environmental, social, and governance (ESG) aspects into consideration:

1. The process known as Negative-Exclusionary Screening, which entails removing certain industries and companies from investment portfolios or funds. This include businesses that are engaged in activities such as gambling, tobacco, the manufacture of alcoholic beverages, and fossil fuel resources.
2. This strategy gives preference to companies who have effectively integrated environmental, social, and governance (ESG) criteria and shown positive results. This includes organizations that are engaged in electrification and renewable energy development (good - Best in class screening process).
3. The norms-based screening method that examines investments in light of environmental, social, and governance (ESG) standards, such as the report from the Global Reporting Initiative (GRI), the Sustainable Development Goals (SDGs) of the United Nations, and the Climate Change Partnership (CDP) report. self-starting
4. The ESG Integration strategy is the fourth and most advanced method to environmental, social, and governance (ESG) considerations. This strategy intends to include ESG issues and financial indicators into the investment strategy in a systematic manner.
5. The strategy that places an emphasis on certain sectors that are associated with sustainability, such as sustainable farming, environmentally friendly technology, and renewable energy, amongst others. (Investing with a Focus on Environmental Responsibility)
6. The strategy that focuses on private companies that have a clearly articulated social purpose and the intention of addressing social or environmental problems (also known as impact investing).
7. The use of shareholder power to affect the behavior of a corporation, such as by forcing the adoption and reporting of ESG (Corporate Engagement and Shareholder Action) factors.

Another popular example that supports these trends is the worldwide investment behemoth BlackRock, Inc., which was founded in 1988 and is now the largest asset manager in the world. BlackRock, Inc. is headquartered in New York City. Black Rock has set its sights on being a leader in the environmental, social, and governance (ESG) industry. The company works on a global basis, with 70 locations located in 30 countries and clients in 100 countries. Therefore, it planned to lead the growth of the ESG business in the financial industry in 2017. This was accomplished by increasing its presence in sustainable investing and ESG (environmental, social, and corporate governance) with new staff and products in both the United States and Europe. In order to capitalize on its standing in the market, it began sending official letters to CEOs, shareholders, and other individuals in order to bring environmental, social, and governance problems to light. The shareholders of ExxonMobil were able to vote a resolution that addressed climate change as a direct consequence of this initiative. In 2018, Russell made a request to Russell businesses to address the issue of gender inequality on their boards of directors, and he also developed further steps to address the issue on a broader scale (Times, 2020).

The ultimate objective of BlackRock's environmental, social, and governance (ESG) activities for the year 2022 is to develop a board that is capable, diverse, responsible, and efficient. This board will have an effect not just on the whole financial industry but also on a wide variety of other industries. Additionally, one of the goals should be to adopt a purpose-driven, long-term strategy that is supported by prudent capital management in order to ensure the organization's continuous financial stability. The transition to a sustainable green economy via environmentally friendly activities should also be a goal of business plans and objectives, and the incentives offered by corporations should be aligned with the creation of long-term value. As a final note, Black Rock's primary objective is to make use of environmentally friendly methods in order to provide value to all of the many stakeholders, customers, workers, suppliers, and communities who are engaged. In order to determine whether or not all of these BlackRock objectives have been accomplished, key performance indicators are used (Athoussaki, 2022). In a similar vein, large energy companies and charterers have begun to demand that data on environmental, social, and governance policies be gathered and made public. One example of this is the concept of "scope emissions," which extends

beyond the purview of a particular corporation to include all sources of greenhouse gas emissions.

2.2. The impact of ESG in shipping

Sustainable investing are becoming an increasingly attractive option for investors. Among the environmental and social aims that these investments intend to enhance are energy efficiency, the use of renewable energy sources, the treatment of AFT, and the circular economy. It is necessary for the receiving firm to adhere to good governance standards in order for these investments to be accepted. These practices include having a strong organizational structure, having fair labor relations, providing enough remuneration to employees, and complying with tax regulations. In light of this, sustainable finance is the approach that takes into account environmental, social, and governance (ESG) concerns when making investment decisions. This strategy is in accordance with both European and global goals that are targeted at achieving decarbonization. Because of the substantial quantity of cash that is required by the shipping industry, financing is an essential component for the long-term viability of shipping businesses. Therefore, the relevance of investing in marine finance based on environmental, social, and governance factors is expanding. In order to smooth the transition to a more sustainable energy system and to promote sustainable growth, the new climate change law aims to encourage responsible and sustainable investment by financial institutions. As a result of its constant growth over the last two decades and, since the year 2000, its standing as one of the world's industries that is developing at the quickest rate due to globalization, the shipping sector has been a magnet for investors. With a predicted annual growth rate of 3.5% from 2019 to 2024, the United Nations anticipates that the global maritime traffic of commodities would reach 11 billion tons. This increase is estimated to occur between the years 2019 and 2024. In addition, a number of studies have shown that investors may be able to achieve a higher risk-to-reward ratio by including shipping companies into their traditional stock and bond portfolios. This is as a result of the fact that shipping companies provide a systemic risk to the industry that is reflected in the S&P 500 index (Greleck et al., 2009).

As a result, those who are interested in diversifying their assets may find that shipping stocks are an excellent option. When it comes to sustainability, however, scholars have observed that the shipping sector is missing in this particular area. The reason for this is because the business is often subjected to criticism about topics such as social responsibility, economic instability, environmental damage, and sustainability. Long-term finance, such as shipping stock prices, saw severe volatility as a result of the COVID-19 pandemic that occurred in 2020–2021, according to Arthur et al. (2019). In contrast to prior studies, which relied only on financial success to establish the tangible value of the international shipping sector, it is now anticipated of listed enterprises that they would fulfill their social and environmental responsibilities. According to the findings of study, there are four elements that have an impact on the long-term profitability of businesses that are involved in international shipping. Both return on equity (ROE) and earnings per share (EPS) are two of the most often used tangible financial indicators. Both metrics have an effect on sustainability, and as a result, they are of the highest significance to businesses who are in the business of investing. The ability of shipping companies to weather difficult periods (such as COVID-19) with the assistance of external financing is just as significant as the measurement of standard financial measures when it comes to analyzing the viability and growth potential of these companies. Second, when there is a crisis, such as the COVID-19 outbreak, financial institutions often restrict the amount of money they give to shipping companies. Additionally, the degree to which a global shipping business is able to extend its fleet in the future is directly proportional to the level of crisis and emergency management expertise that the company has. This, in turn, determines the extent to which the company is able to get funding from the investment markets. As a further consequence, publicly traded companies have been forced to bear additional costs as a consequence of governments all over the world mandating that they comply with environmental, social, and governance criteria. It is possible for shipping companies to have a good influence on the environment by modernizing their fleets so that they run on desulfurized gasoline rather than high-sulfur fuel, which is the fuel that older ships utilize. Increasing the safety measures that are in place for crew members is a socially responsible thing to do, and replacing family members with independent directors is a smart method to strengthen corporate governance from the perspective of governance. When seen in this perspective, environmental, social, and governance (ESG) processes are more important than they have ever been, and large international ports are getting

ready to clamp down on shipping companies that do not comply a sufficient amount or have insufficient ESG implementations. The COVID-19 pandemic, for instance, has caused a delay in the timely transportation of goods, that has pushed up operational charges, and that has cut into corporate profits; all of these are instances of the types of negative land and sea events that enterprises have to deal with in the fourth dimension. Therefore, it is reasonable to assume that an international ship management company can anticipate being more competitive, earning more revenue, improving cash flow and financial performance, and becoming an attractive investment target if it has improved emergency response plans, such as those for managing port congestion, pandemics, and other similar situations. Taking into consideration both the return and the risk or risk associated with an investment, the objective of contemporary portfolio theory is to either minimize risk while maximizing anticipated return or maximize expected return while reducing risk. From a theoretical standpoint, a portfolio that is diversified may be better able to withstand swings in the market as well as the risks that are connected with investing in certain firms or sectors. Lastly, maritime companies that have an emphasis on environmental, social, and governance activities are more likely to attract investors in green bonds. Due to the fact that green bond financing is linked to green projects that need finance and help to the transition to a greener environment, this is the case. Shipping stocks are becoming more popular among investors; nonetheless, they carry a risk of severe loss owing to the cyclical nature and volatility of freight costs, which are influenced by shifts in the demand for international commerce. There are four primary categories of risk that shipping companies are typically susceptible to. These include default, which refers to the failure to pay bond interest or capital, financial, which refers to poor financial performance, business, which refers to failing to comply with regulations, and market, which refers to a decrease in the value of a business as a result of a troubled market, such as the one that occurred during the COVID-19 pandemic. On the other hand, these risks could be mitigated if an ESG plan that is both robust and effective is put into place.

2.3. Taxonomy in EU

Direct and indirect social and legal obligations, such as the fact that large global shipping banks are compelled to publish their owners' ESG policies in response to financial regulations imposed by the EU Classification Regulation, have increased the demand for ESG content reporting. This is one example of how the need for ESG content reporting has increased. These laws are in addition to those that are specifically pertaining to shipping. To be more specific, the European Investment Bank anticipated a gradual decrease in the funding of energy projects associated with fossil fuels, particularly natural gas projects, beginning at the tail end of 2021 and continuing forward, as stated in its updated financing strategy (European Investment Bank, 2019). This was stated at the beginning of the year 2021. In spite of this, it is essential to identify the types of investments that are considered "sustainable" or "green" in order to provide funding to efforts that promote sustainability. The reason for this is because there must be a set of uniform criteria that can be used to determine whether or not financial operations are sustainable. This need was resolved by the EU Taxonomy Regulation 2020/852, which was successfully approved in June of 2020 and went into force one month later. In order for a financial activity to be able to qualify as ecologically sustainable and to be eligible for funding, the legislation outlined precise criteria and six environmental goals that should be implemented with regard to the activity. To be more specific, these objectives relate to the reduction of emissions of greenhouse gases, the conservation of water, the establishment of a circular economy, the prevention of pollution, and the preservation of ecosystems and biodiversity. It is essential to make certain that every activity contributes to the advancement of one of these objectives without sacrificing or weakening any of the other objectives. Not only does the classification necessitate the exchange of information that is not pecuniary in nature, but it also describes the manner in which environmental objectives are advanced and the extent to which they are progressed, so institutionalizing the openness of investments that are environmentally responsible. Indicators of key performance might be of assistance in achieving the six objectives mentioned in this rule.

A multi-pronged approach is being implemented by the European Commission in order to reduce emissions in the marine sector to an appropriate level. The European Classification is one of the initiatives that are being implemented as part of this plan. It will facilitate the establishment of common criteria for assessing the environmental

sustainability of economic operations, which will result in the industry being more environmentally friendly.

The Classification stipulates that in order for a particular economic activity to be regarded as environmentally sustainable, it must comply with three key requirements. It is necessary for it to have a substantial influence on one of the six environmental objectives that are defined in this regulation before it may be considered. The third requirement is that it must comply with a set of minimum social safeguards, and the fourth requirement is that it must not significantly hinder any of the other environmental aims that are articulated in these regulations. When it comes to investing in businesses, investors will continue to have choices available to them, and businesses will not be required to comply to this category. The EU Classification, on the other hand, is increasingly being used by lenders and investors in order to ascertain whether or not a project is actually sustainable from an environmental point of view. Organizations who do not comply with the Classification requirements may have a more difficult time acquiring new financing and resources. This is because the primary objective of the EU Classification is to redirect money towards activities that are more sustainable. As a consequence of this, it is envisaged that the process of establishing a company that conforms to this classification will become increasingly relevant within the context of the search for new resources or investment. Access to competitive green finance and capital is necessary for the development of novel technologies and solutions that are vital for the shipping industry to transition to climate neutrality. This is particularly critical given the capital intensive nature of the company. In April of 2021, the European Commission developed technical control standards for the shipping industry. These criteria are relevant to a wide variety of sectors within the maritime transport industry. With regard to the technical control criteria that it has established, the European Union Commission has provided a list of activities that are concerned with the shipping industry that are environmentally sustainable. According to the taxonomy of the European Union, there are two categories of economic operations: "low carbon activities" and "transition activities." The second category of activities has emissions that are much lower than the average for their industry. Due to the fact that the shipping industry does not make use of a large number of low-carbon alternatives, the latter is often used for the majority of shipping activities. Therefore, in order for shipping to have a substantial influence on lowering emissions of greenhouse gases, there must be

no direct emissions of carbon dioxide (CO₂), according to the technical definition. There will be a grace period until 2025, during which a specified amount of direct emissions may be accommodated during the grace period. This grace period will be based on the ship's planned use.

In order for ships to be declared compliant, they must get twenty-five percent of their power from fuels that do not directly cause any emissions. Having stated that, fuels of this kind are quite uncommon. Furthermore, the EU Taxonomy does not state how activities that do not fulfill the criteria should be handled, which presents an additional obstacle to the expanded Environmental Taxonomy. The current system in the "green" classification does not differentiate between activities that severely damage the environment and those that just barely fail the viability test. This is a significant limitation of the system. On March 29, 2022, a group of European academics published a study under the title "Extended Environmental Classification" that proposed a new classification system for the environment. According to the findings of the study, the general binary approach (also known as "green" and "non-green") that is used in the present EU Classification system does not differentiate enough. In light of this, the research investigates whether or not it would be possible to broaden the classification to include activities that have moderate impacts on the sustainability of the environment (referred to as "amber") and activities that are very detrimental to the environment (referred to as "red"). The report recommends a color scheme as a means of assisting individuals in comprehending the new structure. The color red indicates that there is a significant amount of damage, which indicates that it must be decommissioned; alternatively, it indicates that there is some damage, but it may be possible to transition it. Yellow indicates that there is an intermediate level of performance, green indicates that there is a significant amount of contribution to environmental sustainability, and white indicates that there are actions that have a minor effect. It is stated in the study that the shipping sector is one of the industries that is intended to get money for the transition. When it comes to obtaining the 'green' category level, the shipping industry has a number of challenges. This is due to the fact that the decarbonization issue is complex and calls for the collaborative efforts of governments, investors, and banks.

In light of this, the shipping industry would stand to gain a great deal from a more comprehensive classification (WR.no, 2022). Finally, the classification is helpful in many different ways with regard to the transition to an economy that is carbon neutral

and the standardization of investments that are sustainable. The classification's standardized reporting method has the potential to reduce the amount of bureaucracy that is experienced by businesses who currently issue sustainability reports. This is due to the fact that various stakeholders will no longer be required to submit separate reports, and as a result, financial institutions will be able to compare enterprises more effectively.

In addition, because of its enhanced transparency, it may be helpful in preventing "greenwashing" from occurring. As a consequence of this, the category may serve as an illustration of a product that is marketable for individual investors, and it may also result in enhanced clarity and comparability for customers. Because of the European Green Deal and other legislation about climate change, there has to be a significant increase in the amount of money that is being invested in the reduction of greenhouse gas emissions and the improvement of sustainability. By using the categorization system, lenders, investors, and businesses are able to better understand the impact that their financial investments will have on the environment (Schütze et al., 2020).

2.4. The Poseidon Principles initiative

Poseidon Principles is an effort that includes significant marine financial institutions from across the globe as signatories. This project has given its approval to green financing facilities in the shipping industry. The sole requirement is that the monies must be spent in initiatives that are beneficial to the environment (Tsatsaronis et al., 2022). The Poseidon principles apply to any and all credit instruments that are linked with a ship and are backed by ship mortgages, finance leases, ship titles, or non-mortgage engineering credit agreements (ECAs). In addition to being applicable to any and all ships that fall under the jurisdiction of the International Maritime Organization (IMO), these principles are applicable on a global scale to all parties involved, including lenders, connected lessors, and financial guarantors. Not only do the Poseidon principles contribute to the success of other initiatives, such as the Principles for Responsible Banking, CDP, TCFD, and a multitude of other standards, but they also align with the aims and purposes of the International Maritime Organization (IMO). In addition, they demand that entities such as classifiers and other organizations

recognized by the International Maritime Organization (IMO) take responsibility for providing the industry with objective data and adhering to the rules established by the IMO. These rules include the IMO Data Collection System (DCS) for reporting fuel consumption and the technical instructions for data provision that are utilized for climate alignment assessment and reporting. Additionally, the International Maritime Organization (IMO) has the authority to ensure that the Poseidon Principles are adhered to by means of contracts that include new standard terms that control corporate operations. Furthermore, the concept of transparency necessitates the public recognition and exposure of any acts of misconduct. There are 27 important financial organizations that have opted to commit to the Poseidon Principles. These institutions include ABN Amro, BNP Paribas, Bpifrance, Citi, Credit Agricole, Credit Suisse, Danske Bank, DBJ, DNB, Eksfin, Finnvera, and ING, among others. The total amount of maritime financing that these banks have committed to is around USD 185 billion.

2.5. Ratings for ESG

Because of these trends, environmental, social, and governance (ESG) reference standards have evolved, such as SASB and GRI, CDP DATA and TCFD, amongst others. The criteria that are included in these standards pinpoint environmental, social, and governance (ESG) concerns that are most likely to have a significant influence on the financial status or operational performance of the organizations that are being discussed. The European Union has asked that the European Financial Reporting Advisory Group provide recommendations about reporting standards in order to improve the Non-Financial Reporting Directive. This request is being made in order to further underline the relevance of ESG reporting. By the year 2023, larger commercial organizations should be able to make use of the sustainability reporting criteria that are now being developed by the European Financial Reporting Advisory Group (EFRAG). The next item on the agenda is going to be weighted accounting, which takes into account the influence that a corporation has on society, the environment, and the economy. Businesses in the shipping management industry that publish environmental, social, and governance (ESG) reports include Latsco, Diana, Eurodry, Minerva, Aegean Shipping, Global Ship Leasing, Eagle Bulk Shipping, Wilhelmsen, and a great number of others. There are also a number of ESG rating organizations that have come into

existence. These organizations have quantitative and qualitative techniques of evaluating businesses based on the ESG data that they disclose and how well they execute on it, using their own indicators (Serafeim, G., & Trinh, K., 2020). Executives and investors are able to analyze the environmental, social, and governance (ESG) performance of a firm as well as the risk management methods that it employs with the assistance of the ESG rating and the data that is employed. It is possible that the criterion for a good score will shift over time due to the fact that different suppliers use different techniques to evaluate businesses. All rating agencies, including Sustainalytics, Bloomberg, FTSE4Good, ISS ESG, MSCI, and SAM (S&P Global), analyze environmental, social, and governance (ESG) disclosures in a manner that is comparable; however, they apply different criteria to decide the amount of weight that should be given to any individual piece of facts. elucidate the situation. As an example, Sustainalytics develops an environmental, social, and governance (ESG) risk assessment with the purpose of articulating a company's vulnerability to a collection of key ESG risks and its capacity to manage those risks. According to sustainability analytics (2022), a low risk rating indicates that the firm is able to effectively manage risk, while a high risk rating indicates that there are significant deficiencies in the management of environmental, social, and governance risks. Bloomberg, on the other hand, employs a scale or "score" ranging from one to one hundred to evaluate the level of corporate transparency based on the amount of environmental, social, and governance (ESG) data that a company makes public. Although it is important to note that organizations may still be evaluated by the rating agencies stated above even if they do not have an ESG Report, it is very probable that they will get a rating that is either low or poor as a consequence of this evaluation.

Chapter 3rd: Implementation and Adoption of ESG Principles

3.1. Introduction

A well-thought-out portfolio of environmental, social, and governance (ESG) activities that are tied to the company's core business should be launched and improved by each organization, and the company should also be aware of the possibilities and dangers that are associated with ESG. Noting that the incorporation of ESG criteria is a process rather than a final product is an essential point to keep in mind. The "E," "S," and "G" components are not all top priorities for a firm since it is impossible for a corporation to be at the forefront of every ESG dimension without also having to make significant compromises in other areas. When developing an ESG strategy, it is essential to take into account the requirements of stakeholders and society as a whole. This is because the aforementioned elements are in a constant state of change and have the potential to significantly influence the competitive dynamics of the firm.

3.2. Materiality analysis procedure

As to the stakeholder theory, the acts of a firm have an impact not only on the shareholders but also on a wide range of interested parties, who are referred to as stakeholders. These stakeholders include consumers, suppliers, investors, government authorities, political organizations, and so on. There are a variety of claims that these parties have on the resources and choices of the firm. There is a possibility that rivals are included among stakeholders. Stakeholders are defined as any group or individual whose interests are likely to be directly or indirectly touched by the operations, products, or services of a company, or whose actions might have an effect on the success or failure of the organization in accomplishing its goals. Stakeholders can be either individuals or groups. On the other hand, one may argue that an actor is any organization or person that has power, credibility, and the ability to exert influence. The power of a partner is measured by the degree to which they are able to impose their will on the company by actions that

are either practical or regulatory in nature. The degree to which a group is able to meet its demands in a timely manner is what defines the amount of pressure that is exerted on that group, while the actions that a group does are what determines the legitimacy of the group within the social system. When it comes to stakeholders, there are two categories: primary and secondary. Principals are those who are seen as being vital to the operation of the company. These individuals include but are not limited to owners, investors, labor unions, suppliers, and the state. The individuals who are affected by the firm and have some level of control over it are referred to as secondaries (Hunda E. 2022). The following image depicts all of the many entities that are engaged in the shipping industry's operations.

As a consequence of this, a materiality study, which is modeled after the banking industry, need to be initiated as quickly as possible in order to identify which problems are most significant to the company's stakeholders and its operations in order to develop a long-term environmental, social, and governance plan. Determining what information should be disclosed and providing transparency are both vital steps to take in order to avoid hiding information that is pertinent and essential from different stakeholders. Before beginning to compile information for an environmental, social, and governance (ESG) report, a company need to consider who would be reading it and, therefore, what they will find to be valuable. As a consequence of this, not only will there be limitations placed on the information that may be disclosed, but it will also be relevant. The company is required to prioritize and identify the issues that are significant to it during the materiality assessment phase. Additionally, the business must take into account the perspectives of third parties. By using this technique, rather of relying on generic criteria, an assessment that is uniquely customized to the company will be provided. Therefore, in this context, it is essential to carry out a mapping process that first identifies the most important stakeholders together with the value that they provide to the organization. When attempting to determine which stakeholders are the most essential to a firm, the best place to begin is with the value chain of the organization. Internal and external stakeholders are the two categories of stakeholders that exist. Among the most important stakeholders are not only the investors who have committed financial resources, but also the employees of the organization. According to Garst et al. (2022), stakeholders should prioritize the environmental, social, and governance (ESG) elements based on the influence such concerns have on the organization's objectives, strategy, and goals.

According to the materiality matrix, the pertinent issues may be broken down into three categories: There are issues of substance that provide an explanation of the environmental, social, and governance (ESG) performance metrics that have been deemed to be the most essential, as well as the manner in which these metrics may be monitored, recorded, and integrated into the overall strategy of the company to benefit stakeholders and the organization in the long run. Significant issues are those that are recognized as being significant for the firm and the bodies concerned and need to be monitored, controlled, and documented. Relevant topics are those that are relevant to the company and for which future commitment is being sought. Relevant themes are referred to as "relevant" topics. The GRI standard guideline for materiality serves as the foundation for the materiality matrix, which basically compares and contrasts the issues that are associated with sustainability in two dimensions.

When evaluating an issue, there are two aspects that should be taken into consideration: the first is the importance to the company, which takes into account the broader economic, social, and environmental impacts; the second is the importance to the stakeholders, which pertains to the impact that these issues will have on the stakeholders of the company and the decisions that will be made in relation to them. The following is an illustration of how the results of the survey are graphed according to significance, as evaluated by the company (external analysis) and by the stakeholders (internal analysis).

One has the option of selecting any of two methods in order to carry out a materiality examination. As a first step, we can have a look at the Sustainable Development Goals (SDGs), also known as global sustainable objectives, and determine whether or not they align with the strategic issues and goals of the organization. Consequently, it is necessary for us to determine which issues are the most urgent, provide an explanation of what they consist of and why they are significant, and then formulate some objectives for tackling these issues. Take, for example, the objective of decarbonization, which is another way of saying the movement toward zero net emissions. This strategic aim is compatible with goals 7 and 13, which they both share. Goal 7 focuses on achieving energy that is both affordable and clean. Goal 7.3 is to double the rate of advancement in energy efficiency on a worldwide scale by the year 2030. Target 7.2 is to increase the share of renewable energy sources in the global energy mix. Both of these goals are aimed at achieving the same degree of success. Goal 13 includes a strategy to improve

the organization's ability to withstand and adapt to risks connected to climate change, as well as to integrate climate-related activities into the organization's overall policies, strategies, and goals. Greenhouse gas (GHG) emissions are at the core of the decarbonization movement. These emissions are the result of the day-to-day operations of the company and are of critical importance in relation to climate change as well as the interconnected transition and natural hazards that require products, services, and processes that are low in GHG emissions. Companies that are engaged in shipping, the manufacture of fuel and chemicals, chartering, and other related activities are all impacted by this subject.

The second method for conducting a materiality evaluation is comprised of the three phases that are listed below:

In order to get started on addressing concerns about sustainability, the company must first compile a list of all of its stakeholders and the many ways in which it interacts with them. These stakeholders include, but are not limited to, investors, consumers, workers, human rights evaluation, supplier engagement, and others. By keeping track of and revealing non-financial information using two approaches that highlight the most relevant problems, companies are able to evaluate their growth, performance, and position, as well as the impact of their activities that occur outside of their boundaries, at this stage. The environmental and social assessment is the first approach, and its objective is to reduce the adverse consequences and improve the positive benefits on people, communities, and the world as a whole. The capacity of a firm to exert influence over other people, as well as its legal duties, the expectations of stakeholders, beliefs, policies, and plans, are all elements that are taken into consideration in this evaluation. Examining the social and environmental repercussions that a business affects is one technique to get insight into the worldwide influence that the firm has. Citizens, consumers, workers, communities, and civil society are the key objectives of environmental and social issue identification. This is due to the fact that it draws attention to the impacts that actions taken by businesses have on stakeholders, society, and the environment (Athoussaki, 2022).

The second approach is called the Financial Assessment, and it is used to search for indications of prospective opportunities or dangers to the company's finances or strategy in the near or far future that are tied to environmental, social, and international

problems. A number of factors are taken into consideration, including the extent and likelihood of future financial effects, as well as the strategic decision-making processes of the organization and its stakeholders. To have a complete understanding of a company's growth, performance, and status, it is essential to do an analysis of the monetary impact (materiality) of any issues that may arise. When determining the extent to which such difficulties would have an effect on the company, investors often take into account financial factors in order to identify significant concerns.

In the third phase, validation takes place, and in the last stage, output, which refers to the real issues that arise, is evaluated and addressed. Methodologies for corporate social responsibility, such as ISO 2600058 and GRI, which include stakeholder analysis, have recognized the importance of stakeholder theory within the context of business ethics (Junda, 2022).

3.3. Modeling ESG practices

When it comes to environmental, social, and governance (ESG) policies and procedures, every firm must first make its corporate strategy framework and objectives very clear. According to the theory, the first step in the process of formulating policies in any subject is to provide an overview of the problems, objectives, and possible solutions or strategies. During the process of making plans, it is essential to give careful consideration to all of the potential solutions and methods that might assist in achieving the goals. Everyone who has a stake in the shipping business, even those who work in areas that are not linked to shipping (such banking and insurance), is required to take part in the process of identifying the problems that are affecting the industry. We need to divide the issues into those that can be solved by taking certain activities and others that cannot be solved by taking any actions at all. For the purpose of resolving hidden problems, it is essential to include research and development organizations in order to establish a relationship between cross-sectoral difficulties (Nommela, K., & Kõrbe Kaare, K., 2022). The next step is to create environmental, social, and governance (ESG) goals, which may include optimizing efficiency or overall performance, improving weak places, or maintaining good performance across the board. The objectives should incorporate the multidisciplinary character of the sector as well as

how it impacts non-economic variables such as coastal living standards, cultural assets, historical marine traditions, and so on. Additionally, the global component should be included in the goals. The Sustainable Development Goals (SDGs) of the United Nations are a good match with these aims as well. After the objectives have been established, the next stage is to design a policy, which requires taking into consideration the options from a variety of viewpoints and eventually deciding on a course of action. They should comply to ESG standards and focus on the potential direct and indirect implications on the social, economic, and environmental sectors in order to aid in monitoring the possible impact that strategies may have on issues related to environmental, social, and governance (ESG) areas. Therefore, the ESG criteria and design indicators, which are input into the ESG framework, are the most important material problems that were discovered over the course of the materiality analysis research. After that, the policy of sustainable development is implemented in order to solve these fundamental problems. Once it is complete, the next step is to develop objectives, and finally, assessment indicators are specified. Monitoring performance and determining output are both accomplished with the help of these indicators. Utilizing assessment indicators, which are generated from planning indicators, is one method that may be used to ascertain whether or not a policy is in accordance with environmental, social, and governance (ESG) criteria (Nommela et al., 2022).

One way to categorize major firms is according to the degree of ambition that their environmental, social, and governance (ESG) practices and strategies possess. The company is taking the Minimum Practices seriously as a starting step, which includes minimizing risks and ensuring that its projects do not have a negative impact on either society or the environment they are implementing. This is the point at which the company makes adjustments to its activities in reaction to changes that have an effect on the industry in which it operates and, therefore, on the company as a whole. As a result of the understanding that the firm has of its external deficiencies, both financial and non-financial corporate resources are made available. According to Perez et al. (2022), it ensures the bare minimal commitment and meets the essential standards that are used in the business. A company is said to be functioning at the Common practice level when it engages in major activities that are, for the most part, unrelated to its principal business. maintains a keen awareness of the most major trends that are having an effect on the organization and is ready for any challenge that may arise. By adhering to the voluntary industry standards and making the most of its capabilities, it achieves

performance that is above average in regard to a number of environmental, social, and governance (ESG) goals and indicators. The company has not only implemented HR policies that are inclusive, but it has also developed a comprehensive plan for sustainability. At the same time, it engages in activities with many stakeholders in order to get an understanding of their objectives and carries out philanthropic initiatives that have a significant effect. During the third and final stage, which is referred to as the Next stage Practice, a company is required to include environmental, social, and governance (ESG) issues into every part of its operations and strategy. Utilizing its superpowers, the firm strives to mobilize and inspire industry standards in order to achieve its goals. The social impact of the company is increased when it comes to matters of innovation, the market, and customer choice. Due to the fact that it sees ESG as a means of differentiating itself from its competitors and gaining an advantage over them, it based its whole strategy on ESG. It makes a clear relationship between leadership areas and purpose by including environmental, social, and governance considerations into the allocation of capital and resources. Additionally, it improves the organization's sustainability results both internally and publically, and it combines environmental, social, and governance (ESG) with employee motivation and evaluations in an inseparable manner. In conclusion, the corporation ensures that all of its activities are covered by the environmental, social, and governance disclosures it makes.

In order to comply with environmental, social, and governance standards, corporations are required to make concessions. This is due to the fact that their business models revolve around the benefits and costs, including the penalty of delay. For instance, one such example is the mechanism that is utilized to pay workers. When workers are paid more than the prevailing rate, it may seem to be counterproductive to the interests of shareholders at first since it reduces their earnings, especially in the short term. However, when employees are satisfied with their pay, the company has more money in the bank. enterprise. It is a widely held idea among many companies that giving better treatment to their employees, which includes offering salaries that are competitive, has a multiplier impact on employee confidence and devotion, which in turn boosts output. Based on the findings of the study, it seems that this might provide these companies an advantage in the market. Nevertheless, both time and money have their limitations. It is possible for businesses to increase prices for their consumers

while simultaneously increasing the pay of their employees. In the event that more time is required to manage one of the ESG initiatives (for instance, waste reduction), there may not be sufficient time to give to other ESG projects (the training of personnel, for example). The upshot is that businesses are faced with an overwhelming number of alternatives (Perez et al., 2022). By incorporating environmental, social, and governance considerations into the structure of the strategy, the probability that stakeholders both within and outside the company will firmly support it is increased. In order to address the significant environmental, social, and governance (ESG) challenges that are stated in the table below, shipping companies have established major strategies that serve as the basis for their policies and performance assessment criteria. It is the intention of these initiatives to achieve the primary ESG objectives.

3.4. Formulation of environmental policies and strategies

Within the context of sustainability, it is the duty of all parties involved in the political, social, and economic domains to formulate environmental policies while keeping sustainability in mind. The fact that environmental goods are both helpful and accessible to the general population makes them desirable. Due to the fact that they are not competitive goods, however, a management plan is necessary in order to protect them from both public and private interests. Among the fundamental principles that underpin environmental governance are the following: the concept of environmental protection must be taken into account at every level of decision-making and action; the environment must incorporate both economic and political life; and the connection between human existence and the rest of the natural ecosystem must be known and acknowledged. Concerning the environment, there is a relationship to the sustainable development goals of the United Nations, which include the following: the protection of aquatic life (goal 14), the responsible use and production of goods (goal 12), the reduction of greenhouse gas emissions (goal 13), and the growth of industry, innovation, and infrastructure (goal 9). There are a number of factors that contribute to climate change. These include solar radiation, changes in greenhouse gas concentrations and levels of carbon dioxide (CO₂), increases in land and sea temperatures, atmospheric water vapor, the frequency and severity of severe weather

events, the melting of sea ice, and rising sea levels. Due to the fact that it is anticipated that the benefits of addressing climate change will outweigh its costs, investment strategies have emphasized on the need of including all environmental problems into financial calculations. However, in order for us to achieve these environmental goals, we will need to significantly reduce the amount of pollutant emissions, significantly improve the efficiency of activities that are transferred, eliminate the usage of paper and energy at the headquarters, and other similar measures. There are a number of other factors that might have an effect on environmental footprint and performance. Some of these factors include waste management, ballast water treatment, energy efficiency, green investments, and greenhouse gas emissions. Each and every aspect of the company, including its activities and the value chain that surrounds it, is working toward the goal of reducing the negative effect that they have on the environment (Hunda 2022). Shipping companies have the ability to achieve their environmental goals by taking a number of different approaches, one of which is to participate in new technological developments that pertain to the improvement of the ship's hull and construction, design, propulsion system, fuel system, and various operational measures (IRENA, 2021).

When it comes to enhancing the fleet's operational and technical performance, coatings, anti-fouling paints, and routine cleaning of the hull are the next most important things to consider (IRENA, 2021). Ruggedness of the propeller and hull, which is caused by corrosion and contamination from microorganisms, is what determines the ship's resistance to water. This resistance is defined by the characteristics of the ship. The result is that increased resistance results in increased energy and fuel consumption, which in turn results in increased fuel costs as well as increased emissions of greenhouse gases and air pollutants (Han, 2010).

Maintaining a record of fuel use, on the other hand, makes it simpler to quantify pollutants and identify methods that may be utilized to reduce them. By implementing the obligatory IMO DCS (as of 2018) and the mandatory EU MRV (as of 2017), the International Maritime Organization (IMO) and Europe have taken the initiative to eliminate carbon emissions via the monitoring of usage. The International Maritime Organization (IMO) Data Collection System is mandatory for vessels that engage in international commerce and have a tonnage that exceeds 5,000 kilometers per hour. The most important aspects of the report include information on the autonomous voyage

time of the ship, the overall fuel consumption by type, and the distance traveled. In order to submit this report, you are required to double check the amount of gasoline that the flag or the classifier that represents it consumes. This is done once a year, or if there is a change in ownership or flag, whichever comes first. In order to comply with the regulations, the company must submit the certified emissions reports for all of its ships to the class or flag verification by the 31st of March. Additionally, the compliance certificate must have been provided by the verifier by the 31st of May.

According to the EU's Monitoring, Reporting, and Verification (MRV) laws, every ship that makes a port call in Europe and has a gross tonnage that is more than 5,000 is subject to the restrictions. The most important aspects of this report are the data that pertain to the total amount of gasoline used, the weight of the cargo, and the total number of nautical miles traveled during a certain time period. An authorized institution, such as classifiers, uses the database that they maintain to examine and double-check the information that is given in the form of an annual emission report. This information is then submitted.

At the end of the month of April, businesses are obligated to provide the European Commission with certified emissions reports for each and every one of their vessels. Additionally, by the end of the month of June, the vessels must have the authorized compliance papers on board. Investing money in green technology and innovation research is something that every company can do, whether it be in the form of fleet retrofits and upgrades or alternative fuels such as LNG, hydrogen, ammonia, biofuels, and so on. This objective may be accomplished in a number of ways, including the establishment of an internal research and innovation department and the cultivation of collaborations with other organizations that are working toward sustainability. Since the start of the year 2020, environmentally friendly technology such as exhaust gas cleaning systems (ESGS) or "scrubbers" has been used. The utilization of solar or wind power is still another possible course of action that may be taken. Solar power is especially appealing as an alternative energy source for ships that are operating on the high seas, and several innovations have been developed in an effort to fully exploit its potential. via the use of sails that mechanically spin in order to harness the force of the wind, which rises as the wind's speed and angle of attack fluctuate, hence allowing the system to take less power from the engine. If you want to save money on fuel without compromising speed, then you can do that. The adoption and implementation of several

plans and policies, the most important of which is the SEEMP, is yet another environmental measure. Both the Energy Efficiency Design Index (EEDI), which is unique to new ships, and the Ship Energy Efficiency Management Plan (SEEMP) (Resolution mepc.203(62),2011) were authorized at the 62nd meeting of the International Maritime Organization's Marine Environment Protection Committee (MEPC) in July 2011. The purpose of the SEEMP was to provide a methodical approach to monitoring and improving the energy efficiency of the fleet over time. This was done in an effort to reduce the amount of carbon dioxide emissions that ships produce (Papandreou et al., 2021). As a result of modifications made to Annex VI of MARPOL lin, which examines the ship's energy performance during design, new ships are required to have an EEDI as of MEPC 62 (July 2011). This requirement was first implemented in July 2011. EEDIs are included into a number of other environmental, social, and governance standards, such as the EEOC and the AER per ship. This indicator is intended to encourage ships to use engines and equipment that spend less energy, which is the purpose of the indication.

It is necessary for ships to fulfill specific criteria in order for them to be regarded as energy efficient. Among these requirements is the requirement that a minimum amount of carbon dioxide emissions be produced every tonne-mile. A calculation of the average efficiency of ships that were constructed between the years 1999 and 2009 served as the basis for this criterion. Another standard sets the maximum permissible CO₂ emissions per unit of transport work for various ship kinds and sizes, such as Gco₂ / tonne-mile. This standard applies to all types of ships. For the purpose of achieving greater efficiency in ship design, the regulation established by the International Maritime Organization (IMO) establishes three aims or phases. For each aim, the amount of energy (and, therefore, carbon dioxide) that is required to achieve the same transit purpose decreases successively. In terms of design performance, EEDI mandates that any new ships that are built between 2013 and 2015 must either achieve or surpass the baseline that was previously established. Ships that are built between the years 2015 and 2020 are supposed to have a design performance that is ten percent lower than the baseline for phase 1. It is essential that ships that are built during the Phase 2 period, which is between 2021 and 2025, have a design efficiency that is twenty percent lower than the baseline. Ships that are included in Phase 3 that are built after the year 2025 are furthermore expected to have a design efficiency that is thirty percent lower than

the baseline. This index, which is the first international binding measure to impose energy efficiency criteria on ship designs, demands efficiency increases of between 10 and 30 percent between the years 2013 and 2025 respectively. Economies of scale have been the driving force behind the remarkable advances in ship efficiency that have occurred over the last several decades. This means that ships are now able to move greater amounts of cargo while simultaneously reducing their emissions on average over a longer period of time. Increases in speeds, beams (the breadth of a ship), and Froude numbers (the ratio of speed to length) are the means by which this objective is accomplished. The EEDI index is determined by a number of adjustment factors, which are listed below, along with the many kinds of ice-class ships of which there are.

In spite of this, it was pointed out that EEDI may not be able to assist in bringing about the necessary technological advancements that are required to achieve the 2025 target since the indication does not enforce their use. On top of that, the EEDI index is only relevant to ships that have recently been constructed. Although it was suggested at MEPC 63 that EEDI criteria should be applied to ships that were already in service as a means of establishing a standard for fleet efficiency, the notion was met with considerable opposition from a number of different parties, and as a result, it was never put into action. In spite of the fact that the intention to extend it to ships that had already been constructed was eventually rejected, it was accepted that there is a responsibility to take actions to reduce emissions from ships of all sorts. An important instrument for controlling and assessing fleet performance over a certain period of time is the Energy Efficiency Operational Indicator (EEOI), which examines the performance of a ship based on its CO₂ emissions. This particular instrument is used to regulate and evaluate fleet performance.

This indicator, which was created in 2011 in partnership with EEDI and SEEMP and delivered to the market in 2013, is the foundation upon which the SEEMP monitoring approach is built. Using EEOI, ship managers are able to monitor the amount of fuel used as well as the outcomes of a variety of efforts aimed at reducing energy use. Some examples of such efforts include the improvement of trip planning, the slowing down of steaming, the improvement of propeller cleaning on a more frequent basis, and the incorporation of technology solutions such as a new propeller or heat recovery system. The EEOI is shown in CO emissions per tonne-mile, just as the EEDI is expressed in this manner. Whereas EEDI is a mandatory instrument for performance assessment,

EEOI is an optional tool that shipowners and management organizations use to evaluate employee performance. Each EEOI is connected with a particular ship because to the fact that ships vary substantially in terms of their size and the energy efficiency features they include. Each and every EEOI is one of a kind, regardless of whether or not the ships are linked to one another or have equivalent technical specifications. By taking into account the amount of fuel that a ship consumes in addition to data that correspond to the products or persons that are being carried (such as the quantity of cargo or passengers), it is possible to calculate the amount of carbon dioxide (CO₂) emissions that are produced per metric ton of nautical mile. In contrast to the EEDI index, the EEOI may be used to evaluate the 'actual' efficiency of a vessel that already exists, as well as the impact of technical and operational enhancements. Taking any measure to reduce the amount of fuel that is used or increasing the amount of commodities that are carried would both contribute to its improvement. Considering that the calculation is dependent on the actions of the ships, it is impossible to utilize EEOI to construct a constant that reflects the continuous performance of a ship. This is due to the fact that the computation varies so much over time and throughout excursions. It is important to note that the Annual Efficiency Ratio (AER) is a different measure that is used to evaluate the energy efficiency of ships in a way that is comparable to the EEOI. This metric is dependent on the ship's DWT, fuel consumption while at sea, and the distance traveled. When there is an increase or decrease in the index, it indicates that there is a correlation between the amount of consumption and the distance traveled. In addition, the organization is required to keep records on the amounts of fuel, energy, and emissions, and it must be able to give these figures. The International Maritime Organization (IMO) proceeded on with a revised SEEMP in order to make its implementation more successful after coming to the realization that emissions would continue to increase even after EEDI and the original SEEMP were put into place. More specifically, it has suggested short-term activities that are both technical and operational in nature in order to reduce the effect of the carbon footprint that is caused by international shipping, and these efforts are scheduled to be implemented starting in the year 2023 (Bazari and Longva, 2011). The CII grading system, the Enhanced Ship Energy Efficiency Management Plan (SEEMP), and the Energy Efficiency Existing Ship Index (EEXI) are some of the indicators that fall under this category.

Using the EEXI index, which stipulates that ships must reach a specific degree of efficiency in proportion to a goal level of decreased energy use, is one approach that may be utilized to make ships more energy efficient. EEXI, which is related with EEDI and applies to boats with a gross tonnage of 400 or more, is applicable to vessels that are now in operation (Rutherford et al., 2020). EEXI is a regulation that applies to vessels that are currently in operation. Specifically, the amended SEEMP rule makes two modifications: first, the technical need to decrease carbon intensity by using the energy efficiency index of existing ships (EEXI); and second, the operational requirement to lower carbon intensity by utilizing a new Functional Carbon Intensity Index (CII). Both of these adjustments are largely aimed at reducing carbon intensity. Technical metrics, such as ship building, retrofitting, and equipment, as well as operational metrics, such as ship operation, are both addressed by the two-pronged method.

3.5. Formulating social governance strategies

Interactions with various stakeholders, in addition to social and human capital, are the key focal points of several social governance management strategies. When calculating this measure, factors such as whether the company shares the values of its suppliers, if it gives back to the community via contributions or staff volunteering, and other factors are taken into consideration. An additional benefit is that it investigates the company's perspective on the health and safety of its employees while they are on the job. Training, devotion, monitoring, financial and human resources, data efficiency, management buy-in, transparency, stakeholder participation, change management, and a commitment to environmental, social, and governance (ESG) strategy are all necessary for a firm to achieve success.

To be more specific, human rights, which include the safeguarding of the health and safety of workers, serve as a basis for the success of the organization in terms of social capital. It is necessary for the company to make a public declaration of its dedication to the protection of human rights by establishing and executing a human rights policy that outlines its policies and procedures. Disclosing its awareness and commitment to local and international human rights principles, stating its expectations of its workers and

partners, and outlining the underlying ideas that belong to its operations and activities are all things that the company does in line with its policy. According to Griffin (2009), businesses have a variety of challenges, one of the most serious of which is the inclination to prioritize profit above people and the communities in which they operate. If businesses do not comply with the regulations and legislation that are imposed by the government, they will suffer severe repercussions not only for themselves but also for any organizations who are considering investing in them. Therefore, businesses should make the safety and security of their customers a top priority. By supporting local suppliers, fostering social and economic growth in the region, and generally making a difference to the quality of life in the area, businesses have the potential to have a beneficial influence on the communities in which they do business. When it comes to human capital, the company is responsible for ensuring that its employees are working in a safe and healthy environment that is in accordance with all existing laws and regulations, whether they are national or international; this is a must.

At all times, the well-being and safety of its residents, both on land and at sea, must be the top priority. Additionally, the creation and maintenance of policies and procedures that are intended to accomplish these purposes must be a constant activity. In order for the business to achieve its goal of achieving zero environmental accidents, leaks, and releases into the environment, it is necessary for the organization to comply to local and international norms and laws, as well as to cultivate a culture of personal responsibility among its employees. Businesses have the ability to construct human capital strategies, and at the core of these plans are opportunities for professional growth, progress, and development. In order for the company to accomplish its commitments under Sustainable Development Goal No. 3 (Enhancing the health and well-being of all people) and No. 8 (Decent Work and Economic Development), it is necessary for the company to take steps to raise the level of devotion shown by its employees and to provide a pleasant environment inside the workplace. The abilities, professionalism, and reliability of a firm's workforce are directly proportional to the likelihood that the company will be able to successfully achieve a competitive advantage. Every employee should be given the same opportunities, and they should be able to work in an environment that recognizes and appreciates their abilities and accomplishments. It is necessary for there to be an effort made to promote and support diversity at every level of the business. Not only should this diversity include a wide variety of academic and

professional experiences, points of view, and abilities, but it should also include other essential components such as diversity in terms of gender and race. Because of the significant contribution they make to the company's efforts to achieve greatness and success, the crews are deserving of special appreciation. In times of uncertainty, such as the present pandemic, the value that crews give is of the utmost importance, and it is imperative that the laborious efforts and unwavering dedication of sailors be valued. It is necessary for the business to give crews with an appropriate working environment in order for them to become committed workers who develop together with the company.

In addition to safeguarding the rights of seafarers, the MLC is a requirement for the maritime industry as a whole, and the Company is obligated to fulfill this need. It is essential to ensure that everyone has an equal opportunity to be hired, promoted, paid, and given incentives. In this regard, the company may be able to assist its office workers and crews by providing programs that are designed to improve their soft skills. It is possible that the firm may take steps to recompense its employees financially, with gift cards, or in some other kind of acknowledgment in order to demonstrate its gratitude for the hard work and achievement that its employees have shown in achieving the company's purpose. Enhancing communication, demonstrating devotion, and gaining more job experience are all quite important. One approach to accomplishing this goal is to maintain rules such as the "Open Doors" policy, which promotes open communication between employees at all levels of the organization. Concurrently, the organization has the ability to entice talented individuals by building a culture that is comparable to the one described before. According to Nair and Vohra (2015), this may be accomplished by the use of psychometric and aptitude tests, the publication of job opportunities, the collaboration with educational institutions, and the implementation of an unbiased procedure for the selection of employees.

One further strategy is to collaborate with educational institutions in order to provide workers with training and programs that provide lifetime learning opportunities. This will assist the organization in remaining current with the most recent trends and in maintaining a high level of performance among its staff. For the purpose of ensuring that the continuous development of employees is deeply embedded in the culture of the organization, it is vital to have comprehensive training programs that are offered by both internal and external partners. Furthermore, the requirements that have been established by the STCW International Convention must be adhered to by all schools

that provide training for seafarers. In addition, the procedures of the organization have to include company-specific performance evaluation tools for both the sailors and the office personnel. According to Eraut (2010), this will also include a summary of the standards that must be met in order to get nautical promotions.

When this is complete, the organization will be able to design a Health and Safety Management strategy that is thoroughly incorporated into all of its activities. In order to ensure that clients get the best possible level of service while still complying to health and safety regulations, the adherence to this plan is regularly monitored via a program of inspections and internal audits that are conducted both aboard and in the office. Every aspect of the company's operations must be taken into consideration in order to ensure the health and safety of its employees. In addition to being able to prevent, control, and manage risks that cannot be avoided, it should also be able to put up protective measures that apply to preventative, informational, and staff training. According to Mytilineos (2021), the organization has the ability to identify problem areas, put a halt to the causes of accidents that occur in the workplace, and guarantee that accidents do not occur again by developing standards for the proper recording and treatment of cases of workplace accidents. In conclusion, it should encourage its employees to use their right to cease work authority when it is required of them and should reject any disciplinary procedures that are taken against them because they have expressed concerns about the cleanliness and safety of the workplace. In order to address any deficiencies that may be discovered as a result of audits, assessments, investigations, inspections, or revisions of the company's Environmental and Social performance, management principles, or preventive actions, as well as from audits, assessments, investigations, or revisions of the company's roots cause analysis that are conducted either internally or externally, a corrective action process ought to be established. Concurrently, the company has to have a system in place for reacting to crises. This system should include drills and plans to anticipate, identify, and analyze likely occurrences and conditions. The purpose of this system is to reduce the burden that will be placed on human resources in the event that the emergency really occurs. Plans for how to address the situation should be in place in the case of an emergency. These plans should include a mechanism for reporting issues, instructions for getting everyone out of the building, first aid supplies, a fire alarm system with all of the necessary equipment, and other similar procedures (Mytilineos, 2021).

Furthermore, as one of its essential values, the firm need to make the physical and emotional health of its employees a priority and provide assistance for them while doing so. It is possible to help workers maintain their health and safety while they are on the job by implementing a number of different programs and initiatives. The presence of a physician on staff, the provision of free health examinations and influenza vaccinations, the organization of sports activities that foster teamwork, and the enforcement of normal work hours are all examples of factors that may contribute to a good work-life balance. The employer is obligated to supply the crews with personal protective equipment (PPE) and any other essential protective gear at no cost when the crews are working on projects that might potentially be damaging to their health. Workers should also get training on how to correctly use their personal protective equipment (PPE). As far as health and safety are concerned, the standards that have been placed on shipping by ISM, TMSA, and DBMS have resulted in a significant improvement in circumstances and have encouraged a culture that is focused on continuous development. Therefore, it is essential to adhere to the ISM code in its entirety during the first stage, and then, during the second stage, it is required to seek compliance with other standards such as DBMS, TMSA, ISO, and so on. DBMS and TMSA came into existence as a result of the shipping firm's refusal to take into account the whole performance and image of the company while reviewing each ship on an individual basis, putting them through a variety of dangers, accidents, inspections, and other similar situations. A ship's Safety Management System (SMS), which is established by the International Safety Management Code and helps to avoid injuries and fatalities, harm to the environment (especially the maritime environment), and property damage, is an essential component of a sustainable policy. There are many other aspects of a sustainable policy as well. Additionally, a culture of safety is fostered by this method. Furthermore, there is a distinction between operators who just comply with the ISM Code's basic minimum and those who really make an effort to incorporate its guiding principles and values in their day-to-day operations. As a result of this, the Transportation Management System (TMSA) and the Database Management System (DBMS) were adopted in the shipping sector. Consequently, a company's TMSA and DBMS certification may have a positive influence on environmental, social, and governance (ESG) performance (Bhattacharya, 2012). This is because it constitutes an extra degree of compliance beyond what is needed by the ISM.

It is difficult for certain ship management businesses to install a ship management system (SMS) owing to a number of challenges, including staff opposition to change, a lack of resources, poor communication across departments (especially operations and technical), inadequate crew training, frequent crew turnover, and time restrictions. The following is a list of characteristics that are associated with an efficient management system: a culture of safety management; the participation and dedication of management; the documentation of procedures; the provision of training; the establishment of clear policies; and the specification of best practices that define goals that are attainable, controllable, and measurable within the organization. The crew and office management had "fundamentally different understandings of the purpose of the Code" when it came to the ISM Code. This is something that should be taken into consideration. The reason for this is that even while the system was properly implemented, meaning that all of the checklists and logbooks were filled out, this does not necessarily suggest that the crew made a substantial contribution to the safety of the ship. It is essential to acknowledge the significance of diversity and inclusion, which implies that all members of an organization, including the management, should treat present and future employees in an impartial and fair manner. At the same time as it helps to cultivate a happy atmosphere at work, a company that is diverse and inclusive is better equipped to safeguard the fundamental human rights of its employees. According to the basic diversity criteria, age, sexual orientation, color/race, nation origin, disability, and caste are all important factors. If the business is able to avoid prejudice and embrace inclusiveness, it will be able to employ from a more diversified pool of talent, which will ultimately allow it to do more than it would have been able to otherwise. Through the establishment of a diversity policy and human resources policy rights, the company may be able to eliminate discrimination, provide equal opportunities, and be objective (for example, by implementing a pay and treatment system that is equitable across vocations or by implementing a pay system that is equal for men and women). Because of this, the company need to make an effort to cultivate an atmosphere in which each and every worker is made to feel appreciated and welcome (Nair & Vohra, 2015). In line with the laws and regulations of the countries in which it does business, the company is obligated to pay its employees a compensation that is commensurate with their salaries and to provide them with the benefits to which they are legally entitled. It is the obligation of the company to treat its employees in a fair manner and to establish and maintain a working environment that is free from

harassment and moral pressure in order to ensure that employees are able to do their tasks effectively. When it comes to human resource management, respect and dignity should be the guiding principles in accordance with national legislation. Examples of cruel and inhumane treatment include sexual harassment, physical or psychological assault, coercion, verbal abuse, or arbitrary restraint. Last but not least, the company must make it abundantly clear that it does not endorse or accept child labor in any form, and it ought to make every effort to eradicate any situations that may contribute to this issue within its sphere of influence.

3.6. Formulating corporate governance strategies

It is a framework for the administration, operation, and control of businesses, according to the definition of corporate governance provided by the OECD. The Board of Directors is subject to a set of rules that regulate the activities of the Board of Directors, and these regulations apply to joint stock companies. In other words, the relationship that exists between the shareholders, the chief executive officer, and the board of directors of the company has been established. All of the actions that a company takes to protect its operations, prevent misconduct by its internal executives (managers, employees, and shareholders), and safeguard the interests of external investors (creditors, shareholders, and other individuals who have a legitimate stake in the company) are included in the concept of corporate governance. It is essential that businesses have strong corporate governance mechanisms in place in order to reduce the frequency and severity of financial crises (Eustace, 2000). There is no one optimal method to split up the burden among the board's committees when it comes to environmental, social, and governance (ESG) issues. There is no definitive answer to this question.

A company's objectives and strategy, as well as the means by which it intends to achieve those objectives, are outlined in the Corporate Governance Code. All of the particular procedures that a listed company adheres to must be disclosed, and if the company does not adhere to the code, they are required to provide an explanation as to why they do not. Every company is obligated to adhere to the Principles of Corporate Governance, which are in accordance with Greek legislation and contain standards that are

recognized all over the world. The purpose of this requirement is to ensure that any and all aspects of the company's operations are conducted in an open and responsible manner. It is important that the company's strategy, as well as the standards and best practices for entrepreneurship, be represented in the Corporate Governance Code that it adopts. This code may be the code of the United Kingdom (UK Corporate Governance Code - 2018) or Greece, for instance (Mytilineos, 2021).

Within the framework of corporate governance, the leadership of a firm, which includes the board of directors, shareholders, and other stakeholders, has both rights and duties. Both the "ethics" of a firm in relation to the institutions of society and the degree to which it operates in an open and transparent way are aspects of governance. With the use of this statistic, prospective investors are able to determine whether or not the firm is transparent and truthful in its interactions with its shareholders, whether or not its accounting procedures are straightforward, and whether or not shareholders have any input into the choices that the company makes. The company's attempts to avoid criminal acts, bribery, unfair competition, and conflicts of interest when selecting board members are included in this openness. This information is also included in the provision of this openness. In the context of corporate governance, human rights-related labor relations, which are defined as those that exist between employers and workers, are assessed based on the degree to which they comply with the rules and regulations of a state, as outlined by labor laws and collective bargaining agreements. It is the duty of the Labor Inspection Body in Greece to make certain that all workers are adhering to the health and safety standards that are in place in the workplace and that all employment contracts are being enforced in the appropriate manner. On the other hand, in order to build positive connections between employers and workers, as well as amongst employees themselves, it is essential that all firms adhere to the regulations. Corporate governance is an institutional and legal framework that enables directors to align their interests with those of shareholders. This is done in order to address the representation problem that develops as a result of conflicts of interest between shareholders and directors. The purpose of this technique is to differentiate ownership. Bonds and shares are the two primary forms of financing that are raised by publicly traded shipping firms from the general public. As stated by Alexanderridis et al. (2018), this capital is very important for the governance of the firm, which has been investigated from the perspective of two primary categories: ownership and board composition. The

influence of corporate governance, particularly ownership structures and board attributes, on the maritime industry, on the other hand, has not been well examined in the existing body of research. The fact that the founders of conventional shipping companies were members of the same family who also held the positions of chairman and chief executive officer is a characteristic that is shared by all of these companies (Lin et al., 2022).

In close connection with Sustainable Development Goals No. 8 (Decent Work and Economic Development), No. 9 (Industry, Innovation, and Infrastructure), and No. 16 (peace, justice, and strong institutions), the promotion of long-term and sustainable value creation via strong and effective corporate governance is at the heart of the Sustainable Development Goals. The promotion of an atmosphere that is honest, collaborative, open, and trusting is the means by which this objective is accomplished. Companies and governments alike are interested in good corporate governance when it comes to questions such as whether or not governments have enacted and enforced targeted investment and tax policies, the openness and honesty of public tender processes, and the degree to which mergers prioritize societal benefit over monopoly. These are all questions that are relevant to the topic of corporate governance. One of the most important aspects to take into consideration when evaluating leadership and governance is the size of the Board of Directors, as well as their independence and presence. It is the responsibility of the Board of Directors, which is the governing body of a business, to establish the long-term goals and objectives of the firm and to communicate those goals and objectives to all of the stakeholders. The Board of Directors, which is the highest administrative and decision-making body of the Company, is vested with the authority to make decisions, supervise the executives in their duties, and exercise control over the organization, administration, operations, management of the company's property, and overall pursuit of the company's purposes. Depending on whether or not the business is listed on the public market, the Board of Directors may get assistance from four subcommittees, one of which is the Executive Committee, whose responsibility it is to oversee the implementation of the company's strategy. Committees working on auditing, transparency, pay, and sustainable development are the four groups that make up the organization. The purpose of the Audit Committee is to provide the Board of Directors with assistance in monitoring and assessing the sufficiency and efficiency of the Internal Control System. In order to do

this, the Audit Committee is responsible for performing supervision of the financial reports and maintaining relations with the external auditors. A combination of the observations made by both internal and external auditors, as well as the controls implemented by the supervisory authorities (ffgroup), have been used to provide this rating. In accordance with Law 4706/2020, it is made up of a minimum of three independent members who are not in executive positions. In addition to being responsible for monitoring the audit of the Company's financial statements (both individual and consolidated), the Audit Committee is also accountable for ensuring that the process of financial reporting and the internal control systems are functioning properly (Mytilineos, 2021).

It is the responsibility of the Disclosure Committee to provide assistance to senior management in the monitoring of the implementation and correct operation of a company's disclosure controls and procedures, as well as to supervise the processes and controls that apply to information that is price-sensitive. Disclosures that are connected to standard accounting and reporting, disclosures that are the consequence of important changes in the company's finances or operations, and concerns that may arise during the sub-certification process are examples of typical subjects that may be discussed. Companies that are listed on public markets are not required by law to have a disclosure committee in place. In spite of this, PWC (2022) references the proposal made by the SEC to create a committee that would be responsible for determining what information must be disclosed as soon as possible and determining whether or not it is relevant. An organization's Remuneration and Nominations Committee, which is a subcommittee of the Board of Directors, is responsible for monitoring the corporate governance of the organization. It is the responsibility of this committee to guarantee that the Board of Directors is comprised of a broad group of individuals, to reward its members, as well as senior and other managers, and to evaluate the credentials of both existing and potential members. The Committee is comprised of at least three members who are not representatives of the executive branch and are unbiased. Its mission is to choose the most suitable persons for each vacant position on the Board of Directors by evaluating the personal characteristics and professional backgrounds of the candidates. According to the Corporate Finance Institute (2022), the compensation committee need to have an appropriate pay plan in order to tempt executives and non-executives who would fulfill

shareholder objectives. This is because the compensation committee is responsible for obtaining remuneration.

The Sustainable Development Committee offers support to the Board of Directors in order to guarantee that the core decision-making and operations of the Company are in accordance with the policies and procedures pertaining to sustainable development. This committee assists the board of directors in ensuring that the business is acting in a responsible and ethical manner in its interactions with the environment, society, and governance (ESG) by conducting periodical evaluations of the activities taken by the organization. In addition to this, it ensures that the organization is dedicated to the creation of value in each of the three areas of sustainable development. A methodical approach to environmental, social, and governance (ESG) risk management, as well as open lines of communication on ESG issues, have to be implemented by the company. Information on risks that have been monitored and recorded according to their severity should be included in the Annual Sustainability Report. This means that the risks should be categorized according to whether they have increased, decreased, or remained the same. In addition to being a part of Senior Management, Directors are also members of the Executive Committee. The responsibility of supervising their teams and putting the strategy that was prepared by the Board of Directors into effect falls on their shoulders. The tasks and responsibilities of the following individuals are documented and clarified in official documents as well as on the website of the corporation: the Board of Directors, the Chairman of the Board, the Executive Members and non-Executive Members, the Senior Executives, and the General Secretary. When it comes to executive compensation and fair employee remuneration, transparency and the avoidance of corruption require that shareholders and investors have access to and control over data on the percentage levels of payments, bonuses, and remuneration of senior executives.

This is true for both the compensation of executives and the compensation of employees. It is imperative that the realization of gender parity in pay and the equitable remuneration of all other workers be taken into consideration in the same manner. In addition, the company may monitor all aspects of its operations, including its financial performance, compliance with rules, and risk management. Risk management is an absolute need if you want to choose the most appropriate strategy and determine how each project influences environmental, social, and governance (ESG) concerns.

A corporation is required to have a Code of Professional Ethics, which is an official document, in order for its commercial actions to be seen as being honest and ethical. The fight against bribery and corruption, as well as the establishment of basic principles of corporate ethics, are the goals of this organization. In order to achieve openness and ethics inside the organization, the adoption of such a code is very necessary. It is more vital for a business to have a culture that is honest and dedicated to its ideals and goals than it is to simply follow the requirements set out by regulatory agencies. The employees must be able to report any violations or inappropriate behavior at any time without fear of reprisal, and there must be a structure in place to facilitate this.

Having a code of conduct and ethics in place may help build the culture of a business as well as the commitment to practicing honest management. Everyone who works for the company, regardless of whether they are full-time, part-time, interns, officers, or directors, is required to adhere to the rules that are defined in the Code. These policies cover a variety of issues, including but not limited to the following: anti-bribery, gift policy, compliance with applicable laws, rules, and policies; protection and responsible use of resources; and policies regarding conflicts of interest and gift policies. The Company's reputation is the most valuable intangible asset it has, and the Company's capacity to fulfill its key strategic aim of Continuous and Responsible Development is contingent on the commitment of its workers to the Code. This, in turn, ensures that all of the Company's activities are carried out with integrity. The Code is intended to serve as a guide for behavior towards both internal and external partners, and it applies to and binds all employees without exception.

The Code was created with the intention of ensuring that the firm maintains its commitment to good corporate governance and continuous improvement over the long term. This code outlines the commitment of the Management to provide a safe workplace that encourages mutual trust, cooperation, and recognition; to promote equal employment opportunities; to provide workplaces that encourage diversity and teamwork; and to embody these principles (Nair, N., & Vohra, N., 2015). In addition, the Management is committed to adhering to these principles.

In addition, it covers topics such as ensuring compliance with intellectual property laws, protecting employees' personal data, the responsibilities of senior and top management, adhering to legislation, avoiding conflicts of interest, maintaining financial integrity

and accurate reporting, managing the company's history, safeguarding assets, protecting confidential information, securing information systems, promoting healthy competition, maintaining relations with suppliers, customers, shareholders, and investors, and dealing with corruption and bribery, among other things. A work environment that is free of discrimination, harassment, and other inappropriate, hostile, or offensive behaviors must be set by the Code of Ethics and ethics. This environment must be inclusive, safe, and zero-tolerance. It is possible to develop a variety of policies within the context of environmental, social, and governance (ESG) and corporate governance. These policies may include those that regard to risk management, a code of conduct, environmental health and safety, employee practices, anti-bribery/anti-corruption and whistleblowing, community contribution, and other related topics.

In the context of environmental, social, and governance (ESG) aspects, the risk assessment and management strategy is of the utmost importance. Furthermore, the company must put in place procedures and systems that will allow them to monitor, evaluate, and control risks across the board. In order to create consistent progress, the company and its partners must constantly endeavor to improve their performance by putting the metrics that result from this process's evaluation, assessment, and risk management to good use. This is necessary in order to make progressions that are consistent. It is of the utmost importance that the business has a policy in place that encourages employees to report substantial violations of the Code of Conduct as soon as they become aware of them. In order to ensure that workers feel comfortable revealing any incident that they think breaches the Code of Conduct, the company need to foster an atmosphere that encourages such disclosure. By doing so, the business will be able to minimize or mitigate the severity of any possible adverse effects, and it will also be able to cultivate a culture that values honesty, accountability, and overall integrity. After that, the company can make the decision to codify its methods for preserving the privacy and authenticity of the information it collects from its employees and consumers by establishing a policy on the protection of intellectual property and data security. In the event that the company has a data security policy, it is obligated to disclose to the public any local or international data protection legislation that it is anticipated to comply with.

In order for the company to be in complete compliance with all relevant laws and regulations, it is necessary for the company to adhere to all applicable laws and

regulations, which include those that are applicable at the federal, state, and regional levels. First and foremost, regardless of whether they are exporting, importing, transferring, or otherwise dealing with commodities, services, systems, software, etc., they are required to adhere to all applicable trade control laws and regulations. Because of concerns over public safety, abuses of human rights, or affiliations to criminal or terrorist organizations, these controls become especially crucial when contractors are subjected to constraints that are imposed on them by governments, human rights groups, specialized industries, or even individual nations (Mytilineos, 2021). It is necessary for the firm's plans for sustainable growth to include a commercial strategy that is under the supervision of the Board of Directors. This strategy has to be founded on the business model and innovation of the company. When it comes to the delivery of replacement parts, it is also extremely important to make advantage of widely inhabited ports. This is because it enhances traceability, reduces the carbon effect, and significantly boosts efficiency. The use of a cutting-edge enterprise resource planning (ERP) system in combination with an innovative electronic procurement platform has the potential to further simplify the shipboard procurement process in terms of efficiency, cost, and quality. In addition, innovation and digital transformation, which include the incorporation of technological breakthroughs, analytics, cyber security measures, and smart devices into the operations and activities of the firm, have a substantial influence. The Social Development Goals (SDGs) No. 8, No. 12, and No. 17 are all related to the company's suppliers. These goals address issues pertaining to the development of decent work and the economy, responsible consumption and production, and cooperation in order to achieve the objectives. In order to achieve the same sustainability objectives, the organization has to strive to organize the members of the ecosystem to collaborate closely with one another.

It may work closely with its suppliers in order to guarantee that the production of products, replacement parts, consumables, and other items is carried out in an environmentally responsible way and with a low effect on the environment. In order to maintain compliance with the most strict international legislation and shipping best practices, Supply Chain Management must adhere to these standards. The concept of sustainability should be given high priority by all parties engaged in the supply chain. This entails ensuring that the company's business partners and their operations are up to par in terms of quality, the environment, finances, ethics, and society. In this context,

companies may choose to build a tried-and-true way of evaluating their suppliers, one that takes into consideration a broad variety of variables including compliance with environmental regulations, energy efficiency improvements, certifications, and policies, as well as the provision of high-quality service. The establishment of a code of conduct for partners and suppliers is another way in which the company may improve the efficiency of its supply chain. This code will make an effort to include sustainability factors into the process of selecting new suppliers, to ensure that existing suppliers are held responsible for their activities, and to encourage collaborations in order to raise awareness of effects, ensure that goals are met, and guarantee transparency. The organization guarantees that they will fulfill its commitments in every respect, including the safety and quality of the services that they provide. They are going to comply with all of the quality and safety criteria that have been established by national and international legislation during the whole of the transportation project. The pursuit of sustainable development and economic efficiency, as well as the avoidance of unfair competition, abusive market position, anti-competitive mergers, and unfair partnerships that create barriers to entry for other companies in the industry, are all factors that might have an impact on the financial performance of the company (Mytilineos, 2021). It is the responsibility of the company to protect the personal information of its employees, suppliers, customers, and other business partners in a manner that is justified and lawful. In addition, the company is required to give all of the essential information on its operations, organizational structure, financial status, and performance in a way that is clear, succinct, and updated in a timely manner. This is in compliance with the applicable laws and industry standards.

In the event that data and practices are distorted, fabricated, or misrepresented, there must be zero tolerance for these behaviors. In the years after the year 2008, an increasing number of marine companies attempted to list their companies on the stock market in order to acquire large financing. One of the advantages of shipping companies being owned by the public is that they are able to have a greater number of people on their boards of directors who come from a variety of backgrounds and have a wide range of experiences. According to the findings of a number of studies, shipping companies have the potential to boost their value by implementing effective corporate governance procedures. These practices include having independent directors and a diverse board of directors. There is some evidence that suggests family ownership may

lower business value due to conflicts of interest between family and non-family board members (Lin Arthur J et al, 2022). Governance of corporations is based on the principle that all stakeholders stand to gain from the long-term financial discipline that is brought about by excellent governance in the decisions that are made about capital allocation. Consequently, this makes it possible to maintain and increase the amount of money that is available for long-term use. Therefore, in order to optimize investment value in environmental, social, and governance (ESG) performance, the ESG materiality framework has to prioritize ESG problems that are relevant to stakeholders and shareholders (Khan, 2019).

Conclusion

When it comes to making investments, sustainability and environmental, social, and governance factors are of the utmost importance. The growing interest in sustainable corporate governance practices among the investment community, the financial industry, charterers, and regulatory agencies has brought to light the need of incorporating environmental, social, and governance (ESG) themes into long-term firm strategies and policies.

Despite the fact that there is not currently a standard framework, shipping companies are beginning to address the environmental, social, and governance (ESG) challenge by using standardized metrics, terminology, and indicators. There is a developing agreement on a set of principles and standards relevant to sustainability initiatives and how to monitor and verify their execution. This is being done in order to guarantee that environmental, social, and governance (ESG) reports are accessible to those who are not actively engaged in the shipping sector on a daily basis.

For example, the majority of environmental, social, and governance (ESG) reports from shipping companies currently contain ESG regulations that correspond to key performance indicators (KPIs) for ship procedures and operations. These KPIs are based on standards created by the shipping industry, such as the Global Reporting Initiative (GRI) and the Shipping Operations Standards Board (SASB). Some of the opportunities that ESG negotiates include new markets, goods, and services; improved results; and meaningful communication with stakeholders in order to create shared value.

On the other hand, the company must identify and manage a number of risks, including those related to operations, markets, transitions, the environment, social issues, and corporate governance. Regulatory compliance, competitive advantage, improved strategic risk management, innovation acceleration, customer trust, financial performance (cost reduction and revenue increase), employee attraction and retention, access to capital markets, and transparency are all potential outcomes that could result from the adoption of environmental, social, and governance practices.

Because investors have the ability to choose how their money is created—whether it contributes to a healthier, more prosperous, or more sustainable community—ESG

enables firms to pass part of the responsibility for solving social and environmental problems to their investors. This is because investors have the ability to choose how their money is made.

Companies have been held accountable for their social responsibility up to this point. On the other hand, when shareholders and investors exert pressure on company management to prioritize short-term profits above long-term sustainability, they put customers in risk, exploit workers, and do harm to the environment.

In order to achieve comparative advantage, patience and perseverance are required, just as they are for any other successful competitive strategy. When it comes to the production of real economic value via the ESG impact, investors need to learn to differentiate between corporate window dressing and the accomplishment of reputation to distinguish between the two.

When it comes to reporting on their efforts, businesses that have incorporated environmental, social, and governance (ESG) into their business strategy and are aiming to achieve a competitive advantage should not settle for lip service; rather, they should take the initiative to innovate via their own efforts.

Due to the fact that the ESG framework contains a multitude of various sustainability standards (such as SASB, GRI, TCFD, and so on), the responsibility of compiling and disseminating this information lies more with the leaders of corporations than with the investors who are responsible for evaluating it.

We do not look at how well an organization performed on its most important metrics in order to evaluate the impact of the standards; rather, we look at how well it performed across the board on all of the indicators of the standards that are equally weighted. In contrast, this tactic does not even come close to assisting firms in gaining a competitive advantage in the market. By determining the metrics that are most important to the bottom line of each sector, the SASB standard has made it simpler to understand how environmental, social, and governance (ESG) aspects influence financial performance.

Regrettably, even this research is unable to establish the precise relationship between environmental and social impact and the development of a winning strategy and the capitalization on lucrative possibilities. In addition, the SASB has acknowledged that there are a number of industry-wide and generic qualities that are significant, as

opposed to characteristics that are specific to the competitive position of a firm. This is because, as time passes, the majority of important environmental, social, and governance (ESG) metrics become industry norms.

As a result, any short-term advances accomplished by individual enterprises operating within the sector are rendered worthless. One example of an environmental, social, and governance (ESG) factor is greenhouse gas emissions, which are important to the cost of fuel use and are thus a vital concern for any logistics company.

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