University of Strathclyde

Department of Naval Architecture, Ocean and Marine Engineering (NAOME)

Investigating the role of corporate social responsibility in achieving a sustainable shipping industry in the aftermath of United Nations 2030 Agenda

By

IOANNIS N. FASOULIS

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Declaration

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Abstract

Corporate social responsibility (CSR) is a concept that has been, gradually, grown and applied to the business world. Although not new to today's business setting, though, still remains difficult to be precisely defined. Broadly, it is assumed that CSR derives from the expectations the society has from enterprises. The term of sustainable development became first known in 'Our Common Future' report, published by the World Commission on Environment and Development (WCED) in 1987. Though, a remarkable evolution took place at the UN Conference, in September 2015, where the 2030 Agenda and Sustainable Development Goals adopted. Although several studies have been undertaken to illuminate perceptions and practices between CSR and sustainable development in other industries, however, no significant research has yet been undertaken in the tanker and dry bulk maritime context. Especially, in the aftermath of United Nations 2030 Agenda. As a result, the relationship between CSR and sustainable development remains somehow unexplored. To fill this gap, the present study investigated perceptions, attitudes, drivers, barriers and the relationship between CSR and sustainable development as experienced by shipping companies operating in the tanker and dry bulk shipping sector. To achieve the study aims an overall quantitative approach was adopted. Literature review led to the formulation of six hypotheses, which were tested using data collected by a questionnaire survey. 50 tanker and dry bulk companies, based in 14 countries participated. Study results indicated that CSR and sustainability awareness and implementation in the tanker and dry shipping sector is at a growing state. Shipping companies have been increasingly responding to latest global regulatory developments and seem to be well adapted. Moreover, stakeholders appeared to exercise a positive influence in maritime companies' decision to adopt CSR. Though, CSR is seen as a voluntary business model, namely, the vehicle to deal with latest sustainability challenges. An integrated management system approach was rated as the most preferred tactic to embrace CSR and achieve sustainability into maritime operations.

Keywords: corporate social responsibility, sustainable development, *triple bottom line* approach, tanker and dry maritime sector, integrated management system

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List of Abbreviations

BWMC	Ballast Water Management Convention
CSR	Corporate Social Responsibility
DoC	Document of Compliance
ECAs	Emission Control Areas
EEDI	Energy Efficiency Design Index
EMSA	European Maritime Safety Agency
ESSF	European Sustainable Shipping Forum
EU	European Union
FOC	Flags of Convenience
GRI	Global Reporting Initiative
GNP	Gross National Product
HLAP	High Level Action Plan
HR	Human Resources

IACS	International Association of Classification Societies
ILO	International Labour Organization
IMO	International Maritime Organization
IMS	Integrated Management System
INTERCARGO	International Cargo Owners Association
INTERTANKO	International Tanker Owners Association
ISM Code	International Safety Management Code
ISO	International Organization for Standardization
ISPS Code	International Ship and Port Facility Security Code
ITCP	Integrated Technical Cooperation Program
MARPOL	Marine Pollution Convention
MDG	Millennium Development Goals
MLC	Maritime Labour Convention
MOU	Memorandum of Understanding
NO_X	Nitrogen Oxide
OCIMF	Oil Companies International Marine Forum
OHSAS	Occupational Health and Safety System
OILPOL	Oil Pollution Convention
P&I Club	Protection & Indemnity Club
QHSE	Quality, Health Safety and Environment
SAI	Social Accountability International
SD	Strategic Directions
SDGs	Sustainable Development Goals
SEEMP	Ship Energy Efficiency Management Plan
SIRE	Ship Inspection Report
SMTS	Sustainable Maritime Transportation System
SOLAS	Safety of Life at Sea Convention
SO_X	Sulphur Oxide
SPSS	Statistical Package for the Social Sciences
STCW	Seafarers Training Certification and Watch keeping Convention

UN   United Nations

UNCED   UN Conference on Environment and Development

UNCLOS   United Nations Convention on the Law of the Seas

UNEP   UN Environment Programme

WCED   World Commission on Environment and Development

WSSD   World Summit on Sustainable Development

1 CHAPTER INTRODUCTION

1.1 Introduction

In recent years the concepts of corporate social responsibility (CSR) and sustainable development have been earning more and more ground in the business setting. Whereas, a lot of controversy has been developed for the social character of business and how this can contribute to sustainability, there are many arguments from the public and private sector urging their positive contribution to society and environment as well. However, apart from such opposing views, it has been observed a growing international interest and focus on sustainable development issues. Consequently, the maritime industry has been, strongly, affected by such trend (Shin and Thai 2015). As such the International Maritime Organization (IMO), the United Nations (UN) Specialized Agency responsible for setting global standards for the safety, security and prevention of pollution by ships, has, obviously, recognized the role of maritime transportation as an integral component of any program for sustainable development. At the Symposium on World Maritime Day, held on September 2013, IMO stressed out the need to consider sustainability principles across various aspects of shipping operations. Moreover, at this symposium the IMO expressed its desire and commitment to introduce and establish the concept of a sustainable maritime transportation system and work in the direction of enhancing the contribution of shipping in achieving sustainable development globally. In parallel with this effort, the International Maritime Organization highlighted that, amongst our energies for a sustainable shipping industry, we should embed our sustainability initiatives in a CSR oriented management concept (Sekimizu 2012). In this light, the purpose of this chapter is to introduce the reader to some background study related to our research topic and give a brief outline of the methodology framework and thesis chapters' layout.

1.2 Background to This Study

The economic value of the oceans and efficacy of maritime transport are indisputable, since such elements have contributed the outmost to the facilitation of the movement of goods and people. However, oceans are highly sensitive ecosystems and need to be preserved, as they refer to public goods and constitute heritage of all mankind (Goodwin 2016). Moreover, working on board ships is an inherently risky activity and seafarers come up on a daily basis with numerous health, safety and social issues generated by their maritime occupation

(Spooner 2002). Ocean governance is a broad and challenging subject that encompasses the attempt of various actors (at international, national or regional level) to regulate the use of the oceans and ensure that all their users obey and comply with applicable statutory health, safety and environmental maritime legislation (Doumbia-Henry 2016). The United Nations Convention on the Law of the Seas (UNCLOS) provides the first aspect and principal regulatory framework so as to confirm sovereign rights of States and also creates their obligations with respect to ocean governance. In so doing, such efforts seek to establish the rights of States and set the legal framework for the development of regulations that protect the oceans, their users and the society from the externalities caused by shipping activities. However, currently, different shading has been given to ocean governance term, which has gradually integrated the, relatively, new to the shipping industry concept of sustainable development (Kusuma et al. 1997). As it has been highlighted by regulators, there is an explicit need to consider sustainability principles in all aspects of regulatory and policy making instruments and processes. The increasing use of the oceans has mandated the establishment of an ocean governance system, founded on sustainable development principles, which should balance between the use and protection of the seas (Van Leeuwen 2015). United Nations 2030 Agenda for sustainable development refers to a remarkable example of such trend and, as will be stressed out later in this study, the International Maritime Organization has consistently been following and harmonizing its strategy with such UNs' movement (Ehlers 2016).

Over the last decades, the concepts of sustainable development and CSR have, increasingly, attracted the attention of scientists, business and intergovernmental actors. It was in the early 1970s when the damaging effect of economic growth on the environment and the detrimental effect that might bring on society were highlighted in the United Nations Conference on the Human Environment, held in Stockholm. The devastating approach that our world has on economic development was further emphasized, in 1992, at the UN Conference on Environment and Development, held in Rio de Janeiro (also referred to as the Earth Summit) (Leal et al. 2015). Ten years later, in 2002, the World Summit on Sustainable Development was held in Johannesburg and its focus was to go beyond the short Rio Declaration and embrace a comprehensive action programme on sustainable development. At that time, the challenge was how to halt deepening poverty and improve people's lives while,

at the same, time ensuring the conservation of natural resources. The concept of sustainable development attracted further attention at the UN Conference on Sustainable Development held in Rio de Janeiro in 2012 (Imperatives 1987). However, the 2030 Agenda, adopted at United Nations Headquarters, in September 2015, signified another historic development in promoting a sustainable future for our planet. The 2030 Agenda for Sustainable Development and the incorporated 17 Goals, along with 169 associated targets, were accepted by all countries and are, therefore, from now onwards, universally applicable (Women 2015).

Likewise sustainability trends, the concept of corporate social responsibility has become, increasingly, important in the business arena. Over the past few decades, CSR term has turn into more and more popular in modern enterprises. Globalization, growing environmental sensitivity and social problems, as a result of rapid economic development, have placed CSR at the forefront of corporate strategy (Dragonetti and Dalsace 2019). Although there is no statutory universal standard and a commonly used definition on CSR, review from literature argues that it is commonly perceived as the attempt of companies to integrate social and environmental concerns with their economic objectives. There are various theories and practices that can be considered as CSR examples. Though, regardless the angle that someone approaches CSR, it is asserted that business, along with their profit maximization strategy, shall also serve societal values and needs (Madrakhimova 2013). Elimination of environmental externalities, energy efficiency, fair business practices, safety at work and human resources issues are some of the identified areas in which CSR could be applied and contribute to business viability and performance (Diehl et al 2017). Besides, interactions and trimming of business activities with stakeholders' expectations (local community, labour unions, environmental organizations etc.) has emerged as another critical issue and practice in CSR implementation. Consequently, taking into account and balancing stakeholders' needs with company's environmental, social and economic objectives has been perceived as a crucial socially responsible practice (Ebner and Baumgartner 2006).

Nowadays, social, safety and environmental issues in shipping are more topical than ever. Ocean governance system, has been placed at the forefront of United Nations ocean law and policy making agenda. Thus, a plethora of regulations and policies have been introduced, at international and national level, with sustainable development holding a prominent role in such pursuits (Scheiber 2019). As will be later discussed, the United Nations 2030 Agenda for

Sustainable Development has significantly impacted ocean governance agenda and shifted the interest of the global maritime community towards sustainability matters (Ehlers 2016). In this line, the shipping industry and, particularly, the container and cruise sector has proved to be very active in the adoption and integration of CSR strategies in their operations, through practices of sustainability and CSR measurement and reporting (Lekakou et al. 2016). Therefore, and alike to other industries, shipping companies have started to realize that managing and integrating sustainability and CSR is critical for ensuring business growth, maintain statutory compliance and upgrade their value across all business sectors. Good reputation, effective stakeholder collaboration and improved risk management capability are some of the benefits that companies appreciate from implementation of CSR principles (Kunnaala and Viertola 2014). However, as the following research will show, apart from the container and cruise industry, there is no much research to highlight the state of CSR and sustainability in the tanker and dry bulk maritime sector and, particularly, after the recent introduction of United Nations 2030 Agenda.

1.3 The Purpose of Literature Review

Reviewing existing literature and theories related to our research area forms an essential and critical stage in order to collect all necessary data that answer our research questions. As Neuman (2014) suggested, there is no point to waste time by reinventing the wheel. Reviewing what previous researchers or other experts had said is a wide practice. Similarly, Saunders et al (2009) commented that a literature review forms an essential part of research as provides the foundations of the study on which the later research will be built. It also lends the researcher with a deeper and wider understanding of his topic, assists him to refine his initial ideas and leads him to paths of knowledge that he would not have imagined to exist. Also, our decision to conduct a literature review is closely related to our adopted deductive approach and the descriptive type of this research (Saunders et al 2009). As Gray (2004) explained descriptive studies are more appropriate to a relatively new and unexplored area, while, exploratory studies function better for topics that there is a plethora of previous research and information. CSR and sustainability research is a relatively new area of research for the maritime industry and therefore, this study will maintain a descriptive style. Additionally, the literature review has been encouraged and is related to our position to adopt a deductive reasoning. The deductive approach is concerned with developing and testing new hypotheses

and, therefore, a literature review forms an essential part in developing a robust conceptual background and designing an adequate research strategy to test such hypotheses (Research Methodology 2018). In that sense, and as we will be later ascertained, our literature review resulted to the formulation of research hypotheses. Further to that, a positivist paradigm and quantitative research approach and methods have been adopted in order collect and analyse our research data attempting, thus, to test such developed hypotheses.

With reference to our study, the literature review is conducted through a series of 4 chapters (from Chapter 4 to Chapter 7) and aims at providing a better insight and understanding of our research topic. It has also highlighted the gaps and need for further study in the area of CSR and sustainable development in the maritime sector. Thus, reviewing initially the literature on CSR and sustainability trends and practices at a global level will assist us to comprehend the subject, build upon existing knowledge, and develop a pre-understanding on how the shipping industry has been influenced from such regulatory trends and business practices. Furthermore, the literature review investigates and discusses the linkages between CSR and sustainable development at theoretical level. Such attempt will provide the foundations for the later empirical investigation of such relationship. Literature sources refer to books, articles, journals, information gained by the website of Organizations, reports, conference proceedings, PhD theses etc.

1.4 The Layout of the Thesis

The main focus of this study is to investigate perceptions, attitudes and the association between CSR and sustainable development within the maritime context, as has been experienced in the aftermath of United Nations 2030 Agenda. To do so, part of this study is devoted in discussing the term of sustainable development and, in particular, how the theme of sustainability has evolved and become of increasing concern of international maritime and ocean governance agenda. This is considered of paramount importance, since it will later assist us to appreciate even better the notions of CSR and sustainability, understand developments that contributed to their current formation, recognize the borders and intersections of those concepts and provide the theoretical foundations in order to be able to empirically investigate and interpret the role of CSR in achieving a sustainable maritime transportation system.

The thesis is structured in 9 chapters. Chapter 1 makes an introductory reference to the scope and background of this research and outlines the thesis layout. Chapter 2 provides an overview of the theoretical background and identified gaps, along with the formulation of the research aim, objectives and questions to be addressed. Chapter 3 discusses the research methodology and methods adopted in order to meet the research aims, objectives and questions of this study and the rationale and philosophical assumptions that govern our selected topic of interest. Chapter 4 focuses on the origins of CSR, discusses the definitions and practices that prevail, along with its various aspects and key issues generated by the adoption and implementation of a CSR strategy. Chapter 5 introduces the concept of sustainable development, discusses evolutions in the business field and outlines the legal framework and challenges that current sustainability evolution generates for business. Chapter 6 argues how the idea and advances in the field of sustainable development and CSR have been expanded to the shipping industry. It also clarifies the relationship, differences and similarities between sustainable development and corporate responsibility and highlights how such considerations can be extended to the maritime industry. Following the literature review, chapter 7 discusses the conceptual framework that led to the development of relevant hypotheses for empirical testing. Chapter 8 summarizes the results of empirical study produced by use of quantitative data analysis methods (univariate and bivariate statistics). Chapter 9 discusses the conclusions of this study and provides recommendations and suggestions for future study.

1.5   Conclusion
In this introductory chapter we, primarily, introduced the reader to some background study and forthcoming research related to our research topic. Moreover, the purpose of the literature review was argued and, as was explicitly stressed, it aimed to provide a better insight and understanding of our research topic so as to enable us to highlight gaps that justify the need for further study. Additionally, a brief reference to the framework of the philosophical stance, research methodology, approach and methods to be adopted was made. Review of the literature and gap identification resulted to the formulation of testable hypotheses aimed to answer our research questions. Furthermore, a brief summary of the thesis chapters was presented, along with the overall thesis layout. The next chapter identifies and points out the

research problem, namely, the gap and motivation for the undertaking present research, along with the research aim, objectives and questions to be addressed.

2 CHAPTER PROBLEM STATEMENT AND RESEARCH AIM

2.1 Introduction

The notion of corporate social responsibility is something that the shipping industry has not been accustomed to. Shipping companies have mostly seen themselves as service providers, forming part of the overall supply chain, and with their main function being the fulfilment of the shipping leg of the whole logistics system. As such, CSR activities and initiatives have not been customarily viewed as an integral part of their core management practices. However, the setting has changed in recent years. The purpose of this chapter is to identify and delineate the gaps in previous literature and empirical research that made this research worthwhile. Also this chapter aims to define the context and focus area within which this project will take place. At the end, the chapter completes with a discussion and explanation of researcher's motivation for selecting subject research field, along with a presentation of the research aim, objectives and questions of this study.

2.2 Problem Statement and Selection of the Research Area

Customarily, it is usual for shipping companies to operate by exceeding compliance with minimum mandatory regulatory standards. Such efforts demonstrate the recognition, on behalf of maritime operators, of the competitive advantage they may gain in terms of lower operating costs, avoid fines and detention delays, gain favourable treatment by shippers etc. (Pallis and Vaggelas 2019). Similarly, implementation of CSR principles have been progressively seen by shipping companies as a mean to improve social, environmental and economic performance, along with quality of provided service and company's reputation. Nevertheless, and comparing to other industries, existing CSR activities in the shipping industry refer to a relatively recent and voluntary trend concerned, mostly, with environmental and safety compliance issues (Wagner 2018). In another perspective, there are few who argue that limited engagement with CSR has, to a large extent, been affected by the plethora of existing mandatory maritime regulation, which inevitably has embraced a broad range of labour, health, safety and environmental matters, which look like CSR principles (Yuen and Lim 2016).

Continuing our research journey, it is observed that sustainable development and CSR refer to concepts which origins and application has been present since a long time in

industries such as aviation, chemical, nuclear, manufacturing etc. Review of the literature has revealed that a significant academic research has been already undertaken in those industries and casted enough light on adopted perceptions and practices (Sethi et al 2017). Likewise, in the light of such progresses, maritime companies have been renovating and adjusting their strategies focusing on major areas of risk such as: improving energy efficiency, emissions reduction, stakeholder engagement, increasing positive impact to local communities, enhancing navigational safety, securing labour and human rights, ensuring health and safety in their operations, and keeping up with technology upgrading and sustainability developments (Lu et al. 2009). In other words, even voluntarily or inadvertently shipping companies have adopted practices related to CSR and sustainability issues. An indicative example of that trend is the container and cruise shipping industry where it has been witnessed a profound motivation and adoption of sustainability and CSR initiatives (Lund-Thomsen et al. 2016). Nevertheless, analyzing further the role, guidelines, legislation and inspection practices followed by key players in the maritime regime (i.e. Flag, Port State Control, P&I Clubs etc.), it has been revealed that the subject of CSR does not form part of their overall assessment and evaluation process. Likewise, reviewing various Flag Administrations marine bulletins and circulars and, moreover, inspection checklists used by Flag, Port State Control or vetting inspectors it has been shown that there is no extensive reference or inquiries to assess companies' commitment and practices to CSR. And although the efforts of these players explicitly address and are concerned with issues such as, environment, energy efficiency, safety at sea and labour matters, nevertheless, it could not be viewed a systematic and integrated approach to assess shipping industry's conformity with current sustainability and CSR subjects (Froholdt 2018).

From a regulatory and policy perspective, the need to adopt and establish a Sustainable Maritime Transportation System has been, explicitly, stressed during IMO's World Maritime Day, 2013 (Rasche et al 2017). The requisite to perceive and embed sustainability in ship operations, as introduced under its three dimensions (economic, social, and environmental), has been considered an integral component of a sustainable shipping industry contributing, thus, to the achievement of United Nations' Sustainable Development Goals (SDGs) (Sekimizu 2012). In that sense, IMO's statement, made during the 2013 World Maritime Day, showed Organization's strong commitment to achieve a sustainable and socially responsible

industry remaining, thus, fully harmonized with United Nations' mandates: "*A **Sustainable Maritime Transportation System** must be based on a safety culture fostered through global standards and their rigorous enforcement by relevant professional agents in order to ensure "level playing fields" across the world. Optimally, a safety culture should go beyond mere regulatory compliance and deliver added value for the System through the promotion of safety culture aims. These should include, inter alia, **anchoring the vision of sustainable development into "Corporate Social Responsibility" (CSR) related activities*** (Sekimizu, pp. 22, 2012). It is a reality though that, at least at regulatory and policy level, CSR and Sustainable Development have been, gradually, taking a prominent place in the maritime industry (Froholdt 2018). However, irrespective of such progress, CSR in the shipping industry is still a voluntary undertaking that is mostly associated with maritime safety and quality management matters (Shin et al 2018). And although, themes such as safety, security, crew welfare and environmental protection have already constituted a priority for shipping companies, however, the concept of CSR in shipping remains at a voluntary and primal stage, compared to other shore industries (Shin and Thai 2015).

Further to the above standpoint, in a study carried out on corporate social responsibility, in the Baltic Sea maritime sector, it was revealed that maritime companies understand CSR as a health, safety and environmental compliance issue that serves as a vehicle to improve health, safety and environmental performance and company's reputation. As such, engagement with CSR has not been viewed as a strategic priority and a mean to benefit the company from a variety of perspectives (economic, social, better stakeholder management, reduced corporate risk etc.) (Kunnaala and Viertola 2014). However, there is not much available research to light implementation aspects of CSR and sustainability in international shipping companies operating in the dry and tanker sector. Additionally, the link between CSR and sustainable development and, in particular, the significance of CSR in fulfilling United Nations sustainable development approach (*triple bottom line* approach: social, economic, environmental), refer to an area that remains, in some way, uncharted.

On the other hand, it cannot be underestimated that, over the past decades, the shipping industry has been showing significant progress, in terms of effective environmental management, health and safety regulations, labour practices and energy efficiency policies (Stalmokaitė and Yliskylä-Peuralahti, 2019). However, much of it has been reactive and based

on a command and control philosophy. Further to that, and excluding, as mentioned above, the cruise and container sector, which have already commenced measuring and reporting on CSR and sustainability performance, there is no significant and sufficient research undertaken to demonstrate the extent to which CSR and sustainable development are applied to the tanker and dry bulk shipping sector (Lekakou et al, 2016). Additionally, reviewing recent maritime policy and regulatory developments has showed that limited attention has been paid on the extent and way that such, newly, formulated initiatives in the field of sustainable development and CSR (namely, the introduction of UN's 2030 Agenda on Sustainable Development) have shaped corporate strategies, management practices and perceptions of shipping operators (Sciberras and Silva 2018).

Under above analysis, the identification of the above research gaps justifies our research motivation to contribute to existing knowledge by generating empirically tested data that describe shipping industry's perceptions, practices and the role that CSR plays in achieving sustainable shipping operations. As a matter of fact, corporate social responsibility and sustainable development refer to some of the most popular topics in the business agenda and would be of great interest to see how the shipping industry has been dealing with them. Further to the identified gaps, this research will focus on shipping companies managing tankers and/or dry bulk vessels. Additionally, selection of such research area is of high interest to me, since I am a maritime professional dealing with safety, quality, labour and environmental challenges in the dry and tanker sector. In that respect, CSR and sustainability matters have constituted, either directly or indirectly, part of my daily job tasks and, to the best of my knowledge and experience, still remain an unexplored area with a great research potential and interest.

2.3 Research Aim, Objectives and Questions

The purpose of this section is to clarify and state the underlying aim and objectives of this project and the research questions that guide our research. This thesis intends to gain a better understanding and broaden our knowledge in the field of CSR and sustainability and, in particularly, identify how such notions are perceived, practiced and correlated in the tanker and dry shipping industry sector. The progressive promulgation of worldwide initiatives and regulatory developments in the field of CSR and sustainability has constituted such themes a rapidly expanding area of increasing research interest for the maritime industry. The

importance and necessity to utilize CSR in order to achieve sustainable development was stressed by the United Nations Industrial Development Organization, during the Multi-Stakeholder Forum on CSR, held in Brussels, on February 2013, where CSR was recognized as a management tool that will assist to achieve compliance with international regulations and increase competitiveness. Particularly, Mr. Yvetot's statement in that Forum pointed out that: *"SDGs are about achieving development goals from an economic, social and environmental perspective. In this view, we can think about CSR as a way to implement these goals at the level of enterprises"* (UNIDO 2015).

In the aftermath of United Nations Sustainable Development Goals and associated implications for maritime business, the **research aim** of this thesis is to: *"Contribute to existing knowledge by investigating and critically analyzing perceptions, attitudes of shipping companies and the contributory role of CSR in achieving a sustainable maritime industry"*.

Based on the aforementioned aim, the **research objectives** of this study are:

1. To review and illuminate wide-ranging CSR and sustainable development concepts, regulatory developments and business attitudes.
2. To critically review and portray implications of existing conceptual and regulatory frameworks associated with CSR and sustainability for shipping companies.
3. To ascertain drivers and barriers associated with the implementation of a CSR policy and reporting program.
4. To investigate the potential linkages, relationship and contributory role of CSR in achieving sustainable shipping operations.

Further to the above, the research objectives will be addressed through the following principal **research questions**:

● What are the current industry's perceptions, business attitudes and regulatory developments with regards to CSR and sustainable development?

● To what extent maritime companies have adopted CSR and/or sustainability principles and reporting standards in their management systems?

● What are the main drivers and barriers associated with the implementation of a CSR policy and reporting program by shipping companies?

● What is the relationship between CSR and sustainable development?

Table 2.1 summarizes aforementioned research aims, objectives and questions of this study.

Table 2.1 Research Aim, Objectives and Questions of this Study

Research Aim	Research Objectives	Research Questions
Contribute to existing knowledge by investigating and critically analyzing perceptions, attitudes of shipping companies and the contributory role of CSR in achieving a sustainable maritime industry	To review and illuminate wide-ranging CSR and sustainable development concepts, regulatory developments and business attitudes.	What are the current industry's perceptions, business attitudes and regulatory developments with regards to CSR and sustainable development?
	To critically review and portray implications of existing conceptual and regulatory frameworks associated with CSR and sustainability for shipping companies.	To what extent maritime companies have adopted CSR and/or sustainability principles and reporting standards in their management systems?
	To ascertain drivers and barriers associated with the implementation of a CSR policy and reporting program.	What are the main drivers and barriers associated with the implementation of a CSR policy and reporting program by shipping companies?
	To investigate the potential linkages, relationship and contributory role of CSR in achieving sustainable shipping operations.	What is the relationship between CSR and sustainable development?

2.4   Conclusion

This chapter discussed the research gap and researcher's main motivation or rationale to investigate and evaluate CSR and sustainability perceptions, practices and their potential linkages, as have been shaped in the aftermath of United Nations 2030 Agenda and SDGs. As discussed, nowadays, CSR and sustainability issues have been, increasingly, attracting the attention of various maritime stakeholders. Today, shipping operators, along with enhancement of service quality, they strive to operate with transparency, accountability, adhering, thus, to strict environmental, labour and safety regulations. However, as has been explicitly stated above, there is limited empirical research, in the tanker and dry bulk maritime sector, over perceptions, practices and linkages between CSR and sustainability. In that sense, there is an obvious interest to focus on this specific area and attempt to illuminate and fill identified gaps. In addition, researcher's motivation to investigate subject matter stemmed from his professional maritime background and day to day dealing with CSR and sustainability issues. In addition, the research aim, objectives and questions of this study were outlined. The next chapter discusses the research methodologies, philosophical assumptions, strategy, research methods and data collection and analysis techniques that underpin this research.

3 CHAPTER RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this chapter is to discuss the research methodology adopted in order to meet the research aims, objectives and questions of this study. The term 'research methodology' relates to the rationale and the philosophical assumptions that govern a specific research on a selected topic of interest. It is the logic and overall attitude employed by the researcher in order to solve the research problem. A successful research does not only presume the knowledge and application of statistical packages and techniques, but also requires a deeper understanding of which of these methods are the most relevant and the criteria employed in order to select them. The research methods, which are also part of the analysis of this chapter, refer to the techniques used for conducting the research. Research methods are understood as all those methods employed by the research in its attempt to collect, analyse and evaluate the accuracy of the collected data and research results. Therefore, the research methodology has a wider scope to fulfil (logic behind the problem, how and why hypothesis have been formulated related to the problem, methods and techniques used to analyse data etc.) than the research methods, which subsequently can be considered as being part of it (Kothari, 2004). The purpose of this chapter is to outline the research framework that governs this thesis and the methods used for data collection and analysis. It reviews the general framework of social research and discusses the methods of reasoning that frame scientific research and are most appropriate to our topic of interest. Next, the reader is introduced to the various research approaches used in social research and the justification for selection of the research approach to perform this study. Selection of the most appropriate research methods is a key factor for the success of every research and as such, the chapter discusses the general research design, data collection and analysis issues, the variables used for the empirical analysis of the quantitative data and ethics involved in this study.

3.2 Outlining Research Approaches Pertinent to Social Science Research

In simple words, research can be defined as a voyage of discovery. It can be seen as a romantic adventure within an ocean of experiences and challenges, having as compass the

intention and desire to discover knowledge and information on a specific topic of interest. In doing so, and as it happens to all voyages of discovery, there is a movement from a known to an unknown land. In that respect, it is of great interest to view the Advanced Learner's Dictionary of Current English definition, which describes research as '*a careful investigation or inquiry especially through search for new facts in any branch of knowledge'* (Kothari pp.1 2004). Similar to that, o.ther approaches claim that research is a pursuit to solve problems and expand the knowledge on a specific subject, using a systematic method for the collection and elaboration of the data. Thus, research is treated more as methodological processes that involves understanding the nature of a problem, investigating its guiding principles, developing and testing new theories and finally arrive at conclusions that will add some value to the existing knowledge (Zhang 2009). As was observed, the word 'knowledge' is the most common that we meet in almost all of research definition approaches. The search for learning and the contribution of the existing stock of knowledge remains at the forefront of every research attempt (Kothari 2004).

In its broadest sense, this study seeks to explore a wide range of aspects, perceptions and practices concerned with the developments and application in the field of CSR and sustainable development in the shipping industry. Thereafter, it can be assumed that it the falls within the sphere of social sciences, which in its broadest **sense**, is termed as *the study of society and the manner in which people behave and influence the world around us.* The field of social sciences covers a broad range of disciplines such as, Demography and social statistics, methods and computing, Development studies, human geography and environmental planning, Economics, management and business studies, Law, economic and social history, Psychology and sociology etc. (European Commission 2011).

Before continuing with the research methodology steps and techniques required to conduct a structured research, it is appropriate to provide an overview of the research process to be followed and the various steps and activities required to execute an effective research. Figure 3.1 summarizes the research process in 7 steps illustration.

RESEARCH PROCESS IN FLOW CHART
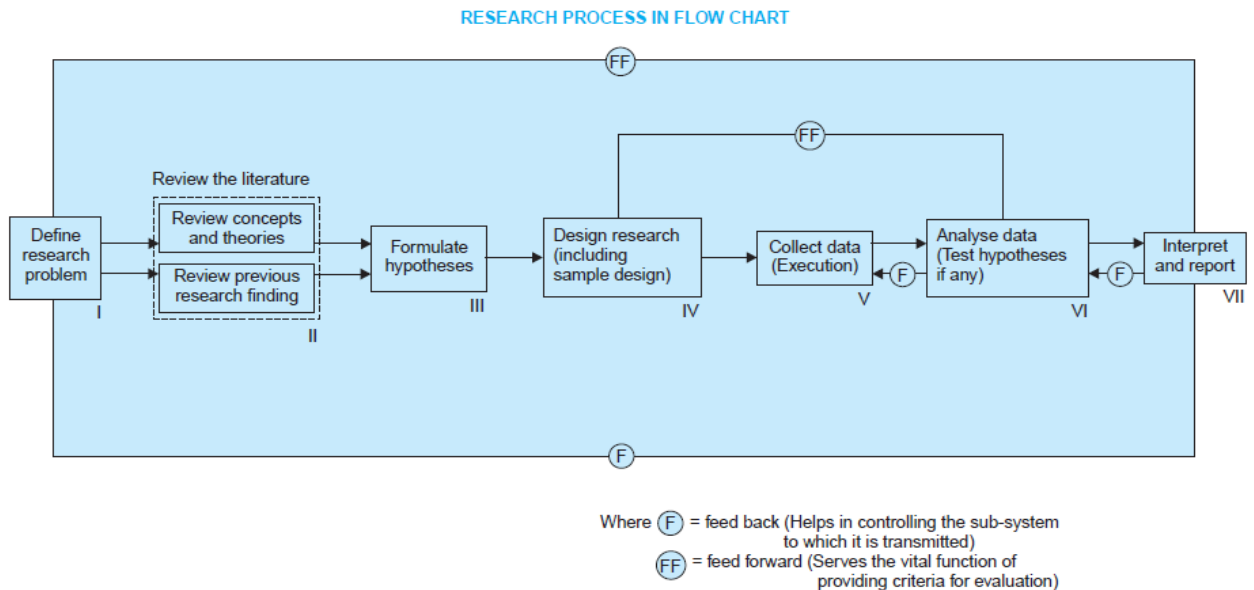
Figure 3.1. The Research Process (Kothari 2004).

As can be seen in that figure, the various activities required in order to complete the research process, from step I to VII, are: (a) identifying of the research problem, (b) review existing literature, (c) formulate the hypothesis, (d) design the research and define the sample, (e) collect data, (f) Analyse data and test hypothesis and (g) preparation and presentation of research findings and conclusions. It is worth noting here that steps described in the research process do not necessarily follow each other and, moreover, activities may overlap between steps rather than following a strict order (Kothari 2004). There are several research types and their classification varies depending on the objectives, purpose, application, type of information sought etc. The purpose of every research study is to identify and define problems and then follow a structured method to collect and analyse data in order to reach to conclusions. Thereafter, depending on its purpose, a research study can be clustered into two types: **exploratory** and **conclusive** (divided into **casual** and **descriptive**) research. By first glance it can be assumed that the purpose of the exploratory research is to explore specific aspects of the research area and is not committed to provide conclusions on specific answers. On the other hand, descriptive research, which is divided into two subcategories (casual and descriptive), aims at describing specific elements, causes, or phenomena in the chosen research area (Research Methodology 2018).

Table 3.1 summarizes the major differences between exploratory and conclusive research types.

Table 3.1. Major differences between exploratory and conclusive research types

Factor	Conclusive	Exploratory
Objectives	To test hypothesis and relationships	To get insights and understanding
Characteristics	Information needs a clearly defined Research process is formal and structured Large representative sample Data analysis is quantitative	Information needs are loosely defined Research process is unstructured and flexible Small, non-representative sample Primary data analysis is qualitative
Findings	Conclusive	Only tentative
Outcome	Findings used as input to decision making	Generally followed by further exploratory conclusive research

(Research Methodology 2018).

3.2.1 Exploratory Research

In exploratory research the researcher seeks to clarify and define the nature of a problem. Such type of research is useful when there is a limited amount of information and existing knowledge about a research topic. Therefore, the exploratory research will attempt to understand the concept of the problem, diagnose its dimensions and sets the foundations for future successive studies to be conducted. New ideas or areas of future research can be identified and there is no commitment or intention to reach at conclusive solutions. Exploratory research methods can be grouped into the following categories: experience surveys (interviews or telephonic surveys), secondary data analysis (literature reviews), pilot studies (qualitative, quantitative data analysis) and case studies (gather information from a situation similar to the research problem) (Manerikar et al. 2014).

3.2.2 Conclusive Research

As its name implies, conclusive research seeks to generate findings that could lead in conclusions or decision-making. Such research type is connected with quantitative methods, rather than qualitative, for data analysis and collection. Conclusive research is

deductive in nature and research objectives are achieved via testing hypothesis and use of statistical tests (Research Methodology 2018). Conclusive research is divided in two categories: **a. Casual** (**explanatory**) and **b. Descriptive**.

a.   Casual (Explanatory)

Casual research, also termed as explanatory, seeks to explain observed phenomena, behaviours or problems. Explanatory research comes to identify and understand the extent, nature and casual factors (cause and effect) of a phenomenon or relationships. *Why* and *how* types of questions are those that characterize explanatory research. The research methods followed for data collection and analysis in explanatory research are: experiments and statistical research. Examples involve the understanding of motives behind adolescent crime or gang violence with the aim to recommend social strategies to deal with such issues. However, especially in doctoral research, it is quite common that some exploratory or descriptive research is done initially (Bhattacherjee 2012). In that sense, its meaning is sufficiently depicted in the below phrase*: "we began exploring something new with exploratory research. Then, we conducted descriptive research to increase our knowledge of it. Lastly, we need to explain it"* (Purposes of Research 2018). Below **Table 3.2** provides some examples of explanatory research studies.

Table 3.2. Examples for Casual research studies

Research title	Cause	Effect
The role of globalization into the emergence of global economic and financial crisis of 2007-2009	Globalization	Global economic and financial crisis of 2007-2009
Impacts of CSR programs and initiatives on brand image: a case study of Coca-Cola Company UK.	CSR programs and initiatives	Coca Cola brand image

(Research Methodology 2018).

b. Descriptive

Contrary to the explanatory research, descriptive research attempts to determine or identify the present situation of a current issue or problem. *What,* types of questions are employed in order to collect the necessary data. A number of variables are employed to describe and analyse the state of an issue as exists at present, however, unlike to other methods, only one is needed. Descriptive studies use certain methods for data collection and analysis that enables them to describe the characteristics, situations or behaviours of a sample population. They are methodically designed, planned and organized in a way that can collect quantifiable data and produce summary of conclusions on the mean, median, mode, percentage, variables correlation and deviance from the mean. Moreover, descriptive studies are deductive in nature and answers to questions are achieved via testing hypothesis. Surveys, observations, correlational and case studies are the most common methods for data collection in descriptive studies (Research Methodology 2018).

Table 3.3 below presents some examples of descriptive studies.

Table 3.3 Examples for Descriptive research studies

Research title	Focus of description
Born or bred: revising The Great Man theory of leadership in the 21st century	The Great Man theory
Creativity as the main trait for modern leaders: a critical analysis	Creativity
Critical analysis into the role of CSR as an effective marketing tool	CSR

(Research Methodology 2018).

The below **Table 3.4** summarizes and compares their main characteristics of the three research types (explanatory, exploratory and descriptive).

Table 3.4. The main characteristics of Explanatory, Exploratory and Descriptive research

	Explanatory	Exploratory	Descriptive
Amount of uncertainty characterising decision situation	Clearly defined	Highly ambiguous	Partially defined
Key research statement	Research hypotheses	Research question	Research question
When conducted?	Later stages of decision making	Early stage of decision making	Later stages of decision making
Usual research approach	Highly structured	Unstructured	Structured
Examples	'Will consumers buy more products in a blue package?' 'Which of two advertising campaigns will be more effective?'	'Our sales are declining for no apparent reason' 'What kinds of new products are fast-food consumers interested in?'	'What kind of people patronize our stores compared to our primary competitor?' 'What product features are th most important to our customers?'

(Research Methodology 2018).

In a broad sense, the objective of this study is to investigate aspects, perceptions and particular attributes of a situation, at a certain moment, with the aim to describe a social issue and, ultimately, provide data to test hypothesis. Thus, this research could be considered as a descriptive research study, which is closely related with our decision to adopt a quantitative approach and method of data collection and analysis (something that

will be explained and justified at a later stage in this chapter). Further to that, the collection of information will be carried out by employing a survey method (questionnaire) and collected data will be processed using descriptive statistics (provide statistical information such as the mean, median, and standard deviation etc.), with reference to the formulated hypotheses.

3.3   Methods of Reasoning

Researchers in social science regularly come up with the dilemma: should the research begin with the theory or should theory itself arise from the research? The answer to this question lies on the overall approach a researcher adopts when conducting his research. There are mainly three types of reasoning concerned with social science research: **deductive**, **inductive** and **abductive** (Gray 2004).

Deductive reasoning presumes that a set of hypotheses have been formulated and need to be rejected or confirmed during the research process. The deductive approach commences with the exploration of the available theory and literature related to the research subject. Such review is then followed by the development of new hypotheses that are tested in order to determine their acceptance or not. Thus, deductive reasoning is described as the move from the general to the particular.

The steps that are usually followed in deductive reasoning are:

1. Deducing hypothesis from theory

2. Formulating hypothesis in operational terms and proposing relationships between two specific variables

3. Testing hypothesis with the application of relevant method(s)

4. Examining the outcome of the test, and thus confirming or rejecting the theory.

5. Modifying theory in instances when hypothesis is not confirmed

(Research Methodology 2018).

Above described deductive reasoning process, also termed as 'top-down' approach, is illustrated in **Figure 3.2.**
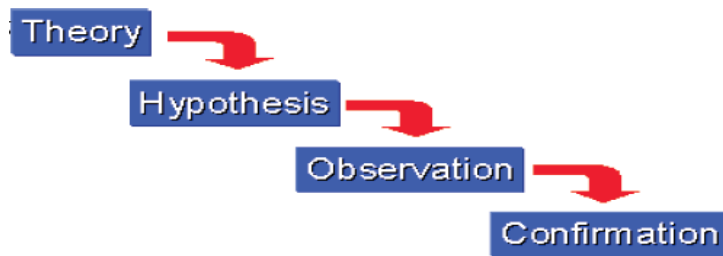
34

Figure 3.2. Deductive Reasoning Steps (Research Methods Knowledge Base: Deduction and Induction 2017).

Inductive reasoning refers to an alternative approach of conducting research. This method starts with data collection (i.e. via interview) over the subject research area with the purpose of obtaining a deeper understanding of the problem. Next, collected data are analysed with the aim to identify meanings, patterns and relationships on which a theory will be built. Such approach does not discourage the research to review existing theory, however, it is a major attribute of the inductive approach that it is mostly based on learning from experiences and does not have the purpose of confirming or falsifying a theory (Research Methodology 2018). With the emergence of social science research in the 20th Century, inductive reasoning appeared as an alternative to deduction theory. It encompassed the need of researchers to undertake research having prior acquired a better understanding of the research problem. Comparing to deductive reasoning, induction theory gives also the flexibility to conduct research without constructing a rigid methodology and as such, gives to the researcher the latitude about the choice of theory and hypotheses (Saunders et al. 2009).

Inductive theory steps are summarized in the below **Figure 3.3.**
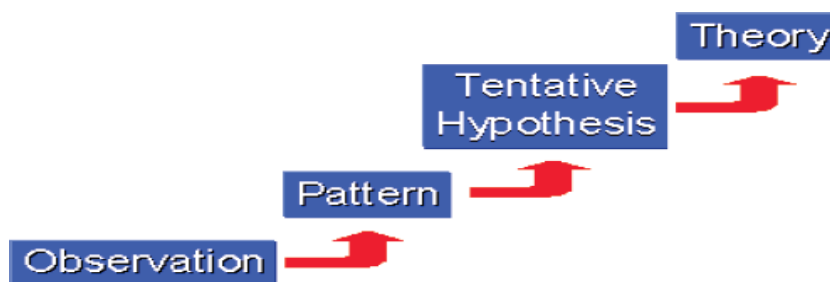
Figure 3.3. Inductive Reasoning Steps

 (Research Methods Knowledge Base: Deduction and Induction 2017).

Deductive and inductive approach major characteristics and differences are summarized in the below **Table 3.5.**

Table 3.5. Major differences between Deductive and Inductive approach

Deduction emphasises	Induction emphasises
• scientific principles • moving from theory to data • the need to explain causal relationships between variables • the collection of quantitative data • the application of controls to ensure validity of data • the operationalisation of concepts to ensure clarity of definition • a highly structured approach • researcher independence of what is being researched • the necessity to select samples of sufficient size in order to generalise conclusions	• gaining an understanding of the meanings humans attach to events • a close understanding of the research context • the collection of qualitative data • a more flexible structure to permit changes of research emphasis as the research progresses • a realisation that the researcher is part of the research process • less concern with the need to generalise

(Saunders et al. 2009).

Deciding on whether our method of reasoning will be deductive or inductive would depend on the emphasis of the research and the nature of the research topic. The deductive approach would be more convenient when considering a research topic for which there is a wealth of available literature and previous research data. In that case, our research would begin with analysis of existing theories and formulation of new hypotheses. For a topic that is new and there is little existing literature, our research would be more fascinating by collecting and analysing data and develop theoretical themes. Therefore, the inductive approach would be more appropriate in that case. The time the researcher has available is also an issue. Deduction is a quicker approach involving a lower risk strategy for data collection and analysis. On the other hand, inductive research can take longer period of time, as subject data emerge gradually throughout the research process and there is always the risk that our research strategy can lead us to no useful research patterns and conclusions (Saunders et al. 2009).

Abductive reasoning refers to an approach used frequently in social science research and attempts to deal with all those failings of the inductive and deductive approach. It is a combination of inductive and deductive approach where the researcher adapts his research strategy according to the challenges he has to face. For example in a topic that seeks to investigate staff absenteeism, the researcher may develop a theory that staff absenteeism is attributed to existing working patterns and particularly to the rigorous supervision and control exercised by senior managers (inductive reasoning). Based on that theory, he may continue his research by evaluating what other impacts this form of management may have in the workplace phycology and staff performance, by formulating and testing new hypotheses (deductive reasoning). Having concluded our analysis on the major characteristics of the methods of reasoning, it be would be worth mentioning that the inductive approach is usually associated with **qualitative** methods of data collection and analysis, whereas deductive approach with **quantitative**. **Figure 3.4** depicts how inductive and deductive approach can be combined (Gray 2004).
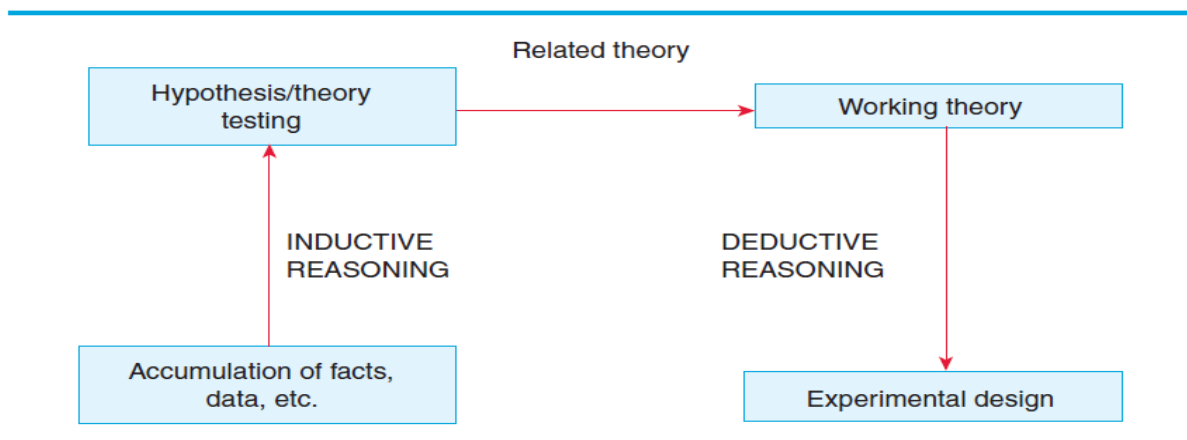
Figure 3.4. A Combination of Inductive and Deductive Approach   (Gray 2004).

In line with the objectives of this thesis and nature of the research topic, this study has adopted a deductive method of reasoning and is conducted by employing a quantitative research approach (which will be further analysed at a later section). It starts with a general review and analysis of existing literature and theories related to our topic. Next, variables are identified and specific hypotheses are developed. Quantitative methods for data collection   (questionnaire surveys) are applied and quantitative data are analysed using a statistical package (SPSS).

3.4 Research Design

The research design refers to the general plan adopted in a study in order to answer the research questions. It encompasses the research objectives and gives specific details about the way the researcher plans to collect and analyse the research data. The purpose of the research (which can be exploratory, explanatory or descriptive) will significantly affect the research design. For example, for a descriptive study, as this thesis is considered to be, our decision to research design will favour the adoption of a quantitative approach and method of data collection and analysis (these terms will be explained and justified at a later stage in this chapter). It is worth clarifying at this point that the research design differs from tactics. The design is concerned with the overall plan to execute the research, while the tactics relate to the detailed methods for data collection (i.e. questionnaires, interviews) and analysis procedures (i.e. qualitative, quantitative or mixed) (Saunders et al. 2009).

There are three types of research design mainly adopted in social research: quantitative, qualitative and mixed. The overall decision on which one suits better our study, apart from the research purpose and nature, should be based on the intersection of the philosophical assumptions, strategies of inquiry and methods for data collection and analysis (The Selection of a Research Approach 2018). The philosophical assumptions adopted will determine the way we choose to answer our research question, which will, subsequently, define the research strategy and the methods used for data collection and analysis (Saunders et al. 2009). The components involved in the process for the selection of the research design and how they interact, are summarized in the below **Figure 3.5.**
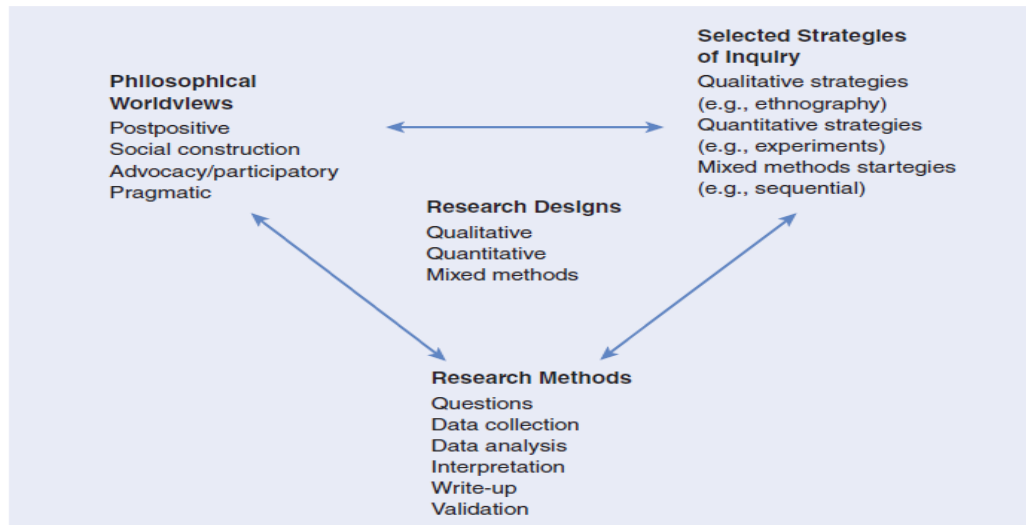
Figure 3.5. The Research Design Framework (The Selection of Research Design 2008).

3.5   Research Philosophy and Paradigm

As Greener (2008) mentions the discussion about the philosophical assumptions and paradigm can be understood as the different perspectives of knowledge and research that underpin the research design. Understanding our world is great starting point of every study. No matter on which field our research belongs to (physical, social, life), it always begins with a thought about the wold around us (Greener 2008). Before conducting a research it is important to consider the research philosophies and approaches applicable to social science research and identify their relevance to the chosen research area and topic of interest. In this section we will analyse the various research philosophies and research approaches that are mostly adopted in social science research and we will also provide the justification for selection of those that underpin this study. According to Saunders (2009), the research philosophy you adopt contains important assumptions about the way in which you view the world. Therefore, knowledge and understanding of the available theoretical perspectives for conducting social research will influence the selection of the adopted one which will, subsequently, shape the research process, strategy and data collection and analysis methods to be implemented (Saunders et al. 2009). In Section 3.5 we will consider the first two layers of the 'Research Onion' (see below **Figure 3.6.**), namely the research philosophy and approach.
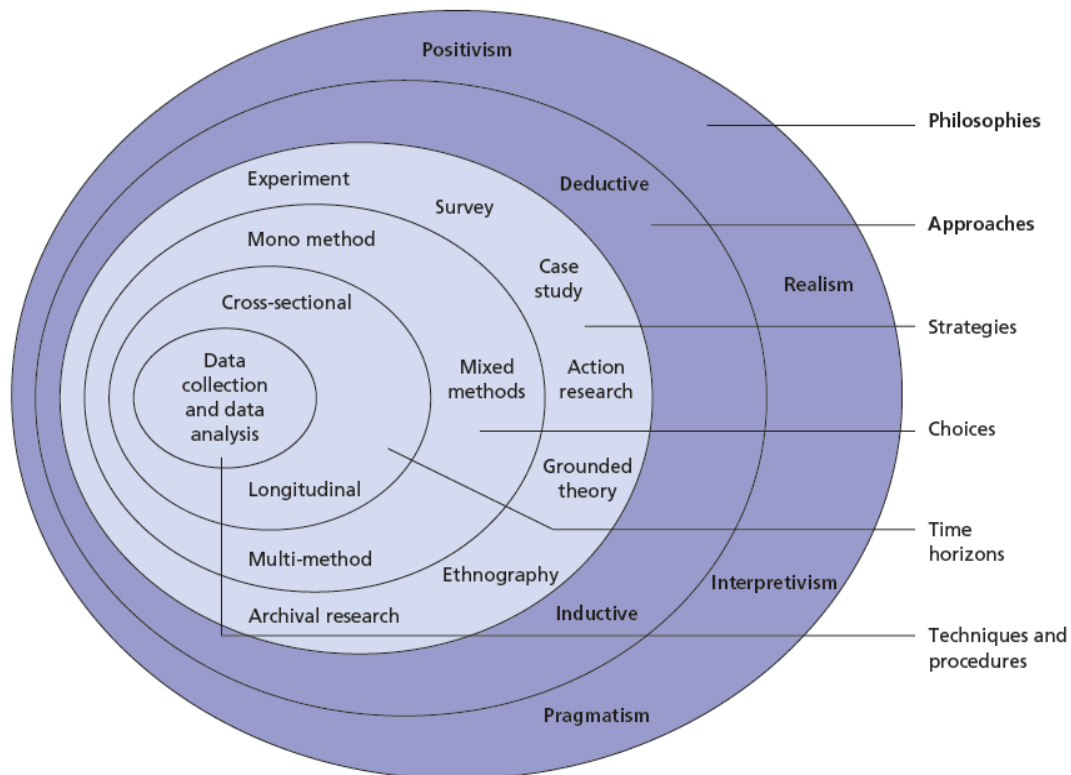
Figure 3.6. The Research Onion   (Saunders et al. 2009).

When engaging in the research journey there is an insightful and noble intention to create knowledge. The creation of knowledge, as a result of research, is dependent on the researcher's overall beliefs, perceptions, assumptions, knowledge of reality and the overall way he sees the world (Saunders et al. 2009). Such parameters can significantly influence the way research is undertaken from the design stage until conclusions. Such factors, that can affect a researcher's stance and approach in a research problem, are considered to be the logic and rationale that underpin a research. Acknowledging the angle from which a researcher views and understands a particular topic of interest is the starting point of every study and the one that will allow a research approach and strategy to be clearly formulated and communicated. There are several theoretical perspectives a researcher may adopt in order to deal with a research problem. Such theoretical perspectives, also termed as research philosophies, relate to the assumptions and principles embraced in a study (Neuman 2014). Akotia (pp.60 2014) defined as research philosophy as *the questioning of basic fundamental concepts and the need to embrace a meaningful understanding of a particular field"*. As Saunders et al. (2009) stated, being aware of the selected research

philosophy will lend us with the ability, not only to choose the most appropriate research strategy but, to gain a deeper understanding of what we actually seek to investigate. The decision on which research philosophy suits better our study will depend on the research questions we seek to answer. A study that seeks to analyse the impact an increase in the net salary has brought to the consumption of beer will adopt a different research philosophy from a study that is concerned with the effect on employees' productivity of different management styles (Saunders et al. 2009).

There are four major areas of philosophy in social research and associated key questions they seek to answer:

1. Axiology, "What is the nature of ethics?"

2. Ontology, "What is the nature of reality?"

3. Epistemology, "What is the nature of knowledge and the relationship between the knower and the would-be known?"

4. Methodology, "How can the knower go about obtaining the desired knowledge and understandings?"

(Research and Evaluation in Education and Psychology 2017).

3.5.1 Ontology

As Saunders et al. (2009) notes, **ontology** is concerned with the nature of reality. According to Neuman (pp.94 2014), ontology is *an area of philosophy that deals with the nature of being, or what exists; the area of philosophy that asks what really is and what the fundamental categories of reality are.* And since reality is the focal point of ontology, there are two ontological aspects that the researcher comes up with: First, what we see and perceive as reality really exists and independent of social actors (**objectivism**) and second, the social phenomena and meaning attached to them do not really exist but are created from the beliefs, perceptions and consequent actions of social actors (**subjectivism**) (Saunders et al, 2009).

Objectivists see the social phenomena as something that exists out there and waits to be discovered. The objectivist stance claims that what you see happening out there is what you get and it is independent of the actions of human and the way they interact in their daily life (Neuman 2014). Saunders (2009) gives a good example on objectivism in a study on the management aspects of a company. If we suppose that we wish to research the various management functions in that enterprise, then we will begin our research by assuming that management an objective entity and something that already exists and represents a reality in all other organization. Using such objective assumption we will continue our study by examining job descriptions of managers, company procedures, organization charts and reporting hierarchy. Although particular aspects of management may differ between organizations, our assumptions are based on the belief that the essence of the function is generally the same in all enterprises. On the other hand, as Neuman (2014) mentions, **subjectivists,** adopt the position that reality is not what we see. Social phenomena and relationships that exist out in the world are given several meanings, depending each time on our subjective-cultural beliefs, experiences and the way we perceive reality. According to Neuman (2014) in subjectivism *"our experience with what we call "the real world" is always occurring through a lens or scheme of interpretations and inner subjectivity*. As such our inner thoughts, cultural beliefs, past experiences and worldview generate what we call subjectivity and limit the horizons of our research (Neuman pp.94 2014). Subjectivists recognize that some elements of **interpretivist** philosophy exist in subjectivism and are necessary in order to explore and understand the subjective meaning attributes to the social phenomena by social actors. In continuation of the previous example concerned with investigating the management aspects of an organization, we could say that a subjective approach would be the researcher to begin the study with the assumption that some objective aspects of management are more or less important than the attention managers pay on their role as prescribed by their jobs descriptions. Such subjective assumption may derive from the researcher's personal experience and perceptions (Saunders et al. 2009).

The difference between objectivist and subjectivist ontological assumptions can be described by further reviewing our above example related to the management and

organizational culture of an organization. In such example, objectivists would view the organization's culture and management aspects as something that exists or better as something that the organization 'has'. Contrary, subjectivists would view organization's culture as something that the organization 'is' and has been created and evolved through social interactions and physical factors (Saunders et al. 2009). As such, according to subjectivists, understanding social phenomena depends on subjective cultural factors that shape our experiences and affect the way we view and interpret the world. Opposing, an objectivist ontological assumption would claim that we see what exists and we can easily study it and produce knowledge (Neuman 2014).

3.5.2 Epistemology

Epistemology deals with *what constitutes acceptable knowledge in a field of study* (Saunders et al, pp.112, 2009). In this philosophical approach the researcher is concerned with the most appropriate ways can be used to produce knowledge, the potential to broaden such knowledge and how satisfactory the generated knowledge is. If a realist position is adopted, it is assumed that a real world exists independent of our thoughts, perceptions and experiences. As we investigate the empirical world, we start making observations and gathering data related to our topic of interest. After completing our research and data collection we can see which of our initially expressed ideas can be verified (as they were found consistent with collected evidence) and which of those have to be rejected (due to lack of sufficient evidence). Such considerations will lead us in the formulation of new laws and principles that will explain social phenomena and relationships. If we adopt a **subjectivist** position, conclusions of the study will be greatly influenced by subjective views and individuals' interpretations (beliefs, attitudes, past experiences) (Neuman 2014).

Saunders (2009) gives us an example in order to better understand the difference between **objectivism** and **subjectivism** met in **epistemology** philosophy. In a study concerned with the manufacturing process the first researcher collects data that are regarded to be 'real' such as machines, computers or statistics. In that case, the collected data are independent of the researcher and are, therefore, more objective. The second researcher is more concerned with the collection of data that relate to the feeling, attitudes and opinions of employees towards their managers and the manufacturing process.

Comparing to the second researcher, the first researcher will view the data collected by the second researcher (feelings and attitudes) as something that cannot be seen and measured in the real world such as the data collected by observing machines or computers. As such the data collected by the first researcher can be presented in statistical form and be more objective than the data collected by the second researcher which will be presented in a narrative (Saunders et al. 2009). However, it should be recognized it is impossible to separate a reality or a phenomenon to be studied from personal interpretations or effects that happen at a certain time/place. We cannot be totally objective and generate laws and principles that are applicable to the whole society. However, what we can do in order to produce social knowledge is to study society's beliefs, behaviours or norms, in specific and predetermined social contexts and settings and then then utilize our knowledge and experiences to interpret such phenomena and situations (Neuman 2014).

Above described **Ontological** and **epistemological** philosophies have been regarded as the two principal areas of research philosophy (Saunders et al. 2009). However, it would be worth noting here that it is not compulsory to develop a deep discussion over these philosophies before conducting research. It is quite common a researcher to adopt assumptions resting to ontological or epistemological foundations without necessarily being conscious about that. Though, and as was indicated above, understanding the research assumptions and principles underlying our research will assist us to better realize why certain choices have been made (Neuman 2014).

3.5.3   Axiology

Axiology is a philosophical position adopted in social science research and is based on the assumption that research judgements are guided by values. The selection of a research area and the methods employed during all stages of the research process reflect the researcher's values. Under such stance, the choice of the topic, data collection methods and philosophical approach   are closely linked with researcher's values and recognizing them will assist us in appreciating our ethics and how these shape our research (Saunders et al. 2009). Walter (2017) defines axiology as *"the theory of values that inform how we see the world and the value judgments we make within our research"* (Walter, pp.11, 2017). Axiological researchers believe that values cannot be completely removed and isolated

from the study and therefore, will inevitably affect the research process. The values of a person are so deeply rooted in his culture and sometime researchers ignore their existence when conducting research. Therefore, it is impossible to believe that one can conduct a value-free and absolutely objective research. A researcher, being part of the society and living in a real world, is expected to bring social, moral, political and other cultural values that will unavoidably be reflected in his study (Oppong 2014).

3.5.4   Methodology

Research methodology is different than the methods. In a simple way, the method relates to all these techniques use for gathering information, such as an interview, questionnaire, or documentary analysis. Methodology has to do with the way we view the world and will, subsequently, influence the way the research is understood, designed, and conducted. Therefore, the methods form a component of the methodology (Walter 2017). According to Guba (1990) an important question related to the methodological assumption is: *"how should the inquirer go about finding out knowledge?* In that respect, designing the methodology that will underpin our research it is important to: clarify and realize our worldview (the way we view things and our social, cultural, economic, and personal perceptions), define the theoretical framework that guides our study (epistemological, axiological, and ontological frameworks) and select the appropriate methods for data collection and analysis (i.e. qualitative or quantitative or mixed) (Walter 2017).

3.6   The Research Paradigm

It is very common for a researcher to commence his study by selecting a data collection and analysis method, which will be affected by the methodology adopted, which will, in turn, be influenced by his philosophical stance. However, understanding the research philosophy that underpins our research is the first critical step in every research process. The way we view the world, our experiences and knowledge we possess will significantly affect the theory that we develop and the methodology and methods to be used for accepting or rejecting it (Neuman 2014). The philosophical positions, as described above (ontology, epistemology, axiology, methodology), aimed at clarifying how the beliefs, assumptions and knowledge of the researcher will underpin the research process

influencing, thus, his choice on the research methodology, strategy and methods of data collection and analysis (Saunders et al. 2009). However, as Fard (2012) mentions, there is some consensus behind these philosophies and an overlying view of the way the world works and perceived, namely, the paradigm. Rahi (2017) mentions a research paradigm to be the *"essential collection of beliefs shared by scientists, a set of agreements about how problems are to be understood, how we view the world and thus go about conducting research"*. In another definition, a paradigm is approached as "*a shared framework of viewing and approaching the investigation and research of social phenomena"* (Walter, pp.10, 2017). Saunders et al. (2009) defines paradigm *as a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted.* Our understanding and conceptual framework on a research topic, is influenced by our philosophical assumptions. Based on such philosophical assumptions (ontological, epistemological, axiological and methodological), paradigms are considered to be belief systems and accepted research models, which in turn, encompass and underlay these philosophical assumptions. Paradigms differentiate, depending each time on the academic discipline. Social science research is leaded by specific paradigms: positivism (or post-positivism), interpretivism (or social constructivism), realism (or advocacy/participatory) and pragmatism and is aim of this section to analyse them (Walter 2017).

3.6.1   Positivism (or Post-positivism)
The positivism paradigm is similar to the stance adopted by a natural scientist. As with physical and natural scientists, a social science research that adopts a positivist stance will study observable social phenomena which can produce credible data. Existing theory and literature is elaborated and hypotheses are developed. These hypotheses will be then tested and confirmed, leading thus, to the formulation of new a theory (Saunders et al. 2009). Positivist assumptions are often termed as post-positivism and empirical science. Positivist researchers employ a deductive logic through which observations and measurements take place on the 'real world' and existing reality. They are based, therefore, on empirical observations of phenomena or individual behaviours. After reviewing existing knowledge and theory, the researcher formulates the hypotheses and decides on which methods will

use in order to collect data that will support or decline his theory. Then, a series of tests is conducted in order to verify or refuse such theory and generate knowledge (Research and Evaluation in Education and Psychology 2017). Quantitative research is preferred by positivist researchers rather than qualitative. Precise quantitative data are collected through a structured methodology and experiments, surveys and statistical analysis are practiced. Historically, positivism dominated social science research field from the 1930s to the 1960s and the leading epistemological paradigm which claims that the social world exists external to the researcher and analysis is based on scientific observation and empirical inquiry (Neuman 2014).

3.6.2 Interpretivism (or social constructivism)

Interpretivists argue that the social world is too complex to be approached with the same way as the natural sciences. The difference in the nature of social and physical science research is described by Gray (pp.23 2004) as, "*our interest in the social world tends to focus on exactly those aspects that are unique, individual and qualitative, whereas our interest in the natural world focuses on more abstract phenomena, that is, those exhibiting quantifiable, empirical regularities"*. In that sense, interpretivists' motivation to analyse social phenomena and behaviours is influenced by their personal beliefs, experience, perceptions and generally, by the way they view the world. It is often referred as social construvitism and was developed as an opposite stance to positivism. As such, in interpretive research subjective meanings are developed and attributed toward observed situations or objects. Interpretivists opt to commence their research by developing a theory (inductively) and then collect data to support it. They are aware that their personal background, cultural and life experiences shape their interpretations and the fact that are those aspects that differentiate their understanding from the conception of other researchers over the same subject. Interpretivism is seen as a qualitative approach to research and meanings are constructed by studying participants' views through general and broad questions. Thus, through open-ended questions the researcher listens and collects data related to his topic of interest and then develops his own subjective meanings (Research and Evaluation in Education and Psychology 2017).

3.6.3 Critical (transformative, realist or advocacy/participatory)

The critical paradigm arose during the 1980s and the 1990s and encompassed researchers' perceptions that viewed positivist assumptions as being too law like that did not consider society's and individuals' feelings and, also, regarded interpretivist stance as being too subjective and relativist. This paradigm is mostly viewed as qualitative research but can also form the foundation of a quantitative research (Saunders et al. 2009). Neuman defines the critical paradigm as "*the process of inquiry that goes beyond surface illusions to uncover the real structures in the material world in order to help people change conditions and build a better world for themselves*"(Schneider pp.29 2016). Critical research seeks to empower people and transform regimes. In that sense, critical researchers criticized interpretivists as paying more attention to people's ideas than reality, focus more on microlevel situations and ignore the broader and long-term conditions of a problem. The assumptions of the critical paradigm, often termed as realism or advocacy/participatory are inspired by their desire of researchers to critique social relations, reveal underlying sources and transform the status quo. A critical researcher does not only aim at publishing a research report that describes a problem. He is actively seeking to motivate and mobilize political action in the name of social justice. He publishes his report in newspapers, works with activists, meets with social organizations and uses his research findings to transform a social order (Neuman 2014).

3.6.4 Pragmatism

Pragmatism is one of the oldest philosophical assumptions that appeared at the beginning of the twentieth century. Charles Pierce, William James and John Dewey are the American philosophers who founded pragmatism in an attempt to deal with American society's problems at that time. For pragmatists the real concern is not if their assumptions fit a particular ontology or epistemology but whether their research, as a whole, serves a wider purpose and is capable to stimulate and motivate society (Gray 2004). As Saunders et al. (2009) mentions, for pragmatists the focal point of their research is the research question and is the factor that will determine the researcher's ontological, epistemological or axiological stance. Pragmatists focus on their area of interest and conduct their study in

different ways, using a combination of methods that deem appropriate to serve their research aims. Considering and wandering among concepts and notions about what is reality and truth, has no value for pragmatists. Contrary, they believe that the philosophical assumptions and methods employed in a research should be a dynamic and interactive activity that is adjusted and formulated to the research needs (Saunders et al. 2009). As such, pragmatists use a mixed approach and methods in their research by mixing qualitative and quantitative data in a single study (Gray 2004).

Under such analysis, the philosophical assumption of this study is **epistemology** and the research paradigm chosen is **positivism**. As expressed above, epistemology deals with *what constitutes acceptable knowledge in a field of study* (Saunders et al, pp.112, 2009). Neuman (2014) suggests that in order to address such epistemological assumption the research commences with the collection of data relevant to our topic. After completing our research and data collection we can see which of our initially expressed ideas can be verified (as they were found consistent with collected evidence) and which of those have to be rejected (due to lack of sufficient evidence). Such considerations will lead us in the formulation of new laws and principles that will explain social phenomena and relationships (Neuman 2014). It is also assumed that the researcher is independent and has no relationship or personal interaction with the participants and, therefore, maintaining an **objectivist** approach to the adopted epistemological assumptions. Further to this statement, the research paradigm adopted for this study is **positivism**. Positivism is pursuant with the adopted **deductive** reasoning of this study, as it requires observable and quantifiable data to be collected for statistical analysis. In the positivist approach we are concerned in obtaining knowledge through empirical observations of individuals or situations (Research Methodology 2018). As a result of the assumed positivist paradigm and its shared attributes, a **quantitative** research approach will be adopted along with a **survey** method (via questionnaire) in order to collect quantifiable data (that will be analysed and justified at the following sections). However, at this stage we would like to mention that the quantitative approach is compatible with the purpose, nature, concepts, philosophical assumptions and paradigm of this study, in the following sequence: **descriptive, deductive, epistemological, positivist**. In support to that, it is worth bringing forward

Neuman (pp.97, 2014) who states that positivist researchers "*combine deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity*".

Table 3.6 summarizes the major elements of research paradigms.

Table 3.6. The major elements of research paradigms

	Positivism	Realism	Interpretivism	Pragmatism
Ontology: *the researcher's view of the nature of reality or being*	External, objective and independent of social actors	Is objective. Exists independently of human thoughts and beliefs or knowledge of their existence (realist), but is interpreted through social conditioning (critical realist)	Socially constructed, subjective, may change, multiple	External, multiple, view chosen to best enable answering of research question
Epistemology: *the researcher's view regarding what constitutes acceptable knowledge*	Only observable phenomena can provide credible data, facts. Focus on causality and law like generalisations, reducing phenomena to simplest elements	Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations (direct realism). Alternatively, phenomena create sensations which are open to misinterpretation (critical realism). Focus on explaining within a context or contexts	Subjective meanings and social phenomena. Focus upon the details of situation, a reality behind these details, subjective meanings motivating actions	Either or both observable phenomena and subjective meanings can provide acceptable knowledge dependent upon the research question. Focus on practical applied research, integrating different perspectives to help interpret the data
Axiology: *the researcher's view of the role of values in research*	Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance	Research is value laden; the researcher is biased by world views, cultural experiences and upbringing. These will impact on the research	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective	Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view
Data collection techniques most often used	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth investigations, qualitative	Mixed or multiple method designs, quantitative and qualitative

(Research and Evaluation in Education and Psychology 2017).

3.7 Research Approaches

The decision made on which of the, above described, philosophical assumption to be used in our research take us to the next step of the research design process which is the decision on the research approach to be adopted. As Neuman (2014) social research seeks to improve our understanding over a problem and the social world in a wider perspective. In that perspective the research seeks to transform raw theories and ideas into a finished product, namely, create knowledge. However, social research differs in the form of collected data (numerical or non-numerical), methods of collection (interviews, questionnaire, observations etc.) and analysis (qualitative, quantitative) (Neuman 2014). There are three principal approaches to research in social research: quantitative, qualitative or mixed and different techniques of gathering and analysing data are used in them. Though, each approach has different characteristics (strengths and limitations) and the selection of the most appropriate should be based on the consideration of the nature and purpose of the research, the adopted philosophical assumptions and the methods of data collection and analysis that we believe to serve them better (The Selection of a Research Approach 2018).

3.7.1 Quantitative Approach

In quantitative approach researchers develop one or more hypotheses that they seek to accept or reject. They prepare questions that address these hypotheses and their research is continued by making predictions and examining relationships among the things they want to investigate (variables). Data are collected and converted in numerical forms in a way that a statistical analysis can be made in order to reach to conclusions. Then, collected data are analysed using sophisticated statistical packages that allow researchers to determine the relationship between variables (i.e. to what extent smoking affects workplace accidents) or casual relationships (i.e. increased smoking leads to higher accident rates in the workplace). Data are usually collected using surveys (i.e. questionnaire or interviews), observations or experiments. It is important to consider at this point that in quantitative research it is not possible to have access to all members of a group. For example, if we wish to investigate the nutrition habits of students in a country, we cannot collect answers from all students and therefore, we will focus on representative sample of the wider

population/group. The end result of a quantitative research is the P (probability) which measures the likelihood that a particular finding is due to chance. *The closer the result is to 0, the less likely it is that the observed difference is due to chance. The closer the result is to 1, the greater the likelihood that the finding is due to chance (random variation) and that there is no difference between the groups/variables.* The quantitative approach accompanies the deductive reasoning and assumes that the research was moved from the more general (examining existing general knowledge) to the more specific (formulating particular hypotheses and research questions to be tested) and is also associated with the positivist paradigm (The four main approaches 2009).

3.7.2   Qualitative Approach

The qualitative approach relates to subjective assessments of beliefs, attitudes, behaviours and opinions in the researcher's attempt to understand and explain the research problem. Contrary to quantitative, in qualitative approach researchers begin with the development of a theory (inductive reasoning) and then continue with the design, collection and analysis of the data. In qualitative approach,   all such action may happen simultaneously (Neuman 2014). Data collection and analysis is more flexible and can be done at any stage of the project. It is not necessary the development and test of hypotheses as the researcher seeks to gain an understanding from people's experiences and perceptions rather than obtaining numerical information that can be statistically analysed and generalized. A common method used for data collection is through in-depth interviews and is done in a form that participants are given a sense of freedom to express their thoughts and feelings without prejudice and without being channelled to their responses through highly structured and closed types of questions. As qualitative research is time and labour intensive, it is reasonable that a smaller number of participants will be examined than quantitative research. Interpretivism is the philosophical assumption associated with qualitative research as it is based on a subjectively constructed reality with subjective meaning attributed to social phenomena (The four main approaches 2009).

3.7.3   Mixed Methods Approach

As described above, quantitative and qualitative approaches are mostly applied in business research. Quantitative approach is concerned with numeric and uses data collection

methods (i.e. questionnaire) that would fit a data analysis procedure that would generate numerical data (i.e. graphs or statistics). On the other hand, qualitative approach relates to data collection, mainly, via interviews and analyses them (categorizing them) in a way that produces non-numerical data. The mixed methods approach refers to an approach that involves a combination of both quantitative and qualitative methods for data collection and analysis. Qualitative and quantitative techniques can be used in parallel or the one after the other. The advantage of this approach is that it gives the researcher the flexibility to use quantitative and qualitative methods in the same study, according to the purpose of the research. For example, interviews may be used in an exploratory study and a questionnaire may be used to collect data in an exploratory or descriptive study. It is associated with the pragmatic paradigm in the sense that the researcher is free to choose any methods during his (qualitative or quantitative) that serve better the research purpose (Saunders et al. 2009). **Table 3.7** summarizes the major characteristics of the qualitative and quantitative research.

Table 3.7. A Summary of Quantitative Vs Qualitative Research Features

QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
Researchers test hypotheses that are stated at the beginning.	Researchers capture and discover meaning once they become immersed in the data.
Concepts are in the form of distinct variables.	Concepts are in the form of themes, motifs, generalizations, and taxonomies.
Measures are systematically created before data collection and are standardized.	Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.
Data are in the form of numbers from precise measurement.	Data are in the form of words and images from documents, observations, and transcripts.
Theory is largely causal and is deductive.	Theory can be causal or noncausal and is often inductive.
Procedures are standard, and replication is frequent.	Research procedures are particular, and replication is very rare.
Analysis proceeds by using statistics, tables, or charts and discussing how what they show relates to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture.

(Neuman 2014).

3.8   Research Strategy

Formulating the research design is a process that involves several factors to be considered and decisions to be taken with regards to *which is the most appropriate design to the selected research topic*. As was previously discussed, the research design relates to a broad plan and processes that extend from philosophical assumptions to detailed methods for data collection and analysis to be employed in our research. The research strategy forms a significant part of the research design process. In broad terms, the research strategy is the decision we make on the way we will inquiry (collect and analyse data) in order to deal with our research problem. The research strategy is closely related to the purpose and type of our research (exploratory, explanatory or descriptive), the methods of reasoning (deductive or inductive) and our philosophical assumptions (The Selection of a Research Design 2008). Moreover, the research strategy is dependent on the research questions and is the one that will determine the type of data that will be collected (numerical or textual) and the methods to be used to analyse these data. It is worth mentioning at this point that the decision on the research strategy will be, subsequently, influenced by our adopted research approach and, thus, can be categorized as **qualitative**, **quantitative** and **mixed research strategies** (Ragin and Becker 1992). In that sense, thinking of the research strategy should commence at an early stage of the study. As the literature review progresses and more and more information become available, it is possible to change our opinion on which is the best method of inquiry that addresses more effectively our research questions (Saunders et al. 2009). The philosophical assumptions that underpin our study is an important factor in the choice of research strategy and as Saunders et al. (2009) states *"we need to be aware of the philosophical commitments we make through our choice of research strategy since this has significant impact not only on what we do but we understand what it is we are investigating"* (Saunders et al, pp. 108, 2009).

As we could see in the above onion layer figure, the starting point of every study is the research questions. The way we choose to answer these questions and the type of data that will better address our research problem will depend on the philosophical assumptions we adopt, namely, our view for the world. For example, in case we seek to describe a social phenomenon, by providing summaries on social variables, then this is most likely to be

done by adopting a positivist paradigm. As such, the research will commence with a review of existing theory and literature (deductive reasoning) that will further, lead us to the development of new hypotheses to be tested. In such a case, a **quantitative research strategy** should be the most appropriate one in order to verify such hypotheses, and is likely to be done through a survey research (Saunders et al. 2009). On the other hand, **qualitative research strategies** seek to provide a subjective meaning for the world around us and are better informed by the interpretivist paradigm. They aim to describe the core meaning of a culture or an action and they commence by constructing a theory and then attempting to collect data to validate such theory (inductive reasoning). Ethnography is one way used in qualitative research strategies to explain social action, i.e. why some young women decide to have children (Coffey and Atkinson 1996).

So far, we have seen that qualitative and quantitative research strategies have very distinguished features. Qualitative are more meaning centred and are more concerned in providing subjective meanings in social cultures, while, quantitative strategies are more variable centred and seek to establish contingent relationships between variables (Winebrenner 2005). However, it would be very simplistic and not always practicable to categorize research strategies as to belong to the deductive-quantitative approach while, others satisfy better the needs of an inductive-qualitative research. Such considerations, although generally hold true in social research, though, should not always direct the researcher in choosing a particular research strategy only because of the adopted philosophical assumptions and research approach (Saunders et al. 2009). The choice of a research strategy is a depends on a combination of factors and as Saunders et al. (2009) suggests *"your choice of research strategy will be guided by your research question(s) and objectives, the extent of existing knowledge, the amount of time and other resources you have available, as well as your own philosophical underpinnings"* (Saunders et al, pp. 141, 2009).

There are several research strategies that can be employed in social science research such as: experiments, survey, case study, action research, grounded theory and ethnography. In social research, they are also called and identified as approaches to inquiry

or research methodologies that a researcher employs in order to collect and analyse his data achieving, thus, his research objectives. Regardless of which is type of research strategy a researcher will adopt to conduct his study (i.e. survey or case study), his choice will surely be affected by the type of study, research approach, underpinning research philosophy and methods to be used to collect and analyse data. In this respect, a study will be conducted by employing a **qualitative, quantitative or mixed research strategy** which will, eventually, be accompanied the respective methods of data collection and analysis (The Selection of a Research Approach 2018).

3.8.1 Quantitative Research Strategies

Quantitative strategies are those associated with quantitative research and embed the positivist worldview. They are deductive in nature and they seek to investigate and provide a nomothetic understanding of a phenomenon without focusing on specific cultural and personal perceptions matters of individuals. In addition, quantitative research strategies should be employed when a researcher seeks to get numerical data to answer his research questions, for example, 'how many students smoke? Or 'what factors affect students to start smoking? or he is interested to answer a hypothesis, for example, 'if there is a relationship between smoking and performance of students at school' (Blackstone 2012).

Surveys and experiments are the two strategies that we will focus here.

3.8.1.1 Survey Research

The survey refers to a quantitative strategy, associated with deductive approach, and is frequently used in business and management research. It is mostly used in exploratory and descriptive research and tends to answer questions such as who, what, where, how much and how many. Surveys allow the researcher to collect a large number of quantitative data from a sizeable number of populations which can be later analysed using inferential or descriptive statistics (Saunders et al. 2009). Surveys offer a number of benefits to the researcher such as, cost effectiveness, reliability and versatility. However, there are a few drawbacks related to surveys that derive from the fact that are inflexible. There is a limited number of questions a researcher can address (i.e. via a questionnaire) and once they are perceived in a different way by the respondents, there is no much the researcher can do to

reverse the situation. On the other hand, in an in depth interview, the researcher can provide to the respondent more clarifications over the questions and avoid confusions or misunderstandings (Blackstone 2012).

3.8.1.2 Experimental Research

In experimental research it is sought the study of relationships among variables, those manipulated and those that are measured. Experiments refer to a data collection strategy mainly associated with quantitative research. Though it is not always applicable to social science research and is more frequent to natural sciences, however, it is used by social scientists when they aim to understand findings based on experimental designed projects. Therefore, in social science research an experiment seeks to test a developed hypothesis under controlled conditions. The three key features involved in an experiment are: independent and dependent variables, pretesting and post-testing, and experimental and control groups. In a classic experiment, two comparing groups are established: the experimental and the control group. The experimental is the one that is exposed to the stimulus while the control group is one that does not receive the stimulus. A dependent and independent variables are established and tested for the two groups which are similar in terms of their characteristics (Blackstone 2012). An example of experimental research is the change in the purchasing behaviour that is observed between the experimental and the non-experimental group. The dependent variable in that case is the purchasing behaviour and the independent is the use of the 'buy two, get one free' promotion campaign. The experimental group is subject to some form of manipulation which, then, allows for comparisons to be made between this group and the control group (which is not subject to any manipulation) (Saunders et al. 2009).

3.8.2 Qualitative Research Strategies

Qualitative strategies associated with qualitative research approaches are inductive in nature and are underpinned by interpretivist assumptions. In qualitative research the researcher seeks to realize the meaning of a phenomenon from the views and perceptions of the participants. It is also linked with exploratory types of research and pursues to answer questions such as *why* and *how*. Data are usually collected via open-ended questions, are non-numerical and emphasis is given participants views in order to

understand and answer the research questions. Below are some of the most commonly used types of qualitative strategies (The Selection of a Research Design 2008).

3.8.2.1 Ethnography

Ethnography is an inductive research strategy that involves the selection and study of a group of participants or setting on which there is a confidence and trust that is the most appropriate to answer the research questions and meet the research objectives. It is a time consuming strategy and requires the researcher to devote a long time research and get deeply involved with the social world and problem he is concerned. As a process, it is flexible and responsive meaning that the researcher should always adapt with the new realities encountered during the study. It is not a commonly used method in business research, however, it provides a very good understanding of the research problem from the perspective of those who are part of it (Saunders et al. 2009).

3.8.2.2 Grounded Theory

Grounded theory is seen as the research strategy that best describes the inductive approach, though, others believe that theory building is done by a combination of both inductive and deductive methods of reasoning. It is quite applicable to business and management research and is often termed as the strategy that predicts and explains behaviours. Grounded theory starts with the formation of an initial theoretical framework. Then, data are collected through a series of observations which lead to the generation of predictions. Further, data are collected by new observations which may confirm or not such predictions (Saunders et al. 2009).

3.8.2.3 Case Studies

Case study is a research strategy that enables the researcher to get a deep insight and understanding of a phenomenon, especially in situations where the boundaries and context of it is not so clearly defined. It is an approach which is seen particularly useful when one has to deal with societal issues and when the objective of a research is to understand the interactions of a phenomenon and the context in which such interactions take place. Data can be collected through observations or participants' interviews, depending on which method addresses better the research questions. Case studies allow the researcher to

interact with participants in the field of study and practically test the theories within specified sites (Akotia 2014).

3.8.2.4 Phenomenological Research

Sounders (pp. 597, 2009) defines phenomenology as the *"research philosophy that sees social phenomena as socially constructed, and is particularly concerned with generating meanings and gaining insights into those phenomena"*. Understanding the social phenomena signifies phenomenology as both a philosophy and research strategy which seeks to study a small number of subjects for a prolonged period. In phenomenology, human experiences related to a phenomenon are of particular interest to the researcher who seeks to understand them, leaving aside his personal beliefs or experiences (The Selection of a Research Design 2008).

3.8.2.5 Action Research

In action research the researcher forms part of the organization within which the research is conducted. As such the research results derive from the active interaction of the researcher with the members of the organization rather than acting as a typical researcher maintaining a more distant role. Although action research begins with specific context and objectives it is described as a spiral process where subsequent cycles involve fact finding evaluation, based on previously formulated evaluations, planning for further actions and taking these actions for final evaluation. Two particular characteristics of action research strategy is that the research results can inform other contexts and promote change and action undertaking within the organization predictions (Saunders et al. 2009).

3.8.3 Mixed Method Strategies

Mixed methods strategies have increasingly taking place in social research. As it is claimed, they had emerged to provide an alternative to quantitative and qualitative strategies which have been, commonly, considered as not responsive and insufficient to deal with complex, diverse and multifaceted societal problems. Namely, it was the inability of the quantitative and qualitative paradigms to provide practicable and workable solutions to society's problems that gave rise to mixed methods. A mixed method strategy is defined as the type of research where the researcher combines and integrates elements from quantitative and qualitative approaches (i.e. viewpoints, data collection, analysis,

inference, techniques etc.) with the aim to acquire a better understanding of the problem (Akotia 2014). Mixed method strategies originated in 1959 when Campbell and Fisk used a multimethod approach to test validity of psychological traits. Such initiative encouraged other researchers to mix methods of inquiry such as data from interviews (qualitative) with surveys (quantitative). In the 1990s, the mixed method concept was shifted from a mere combination of qualitative and quantitative data collection methods to the integration of the data derived from qualitative and quantitative research. Qualitative data are usually open-ended with predetermined responses. On the other hand, quantitative data typically relate to pre-determined responses collected via questionnaires. The notion of the mixed method strategy lies on the fact that researchers sought to correct and eliminate the weaknesses of each data form. Mixed method is associated with the pragmatic paradigm where qualitative and quantitative methods are used sequentially (The Selection of a Research Approach 2018).

There are three forms of strategies used in mixed methods:

3.8.3.1 Sequential Mixed Methods
In sequential strategy the researcher starts with one method and then takes the findings and elaborates or expands them by using another method. As such, a research may begin with a qualitative approach (i.e. data collected via interviews) and then continue by conducting a survey research (i.e. via questionnaire) and collect quantitative data from a large number of of population. In such a case, this study can be considered exploratory as the initial qualitative data are explored by using a quantitative method and sequential as the initial method (qualitative) is followed by the other (quantitative) (The Selection of a Research Design 2008).

3.8.3.2 Concurrent Mixed Methods
Concurrent mixed strategies relate to procedures where the researcher converges or merges qualitative and quantitative data in order to address the research problem and objectives. Both forms of data are collected (qualitative and quantitative) simultaneously and are then integrated and interpreted (The Selection of a Research Approach 2018).

3.8.3.3 Transformative Mixed Methods

In a transformative mixed method strategy the researcher uses a theoretical lens as an adopted theoretical viewpoint and performs his research by collecting both qualitative and quantitative data. The data can be then merged or ordered sequentially with one building on the other using one of the above methods (The Selection of a Research Design 2008).

3.9   Research Methods

Research methods refer to the techniques that a researcher will use in order to collect, analyse and interpret his data. With regards to data collection method, a researcher should first decide whether his data will derive from primary or secondary sources. **Secondary data** collection refers to the type of data that have already been published such as scientific articles, books, newspapers, internet sources, journals etc. Proper selection of secondary data plays an important role, especially, when adopting a deductive-quantitative approach, where review of existing knowledge is critical in order to build the foundations of the study and develop the hypotheses to be tested. **Primary data** collection is equally important as it refers to the knowledge and information which is not currently available, though, it is critical in order to meet the research objectives. Primary data collection can be divided into two categories: qualitative and quantitative. Methods to collect qualitative data include interviews, questionnaires with open-ended questions, focus groups and observation. On the other hand, methods to collect and analyse quantitative data usually relate to questionnaires with closed-ended questions, methods of correlation and regression, mean, mode and median and others (Research Methodology: Data Collection 2017). There are researchers that argue that the choice of research methods is independent on the approach to be adopted and, furthermore, secondary to the embedded philosophical assumptions, as both qualitative and quantitative methods can be used in any paradigm. However, there are others that connect the research methods with the adopted paradigm and, as such they associate positivism with quantitative research and methods and interpretivism with qualitative research methods (Saunders et al. 2009).

Nevertheless, as discussed above, it is possible for a researcher to combine qualitative and quantitative strategies and, therefore employ data collection and analysis

techniques that are both quantitative and qualitative (mixed methods) (Saunders et al. 2009). In this respect, *"you may take quantitative data and qualitize it, that is, convert it into narrative that can be analysed qualitatively. Alternatively, you may quantitise your qualitative data, converting it into to numerical codes so that it can be analysed statistically"* (Saunders, et al, pp. 153, 2009). Thus, the choice on which data collection and analysis methods should be used depends on those methods that will answer better our research questions and, therefore, meet more sufficiently the objectives of the research. As such all research methods can find a place in a research strategy (Saunders et al. 2009). The timeframe available for conducting a research is another important factor when selecting the research methods. There are data collection and analysis techniques that are more time consuming and demanding than others. In case a researcher has a limited amount of time available, then it is likely to adopt a **cross-sectional** study, which entails that data will be collected at one point of time. Surveys are the most commonly used methods in cross-sectional study. Contrary, if there is a large timescale available then it is possible for data to be collected dynamically, namely, as a situation or phenomenon evolves over time. This is called a **longitudinal-study** and enables the researcher to collect data by observing how developments (i.e. changes in working practices) have affected a group of participants (i.e. company's employees) over a long period of time (Gray 2004).

Planning for a research project requires a judgement to be made on whether a qualitative, quantitative, or mixed methods design will be followed. Such a decision requires that different research aspects such as, philosophical assumptions, strategies of inquiry and research methods, are brought together and are carefully considered. The choice of a research design to be followed will depend on the nature of the research problem and how effectively it can answer the research questions and meet the research objectives. **Table 3.8** demonstrates how the three research approaches are correlated with paradigms, strategies of inquiry and methods of data collection and analysis (The Selection of a Research Approach 2018).

Table 3.8. Quantitative/Qualitative and Mixed Methods Approaches

Tend to or Typically . . .	Qualitative Approaches	Quantitative Approaches	Mixed Methods Approaches
• Use these philosophical assumptions	• Constructivist/ advocacy/ participatory knowledge claims	• Post-positivist knowledge claims	• Pragmatic knowledge claims
• Employ these strategies of inquiry	• Phenomenology, grounded theory, ethnography, case study, and narrative	• Surveys and experiments	• Sequential, concurrent, and transformative
• Employ these methods	• Open-ended questions, emerging approaches, text or image data	• Closed-ended questions, predetermined approaches, numeric data	• Both open- and closed-ended questions, both emerging and predetermined approaches, and both quantitative and qualitative data and analysis
• Use these practices of research as the researcher	• Positions him- or herself • Collects participant meanings • Focuses on a single concept or phenomenon • Brings personal values into the study • Studies the context or setting of participants • Validates the accuracy of findings • Makes interpretations of the data • Creates an agenda for change or reform • Collaborates with the participants	• Tests or verifies theories or explanations • Identifies variables to study • Relates variables in questions or hypotheses • Uses standards of validity and reliability • Observes and measures information numerically • Uses unbiased approaches • Employs statistical procedures	• Collects both quantitative and qualitative data • Develops a rationale for mixing • Integrates the data at different stages of inquiry • Presents visual pictures of the procedures in the study • Employs the practices of both qualitative and quantitative research

(The Selection of a Research Approach 2018).

3.10 The Rationale for Choosing a Quantitative Research Approach and Strategy

Under the above analysis, this thesis is considered to be a descriptive type of research. Thinking of the research questions and the purpose of this study, the descriptive classification is the most appropriate as this project seeks to identify and describe what is the present situation, perceptions and aspects of CSR and sustainability in the shipping industry. Moreover, it will seek to investigate the role of CSR in achieving sustainable

development. To achieve this, this study adopts a deductive approach. That is to say, it will commence by screening and reviewing secondary data sources such as existing theory, literature and developments, surrounding the field of CSR and sustainable development globally. Such a tactic aims to build the theoretical foundations that will enable the researcher to investigate how these notions have been extended and applied to the maritime industry. The reason we choose the deductive approach derived from the fact that there is an already significant literature and existing research in the subjects of CSR and sustainable development in other industries that could benefit this study. Consequently, familiarizing ourselves with the topic of CSR and sustainable development will shed some light to our investigation path and assist our efforts to determine how these topics have been extended and perceived by the maritime industry (Creswell, J. and Creswell, J. 2017).

The adopted paradigm of this study if **positivism**. As Neuman (2014) mentions *"positivism is an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity"* (Neuman, pp.97, 2014). Since the objective of this study is to describe a social phenomenon (namely, CSR and sustainability in the maritime sector), the adoption of the positivist position is regarded as the most appropriate according to the aims and objectives of this study. Positivist approach requires the review of existing theory (deductive) and develops new hypotheses to be tested during the research process (Research Methodology 2018). Adoption of the positivist paradigm is also consistent with the quantitative research approach embraced in our research. Since this study seeks to explain a social phenomenon, quantify opinions, attitudes and behaviours, develop and test hypotheses and generalize results, will be, therefore, framed by the **quantitative research approach**. As was mentioned before, this study seeks to explain and investigate how CSR is practiced and perceived by the shipping industry and, moreover, if CSR is considered to be a contributory factor in achieving sustainable maritime development. Using a quantitative approach is considered to be compatible with such a pursuit (Neuman 2014). This is also supported by Neuman (2014) opinion that positivist researchers prefer *"precise quantitative data and often use experiments, surveys, and statistics. They seek rigorous,*

exact measures and "objective" research. They test causal hypotheses by carefully analysing numbers from the measures" (Neuman, pp.97, 2014). As such, our adopted quantitative approach is believed that is the most appropriate to measure the relationships between independent variables and dependent variables and test hypotheses. Moreover, the quantitative approach requires the collection of numerical data in order to examine relationships between set variables and test the hypotheses that have been developed from the existing literature review (deductive approach). Hence, a **quantitative strategy** of inquiry was adopted, via a **questionnaire survey**, as a mean to inquiry and collect quantitative data.

However, it cannot be overlooked that, although the significant advantages, the adoption of a quantitative approach incorporates also some shortcomings. First, since we are interested in collecting numerical data, the quantitative research cannot provide us with a deeper insight of individuals' personal experiences, cultures and behaviours. Second, the isolated and distant form of data collection, via questionnaire survey, and the use of close-ended questions prevent the researcher from becoming more conversant with the research problem and explore deeper the human factors and feelings related to that (something that can be better achieved by qualitative approach, via personal and face to face interaction with people) (Research Methodology: Data Collection 2017).

3.11 Ethical Considerations

Ethics form an important aspect of every research project. In studies that involve primary data collection, as happens with this study, ethical issues play an important role in the research process. According to Saunders et al. (2009) within the research framework *"ethics refers to the appropriateness of your behaviour in relation to the rights of those who become the subject of your work, or are affected by it"* (Saunders, et al, pp. 183, 2009). The way we think and design every part of our research (i.e. data collection and analysis, questions to be asked, clarification of the research topic, access and storage of data) should be performed in a moral and ethical way. As Bryman and Bell (2007) mention some key ethical issues that may arise across a social science study relate to the researcher's obligation to respect the dignity of the research participants, confirm that they will be not subject to harm, obtain participants consent to participate in the research,

guarantee their protection of privacy, ensure confidentiality of research data and participants anonymity, and as a whole, guarantee that all communication in relation to research will be conducted in a transparent and honest manner. For this particular project, the researcher will ensure the confidentiality of collected data and will, moreover, respect the anonymity of participants. Since primary data collection will be done via a questionnaire, the research topic and aims will be firstly clarified in order to allow participants to become fully aware with the scope, objectives and usefulness of this study. Further, respondents consent to participate will be obtained and it will be recognized their right to skip a question that would be particularly sensitive for them. Additionally, respondents will be informed that all data collected will be solely used for the benefit of the present research and confidentiality and anonymity will be maintained at all stages.

3.12 Data Collection Method

The research survey was considered by the researcher as the most appropriate data gathering method in his attempt to collect quantitative data related to perceptions, attitudes, beliefs and practices over the subjects of CSR and sustainability in shipping. Survey research is regarded as the most common research strategy used in quantitative research. It is capable to provide a quantitative or numeric description of opinions, perceptions, attitudes and practices employed by a sample of population, namely the shipping companies' professionals (Palinkas et al. 2015). It is quite useful when the researcher pursues to explain or describe a very large population and, as such, can assist him in gathering quickly the data of his interest. The survey method is mostly connected to the positivist paradigm, it is inherently statistical in nature and is appropriate to measure opinions, attitudes and perceptions, objectively and, in a precise quantitative way (Neuman 2014). Subsequently, selection of the research survey method, as the one to be followed by this study, has been guided by the adopted quantitative research approach.

The origins of surveys can be traced back in the beginning of the 19th century. At that time, surveys helped people to register urban conditions and poverty levels caused by industrialization. They were descriptive in nature and did not use statistics. Since then, surveys evolved and passed through various stages. They have been affected by various factors, periodically, such as, the respective societal needs, philosophical assumptions,

academic orientations and political conditions prevailing at each period. For example, in the early 20th century surveys were characterized by the Social Survey Movement in Canada, Great Britain, and the United States, they focused in interviewing people and used collected information in order to initiate social reforms. Moreover, in the early 20th century, surveys offered a valuable image of the society's problems, describing the daily challenges people had to face such as, criminality, unemployment, discrimination, poverty etc. Later on and by the 1940s, surveys were used as a mean to collect quantitative and qualitative data, were allied with the positivist, quantitative research approach and employed statistical techniques in order to measure and analyse quantitative data in a more precise and scientific way (Neuman 2014).

The logic behind survey research is that we sample a group of respondents and ask them the same questions. Questions are designed in a way that a number of variables can be measured and various hypotheses can be tested. Questions asked can be related to perceptions, attitudes, opinions, beliefs and experiences of a person. There are various steps included in a survey research, however, all start with the identification of the research problem. After concluding that a survey is the most appropriate method to collect data, we proceed deductively. First, we decide on the instrument that will be used to collect the data (i.e. face to face interview, telephonic interview, self-administered questionnaire etc.) (Fowler 2013). Then, we need to think on the variables that we will use (dependent and independent) and attempt to conceptualize each variable as one or more survey questions. Once we prepare our research questions we have to organize them in a questionnaire and group them in a certain sequence. Prior sending the questionnaire or conducting the interview with the respondents, questions should be first pilot tested. In pilot testing we ask the respondents to advise us whether the questions and their intendent meaning were clear for them. Next, the survey passes to the execution stage and the questionnaire is communicated to the respondents (via mail, telephone or over the internet). Sample respondents have been previously located and contacted. The ethical considerations, topic of interest and research objectives are explained to them and once they agree to complete the questionnaire or be interviewed the survey can start. After collecting the completed

questionnaires, data are transferred to a computer readable format for statistical analysis (Neuman 2014).

There are various types of surveys and this variety derives by two important parameters: time-with what frequency a survey is executed and administration-how the survey is delivered to the respondents. With respect to time, surveys can be divided in cross-sectional and longitudinal. Cross-sectional surveys are administered at a certain moment and provide us with information about our respondents as they are captured at a particular point of time. One weak point associated with cross-sectional surveys is that attitudes and phenomena change and, therefore, a response that was captured at a certain moment may not be the same after a while. Longitudinal surveys overcome this weakness of cross-sectional surveys as they are able to collect data over a longer period and study how people's attitudes change over time. However, longitudinal surveys are time consuming as require the same questions to be asked to people at different points of time. Due to the limited timescale, this study will be a cross-sectional research and, therefore, will seek to collect data at one point of time (Blackstone 2012).

From the administration point of view, the most commonly ways to administer a survey are two: survey questionnaires and interviews. In general, questionnaires tend to be used in descriptive or exploratory research where the researcher seeks to identify attitudes and describe variability over different phenomena. There are two types of questionnaires: self-administered and interviewer-administered questionnaires. Self-administered questionnaires are completed by the respondents and can be administered electronically, via email, posted to the respondent or delivered by hand. Interviewer-administered questionnaires are completed by the interviewer. They can be administered using telephone (telephone questionnaires) or by conducting structured interviews where the interviewer meets with the responder and addresses the questions face to face (Couper et al. 2001). On the other hand, interview refers to another method of gathering data in order to meet the research objectives and questions. Gathered data are usually analysed qualitatively and are mostly connected with qualitative research. There are three forms of interviews: structured, semi-structured and unstructured interviews. In structured interviews the interviewer uses

pre-defined questions and records the responses, usually with pre-coded answers. Questions are read exactly as written and in the same voice tone in order to avoid bias. Semi-structured interviews are not standardized. That enables the researcher to have a discussion over a list of themes and questions, which may vary, depending on the circumstances of the interview and flow of conversation. Besides, new questions can be added in other interviews, based on the particular characteristics of a respondent or organization. Unstructured interviews are informal in nature. There is no pre-determined list of questions and the interviewee is given the latitude to express his feelings, opinions and experiences over a particular topic of discussion. Unstructured interviews explore in-depth an area of interest and require a clear understanding of the nature of the problem and research area (Saunders et al. 2009).

3.12.1 Primary and Secondary Data

This research has been designed to collect both secondary and primary data. It is quite common in research studies to focus primarily on the collection of new (primary) data in order to answer research questions and research objectives and, thus, generate knowledge.

However, relevant data that have already been collected and analysed by other researchers (secondary) can prove to be a useful source of information in our attempt to meet our research objectives. Secondary data refer to any kind of raw and published summaries and may relate to: documentary data (magazines, newspapers, and academic papers), survey based data (collected via continuous/regular surveys or ad hoc surveys), multiple source data (derive from a combination of documentary or survey secondary data). Finding secondary data is an important part of the project as such information will provide the foundation of the literature review and provide a wide overview of the research area and problem. Sources of secondary data can be specialist libraries, university libraries, organization databases and electronic libraries. Once secondary data are located, they should be evaluated in terms of their ability to answer our research question(s) and to meet the set objectives. Accessibility to secondary data should be carefully considered as for some secondary data sources, especially those found within organizations, special permission may be required. Moreover, the measurement of validity of secondary data is very important in determining the suitability of our data to our study. This requires their

careful interpretation in order to determine if they meet the criteria for our study (Saunders et al. 2009).

As already mentioned, primary data relate to information that is not presently available, however, it is essential to meet the objectives of the study. A large number of secondary data have been collected and analysed throughout this study comprised by journals, academic articles, books, published surveys, industry and organization reports and previous published empirical research. Analysis of such data aimed at providing the theoretical underpinning of the CSR and sustainability concepts and how these notions relate to each other, always bearing in mind their ability to answer our research questions and meet our research objectives. Also the collected secondary data turned out to be constructive for the gathering and confirmation of the primary data which were collected via questionnaire survey. Primary data collection is of great usefulness when there is not a variety of published information relevant to our research area. Also primary research allows us to consider a greater number of variables than a mere literature review can do (Saunders et al. 2009).

Our study collected primary data on people's perceptions, attitudes, beliefs and practices towards the subject of CSR and sustainability. Professionals occupied at senior positions in maritime companies and who also possess experience and knowledge from the shipping industry were selected to participate. Collection of primary data was achieved throughout research survey, by using a self-administered questionnaire which was sent via email to the respondents.

3.12.2 Research Population and Sampling Process
Shipping companies participated in our survey were identified as managing dry bulk carriers and/or tanker vessels for which they have assumed their technical management. The management of other ship types (i.e. containerships) was also permissible; however, it was obligatory that along with such ship types companies should manage dry bulk carriers and/or tanker vessels. 50 companies based in 14 different countries participated. To overcome reluctance of personnel to answer the questionnaire, the human resources and communications department were first approached via telephone to explain the survey

scope and ask for staff willingness to participate. However, there were cases that other departments (i.e. safety and quality) were contacted directly. The total population was 50 relevant company staff comprising managers, senior managers and officers.

3.13 The Questionnaire Design

The use of questionnaires is mainly associated with survey strategy, though, both experiment and case study research strategies can use the questionnaire as data collection method. It turns out to be an efficient way to collect quantitative data from a large sample for further statistical analysis. Questionnaires tend to be used in descriptive research that aims to identify opinions, attitudes and describe variability in different phenomena. It is very important that questions to be included in a questionnaire are precisely defined prior data collection. The reason is that in a questionnaire survey the researcher does not have a second chance to explore an issue further by returning back to the respondents and seek for additional information or clarifications. As such the researcher must be quite confident for what kind data he needs and how he intends to analyse them (Oppenheim 2000). The literature review can assist significantly in the design of proper questions as through it the researcher will refine his ideas, conceptualize his own research and become more familiar with the relationships that exist between variables. This is an important feature since the relationships between variables (dependent, independent or extraneous) is what the subsequent statistical analysis has to deal with. The questions to be included to the questionnaire will be generated by taking into account the early research questions and objectives of the study. Once it has been determined the type of data one seeks to collect from respondents (opinions, behaviours or attitudes) then the variables included in each investigative question should be identified (Saunders et al. 2009). The below six steps describe what needs to be considered at every stage of the questionnaire design:

1. Decide whether the main outcome of your research is descriptive or explanatory.

2. Sub-divide each research question or objective into more specific investigative questions about which you need to gather data.

3. Repeat the second stage if you feel that the investigative questions are not sufficiently precise.

4. Identify the variables about which you will need to collect data to answer each investigative question.

5. Establish the level of detail required from the data for each variable.

6 Develop measurement questions to capture the data at the level of data required for each variable. (Saunders et al, pp.368, 2009).

Our research journey began with the literature review and brought to light that there is still too little empirical research related to CSR and sustainability in the maritime sector. The research gaps identified in that field gave rise to a set of research questions that the researcher was keen to answer by conducting a quantitative research. Thus, bearing in mind the research questions, objectives and adopted quantitative research approach of this study, collection of quantitative data is to be achieved via a **self-administered questionnaire** survey. Investigative questions have been formulated in a way that research questions are answered, research objectives are met and, thus, a comprehensive overview about the awareness, attitudes, extent of applicability and relationship between CSR and sustainability in the maritime sector can be obtained. Given the time constraints and comparing with other data collection methods, self-administered questionnaire survey, using short and close-ended questions with multiple choice answers, is considered to be a quick, cost effective and objective method which is, furthermore, widely and effectively used in quantitative research. Additionally, it is a flexible data collection method as it allows a large number of participants to contribute from a remote distance. In that way, the number of responses is maximized and respondents are able to answer the questions at their own convenience, anonymously and without time constraints. The chosen questions intended to collect quantitative data and were sequential, close-ended providing multiple choice answers and followed a logical pattern. Questions designed in a way that the respondent is encouraged and stimulated to give his answers over our topic avoiding, thus, repetition and be easy to complete and return (Saunders et al. 2009).

The questionnaire was sent via email to maritime professionals, working in shipping companies of the tanker and dry bulk sector, who held higher positions in of the Operations, quality, health, safety and environment (QHSE), Technical, Human Resources (HR), and Management department. Selection of respondents, working in these departments, was based on the assumption those employees become, either directly or indirectly, recipients of corporate strategy and top management decisions which, consequently, are called to implement through operating policies and procedures. In that respect, they are considered to have adequate knowledge and experience to answer our CSR and sustainability questions and, as such, depict, their organizations' perceptions, practices and attitude on that themes. Furthermore, multiple choice questions were used in a straightforward way and respondents were required to tick the most appropriate answer (s). It was tried to keep questions as short and simple as possible in order to enable respondent to clearly understand what is being asked and complete the questionnaire in a short time. It was estimated that completion of the questionnaire required approximately 10 to 15 minutes. In order to make the questionnaire attractive to the reader it was given a clear layout, divided into six thematic parts and designed in a large legible font. The researcher avoided using jargon or specialized terms that would not be understandable by some of the respondents and questions were set in a way that ambiguous word, hypothetical and leading questions were avoided.

3.13.1 Questionnaire Content and Choice of Questions

The questionnaire was designed to collect information from shipping companies regarding their awareness, perceptions, attitudes, motivation, barriers and employed practices related to the themes of CSR and sustainability. There are many subjects, thematic areas and angles from which CSR and sustainability can be approached and investigated. However, the investigative questions were selected based on the gaps identified by the literature review, the areas of interest of this study, the research questions we sought to answer and the formulated hypotheses we pursue to verify. Moreover, our primal intention, when constructing the questionnaire, was to develop an instrument that could be easily answered by the respondents, eliminating, thus, the possibility to be discouraged by a complicated and long list of questions. This has resulted in a final questionnaire that included 23

questions and was divided into six parts: **Part A**: Demographics, **Part B**: Awareness and attitude, **Part C**: Practices, Measurement and disclosure, **Part D**: Drivers and Barriers, **Part E**: Linkage between CSR and SD and **Part F:** Personal Statement and Contact Details (Optional).

Our structured, multiple-choice questionnaire used five types of close-ended questions:

i)   Demographic (i.e. fleet size, vessels' type etc.),

ii)   Five point Likert scale (Strongly Agree, Agree, Indecision, Disagree, Strongly Disagree),

iii)   Guttman scale (respondents check each item with which they agree), and

iv)   Rating Scale Questions (respondents rank their preferences from 1 to 5, 1=not important and 5=very important).

v)   An open statement possibility was given to the respondents at the end of the questionnaire in order to be able to comment or recommend something that was not captured by the questions.

In order to get the maximum from responses and increase the effectiveness of this survey instrument, due care was taken in order to design questions that would be simple, limited in number and easily understood by the respondents, irrespective of their professional/educational background. Therefore, no hypothetical or leading questions were employed. Questions were not personal and, as such, the name of the respondent was not required to be written on the questionnaire. In that sense, respondents could express their opinions freely, without having concerns that their personality and answers may be disclosed and exposed. The multiple-choice questions used with the aim to provide to the respondents all possible alternative answers, covering several shades of opinions. Moreover, the intention of the use of close-ended questions aimed at restricting the number of potential answers facilitating, thus, the later analysis and interpretation of the results (Research Methods Knowledge Base: Types of Questions 2006).

3.13.1.1 Part A: Demographics
The questionnaire was designed to start with eight simple demographic questions that are easy and quick to answer and, then, continue with more detailed inquiries. The

demographic part of the questionnaire contained questions (**Questions 1 to 8**) that seek to elicit information about the market sector in which companies operate, the fleet size, the number of employees they employ (shore and sea staff), the management services provided by the company, the country from which management is conducted, respondents' age group and the department in which the respondent belongs to. Such questions are very useful as they will provide us with an overview of the company's size, type of ships managed and respondents 'background. Additional to that, obtaining this information will be useful for our subsequent data analysis as will enable us to view how perceptions, attitudes and practices, related to CSR and sustainability differentiate among shipping sectors (dry or tanker), company's size, management style (i.e. ship owner and third party manager) and respondents background.

3.13.1.2 Part B: Awareness and Attitude
Part B intends to ascertain companies' general awareness, level of understanding and attitudes towards the concepts of CSR and sustainability. It contains six questions (**Questions 9 to 14**). Firstly, **question 9** seeks to collect information about respondents' awareness on CSR. Collected data will allow us to compare their subsequent choices against their knowledge they consider to possess on CSR. **Question 10** is to provide information on the standards under which companies have been certified (i.e. ISO9001, ISO 14001 etc.). Such information will enable us to compare how their perceptions and practices on CSR and sustainable development may differentiate depending on their certifications and adopted standards. Selection of **question 11** aims at investigating the percentage of shipping companies that have adopted Corporate Social Responsibility policy/principles in their ship management operations. Through this question we seek to obtain information on the extent to which shipping companies are aware and have incorporated in their management system the CSR principles. Thus, such information, and in combination with data obtained through question 3 (type of managed vessels), will enable to view how the adoption of a CSR policy varies between the dry and tanker sector. **Question 12** collects data about the topics that should be part of a company's CSR policy/program. **Question 13 and question 14** investigates perceptions and understanding of companies regarding CSR and sustainable development. Specifically, through **question**

13, we investigate if the current understanding of CSR concept is shaped by the perception that a socially responsible firm is the one that goes beyond mere compliance with statutory health, safety and environmental regulations. Moreover, through this part, and specifically through **question 14**, we seek to obtain companies' opinion over the concept of sustainable development and whether it has been understood as an approach of conducting business operations in a way that profit maximization is achieved without compromising social wellbeing and environmental preservation (*triple bottom line* approach). Consequently, information obtained by **questions 13 and 14** will allow us to verify **Hypothesis 1** and, particularly, whether *"CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions"*.

To sum up, **Part B** assesses companies' awareness, understanding and familiarity with the concept of CSR and sustainable development. In that respect, investigating companies' overall perceptions over CSR and sustainability themes produces significant knowledge, since it enables us to determine if CSR theme is viewed as the mere compliance with safety, health and environmental rules, or if there is another angle from which shipping companies regard this issue . Also, in the new era of the United Nations SDGs and the *triple bottom line* approach to sustainability (balance between economic, social and environmental pursuits) it would be fruitful to see if shipping companies share the same belief and consider the concept of sustainable development from the same viewpoint. **Questions 9 and 10** followed the Guttman scale and respondents are asked to tick their preferred choice (s). **Questions 11 to 14** used a three and five point Likert scale.

3.13.1.3 Part C: Practices, Measurement and Disclosure

Part C of the questionnaire includes three questions (**Questions 15 to 17**). Questions in this part aimed to investigate how far maritime companies have been with the adoption and implementation of a CSR and/or sustainability strategy, management system, measurement and reporting standards and the extent to which such principles have impacted their operations and management of ships. Particularly, with **question 15,** we seek to obtain information on the principal requirements or principles that shipping companies have considered in their attempt to develop their safety management system that governs their

activities (both onshore and on board). Such data will allow us to conclude on the role and gravity that CSR/sustainability principles have been playing to the design of companies' safety management system. Further to that, such information will provide the data for testing **Hypothesis 2 (a) and (b)** and, specifically, that *"Incorporation into company's SMS of the provisions of a CSR/sustainability Standard is significantly influenced by engagement of CSR principles into company's policy".* Further, **questions 16 and 17** provide information on the types of reporting that have been used by companies, as a mean to measure and communicate its overall performance and the stakeholders to which their communicate such report. Thus, questions **16 and 17** attempt to ascertain the extent to which CSR/sustainability measurement and disclosure practices are exercised by shipping companies and elicit information on whether shipping companies produce a CSR/sustainability report, in what form and to whom they communicate it. **Question 15** uses a Likert scale to record the importance the various elements have played in formulating company's management system, with responses ranging from 1 = not important to 5 = very important. **Questions 16 and 17** follow the Guttman scale and respondents were asked to tick their preferred choice (s).

3.13.1.4 Part D: Drivers and Barriers

Part D of the questionnaire is critical for this study as it seeks to investigate the drivers and barriers surrounding companies' decision to implement a CSR strategy, measurement and reporting programme. It contains two questions, **questions 18 to 19.** In **question 18,** respondents are asked to select which items are seen as barriers for their company and would discourage the implementation of a CSR policy and reporting program. Such information is quite important since it will illuminate the major challenges that discourage shipping companies from implementing a CSR strategy and produce ideas on where to focus in order to overcome these obstacles. Collected information from **question 18** will enable us to test **Hypothesis 4,** and specifically if "*adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.".* **Question 19** seeks to investigate the benefits that companies see in CSR and would encourage the implementation of a CSR policy and reporting program. Such attempt encompasses our desire to investigate the gravity that

stakeholders, and in particular Charterers, local communities, Port State Controls, Flag Administrations etc., play in affecting company's decision to implement a CSR policy and reporting program. Therefore, **question 19** seeks to investigate in which area lay the benefits to be accrued by the implementation of a CSR strategy, measurement and reporting programme. This information enables us to determine, if increased trust and improved company's image and relationships with its stakeholders is considered to be a benefit and, as such, will influence company's decision to implement a CSR policy and reporting program. Therefore, such information will allow us to verify **Hypothesis 3,** which claims that *"adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders".* **Questions 18 and 19** use a three scale Likert Scale to record the barriers encountered and the benefits to be accrued by the implementation of a CSR policy and reporting program.

3.13.1.5 Part E: Linkage Between CSR and SD

Part E of the questionnaire aims to investigate the role that CSR plays in achieving sustainable shipping operations. It includes two questions (**Questions 20 and 21**) and focuses predominantly in investigating the relationship between CSR and sustainability and, besides, how effective an Integrated Management Systems approach can be in managing CSR and sustainability. **Question 20** investigates companies' view on the way that, practically, CSR could contribute to the achievement of sustainable development. Such question seeks to investigate companies' preference on the view that CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability. Gathered information will enable us to test **Hypothesis 5,** which claims that *"Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy".* Moreover, **Question 21** seeks to investigate companies' opinion and reach to conclusions about whether adoption of an integrated management system approach, grounded on CSR principles, could, more effectively, facilitate the achievement of sustainability throughout business operations. In that respect,

Hypothesis 6 can be verified and conclusions to be made on companies that *"Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool".* **Questions 20 and 21** use a five-point Likert scale and responses coded from Strongly Agree to Strongly Disagree.

3.13.1.6 PART F: Personal Statements and Contact Details (Optional)

In the last part of the survey questionnaire respondents were asked to add anything else that was not covered by this questionnaire and they believe it would be important and add value to this research. At the end, respondents and company's details were requested in the event that the researcher would like to contact and seek clarification for a response. Part F of this questionnaire is optional as this survey does not seek to identify companies' and respondents ID.

3.13.2 Questionnaire Administration

The criterion for the selection of the companies participated to this questionnaire survey was mainly that such companies were members with the International Tanker Owners Association and the International Cargo Owners Association. However, as the survey progressed and in order to maximize responses rate and increase diversification and population range, companies that were not members of INTERTANKO or INTERCARGO were also approached. There were no criteria regarding company's size (number of ships or employees), nationality and structure of management or ownership and, as such, the respondent companies could be based in countries from all over the world. The only selection criterion was that the nominated company should have assumed the responsibility for the technical management of ships, tankers and/or bulk carries and, therefore, be certified with a Document of Compliance (DoC) under the International Safety Management Code (ISM). As such, it is understandable that the questionnaire was not sent to shipping companies undertaking solely the commercial management of ships (i.e. Charterers, Shipbrokers, Cargo Agents etc). A prior telephone call or an introductory email was sent, either to the HR department or directly to the prospective respondent, explaining

the rationale and importance of this study and requesting their consensus to participate to the survey. Upon obtaining the respondent's agreement, an introductory email (which enclosed the questionnaire link), was sent to the given respondents email address, accompanied by a cover letter stating the scope of the study, the research objectives and researcher's commitment that any given information would be treated with the strictest confidence. In the introductory cover letter it was also emphasized that respondents are kindly asked to answer the survey questionnaire by considering that their responses reflect, to the extent possible, the predominant awareness, practices and understanding of their organization on the subjects of Corporate Social Responsibility and Sustainable Development, as they are perceived and experienced through their company's ship management operations. The purpose of this clarification was to make clear to the respondents that, if not asked otherwise, their answers should reflect, to the extent possible, their company's and not their personal perceptions on CSR and sustainable development subjects. Approximately, two to three weeks allowed to the respondents to answer the questionnaire. Participants who had not answered the questionnaire by that time were sent reminder emails (up to three) and were also allowed two more weeks to reply.

3.14 Variables

Our research questions developed with the intention to meet the set research objectives. Such questions have been followed by a set of testable hypotheses, and, thus, a quantitative research design has been arranged in order to meet the project needs. However, as it happens generally in research, irrespective of the type (descriptive, explanatory or exploratory), variables hold a prominent place. A variable is defined as *"the characteristic or attribute of an individual, group, educational system, or the environment that is of interest in a research study"* (Conducting Educational Research 2012). Descriptive studies, which tend to be more quantitative in nature, employ both dependent (the one manipulated or changed during the study) and independent (the one that influences or determines the values of the dependent) variables with the aim to determine or describe the relationship between two items. As such, a quantitative research question may, for example, seek to investigate 'what is the relationship between student performance at school (dependent variable) and number of study hours (independent variable)'. Further, in a quantitative

research hypothesis, the researcher might wish to predict the expected relationship between two variables and collect data in order test if this hypothesis holds true (using statistical means). An example in this case would be, 'There is no significant relationship between student performance at school (dependent variable) and number of study hours (independent variable)' (Research Questions and Hypotheses 2018). After collecting necessary data, the relationship between variables is expressed by using statistics, such as correlations, relative frequencies, or differences between means. It is worth mentioning here that descriptive studies establish only associations between variables, while other types of study, such as experimental, establish causality (Hopkins 2008).

Our questionnaire survey sought to collect quantitative information that would allow us to identify patterns and describe respondents' awareness, attitudes, practices of measuring and reporting and perceived relationship between CSR and sustainability in the maritime sector. In addition, data collection was done with the intention to test formulated hypotheses. To do so, we used variables that had either previously used in other CSR/sustainability studies or were originally created to serve this research. The literature review contributed significantly to the identification of such variables. The demographic variables of this study are: Gender', 'Age Group', 'Type of Ships Managed', 'Company's Fleet Size', 'Number of Employees (Office and Ship)', 'Respondents' Working Department', Company's Country Base', 'Company's Management Style'. For the rest of the variable to be used **Table 3.9** summarizes the dependent and independent variables per thematic area and hypotheses. A full explanation on how we reached to the formulation of each hypothesis is given in chapter 7.

Table 3.9. The Variables Used in our Survey

Thematic area	Hypothesis	Independent Variable	Dependent Variable
Awareness and attitude	H1: CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions.	Sustainability perception under its three dimensions. (Ordinal)	CSR understanding as an integrated and beyond regulatory compliance notion. (Ordinal)
Practices, Measurement and Disclosure	H2 (a): Incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy.	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a CSR Standard (Ordinal)
	H2 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is significantly influenced by engagement of CSR principles into company's policy.	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a Sustainability Standard. (Ordinal)
Drivers and Barriers	H3: Adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.	Increased trust and improved image and relationships with stakeholders. (Nominal)	Adoption of a CSR policy and reporting program. (Nominal)
	H4: Adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	Lack of corporate culture and senior management commitment. (Nominal)	Adoption of a CSR policy and reporting program by companies. (Nominal)
Linkage between CSR and Sustainability	H5: Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	Considering sustainability principles part of CSR corporate strategy. (Nominal)	CSR understanding as a business model and strategic management tool to integrate sustainability. (Ordinal)
	H6: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.	CSR perception as a business model and strategic management tool. (Ordinal)	Recognition of the integrated management system approach as the most effective tactic to achieve sustainability. (Ordinal)

3.15 Pilot Testing

A properly designed questionnaire will significantly affect the validity and reliability of collected data, along with the survey response rate. Investigative questions, as previously discussed, are those that will provide us the essential data we need to answer the research questions and meet the research objectives. In particular, it is crucial for the data collection and subsequent analysis that the questions being asked are understood by the respondent in the way intended by the researcher. As such, it is important that prior we run the survey the questionnaire is pilot tested. The purpose of the pilot survey is to ensure that respondents had no issues when completing the questionnaire, check if some questions were unclear or ambiguous, find out if the lay out was clear and record any opinions that could bring to the light any omissions of this questionnaire survey. Moreover, any suggestions received during the pilot survey could enable us to amend the structure and content of the questionnaire and, thus, achieve a better validity and reliability of collected data. A pilot survey can also allow us to perform a preliminary data analysis, something that will increase further our ability to assess questions validity and reliability of collected data (Saunders et al. 2009).

Further to the above, our questionnaire was pilot tested in February 2018. Fifteen questionnaires were distributed to friends and colleagues working in shipping companies and Universities in Greece. Also the questionnaire was discussed extensively with the thesis supervisor. Following the feedback received, the questionnaire was amended and modified. Specifically, collected data and recommendations along with their potential for data analysis were evaluated and led to the revision of the questionnaire in terms of formatting, questions wording and removal of complicated and unnecessary questions.

3.16 Data Analysis Method

Collection of quantitative data, through our survey questionnaires, refer to raw numbers which need to be analysed and presented in a way that they make sense to the reader. Thus, selecting the appropriate data analysis method is very important in understanding and interpreting the gathered data. In quantitative research, statistical procedures are employed in order to further analyse quantitative data and test formulated hypotheses. Quantitative research allows raw numbers to be turned to meaningful data in a way that they can be

critically and objectively analysed and interpreted in order to reach to conclusions. Literature review findings need to be commented and combined with the results of data analysis in order to thoroughly address the research problem. The identification of gathered data is crucial as the type of collected data will determine the subsequent selection of the statistical test. Data collected in a study can be **categorical** (nominal, dichotomous or ordinal) and **continuous** (interval or ratio). With regards to our study, gathered data, via our survey questionnaire, refer to categorical, measured on an ordinal and nominal scale. Our data analysis will employ **descriptive and inferential statistics** in order to describe the research findings and basic features of this study and test hypotheses. In social sciences research, descriptive statistics are closely associated with quantitative research and are widely used in almost every quantitative data analysis. Descriptive statistics, along with graphic analysis, will assist us to simplify and manage a large number of raw numerical data, summarize them in a meaningful way and, therefore, present them in a sensible manner (Research Methods Knowledge Base: Deduction and Induction 2017).

3.16.1 Univariate Analysis

Our study will initially conduct a Univariate data analysis in order to describe and analyse collected data. Univariate analysis refers to a data analysis method used to describe numerical data. It is conducted in a way that one variable is analysed at a time and as such, the features of one variable are examined by using the following measures: **frequency distribution**, **central tendency** (mean, median, and mode) and **dispersion** (range, standard deviation and variance) (Neuman 2014). The **frequency distribution** shows the individual values for each one variable as the summary of the frequency, percentage or ranges of values for that particular variable. For example, in a question that seeks to record respondents' opinion on the definition of CSR (using a categorical scale: Strongly Agree, Agree, I am not Sure etc.), the frequency of distribution can be displayed in the form of a table, bar chart or a bell-shaped curve (for very large samples where observations are random and independent). **Central tendency** estimates the centre of a distribution of values. The measures used to estimate the central tendency are: mean, median and mode (Bhattacherjee 2012). The mean is used as a measure of central tendency and is equal to

the sum of the numerical values of each and every observation divided by the total number of observations (Arithmetic mean From Wikipedia 2018). The median refers to the middle value within a range of values in a distribution. It can be estimated by selecting the middle value of a distribution (having first sorted the values of the distribution in increasing order). The mode is the value of a distribution that appears most frequently. *In other words it is the value that is most likely to be sampled* (Mode (statistics) From Wikipedia). **Dispersion** shows how the values are spread around the central tendency, for example, how narrow or wide values are clustered around the mean. Two measures that are often used to describe the dispersion are the range (difference between the lowest and highest value in a distribution) and standard deviation. Standard deviation uses a more precise formula to estimate how far or close each value is clustered around the mean. With such kind of approach we are able to correct for outliers in cases where the range of a distribution is particularly sensitive to their presence. Due to the particular features of our collected data, which are **categorical measured on a nominal** (i.e. Yes, No, I am not sure) and **ordinal** (i.e. Strongly Agree to Strongly Disagree) **scale**, our univariate analysis will describe the variables by their frequency distribution only. (Bhattacherjee 2012).

3.16.2 Bivariate Analysis

Following the univariate analysis, our study will continue by conducting a bivariate data analysis. Bivariate analysis refers to a form of statistical analysis which is applied when two measurements need to be performed for each observation. It is suitable when bivariate data are to be analysed. Bivariate data in statistical analysis relate to the data that provide two pieces of information i.e. the relationship between the height and weight of students. Contrary to univariate, which provides a single piece of information i.e. the height of students, bivariate analysis considers the relationship between two variables (i.e. height and weight) with the aim to determine the relationship between them. Thus, it is a useful statistical tool that enables the researcher to examine the relationship between two variables, quantify such relationship and explore their association and the strength. There are various types of bivariate analysis; however, the selection of the most appropriate one for a given set of variables depends upon the types and scale of measurement of variables i.e. categorical, nominal, ordinal, interval etc. (Bivariate Data 2018). One of the measures

developed in order to identify the extent of the relationship between variables (dependent and independent) refers to the determination of whether such relationship is statistically significant. The statistical significance is defined as *"an indication of whether an observed relationship in a sample could have occurred by chance".* Therefore, our bivariate analysis will conduct a test of statistical significance in conjunction with our formulated hypotheses in order to verify our hypotheses (namely the relationship between our dependent and independent variables) and determine, thus, the probability that such the relationship could have occurred by chance. In other words, determining the level of statistical significance will allow us to estimate the probability that there is no real relationship between the independent and dependent variables in our study population and, consequently, reject or accept the null hypothesis. Selection of the appropriate statistical test in order to test our hypotheses depends upon the type of variables (Statistical significance and hypothesis testing 2018). As such, given the fact that both our dependent and independent variables are **categorical** (measured on a **nominal** and **ordinal** scale) ***Pearson's chi-square independence*** test and ***Spearman's correlation coefficient*** measure are selected to test the statistical significance and strength of association between selected variables (The Chi-Square Test for Independence 2018; Spearman's Rank Correlation Coefficient Rs and Probability (p) Value Calculator 2018). The SPSS (Statistical Package for the Social Sciences) software will be employed for processing the collected data.

3.17 Conclusion

This chapter discussed the research process adopted in this study in order to meet the set research objectives. The strengths, weaknesses and aspects of various research methodologies and approaches, used in social science research, were analysed. Our study adopted a deductive approach and, thus, commenced by screening and reviewing secondary data sources such as existing theory, literature and developments, surrounding the field of CSR and sustainable development globally. The research paradigm and philosophical approach used in our study, and which, furthermore, leaded to selection of the most appropriate research strategy and method was explained. Since the objective of this study was to describe a social phenomenon (namely, CSR and sustainability in the maritime sector) the adoption of the positivist position was regarded as the most

appropriate. To achieve this, a quantitative research approach was adopted and a questionnaire survey was employed in order to collect the research data. Quantitative research is linked to positivist principles and is concerned with the test of variables and hypotheses. Therefore, our research data, collected via questionnaire survey, related to quantitative information, which was further utilized in order to test the formulated hypotheses derived by our earlier literature review. The last section discussed the data analysis methods and techniques employed in order to analyse collected data and verify formulated hypotheses. The following part (chapters 4 to 7) makes up the literature review related to CSR and sustainable development in the worldwide and maritime sector as well. Such analytical framework constitutes the starting point for identifying research gaps and developing the theoretical background of our research hypotheses.

4 CHAPTER CORPORATE SOCIAL RESPONSIBILITY

4.1 Introduction

Corporate Social Responsibility is a concept that has been, gradually, extended and applied to the business world. Although difficult to be precisely defined, however, it can be assumed that the concept of CSR derives from the expectations the society has from enterprises. And such expectations go beyond the mere fulfillment of company's financial obligations towards its employees. As a matter of fact, stakeholders, namely, those who directly or indirectly affected by organizations activities, envisage firms as entities that have a societal role to fulfill. Either intentionally or unintentionally business operations generate impacts that affect the economic, social and environmental system in which they function. In the era of climate change and environmental challenges companies are closely scrutinized for their business decisions and the impact they bring to society. While the purpose of a corporation is to increase its profits, it is quite common nowadays for modern firms to consider CSR as a mean to 'insulate' their business against potential issues that may arise due to their externalities (Wilson 2003). Even though, the term of CSR is frequently used interchangeably with sustainability, however, social responsibility can be considered as one of the 3 dimensions of sustainability. And that because, in the era of the triple bottom line approach for sustainability (economic, social, environmental), CSR is believed that comes to fulfill the social aspect of sustainability. However, in another perspective, it is argued that any sustainability initiative should be anchored in and embraced in a wider CSR strategy and, as such, CSR is the management tool or umbrella that will embrace and strengthen sustainability. Maintaining a social character, engaging with stakeholders, measure and disclose on sustainability refer to some forms of CSR activities that can turn business risks to opportunities (Crowther and Aras 2008). This chapter focuses on the origins of CSR, discusses prevailing definition and practices, along with its various aspects and key issues generated by the adoption and implementation of a CSR strategy. Addressing the conceptual framework, developments and implementation practices of CSR will lend the reader with the theoretical background and ability to appreciate even further the importance of the social factor in the success of the UN's sustainable development program. Similarly, such analysis will facilitate the appreciation

of IMO's vision for a sustainable maritime industry and why its success requires the diligent consideration and fulfillment of social needs and expectations.

4.2 The Origins of CSR

The concept of the **social contract** was born centuries ago and in its earliest version it stressed the rights and responsibilities of the state to its citizens and citizens to its other. Over centuries, that concept has undergone cycles of definitions due to evolving norms and expectations of the society. In the 21st century, trends in the world's economic, environmental and social issues have shifted societal thinking about business' role and obligations in society. Within the framework of the modern social contract theory, a company, along with its narrow economic and legal requirements and considerations, has a social mission to fulfil which can be accomplished by contributing to the general good of the society. Moreover, the increasing trend in society's expectations for business' commitment to the public interest depicts the challenges of the social contract for the 21st century (White 2007). Such challenges refer the ability of *"businesses and governments to operate within legislative and political frameworks, but also with a sphere of social acceptance"* (EDML89, Unit 6, pp.11).

Classical economic theory implies that the primal role of a private corporation is profit maximization. Firms acting in a capitalistic environment are called to operate and develop by considering the various economic, technical and legal requirements and criteria imposed on them by government. Cost-benefit analysis, investment appraisal methods, comparative advantage theory and other financial techniques are employed my managers in order to plan and implement their business strategy. But businesses are not solely profit-making organizations (Davis 1967). Analysing further **the concept of iron law of responsibility** it is inferred that **corporate social responsibility**, although not easily approachable due to its several parameters, can be interpreted as the company's culture and willingness to consider and act beyond the narrow and established financial, technical and regulatory requirements which, traditionally, have been regulating business behaviour. A socially responsible firm is claimed to be the one that has incorporated in its decision –making process the wider impacts (economic, moral and environmental) of its decisions on the society. Profit maximization and merely compliance with the typical letter of law cannot be principles that characterize a socially responsible firm (Davis 2001).

The concept of **iron law of responsibility and social contract** did not emerge nowadays or few decades ago. Viewing their history we will see that, over the years, society has always expected firms to serve the public interest. A useful starting point is the case of Lord Cadbury who, in 1909, found himself to the court because his company had been buying cocoa produced by slaves in Africa. In 2000, the company was accused for the same reason. Such an example shows that society's perceptions about business responsibilities on human rights in 1909 were, more or less, the same as of today. However, the idea of corporate responsibility and social contract has been greatly influenced by the attributes of the various historical periods and different eras. Although some core societal values about business obligation to contribute to the public good (i.e. securing human rights) remain unchanged, on the other hand, evolving norms, different types of political systems, technological advances and the evolution of different economic models, that have been developed throughout historical periods (industrial revolution, mid-twentieth century, globalization), have raised new issues about company's social responsibilities toward society (Chaffee 2017).

However, a remarkable shift in the nature of social responsibility and social contract theory took place in the era of globalization and has been greatly affected from the obvious decline in the quality of ecosystems. White (2007) puts forward the need to rethink, restructure and readjust the concept of the *social contract* and the *iron law of responsibility* as to sufficiently serve the current and future needs of our society. In his article *'Is it time to rewrite the social contract',* he also places particular emphasis on the **environmental movement** that began in the 1960s and spawned a series of regulations in emerging environmental issues such as air, water and land pollution. Therefore, businesses, in order to fulfil current and future societal expectations and serve the public interest, will be expected to take action and implement **environmental conservation** ideas and practices and, in addition, adopt **sustainable development** policies for the long-term well-being of communities and the planet (White 2007).

As can be deduced by such analysis, businesses are not isolated entities, operating solely under strict financial and profit making criteria. Contrarily, they belong and constitute an integral part of the society and it is apparent that any actions or decisions they undertake

will, eventually, have an effect on external environment (Bacq and Janssen 2011). Further to that, private companies prosper, develop, fail and recover in the wider societal, environmental, political and economic setting, which they affect in several ways (i.e. use of its natural resources, create employment opportunities in the local community, affect the standards of living of the society, through embarking on societal or philanthropic activities, transform the landscape due to raw material extraction, cause environmental problems and affect climate, as an result of the production process etc.) Corporate executives know very well that a company cannot prosper in a problematic and unhealthy society, no matter if they see a great profit being achieved in the short-term. Businesses that do not have the will to evaluate and manage their impact on society and environment will soon see themselves challenged by consumers, governments and stakeholders (Crowther and Aras 2008). Although there is not an agreed definition on that, however, Corporate Social Responsibility (CSR) could be defined as *"a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis"* (Crowther and Aras, pp. 11, 2008).

4.3   The Principles of CSR

CSR is a broad subject and there is a variety of opinions in the industry about how it can be defined, considered, implemented and measured. Searching the literature and reviewing authors' views on CSR, it cannot be easily ascertained if it is a moral, academic or financial drive that has introduced the notion of CSR in today's business world. However, those entire contests surrounding the definition and applicability of CSR in actual business gives us the motive to search even deeper and determine the principles that govern its nature. And doing so, it is inferred that CSR does not refer to a standalone theory but, opposing to that, it encompasses three basic principles that all together embrace the CSR theory:

4.3.1   Sustainability

The concept of sustainability, which was discussed in detail in the previous chapter, is a primal principle of CSR. Private organizations, acting as part of a wider social and economic system, have a real interest to maintain sustainability in their operations.

4.3.2 Accountability

Accountability is related to the understanding and appreciation of the effects that a business activity brings to the external environment. Such a principle implies the recognition, on behalf of the company, that it forms part of the society and acceptance of the responsibility to adopt measures that mitigate the negative impacts on the wider societal network.

4.3.3 Transparency

Transparency is a critical element of a socially responsible firm. As a principle of CSR, transparency can be treated as the sincere information sharing between the company and associated stakeholders, customers, employees and governmental organizations. Such information disclosure relates to the provision of data to all interested parties. Transparency is a sign of respect to all those involved in the organization (internal or external).

(Crowther and Aras 2008).

4.4 Key Themes in Corporate Social Responsibility

This section introduces some key themes in corporate social responsibility context. Although the list is not exhaustive, however, it depicts a considerable approach to some of the key topics that frame the implementation of a CSR program by corporations. It analyses how CSR is used by firms to manage emerging social risks, the critical role stakeholder engagement can play in a CSR program and the value of a CSR reporting system in the effective use of resources allocated to CSR and overall success of a CSR initiative.

4.4.1 CSR as Strategic Risk Management Tool

Globalization, evolving business operation models, technological advances, developments in international law and greater connectivity among stakeholders across the world poses challenges for today's businesses. Increasing interdependencies and interconnections among those entities create additional risks for organizations. Especially, for international corporations, engaged in global business activities, the world seems too small to hide.

(Kytle 2005).

Figure 4.1 shows the global operating environments and interrelations for a modern corporation.
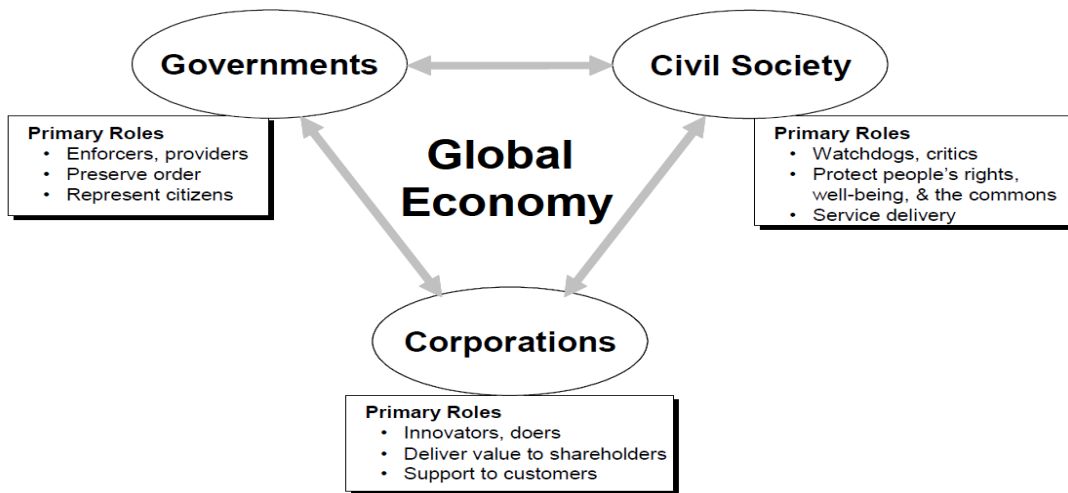
Figure 4.1. Global operating environments and interrelations for a modern corporation (Kytle 2005).

In particular, the risk for a company arises when all or part of those stakeholders start feeling the impact and vulnerability from business operations. Traditional risk management programs were mostly concerned about managing compliance and operational risks such as complying with exhaust gas emissions, meet performance standards of technological advances, deal with the local or wider political environment, fulfill their financial obligations etc. However, along with all these conventional challenges there is another type of risk for corporations to deal with: *the social risk.* The social risk for a company arises when a business activity generates a social issue for a stakeholder who, consequently, applies pressure on the company to change its policies or practices (Kytle 2005). **Figure 4.2** below illustrates the risk perspectives for an organization and the position that social risk holds.
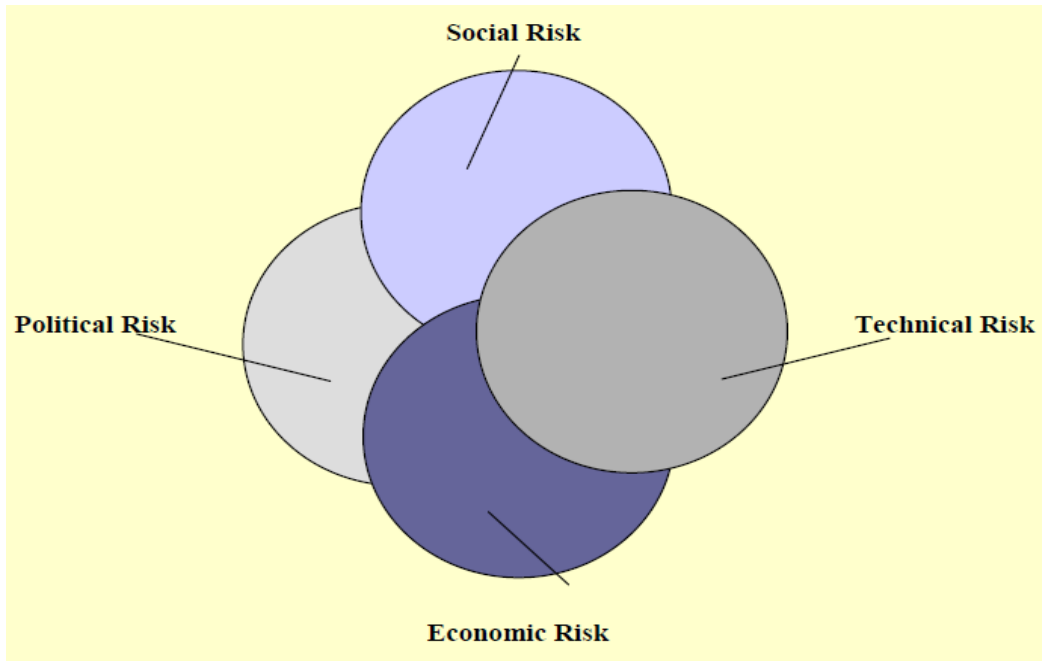
Figure 4.2. Risk perspectives for an organization and the position that social risk holds
 (Kytle 2005).

The concept of social risk is not essentially seen to be a fault of company. For example the oil spill accident of the oil tanker Exxon Valdez in Alaska or an unsustainable business practice by a timber company refers to cases where social risk is evident and, therefore, social criticism and blame are unavoidable. Nevertheless, beyond those cases where there is an obvious violation, a social risk for a global enterprise may appear from an attempt of stakeholders to leverage and fill gaps of an insufficient governmental policy or failure (Scherer and Palazzo 2011). For example Coca-Cola agreed to provide AIDS treatment to its African bottlers along with its African staff in an attempt to satisfy and mitigate the noise that activists made at the 2002 Barcelona AIDS Conference. The activists blamed Coca-Cola, not because was held responsible for the AIDS disease in Africa, but because the company should treat its independently owned African bottlers in the same way that it treats its own corporate employees. Hence, as we can see by this example, the concept of social risk is wider, subjective and is not always centered with a good or bad company's decision (Kytle 2005).

In this complex global environment with the increasing dynamic interactions among stakeholders, companies need a strategic management tool that will mitigate social risks.

Managing social risks should not be seen as a quarantined challenge and process but as part of an integrated corporate risk management approach. A corporate social responsibility program, particularly for global companies, can lend management with the ability to identify their social and wider risks and take the right decisions to respond to them (Unerman 2008). As was before mentioned, it is important not to isolate and confine a social risk to the CSR department but consider it a challenge for the whole company that requires strategic decisions to be made by management. In order to effectively deal with the social risk, it is important to align their assessment and management with the corporate risk management approach. Social risks need to be integrated and form part of the strategic risk management process by developing an analogous systems that deals with environmental, technical or political risks (Kytle 2005).

4.4.2 CSR and Stakeholder Engagement

As was previously mentioned, stakeholders' management forms a critical part of a CSR program. Companies are not isolated entities functioning outside real world and societal system. Contrary, they form part of a community and, thus, are frequently held accountable for their social and environmental impacts. Business decisions and operations bear impacts and affect a lot of people's lives, either individually or as part of a group (Carroll, and Buchholtz 2014). The theory of Stakeholder management constitutes an integral part of CSR philosophy and it is imperative for a socially responsible firm to listen to issues raised by the society. As stakeholders can be defined all those people who can, directly or indirectly, affect or be affected by business operations. They can be company's employees, suppliers, customers, local community, non-governmental organizations and environmental groups. The stakeholder theory implies that maintaining good relationships and engaging stakeholders in company's decisions can significantly benefit the organization in:

- **Decision- making.** Understanding community's concerns, values and expectations can assist companies to make the right decisions that can lead them in innovative and profitable outcomes.

- **Legitimacy.** The risk of conflicts and controversy is reduced, as society gets the feeling that its voice is heard and, moreover, that there is a company willing to listen its concerns.

- Competitiveness. Employees are happier to work for a company when they feel that it gives them the right to speak and express their issues. In the mind of consumers and society's it is built an image of a responsible company and that can be back reflected in the company's sales. (Network for Business Sustainability 2017).

Management and engagement of stakeholders is not an easy task. Not all communities' needs are the same, not all the businesses' impacts are the same and, more importantly, not all stakeholders' expectations are the same. A successful CSR program will greatly depend on how it treats stakeholders. Effective stakeholder management requires first of all a thorough knowledge of the community and surrounding socioenvironmental setting in which the company operates (Steurer et al. 2005). The organization has to define all the entities and individuals that are connected indirectly or directly with the firm. It has to listen and learn those people's concern, complaints and expectations that have arisen or are connected with the company's activities. An organization may have various stakeholders. However, not all of them affect or are affected to the same degree by company's activities. In the second step, as far as the company has identified and understood the issues surrounding its stakeholders, it is now time to prioritize them and adopt the appropriate strategy (Cantrell et al. 2015). Prioritizing stakeholder means that the company will carefully evaluate information from the first step and will set criteria on which areas will focus first. That will greatly depends on many factors, such as management strategy, geography, vulnerable social groups affected, company's ethics, society's expectations etc. once determining the priority stakeholders, then the best strategy for dealing with them can be adopted. Examples of strategy could be: dialogue and engagement in company's meetings, consultation prior decision making, better information for business plans and their impacts, philanthropic actions etc. A systematic project management is required though when implementing strategies related to stakeholders. As stated previously, stakeholder management should be considered as an integral part of a wider CSR policy and thus, it has to be carefully projected in terms of timeline, goals, resources and performance expectations. Gaining stakeholders trust is a critical issue and therefore, stakeholder engagement should be continual and not a one-time process. Building and

maintaining fruitful relationships requires long-term and established management commitment and strategies to be adopted as stakeholders can realize company's motives and intentions (Network for Business Sustainability 2017). **Figure 4.3** summarizes the steps of the stakeholder engagement process.

Figure 4.3. Stakeholder engagement process (Network for Business Sustainability 2017).

4.4.3   Measurement and Reporting on CSR.

Corporate social responsibility reporting is becoming an increasing business trend and governmental or non-governmental policy. Disclosure of social, environmental and economic information is greatly seen by firms, stakeholders and governmental or non-governmental organization as a transparency mechanism and practice to communicate positive and negative impacts of business operations on labor standards, the environment, economic development, human rights, and governance issues. Measuring and reporting CSR is about improving company's performance and communicating it to stakeholders (Wiseman 1982). There is an old saying: *what gets measured gets managed".* Adoption and implementation of a CSR program needs to be evaluated and feedback to be communicated to stakeholders. The objective is twofold: firstly, to identify and prioritize areas for improvement along set objectives and secondly, to demonstrate performance and

assure stakeholders about company's commitment and how well is meeting. Corporate reporting on economic, environmental and human rights or social issues is a relatively new trend. It was in the late 1980s or early 1990s when a small number of firms had started publishing integrated information on company's social, environmental and financial performance. Although reporting on sustainability is still voluntary, however, a large number of governments are working on the establishment of mandatory corporate reporting requirements for corporations (O'Rourke 2004).

4.4.3.1 Drivers of CSR Reporting

We mentioned previously that CSR emanates by people's expectations from business. Further to that, CSR reporting springs by public demand for a 'right to know'. And particularly, the right to know about company's social, environmental and economic impacts. CSR disclosure has become a strategy nowadays for corporations. There are several theories and approaches to justify the evolution of CSR reporting. One of the theories that drive CSR disclosure is market dynamics (Cho et al. 2015). Markets and firms operating at international level require complete and sufficient information. Stakeholder information about social, environmental and financial performance is synonym to the concept of free market. Therefore, better information entails better decision making. Further to the theory of free market, identifying and reporting business externalities is the first step in order to correct and prevent them. Information disclosure on externalities offers a better understanding of the problem and gives the chance of a more fair allocation of cost and benefits associated with a business activity (Ali et al. 2017). Regulatory aspect of information disclosure is another driver of CSR reporting. Governments have started cooperating at international level and are, thus, looking for new mechanisms to regulate social, environmental and economic impacts. The Millennium Development Goals (MDGs) and the transition to the 2030 Agenda and SDGs is a movement that has showed the way forward, and particularly, the interest to gather information, increase transparency and encourage information disclosure from business activities. Globalization and technological advances has dramatically increased the chances of information exchange. We are used to say that news travel so fast nowadays. Therefore, consumers and investors can be easily informed by media on various corporate issues that would affect their

decision to buy a product or invest to the company, such as corporate scandals, pollution incidents or labor issues (Scheyvens et al. 2016). Consumers and investors are becoming more and more sensitive and suspicious in terms of firms' financial, environmental and social risks and liabilities. CSR reporting is a great source of information to evaluate and avoid poor performers. Besides, there are numerous other stakeholders such as employees, labor unions, local communities that would be interested and benefited from CSR reporting. Share of information with all those entities opens dialogue, creates a sense of engagement with business operations and builds transparency and trust to manage problems when they emerge (O'Rourke 2004).

4.4.3.2 Metrics of CSR

Metrics is crucial for dispersing CSR activities and, consequently, the success of a CSR program. It is a method to demonstrate to stakeholdes how well the CSR objectives that we set are achieved or not. Thus, metrics can play a convincing role for those who need to assess those information in order to take decisions based on organizational goals (Rangan et al. 2015). Depending on their scope, metrics can be in dollars (in finance), to throughput (in operations), and employee satisfaction (in management). Moreover, without the use metrics the company will not be able to prove and evaluate the benefits of a CSR. Senior management needs to see measurable results and be convinced about the achievements of a CSR program. Otherwise it will most likely be hesitant in undertaking CSR activities from the moment that benefits could be demonstrable. Metrics also allow comparisons to be made among stakeholders across the different dimensions of company's operations and at different time periods. However, the metrics that a company will use to measure achievement of CSR goals are subjective and will depend on:

• Audience of the CSR activity; (*who are the stakeholders that the company deals with?)*

• Goals of the stakeholders; (*what are the expectations they have from the company?*)

• Resources used to achieve stakeholder goals and effectiveness with which stakeholders' goals are realized; (*Are the resources spent to CSR activities sufficiently used to achieve stakeholders' expectations?*)

• Efficiency of the use of the resources deployed to realize such goals (*At what extent expenditure on a CSR activity has achieved its specific goal?*)

(Lemon et al. 2011).

Table 4.1. below illustrates an example of the above consideration related to the CSR metrics that will be deployed according to the audience and goal hierarchy of a CSR program.

Table 4.1. CSR Metrics

Audience for CSR	Goal Hierarchy	Effectiveness Metrics
Society	Educated, Healthy, Wealthy, Happy, Stable, Cohesive Community.	Quality of Life Indicators: Physiological (Health), Economic, Educational, Social, Psychological. Examples: Percentage of population impacted; Life expectancy; Literacy rates; Income/nutrition p.c.; Disease Incidence rates; Birth/ Death rate by age.
Environment	Sustainable.	Sustainability; Improvement in indices; Pollution and toxicity levels (water, air, other).
Regulators, Auditors, NGOs	Ensuring compliance with existing regulations; Identifying new regulations to keep consumer welfare interests in line with corporate profitability goals.	Credit from regulators; Inclusion in CSR indices.
Media	Providing accurate, timely, and newsworthy information to the public.	Quantity and quality of press impact.
Financial Markets	Stability, Growth, and Profitability.	Rates of Return, Volatility, turnover, and liquidity over time.
Economy	Stability, Growth, and Profitability.	GDP/ GNP, per capita and overall; Debt ratios, foreign exchange reserves.

(Lemon et al. 2011).

4.4.4   CSR Global Standards

As was previously mentioned, there are numerous definitions on CSR. Theoretically, it could be argued that CSR theory has its roots in the stakeholder theory and reflects the wider societal expectations from businesses. Such expectations are not only restricted to the financial obligations of corporations towards the people but, on the other hand, they encompass also some moral dimensions. However, as the concept of CSR has evolved throughout the decades it can be inferred that definitions have evolved as well. Such a fact has resulted that various definitions have been placing different degrees of emphasis on CSR aspects (Hess 2014). Nevertheless, no matter the definition used, CSR principles

traditionally have been aimed at meeting the demands of stakeholders (employees, suppliers, customers, local communities) demonstrating and achieving, thus, business commitment on human rights, labor rights, consumer protection, deployment of ethical and anticorruption practices, environmental protection and, generally, promoting workplace and society quality of life. Irrespective of company's or individuals' perceptions about the value of CSR on the business case, there is significant evidence on a positive relationship between CSR and financial performance. This is translated into gaining a competitive advantage against competitors, reducing risk and subsequent cost, establishing a good reputation and strengthening legitimacy and therefore, pursuing profit goals. However, it is worth mentioning at that point that, nowadays, debate on CSR is no longer on its definition or benefits to the business. It is rather on how we select, implement, maintain and improve a management system or standard that will lead us to our set objectives on CSR (Asif et al. 2011).

There are various national and international standards and guidelines developed on a voluntary basis and, therefore, not subject to regulatory enforcement. Such standards aim at assisting and providing the organizations with the tool to design and implement their own CSR practices. Such guidelines have been designed in a way that meets expectations of society for a responsible and ethical business (Marimon et al. 2012). The most widely used worldwide CSR standards are:

ISO 26000 Guidelines

AA1000

GRI, G4, Sustainability Reporting Guidelines

UN Global Compact

SA8000 for Social Accountability

UN Guiding Principles on Business and Human Rights (UNGP)

OECD guidelines for Multinational Enterprises

4.4.4.1 ISO 26000 Guidelines

ISO 26000 Standard was published by the International Organization for Standardization, on November 2010. Its aim is to provide guidance and help business and organizations to

operate in a socially responsible manner. It is applicable to all types of organizations, from small to big business, and it assists businesses understanding, translating and implementing CSR principles in their operations. Moreover, it encourages organizations to go beyond legal compliance and treat CSR as an integral component of their business culture. ISO 26000 defines the following 7 core subjects of CSR and provides guidance on how organizations should consider each subject in their operating activities:

Organizational Governance

Human Rights

Labor Practices

The Environment

 Fair Operating Practices

Consumer Issues

Community Involvement and Development

(ISO26000 2014).

4.4.4.2 AA1000

The AA1000 Accountability Principles for Sustainable Development first published in 1999. In 2008, after a consultation process, the AA1000 standard was revised and renamed to AA1000 Accountability Principles Standard. The purpose of the AA1000APS (2008) is to provide organizations with the basic principles that will enable them to structure and administer their accountability policy. It also assists business to evaluate and improve sustainability performance, increase stakeholder engagement and communicate their accountability (AA1000 Standard 2008).

The AA1000APS (2008), is comprised of three principles:

The foundation principle of Inclusivity. This principle ensures that the organization is committed to be accountable to all those it has an impact, namely the stakeholders. It seeks to provide an understanding on who are the stakeholders, how they are affected and the way impacts could be mitigated.

The principle of Materiality. The organization needs to realize how and which of its actions affect sustainability performance. The issue of materiality requires that the

organization takes into consideration sustainability drivers and determines their relevance and significance on its stakeholders.

The principle of Responsiveness. That principle dictates an organizations ability and obligation to respond to stakeholders issues. An organization that is accountable on its stakeholders should have established plans, processes and resources to respond to stakeholders and communicate it in a manner that is consistent with their expectations. (AA1000 Standard 2008).

4.4.4.3   Global Reporting Initiative (GRI)

The Global Reporting Initiative Guidelines, G4, launched in May 2013, seek to provide organizations with a standardized reporting framework and enable them to report on economic, social, environmental and governance performance. It is the most widely used sustainability reporting framework in the world and the last generation of, the G4 Guidelines, seek to assist companies to prepare their sustainability reports and provide disclosures that are critical to their business and stakeholders. That entails that organizations concentrate more on the sustainability impacts of their activities incorporating, thus, disclosures on economic, social and environmental performance (Alonso-Almeida et al. 2014). There are two types of disclosures included in GRI reporting, the specific standard disclosures and general standard disclosures. General standard disclosures refer to: Strategy and Analysis, Organizational Profile, Identified Material Aspects and Boundaries, Stakeholder Engagement, Governance, Report Profile and Ethics and Integrity. However, Specific standard disclosures provide information on Economic Performance, Market Presence, Indirect Economic Impacts, Procurement Practices, Energy, Materials, Emissions, Effluents and Waste, Supplier Environmental Assessment, Environmental Grievance Mechanisms, Labor Practices and Decent Work, Labor/Management Relations, Occupational Health and Safety, Training and Education, Diversity and Equal Opportunity, Equal Remuneration for Women and Men etc (ISO26000 2014).

4.4.4.4   UN Global Compact

The United Nations Global Compact was launched on July 2000, at New York. It refers to an initiative by UN, aimed to promote and encourage business to adopt sustainability and

social responsibility in their practices. UN Global Compact recognizes that business operating models should be principled and functioning in a way that organizations meet their responsibilities in the principal areas of human rights, labor, environment and anti-corruption. It is structured under 10 principles derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention against Corruption. Amongst others, such principles require businesses to support and respect the protection of human rights; recognize the right to collective bargaining; eliminate child labor; protect and promote environmental sustainability and work against anti-corruption (UN Global Compact 2017).

4.4.4.5 SA8000 for Social Accountability

Social Accountability International (SAI) is a non-governmental organization with a focus on promoting corporate social responsibility issues and protection of human rights. Through the development of the SA8000 standard, the organization intends to provide at all industrial sectors a voluntary auditable standard that is based on the UN Declaration of Human Rights, ILO and other international human rights and labor norms and national labor laws. In order an organization to comply with SA8000 standard and obtain the relevant certification it has to develop and implement a management system that will take into account the below 9 elements:

1. Child Labour

2. Forced or Compulsory Labour

3. Health and Safety

4. Freedom of Association & Right to Collective Bargaining

5. Discrimination

6. Disciplinary Practices

7. Working Hours

8. Remuneration

9. Management System

The success of SA8000 standard lies with the strict compliance with above elements, continuous monitoring and review of their implementation and management commitment for continuing improvement of performance.

(Social Accountability 8000 2014).

4.4.4.6   UN Guiding Principles on Business and Human Rights (UNGP)

In June 2011, the UN Council on Human Rights endorsed the United Nations Guiding Principles on Business and Human Rights (UNGP). These guiding principles apply to all public and private enterprises and their aim to contribute to a socially responsible organization. Under these principles, businesses have specific social responsibility duties that are translated to their obligation and duty to respect human rights and conduct their operations in a socially responsible manner. It is recognized that business activities have an impact on human rights and, therefore, the responsibility to:

Meet requirements identified in ILO Conventions

Avoid causing or contributing to adverse human rights impacts

prevent or mitigate adverse human rights impacts

have in place policies and processes to meet their responsibility to respect human rights

Processes to enable the remediation of any adverse human rights impacts they cause

Provide information that is sufficient and accessible to its intended audiences

(Ruggie 2011).

4.4.4.7   OECD Guidelines for Multinational Enterprises

In 1976 the Organization for Economic Cooperation and Development (OECD) adopted the Guidelines for Multinational Enterprises (the Guidelines), as part of the Declaration on International Investment and Multinational Enterprises. Since that time, the Guidelines have been revised and updated in order to address current needs. They refer to voluntary practices that seek to provide international organizations with a set of principles on how to conduct a socially responsible business. They are comprised of 9 Chapters with the main areas of concern being: employment rights, industrial relations, human rights, anti-corruption and transparency in operations, environmental protection, information

disclosure, competition, taxation, and science and technology. As with the other social standards, the OECD Guidelines represent the adhered Governments desire and commitment to encourage multinational enterprises to make economic, environmental and social progress and to minimize their adverse societal impacts (OECD 2008).

4.5 Conclusion

As the aforementioned analysis specified, corporate social responsibility is a broad subject with its origins to be traced back in the previous century. Such concept has been shaped by society's expectations that businesses have a wider societal mission to fulfill. A mission that extends beyond the strict financial and profit making criteria employed by corporations. This chapter has analyzed the features and evolution of CSR throughout the last decades. Principles such as, sustainability, accountability and transparency are, definitely, embraced by modern CSR theory. Moreover, global trends and developments in United Nations legislation have rendered CSR as a strategic management tool, through which companies seek to effectively manage stakeholders, measure and report social performance and ensure that they operate in a sustainable manner. Furthermore, this chapter provided an overview of some of the most widely used global CSR standards along with their basic requirements. All these issues, raised at this chapter, are of particular importance as they have clarified the theoretical background of CSR subject and, thus, will be more convenient for the reader to parallel and collate such notions with the shipping industry, when it comes to determine how CSR is perceived and practiced at the maritime sector. The next chapter will discuss the subject of sustainable development and analyze current United Nations initiatives and how they have shaped business sustainability attitudes. It will, furthermore, discuss the differences and similarities between sustainable development and CSR and the extent to which these concepts correlate and associate with each other.

5   CHAPTER SUSTAINABLE DEVELOPMENT

5.1   Introduction

The term of sustainable development became first known in 'Our Common Future' report, published by the World Commission on Environment and Development (WCED) in 1987. One of the first and more common approaches used to describe sustainable development, relates to the development which achieves a balance between the resources needed by the present world and the resources available to the future generations to fulfill their own needs (Imperatives 1987). Such approach was also accepted by United Nations General Assembly and lent the term political power. In 1992, leaders established the principles of sustainable development at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil. Since then, a lot of initiatives and events have been taking place, all demonstrating United Nations desire and commitment for a better world. A remarkable evolution in the history of sustainable development took place at the UN Conference, in September 2015, where the 2030 Agenda and Sustainable Development Goals adopted. Such event signalized a new era for sustainable development where nations and stakeholders, either from the public or private sector, will be soon called to demonstrate achievements towards those set goals and targets. The shipping industry has not remained unaffected by such trends. Latest and previous worldwide trends and evolutions in sustainable development have been gradually, shaping the maritime industry. The purpose of this chapter is to introduce the concept of sustainable development, discuss evolutions and outline the legal framework and challenges that current sustainability evolution generate for business. Moreover, bearing in mind the previous analysis, this chapter will be concluded by discussing the differences, similarities and intersections between the notions of sustainable development and CSR (Timberlake 2002).

5.2   The Theoretical Framework for Sustainability. The Three Pillars

Over the past decades, increased public awareness on environmental matters, such as global warming, climate change and CO_2 levels in the atmosphere, derived human by activities, have been recognized as a global issue. Environmental matters have implied new challenges for governments and multinational corporations, which have to redefine their

strategy and policy. According to the latest regulatory developments, sustainability concept encompasses principles that modern multinational corporations have to engage and embed in their business decisions and activities in order to fulfil and balance societal and regulatory expectations (EDML 89, Unit 5, 2011). Various definitions exist to describe such term. In that sense, sustainability may be defined *"as the capacity for continuance into the long term future. Anything that can go on being done on an indefinite basis is sustainable"* (EDML 89, Unit 5, pp.5, 2011). Thus, sustainable development is *"the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs* (EDML 89, Unit 5, pp.4, 2011). Nowadays, more than ever before, multinational corporations, operating under the pressure of increased public attitude and awareness on environmental issues, are called to respond to the challenges of the new era and develop from passive to reactive to proactive. Society's expectations have to be reflected on business policy which should proactively address global environmental issues. Firms must have set clear priorities and measures in order to face global issues such as global warming, ozone depletion, soil degradation, water contamination, urban air pollution and toxic waste (EDML 89, Unit 4, 2011). Increased environmental awareness and information of the public and the global character and environmental impact of business activities places multinational corporations under worldwide scrutiny. The fact that the environmental impacts from the activities of a company can affect other places or even the whole planet compels companies to adopt a global thinking and approach in their policy for sustainable development (EDML 89, Unit 5, 2011).

Sustainable development is a multidimensional concept which incorporates three interconnected systems: economic, social and environmental. As human beings we are called to live and prosper in a biosphere, which offers us limited natural resources. The natural environment is a source of life and indispensable for the existence and prosperity of the mankind. Such attribute of our world refers to the *environmental* component of sustainability. In such environmental system, have been born, evolved and established two other sub systems: the *social* and *economic* systems. Social and economic systems have been developed and formulated throughout the centuries. Those encompass the evolution

of our economic and societal relationships. The fundamental argument of sustainable development is that such economic, social and environmental systems should be examined as an integrated system, in which all components should be given the same importance. The described economic, social and environmental dimensions of sustainability are frequently defined as '*the triple bottom line'* (The Three Pillars of Sustainability 2016).

The integration of economic, social and environmental systems set the framework for a thorough approach and understanding of the sustainability issue. Sustainability is achieved when people think and act in a way that social wellbeing and economic production are achieved in a way that environmental quality is not compromised. The principle of '*The three Pillars'*, as shown in **Figure 5.1**, is a good example to describe how vital is for sustainability success the co-existence of the three systems. Sustainable development requires our conscious stance and pursuit to develop our economies, while we stay within the biophysical carrying capacity of the planet and at the same time we provide systems of governance that respect the basic values needs of the society we want to live (United Nations 2015).
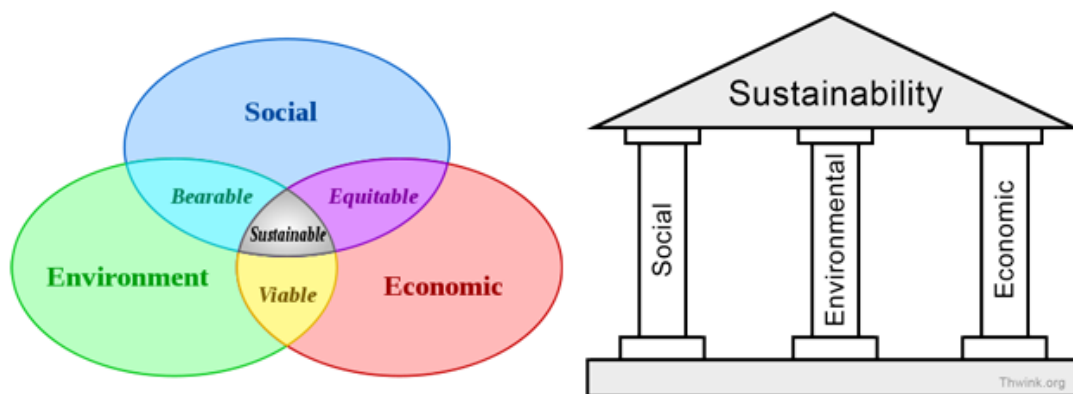
Figure 5.1. The three Pillars of Sustainable Development (The Three Pillars of Sustainability 2016).

5.3   Historical Evolution of Sustainable Development - The United Nations

The theoretical framework for sustainable development, as described above, came up between 1972 and 1992 through a line of international conferences and initiatives. United Nations, through its various agencies and Offices that have been formed throughout the

years, has been playing a critical role in planning and formulating sustainable development strategies. The UN Conference on the Human Environment, in Stockholm in 1972, was the first serious international meeting to discuss sustainability worldwide. After that conference, there was established the UN Environment Programme (UNEP) and plenty of national environmental protection agencies were created in several countries. The recommendations from Stockholm were further developed in the 1980 World Conservation Strategy which had as its goal to enhance sustainable development by identifying priority conservation issues and key policy options (Imperatives 1987).

However, almost ten years after the 1972 Stockholm Conference, there were still inadequacies in the way that environmental impacts had been addressed that time and new challenges such as *how to reduce poverty in low-income countries*, had appeared in the scene. In 1983, further to the request of the Secretary General of the United Nations, Javier Perez, an organization independent of the UN was created with the aim to focus on environmental and developmental problems and solutions. In that respect, the UN assembled the World Commission on Environment and Development WCED, known as the Brundtland Commission. Including representatives from developed and developing countries, the Commission was created to address growing concern over the "*accelerating deterioration of the human environment and natural resources and the consequences of that deterioration for economic and social development*." (Brundtland Commission 2018) In 1987, the group released the remarkable publication "Our Common Future" that gave a complete diagnosis of the situation of the environment. The report released the most commonly used definition of sustainable development: "*Development that meets the needs of current generations without compromising the ability of future generations to meet their own needs*" (Imperatives pp.10 1987).

The '*Our Common Future report*' provided the momentum for the landmark 1992 Rio Summit that laid the foundations for the global institutionalization of sustainable development. The Rio Declaration consisted of 27 principles of sustainable development, including principle 7 on "*common but differentiated responsibilities*," which stated: "*In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the*

responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command." (ATD FOURTH WORLD pp.1 2018). Agenda 21 included 40 different chapters, setting out actions related to the social and economic dimensions of sustainable development, conservation and management of natural resources, the role of major groups, and means of implementation. Agenda 21 was the way developed countries to reassure their previous commitments to reach the accepted UN target of giving 0.7% of their annual gross national product (GNP) to official development assistance, and to provide favorable access to the transfer of environmentally stable technologies, specifically to developing countries (United Nations 2002).

Since the first conference in Rio many other important international conferences on sustainable development have been held and referred that many positive results had been occurred, but implementation efforts had not the results they waited for at national and international level. The UN General Assembly noted in 1997 that "*the overall trends with respect to sustainable development are worse today than they were in 1992*" (United Nations pp.1 1997) and "*much remains to be done to activate the means of implementation set out in Agenda 21, in particular in the areas of finance and technology transfer, technical assistance and capacity-building.*" (United Nations pp.5 1997)   In his 2002 report Kofi Annan confirmed that "*progress towards reaching the goals set at Rio has been slower than anticipated*" and "*there is undoubtedly a gap in implementation*" (Teshager et al. pp.4 2018).

A remarkable point in the history of sustainable development was the establishment of the 'Millennium Development Goals'. They refer to 8 goals that had been established following the Millennium Summit of the United Nations in 2000, following the adoption of the United Nations Millennium Declaration. With the adoption of these goals, 189 Member States and 22 International Organizations committed to achieve the fulfillment of these goals, by 2015 (Millennium Development Goals 2016).

5.4   The 2030 Agenda on Sustainable Development
Since the adoption of the MDGs, in 2000, a series of global events and initiatives took place, showing the growing shift of international awareness and concern for a sustainable planet. However, the 17 Sustainable Development Goals, adopted in September 2015, at

United Nations Headquarters, represent a historic decision in achieving a sustainable future for our planet. The 2030 Agenda for Sustainable Development and incorporated 17 Goals, along with 169 associated targets, were accepted by all countries and therefore, are from now on applicable to all. With that movement, the United Nations entered a new era and shared a new vision for sustainable development that will lead the world for the next 15 years (International Institute for Sustainable Development 2012). As was highlighted in the 2030 Agenda for Sustainable Development the achievements and contribution of the Millennium Development Goals, in terms of poverty reduction and international development, along with the challenges that MDGs highlighted, were recognized by all UN Member States. However, although the significant progress achieved so far, there was an explicit aspiration and need to move one step forward and set a new round of global targets for the post-MDGs era (Women 2015).

The 17 Goals and targets that came into effect on 1 January 2016 will govern decisions of Nations for the rest of 15 years. Further to that, the significance of the 2030 Agenda for Sustainable Development is indisputable. With that resolution of the United Nations sustainable development is recognized and defined in its three dimensions: economic, social and environmental. Thus, integration and achievement of sustainable development within the framework of the triple bottom line is an indispensable requirement. United Nations recognized in their report that any kind of social and economic development should be committed and determined to conserve our planet's natural resources. Governments are responsible, for the next 15 years, to review and follow up at national, regional and global level the implementation progress of the Goals (Allen et al. 2016). The 2030 Agenda also establishes indicators that will assist governments to evaluate data and measure progress. Each Government is called to assess its specific challenges to achieve sustainable development and decide how the Goals and targets will be integrated in its national policy and planning. The 2030 Agenda also recognizes as critical for the achievement of the targets the need for a Global Partnership among stakeholders, collaboration at international level, exchange of ideas, technological knowhow and assistance of developing countries in achieving long-term debt sustainability (Lee 2016). **Table 5.1** summarizes the 17 Sustainable Development Goals.

Table 5.1.United Nations SDGs

Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts*

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

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* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

(Lee 2016).

5.5 Measuring and Reporting Sustainability

The practice of measuring and reporting of sustainable development is not something new and origins of sustainability reporting systems can be traced back to the 70s or 80s. As such, over the last 3 decades several measuring and reporting systems have been developed with each one being based on different methodological and conceptual foundations. In discussions and forums on sustainability is widely argued that: *You cannot manage what*

you cannot measure. Therefore, it has been recognized that measuring our sustainability performance is as important as measuring the economic one. Further to that, it is important to stress that over the last decade sustainability measurement and reporting systems have been greatly adopted and used at national, company and product levels (Hoekstra et al. 2014).

Figure 5.2 shows the growing trend in the use of sustainable development measurement and reporting systems at national level, since 1971.
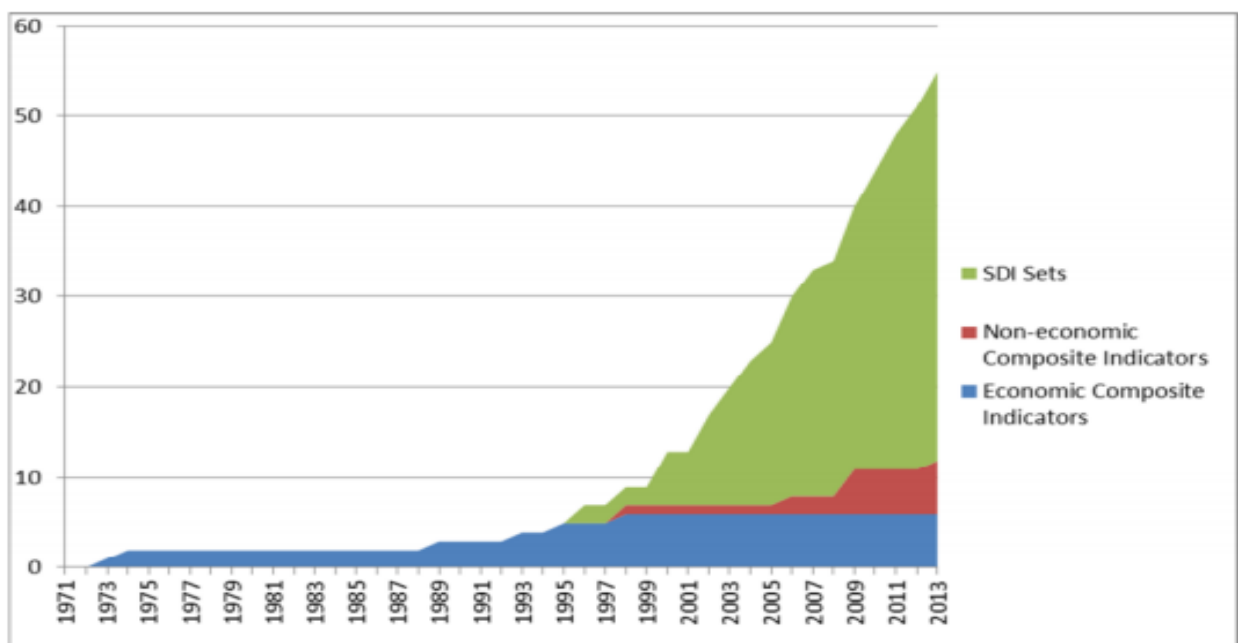
Figure 5.2. Sustainable Development Measurement Trends   (Hoekstra et al. 2014).

Nevertheless, mandatory and comprehensive sustainability measurement and reporting systems are still at the beginning. Sustainability reporting and disclosures of environmental risks vary around the globe and in many cases are still voluntary. A 2013 report of the Global Reporting Initiative and the UNEP, regarding sustainability disclosure, revealed that, in 2006, 58% of the 60 policies across 19 countries and regions were imposing mandatory reporting systems. 7 years later, in 2013, 72% of the 180 policies across 45 countries and regions were using mandatory sustainability reporting systems. However, as was mentioned earlier, government regulations and expectations on sustainable development reporting vary significantly. France is considered a leader in sustainability

reporting as, since 2001, it has required from all public companies to report on social and environmental impacts annually. UK is also a pioneer country in sustainable development reporting. UK was the first country that requested companies listed in the London Stock Exchange to report their greenhouse gas emissions annually. In United States sustainability reporting is still not compulsory, although there are many voluntary efforts to report on sustainability issues (Alison et. al, 2014).

Despite the variety of systems used to report sustainable development and whether reporting is mandatory or not, it is indisputable that there is an increasing trend towards sustainability measurement and reporting. **Figure 5.3** shows the growing tendency in sustainable development reporting from private business, since 1993.
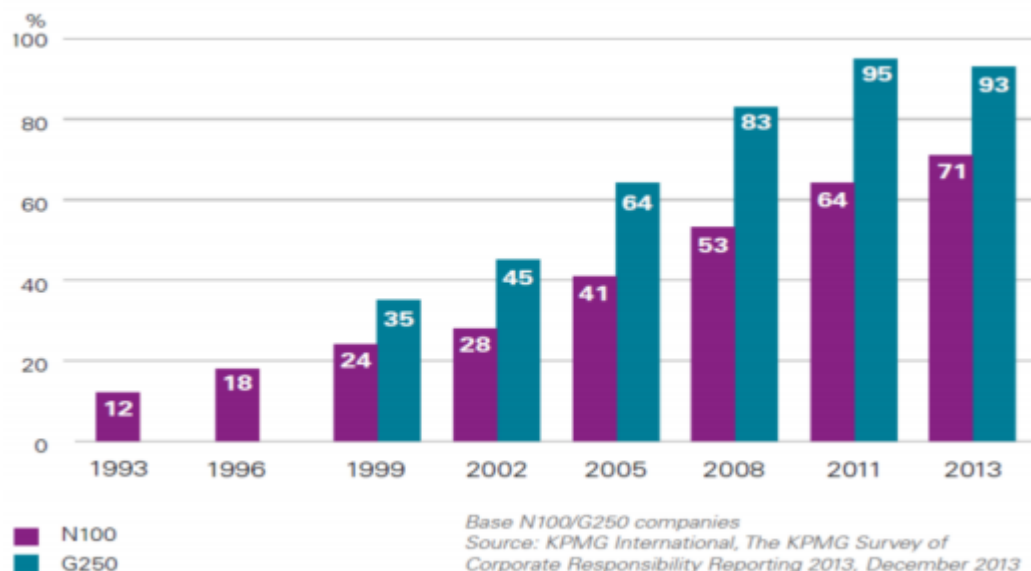
Figure 5.3. Sustainable Development Reporting Tendency (Hoekstra et al. 2014).

5.5.1 The Role of Business in the SDGs Era

In the new era of the 2030 Agenda, business has a catalyst role to play in sustainable development. The 2030 Agenda and SDGs require explicitly the contribution of business in achieving sustainability, as without the active participation of the private sector there is potential not to fully achieve SDGs. It is estimated that the financing needed to achieve SDGs is about 3 trillion. From this amount, the official development assistance will be $135 billion per year, leaving the rest to be financed by domestic sources. Thus, business engagement is regarded vital for the achievement of SDGs. However, the critical task for

monitoring the implementation and progress of the SDGs lies with national governments. And although it is still at the early stages, it will not be too far when private businesses will be asked to report, measure and report their impact on the SDGs. As of 2015, 64 countries have regulatory frameworks that mandate business to disclose information on sustainability. EU Directive, 2014/95/EU, mandates that large companies must report on social and environmental performance. European Union Countries are urged to incorporate such Directive into their national legislation. In the Asia-Pacific, stock exchanges, seek from listed companies to report on their social and environmental performance, along with their financial disclosures (United Nations Development Programme 2016).

Businesses that address sustainable development issues in their operations will definitely benefit and lead the way forward. SDGs have already opened the door for governments to make mandatory, in their future regulations and policies, business reporting and measurement systems on sustainability. SDGs will constitute the beginning for the development of regulations that will restrict business activities that are not reported and have a negative social or environmental impact. Therefore, SDGs will make sustainability *'a licence to operate'* issue for private business and a mean to demonstrate their contributions, track their progress and make the right decisions to advance even further the SDGs (GRI, UN Global Compact, and WBCSD 2015). From the government point of view, data collection on business impact measurement and reporting, as dictated by SDGs, will be of great use and value for them. Governments, after defining how will implement SDGs in their national policies, what reporting systems they will employ, and what indicators they will use to measure business contribution to sustainable development, will be in a position to demonstrate their progress in achieving the targets of the SDGs. It has been widely recognized by the public sector that private business should be seen as a valuable player and partner in the vision of sustainable development. It remains to be seen how governments will engage and motivate business in sustainability measure measurement and reporting and the tools to be used to track progress on SDGs (United Nations Development Programme 2016).

Figure 5.4 shows an example on how private business and contribute to each SDG, either directly or indirectly.

1 NO POVERTY	• Bank the unbanked through micro-credits and financial services (leveraging local distribution and mobile technology) • Micro-insurance products to increase resilience of low-income populations
2 ZERO HUNGER	• Produce and provide access to fortified food and supply of micronutrients • Develop innovative and more efficient farming technologies to increase productivity and income of smallholder farmers
3 GOOD HEALTH AND WELL-BEING	• Provide access to affordable, high-quality healthcare through decentralized clinics and mobile health workers • Leverage IT-based solutions to avoid stock-outs of live-saving drugs in rural areas
4 QUALITY EDUCATION	• Combine expansion of internet coverage with web-based learning tools • Set up vocational training programs targeting disadvantaged youth and women
5 GENDER EQUALITY	• Distribute your products through local, female entrepreneurs, thereby empowering their role in society and economy • Strengthen access to sexual & reproductive health care products, services and medicine
6 CLEAN WATER AND SANITATION	• Expand water & sewage infrastructure to unserved areas • Develop low-cost water filtration systems for end-customers or whole villages and informal settlements
7 AFFORDABLE AND CLEAN ENERGY	• Invest in solar-powered appliances and solar home systems or establish shops powered by solar energy • Leverage hydropower to electrify remote villages
8 DECENT WORK AND ECONOMIC GROWTH	• Train and employ local communities • Source materials from small-scale producers, sell and deliver products and services through local retailers and workforce
11 SUSTAINABLE CITIES AND COMMUNITIES	• Invest in innovation of building materials and techniques, like earth-based bricks, taking into account local resources • Provide construction training and access to housing loans for low-income families
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	• Reduce post-harvest losses through improved value chain management in rural areas
13 CLIMATE ACTION	• Create smallholder insurance based on disaster risk reduction measures

Figure 5.4. Business Contribution to SDGs (Veglio and Fiedler 2016).

5.6   Sustainable Development and CSR. Differences, Similarities and Intersections

Having concluded our literature review on the various definitions and approaches on sustainable development and CSR throughout the last decades, it can be concluded that the term of CSR has been introduced in business practices, academic articles and industry reports, relatively, recently. Specifically, it was first appeared during the 1990s, when various organizations and scholars started to put emphasis on the business contribution and crucial role it performs in achieving sustainable development (Valor 2005). That trend reflected the shift of governmental responsibility to private responsibility, as a key factor in achieving sustainability. In terms of sustainability, the focus on business case for

sustainable development was one of the biggest differences between the Rio Conference, in 1992, and the World Summit on Sustainable Development (WSSD), in 2002. In the Johannesburg WSSD, 2002, there was an obvious shift from environmental issues towards the economic and human aspects of sustainable development and the new business model approach. The social dimension of sustainability was further highlighted in the Rio+20 Conference on Sustainable Development where United Nations acknowledged the need to work on sustainable development as an integrated concept (triple bottom line: economic, social, environmental) (Behringer and Szegedi 2016).

 The expanded literature and research on the concepts of Sustainable Development and Corporate Social Responsibility has given rise to various approaches and interpretations of these terms. As Ebner and Baumgartner (2006) claims, there are four approaches that describe the relationship between CSR and sustainable development. In some studies is stressed the importance of adopting sustainability principles in business operations, without making reference in any social responsibility term. Other studies refer to CSR as a stakeholder issue and state that CSR focuses mainly on stakeholder management. In other articles CSR is given a corporate managerial orientation that relates with issues such, ethics, transparency, stakeholder dialogue and sustainability reporting. Furthermore, other research describes SD and CSR as two synonymous concepts and depict companies' desire reflect their social and environmental commitment. In another perspective, CSR is defined as a corporate strategy to achieve profitability, while at the same time maintaining a balance among business ethics, environmental commitment, stakeholder engagement and society welfare (Ebner and Baumgartner 2006). The four approaches that describe the relationship between CSR and sustainable development are summarized below:

CSR correlates with the social dimension of SD as defined by Brundtland and the model of the triple-bottom-line
CSR is developed and integrated based on the SD-model
CSR is used synonymously for SD
Articles exist which deal especially with the social dimension of SD (based on Brundtland) but do not use terms such as CSR.
(Ebner and Baumgartner 2006).

To sum up, this study will treat CSR as the business model and management strategy that can bring significant contributions in gaining sustainable development. As Behringer and Szegedi (2016) highlighted, although the interactions between CSR and sustainable development have been tightened throughout the last years and these terms have been used interchangeably, though, CSR is regarded as a managerial approach and business tool that plays a key role for the private sector in dealing with sustainability challenges. Thus, although CSR was frequently termed as the social dimension of SD, it is currently seen as a management tool and system that can assist enterprises to integrate the mandates of sustainable development in their corporate strategy and deal in depth with economic, environmental and social needs (Behringer and Szegedi 2016). Such approach is also seen as the corporate orientation of sustainability, often termed as corporate sustainability, and differentiates itself from the meaning given to CSR concept to be the social strand of sustainable development (Ebner and Baumgartner 2006). A representative example of such approximation is Wilson's (2003) statement: "*mix sustainable development, corporate social responsibility, stakeholder theory and accountability, and you have the four pillars of corporate sustainability. It's an evolving concept that managers are adopting as an alternative to the traditional growth and profit-maximization model" (*Wilson pp.1 2003).

Having analyzed the relationship between SD and CSR, in **Figure 5.5.** can be viewed the the leading role that CSR has to play in achieving SDGs.
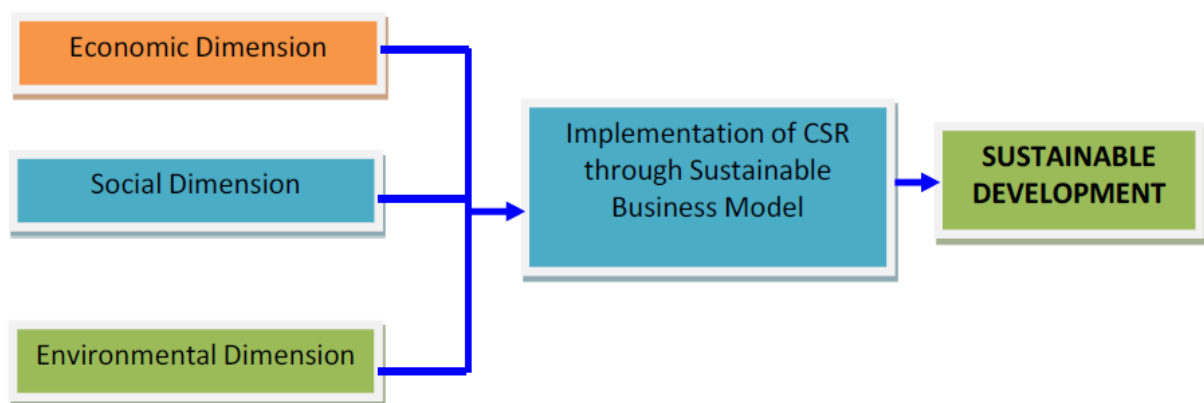
Figure 5.5. CSR as a Management Approach to Achieve Sustainable Development (Oginni and Omojowo 2016).

5.7   Conclusion

As this analysis has shown, sustainable development is a constantly evolving term, adapted every time to society's and era demands. However, regardless its definition and approximation, the present principal challenge for achieving sustainable development refers to the integrated United Nations approach, as formulated in its three dimensions (economic, social and environmental). This chapter explored the 2030 Agenda for Sustainable Development and the 17 Goals, adopted in September 2015, by the United Nations. As was viewed, such a development signified a new era for sustainability with a remarkable point being the conclusion of the Millennium Development Goals period (United Nations 2015). The adoption of the 2030 Agenda and the associated Sustainable Development Goals, which succeeded the Millennium Development Goals, has acknowledged the importance of private business contribution in achieving sustainability (United Nations Development Programme 2013). As such, the private sector has a catalyst role to play in the success of United Nations Sustainable Development Goals. Activities, such as, measuring and reporting on sustainability will constitute an essential part of business operations, including the shipping industry.

Engaging CSR principles, as an ethical and transparent code of conduct in the private sector can have a positive influence on sustainable development. CSR principles and practices, that would take into account the impact on society and the environment, engage stakeholders and comply with applicable laws can form the business model for sustainability and, indirectly, contribute to the United Nations SDGs. For example, employing CSR principles in the private sector can significantly contribute to the achievement of SDG 1 (No poverty), SDG 3 (Good health and well-being), SDG 6 (Clean water and sanitation) and SDG 12 (Responsible consumption and production) (United Nations 2015). CSR standards such as, ISO 26000, AA1000 and SA8000, can provide business with a valuable managerial approach and operating framework, fully harmonized with United Nations requests on Sustainable Development. From existing literature review, it is deduced that CSR is mostly considered as being a wider business model that is employed in order to deal with organizations' economic, social and environmental challenges, leading, thus, to sustainable development. Therefore, integrating sustainable

development dimensions into business management, under the 'umbrella of a wider CSR business pattern, companies can deal with challenges such as human Rights, equal opportunity principles, health and safety in the workplace, employment rights, consumer and supplier management and environmental impact assessment and disclosure (ISO26000 2014). The next chapter will discuss how the concepts of sustainable development, CSR and the various regulatory advances have been expanded and influenced the shipping industry.

6 CHAPTER SUSTAINABLE DEVELOPMENT AND CSR IN THE SHIPPING INDUSTRY

6.1 Introduction

The aim of this chapter is to describe the nexus and extent of applicability of sustainable development and CSR to the maritime industry and depict the challenges imposed by current regulatory developments in the maritime field. As previously stated, the 2030 Agenda and incorporated Sustainable Development Goals signalized a new era for sustainable development, where nations and stakeholders, from the public and private sector, will be soon called to demonstrate achievements towards these goals and set targets. The shipping industry has been significantly impacted from those developments (Costanza et al. 2016). The International Maritime Organization has already welcomed the SDGs and has been actively participating in the formulation of Organization's strategy and plan. IMO's vision on a sustainable maritime transportation system came at a transition moment in the history of sustainable development where the end of the MDGs was followed by the SDGs and the 2030 Agenda. The International Maritime Organization has already published its Strategic Directions (SD) and High level Action Plan (HLAP), for the 2016-2017 period, in order to cope with United Nations sustainability mandates. It should be anticipated that the regulatory framework launched by IMO will translate SDGs into specific measurable requirements that will be subsequently applied to the maritime industry (Kitada and Ölçer 2015). However, such action requires that these requirements will need to be first adopted, streamlined and promoted by Flag Administrations, through their national legislation. In the area of corporate social responsibility, developments in the international business and regulatory have transformed the playing field and, as such, CSR concept has progressively, directly or indirectly, been taking its place in the shipping industry. This chapter will discuss how the notions and regulatory advances in the field of sustainable development and CSR have been expanded to the shipping industry. It will clarify the relationship, differences and similarities between sustainable development and CSR and discuss how such considerations can be applied to the maritime industry.

6.2 The Concept of a Sustainable Maritime Transportation System (SMTS)

The shipping industry could not have remained unaffected from all those latest developments have been taking place at international level. If we look closely at the regulations presently surrounding the maritime world we will determine a variety of social, safety and environmental rules that aim in a sustainable maritime business. The International Maritime Organization, throughout its long history, has been making a tremendous contribution in regulating and setting global standards for the safety, security, facilitation of maritime trade and the prevention of pollution from ships. A lot of initiatives have been taking place at national and regional levels that demonstrate the vision of maritime community for a sustainable maritime industry. However, it was a short after the UN Conference on Sustainable Development (Rio + 20), in 2012, where the IMO showed the intention to align its strategy and vision with the latest Conference adoptions. In a document published in 2013, with the title: '*A concept of a Sustainable Maritime Transportation System*', the IMO stressed the need to recognize and embrace the environmental, social and economic dimensions of sustainability in the future strategy, vision and regulatory framework of the Organization (Sekimizu 2012).

The above document, that has envisaged IMO's vision on a sustainable maritime transportation system, came at a transition moment in the history of sustainable development where the end of the MDGs was followed by the SDGs and the 2030 Agenda. The introduction, by IMO, of the concept of a SMTS emphasized the contribution of shipping to sustainable development and made explicit the intentions of the Organization to fully comply with the spirit of the forthcoming, at that moment, SDGs and 2030 Agenda on Sustainable Development. During the 2013 World Maritime Day, the IMO took the opportunity to demonstrate the industry's contribution to sustainable development for every sustainability pillar or component: environmental, social and economic.

6.3 Setting the CSR Framework for the Shipping Industry

In an attempt to frame CSR within the maritime context, it can be inferred that traditionally, in the shipping industry, the concept of Social Accountability was synonymous to the term: *'quality shipping'.* Such term referred to the attempt of the ship owners to run their ships in compliance with all applicable, national, regional and

international rules related to health, safety, environmental protection, maintaining, thus, profitability of their business. Therefore, the concept of CSR could be claimed that was 'hidden' under the umbrella of *'quality shipping'* with only a few entrepreneurs being aware of it deepest meaning and intersections with social responsibility (Hawkins 2001). However, due to globalization trends, stricter regulation on environmental, Health & Safety rules, increasing efforts for more transparency and control on labor rights, easier flow of information, growing stakeholders' pressure and concern on sustainability, maintenance of good customer relations and satisfaction as performance indicators and the sensitive and vulnerable, to disasters and accidents, image of shipping, have made shipping companies to transform their perceptions and definition of *'quality shipping'*. Thus, CSR practices have been, increasingly, taking place in the maritime world (Yliskylä-Peuralahti and Gritsenko 2014). Gradually, maritime companies transform and adjust their strategies focusing on major areas of risk such as: energy efficiency, emissions reduction, stakeholder engagement, positive impact in local communities, navigational safety, labor and human rights, health and safety in their operations, technology upgrading and sustainability disclosures. An indicative example of that trend is the container shipping industry where we witness a motivation and adoption of initiatives to reduce CO2 emissions, use of eco-friendly containers made from less wood and which are up to 100% recyclable and establishing humanitarian activities. An example to that is the "Containers of Hope" project, run by CMA CGM Company, which provide free shipping of humanitarian material and equipment. Moreover, companies such as Evergreen Marine Corp. are actively engaged in CSR reporting through structured assessment and disclosures on employee welfare, education and training, ship emission management, stakeholders' management, charitable activities and involvement and support of various greenhouse effect projects and research (Lekakou et al. 2016).

Irrespective the worldwide growing CSR tendencies, the maritime world has always been conversed with themes such as, health, safety and environmental protection, supplier management, seamen labor rights, energy efficiency and emissions reduction. Moreover, the management of ships requires several cross-border maritime activities to be taking place on a daily basis (such as transactions with multinational entities and individuals,

global ship operations and stakeholders' management). Thinking internationally has always been a routine for shipping professionals. Coming to CSR issue, and in opposition to land-based industry where CSR practices are at a more advanced and mature state, it can be observed that there is an emerging trend of CSR activities in the shipping industry (Heij et al. 2011). However, although there is an obvious motivation and pursuit for the development of a homogenous framework, initiatives, collaboration, standards, and practices of Social Accountability in the maritime sector, such effort it is relatively recent and limited. Nevertheless, existing voluntary CSR initiatives and collaborations in the maritime industry continue to grow. They seek to establish a common language and vision on CSR concept, encourage adoption of sustainability practices and inspire maritime companies to go beyond mere compliance with environmental, health and safety (EH&S) national and international standards. Some of them are: The Sustainable Shipping Initiative (SSI), The Clean Cargo Working Group (CCWG), Green Marine, Green Ship of the Future etc. (Coady et al. 2013).

6.4 Motivation for CSR implementation in the Shipping Industry

Shipping is an industry of international nature and highly regulated. International Conventions have, since a long time, set health, safety, security, environmental and labor standards. Moreover, activities such as ship construction, maintenance, operation of equipment, personnel training and competency have unceasingly been raising the attention of International Organizations and National bodies. Nonetheless, the shipping industry has been more understood as a service industry, fulfilling its role as a link in the international supply chain, and, therefore, shipping companies have been managed in a manner that CSR aspects have not been explicitly reflected and integrated in their operations (Hancock et al. 2008). Though, the situation nowadays is different and developments in the international maritime arena have transformed the playing field. Industry observations and literature review show that the concept of CSR has progressively, directly or indirectly, been taking place within the shipping industry. This section outlines some of the most important arguments and developments that have urged the application of CSR in the shipping industry (Lekakou et al. 2016).

6.4.1   Ocean Governance and International Standardization

The International Maritime Organization has already moved forward and prepared the ground for a socially responsible maritime industry. On September 2013, in a report published by IMO for the World Maritime Day, the Organization defined the concept of a Sustainable Maritime Transportation System. That report signified a remarkable development and recognition of the role that the shipping industry has to play in achieving sustainable development. It was the first time that the IMO called maritime actors to consider the economic, environmental and social dimensions of sustainability and set the foundations to integrate them in the maritime context. In the same release, the IMO Secretary General Mr. Koji Sekimizu drew the attention on the work that was done for the development of the 2030 Agenda, and the forthcoming SDGs. The SDGs have been treated by IMO as the compass that will set the fundamental criteria for shaping sustainable development policies in the shipping industry. And indeed, specific SDGs, such as SDG7 and SDG14, are expected to have great implications in the maritime industry. Moreover, in its vision for a sustainable shipping industry the IMO stressed the need for a multidimensional endeavor that would include active stakeholder collaboration, technical co-operation, enhance existing programs of technical assistance, maritime capacity-building in developing countries and sharing of knowledge, experience and know-how with the aim to succeed the three dimensions of sustainable development (economic, environmental and social) within the maritime transportation system. Thus, the IMO defined specific goals and actions for the maritime players. Such goals and actions, as expressed by IMO, could be surely characterized and interpreted as an attempt to deal with traditional and new maritime challenges within the context of CSR. Some of those areas of concern, which could be considered as social accountability issues, are analyzed below (Sekimizu 2012).

6.4.2   Environmental Stewardship and Energy Efficiency

Operating in a framework that minimizes environmental impacts and maximizes energy efficiency is a fundamental aspect of a socially responsible company. The IMO has a clear visualization for an environmental friendly and energy efficient maritime industry that will be absolutely synchronized with the UN 2030 Agenda and SDGs. In shipping, there is a

plethora of environmental and energy efficiency regulations in force, though, many of them will come in force in the forthcoming years. During the last decade there has been a growing focus, at international level, on reducing the negative environmental impact from ships, with particular areas of concern being, sulfur oxides (SOx), nitrous oxides (NOx), particles (PM), greenhouse gases (in particular CO2) and ballast water management. The International Maritime Organization, through the International Convention for the Prevention of Pollution from Ships, introduces stricter environmental regulations, for existing and new ships. In terms of air pollution, IMO has applied designated sea areas, generally known as Emission Control Areas (ECAs) (Van Leeuwen and Kern 2013). Regarding pollution by ships' ballast water, namely, the introduction of alien spices into new environments carried in ships ballast tanks, the Ballast Water Management Convention (BWMC) is close to ratification and, by the end of 2019, most ships in international trade must have ballast water cleaning systems installed. With respect to energy efficiency, in 2011, the IMO adopted the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP), which entered into force in 2013. Those regulations seek to set stringent requirements for ship operators for more efficient energy use, leading indirectly to decreased CO2 emissions. Thus, through regulations that oblige more energy efficient ship designs and the establishment of energy management practices that improve energy efficiency during ship operations, IMO visions for a shipping industry that will continue to be the most energy efficient industry and unceasingly reduce its carbon footprint (Nyhus 2017).

6.4.3   Safety and Security at Sea

The seafaring profession is subject to a great array of threats. Seafarers are daily confronted with various hazards, some of them constituting an inherent risk of their job (weather conditions, workplace hazards), while others deriving from external factors such as piracy, terrorism and armed robbery. Establishment and promotion of safe working and living conditions in the workplace is the legal obligation and duty of every employer, as mandated by Labor Law. Operating in a manner that minimizes risks in the workplace and promotes the safety culture of employees signifies a vital feature of a socially accountable business. Since 1958, when it entered into force, the IMO is steadily working to ensure

safety and security at sea. Through its principal Conventions and Codes (SOLAS, ISM Code, STCW, ISPS Code) the IMO seeks to continuously advance the technical standards of ships, improve crew competencies and raise standards of safe management (Bist 2013). Nowadays, and in the beginning of a new era for the understanding of sustainable development (triple bottom line), the IMO continues to share and reinforce in its vision the latest United Nations developments, of the 2030 Agenda and SDGs. As it was emphasized by IMO Secretary General, promotion of safety at sea and protection of shipping from security threats are essential in order the maritime transportation system to be sustainable and contribute, as such, to SDGs (i.e to SDG 3: *Ensure healthy lives and promote well-being for all at all ages).* A socially responsible organization is, by definition, the one that cares for the health and safety of its employees and CSR dimensions are well approached by that goal. Therefore, a CSR strategy can have a great contributory role to play in maintaining safety and security at sea, and, subsequently, industry's sustainability (Sekimizu 2012).

6.4.4   The Human Element – Education and Wellbeing

Maintaining and improving the quality of life of the seafarers at sea is essential for preserving industry's social accountability and sustainability image. The ILO, through the introduction of the Maritime Labor Convention, 2006 (MLC, 2006) has made a great step in ensuring a minimum standard of decent working and living conditions for the seafarers. The MLC (2006) Convention integrated sixty eight existing maritime labor conventions and recommendations, as well as more general fundamental principles (Lillie 2008). It is also known as the seafarer's Bill of Rights and addresses below aspects: minimum age, seafarers' employment agreements, hours of work or rest, payment of wages, paid annual leave, repatriation at the end of contract, onboard medical care, the use of licensed private recruitment and placement services, accommodation, food and catering, health and safety protection and accident prevention and seafarers' complaint handling. In general terms, summarizing MLC (2006) under four broad subjects (Minimum requirements for seafarers to work on a ship, Conditions of employment, Accommodation, recreational facilities, food and catering, Health protection, medical care, welfare and social security protection) we can see that they are quite comparable to those required by other CSR standards. Thus,

interpretation of the MLC (2006) Convention, which is already in force, lends shipping industry with a lot of fundamental CSR values and practices that could be integrated into maritime operations (The International Transport Workers' Federation 2017). In the area of education and training of seafarers, the IMO has placed increased emphasis on the human element as a mean to more effectively ensure safety and pollution prevention. IMO has recognized that a sustainable maritime transportation system requires well educated and trained seafarers, able to deal with technological advances, more sophisticated equipment and the continuous evolution of the shipping industry. The STCW Convention is the primal IMO instrument that regulates educational and training requirements of seafarers (Yabuki 2011). Moreover, all these activities that underpin and upgrade educational capacity and competence of seafarers are associated and well recommended by SDG4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and mirror the policy and framework within which sustainable development will be attempted in the era of 2030 Agenda. Such attempt embraces many dimensions of Corporate Social Responsibility and can form a strategic tool for accomplishing sustainable development in the shipping industry (Sekimizu 2012).

6.4.5 Commercial and Market Incentives

Stakeholders hold a prominent place in CSR theory and, generally, in the formulation of the overall corporate strategy of an organization. As was previously discussed, company's relationship with stakeholders and analysis of the ways an organization's activities may impact on them (employees, managers, customers, shareholders, suppliers, and local community people) has a significant influence on CSR. According to stakeholder and CSR theory, it is a wise and prudent practice for an enterprise to behave in a manner that impacts on stakeholders are identified and minimized. And doing so, in a way that stakeholders are benefited. Shipping is a service industry with the majority of maritime trade being, usually, carried out by time chartering. Charterers, as stakeholders, have a separate and distinctive role to play in marine transportation. The charterer is the entity that hires from the ship-owner a ship, which is suitable for the type of service he wishes to perform and the ship-owner is responsible to act in a sincere manner and provide the charterer with a seaworthy vessel, with a full complement of competent Master, officer and

Crew and with the equipment and cargo spaces ready to receive the cargo that was agreed (The MECO Group 2017).

As per Crowther and Aras (pp.60 2010) CSR has been defined as *'societal expectations of corporate behavior; a behavior that is alleged by a stakeholder to be expected by society or morally required and is therefore justifiably demanded of a business'.* It could be claimed that such definition of CSR encompasses charterers' expectations, as distinctive stakeholders in the maritime transportation system, for a socially responsible shipping company. It is reasonable that, commercially wise, shipping companies that can operate in a CSR framework will be in a position to increase their competitive advantage against competitors and operate within stakeholders (charterers) expectations. The proof to that is that obligatory legislation such as, the MLC (2006) and the ISM and ISPS Code, along with voluntary worldwide standards such as, ISO 90001, 14001, 18001, 50001, 26000 and 31000, even though not legally required, however, they are indispensable prerequisites by charterers in order to contract a business with a ship-owner (Pun et al. 2003). Such standards incorporate the majority of the characteristics of Social Accountability such as, environmental, energy efficiency, occupational health & safety, quality and risk management principles. Therefore, a shipping company that adopts a behavior that goes beyond compliance and perceive CSR, not as a legal necessity, but, as an opportunity and mean to integrate the elements of international safety, environmental, labor and sustainability standards and legislation, in a wider CSR strategy, could benefit itself and its stakeholders as well (Woan et al. 2010). From a regulatory perspective, the International Maritime Organization has already been taking action and the principles of Sustainable Development and Corporate Social responsibility have, increasingly, been taking place in the maritime industry (Sekimizu 2012).

6.5 IMO's Strategic Plan (2016-2021) for a Sustainable Maritime Transportation System

The 2030 Agenda adopted by the United Nations, in September 2015, has already impacted the maritime community. In an effort to mainstream the SDGs into its policy, the International Maritime Organization, on December 2015, at its 29th session, adopted a Strategic Plan (Resolution A.1097 (29)) for the six year period, 2016-2021. In the mission

statement of this Strategic Plan is obvious the shift and alignment of the Organization's strategy with the UN's sustainability mandate. Particularly, in the mission statement of that document it is stated that the *IMO's role is to promote and ensure a safe, secure, environmental friendly, efficient and sustainable shipping industry* (IMO pp.3 2015).

Such IMO's statement, that covers the six-year period from 2016 to 2021, as formulated in its Strategic Plan, is to be considered as a response to the UN 2030 Agenda. With that undertaking, the IMO sought to set the pillars on which the Organization will function over the following 5 year period (2016 to 2021) in order to be fully aligned with UN 2030 Agenda and SDGs. That Resolution is one of the primaries where the IMO declared that, along with its safety and environment protection mission, it is assigned to promote an efficient and sustainable shipping industry. There are two points that worth commenting here (Sciberras and Silva 2018). That first is the IMO's commitment to assist developing countries that lack technology and knowhow, through the Integrated Technical Cooperation Program (ITCP) IMO, to implement Organization's instruments related to safety, security and environmental protection. By doing so, the IMO devoted to contribute to the success of the SDGs through dialogue, stakeholder engagement, capacity building, cooperation and share of knowledge at international level. The second important part of IMO's Strategic Plan refers to the introduction of 14 Strategic Directions. Within the context of 2030 Agenda and SDGs the Strategic Directions have been developed in an attempt of IMO to formulate and present an integrated policy approach to the three dimensions of sustainable development (IMO 2015).

The Strategic Directions (as released in Resolution A.1097 (29)), constitute the IMO's comprehensive approach to sustainable development challenges. An approach that, as it is declared in that document, will "*ensure and strengthen the linkage between safe, secure, efficient and environmentally friendly maritime transportation, the development of global trade, the world economy, and the realization of new United Nations development agenda and the Sustainable Development Goals (SDGs)*" (IMO pp.7 2015). Moreover, on 2 December 2015, the IMO advanced one step further in the direction of achieving its set Strategic Directions for a sustainable shipping industry. A High-Level-Action Plan, for the 2016-2017 biennium, was adopted, through Resolution A.1098 (29). In such High-Level-

Action Plan the Organization identified the actions that need to be undertaken as well as the priorities that need be established, in order to achieve the 14 key Strategic Directions (IMO 2015).

6.6 Mapping SDGs with Shipping Industry Activities

The maritime industry, as the primal carrier of world trade, has a significant part to play in promoting the SDGs, by employing sustainable economic, social and environmental practices. The adoption of the SDGs and the 2030 Agenda for Sustainable Development by the UN was welcomed by the maritime community. In particular, the IMO Secretary-General Koji Sekimizu characterized it as: *an ambitious set of targets with the potential to change the world.* In his welcome statement, the IMO Secretary-General recognized that the SDGs and the integrated approach of the UN to sustainable development (economic, social, and environmental) will definitely affect the shipping industry which needs to adapt to the new era. Moreover, he emphasized the critical role of the shipping industry in economic growth and sustainable development and therefore, the indirect significance of shipping in the success of success of the SDGs. The IMO, which had actively participated in UN Summit, stressed also the sustainable character of maritime transportation as mean of providing dependable, low-cost means of transporting goods globally, facilitating commerce and prosperity of nations and in the most efficient and environmentally friendly way among all transport means. In that respect, every SDG can provide an opportunity for a company to change its strategic priorities and set new goals that will advance its contribution to sustainable development. Though, as the IMO Secretary-General Koji Sekimizu stated in the 2013 World Maritime Day report, three of the 17 SDGs (No7, 9 and 14) were regarded to have particular resonance for IMO (IMO 2017).

6.6.1 Goal 7 Ensure access to Affordable, Sustainable and Modern Energy for All

Although shipping is the most energy efficient means of transport, efforts to reduce fuel consumption should continue. New ways to reduce the use of energy should be explored in attempt to reduce further the carbon footprint. Certainly, shipping should not be seen in isolation, but as part of the whole logistics chain that includes ports, cargo handling, road transport vessel traffic management etc. Standardization and streamlining of

documentation during ship-shore interface and use of electronic systems for clearance of ships, crew, passengers and cargo will increase ship efficiency. In the same scope, optimization of logistics infrastructure (i.e. port planning, cargo logistics, weather routing) will promote ship energy efficiency during ship-port interface (IMO 2017).

6.6.2 Goal 9 Built Resilient Infrastructure, Promote Inclusive and Sustainable Industrialization and Foster Innovation

Resilient infrastructure is translated into a shipping industry with enhanced safety and pollution prevention systems, educated and properly trained seafarers, form partnerships of technical cooperation and facilitate innovation through application of new technologies. It is important to improve the quality of the seafarers at sea. Maintaining safety and environmental protection requires talented and qualified professionals fully trained to new technologies, cargo handling and navigation methods, pollution control and safety systems. Share of information, maritime-capacity building and technical cooperation should form also part of a sustainable maritime transportation system. As maritime trade expands worldwide and new actors will enter into it in the forthcoming years, it is important to establish partnerships and provide technical assistance to meet future needs of developing countries for critical functions, such as, shipbuilding, port facility management, personnel training and development of national maritime policies. Technological advances relates to an integral component of sustainable development. Technological progress in terms of ship design, repairs, construction operation and safety and environmental protection systems should be encouraged and facilitated by key stake holders such as classification societies, Administrations, Academic Institutions, manufacturers and ship builders (Sekimizu 2012).

6.6.3 Goal 14 Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development

Shipping is a world industry facing global issues. Development of world economies, world maritime trade will, inevitably, increase the use of oceans. That is likely to give rise to conflicts and tensions among all those actors engaged in seaborne trade and whose interests intersect. Sustainable use of oceans, seas and marine resources is a matter of ocean governance. In order to overcome rising issues and ensure sustainability at sea coordination and good ocean governance should be promoted. Principles such as the

United Nations Convention on the Law of the Sea (UNCLOS) and other relevant global instruments must be taken into account and respected. Such legal instruments shall form the foundation from all users of shipping whenever a need for negotiations, partnerships, initiatives, protection of ocean spaces or conflicting interests appears (IMO 2017).

Table 6.1 below illustrates an integrated approach of the IMO to meet sustainable development mandates, through which the Organization adjusts its policies and goals with the UN SDGs and 2030 Agenda. For the SDGs that affect the scope of work of IMO, the Organization has developed a particular Strategic Direction, which, furthermore, has resulted to the formulation of a High Level Action Plan (2016-2017).

Table 6.1. IMO Response to Sustainable Development Goals

UN Sustainable Development Goals (SDGs)	IMO Strategic Direction (SD) 2016-2021	IMO High Level Action Plan for 2016-2017
SDG 7. Ensure access to affordable, sustainable and modern energy for all.	IMO will focus on reducing and eliminating adverse impacts from shipping on the environment	-Keep under review IMO measures to reduce atmospheric pollution - Keep under review measures to reduce adverse impact on the marine environment caused by ships - Continue to develop appropriate measures to address climate change - Promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships - Further technical and operational measures for enhancing the energy efficiency of international shipping
SDG 9. Built resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	With a view to enhancing its contribution to sustainable development, IMO will strengthen its maritime capacity-building programmes	-Establish partnerships with governments, organizations and industry to enhance the delivery of IMO's capacity-building programmes - Promote and strengthen partnerships with global maritime training institutions and training programmes - Maintain, promote and demonstrate the linkage between the ITCP and the Sustainable Development Goals (SDGs) - Consider, prioritize and implement technical cooperation programmes - Undertake regular technical cooperation (TC) impact assessments - Further encourage the active participation of all stakeholders to achieve the Organization's mission objectives through consultation and liaison
SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	IMO will take the lead in enhancing the quality of shipping	-Use formal safety assessment techniques in the development of technical standards -Use risk-based tools that take account of costs and the human element in the development of operational standards -Keep under review the effectiveness of the ISM Code with regard to safety and protection of the marine environment
	IMO will seek to enhance environmental conscience within the shipping community	-Encourage the use in shipping of the best available environmental technology not entailing excessive costs, in line with the goal of sustainable development -Strengthen awareness of the need for a continuous reduction of the adverse impact of shipping on the environment

(IMO 2015).

Nonetheless, it remains interesting to be seen how the IMO's policies and strategic directions will be integrated and mainstreamed at the national and local level. That entails that the Flag States and Port States will shortly need to develop their national plans and map their legislation and policies against IMO's directions and SDGs. Upon addressing them in their national legislation, the ships flying the flag of these countries will have to comply with the new regulatory reality.

6.7   Conclusion

This chapter discussed UN 2030 Agenda and SDGs and, moreover, how such initiatives, undertaken at international and national level, have influenced the relevant maritime legislation. Tendencies and applicability of CSR concept to the shipping industry have been also analyzed, along with the major arguments for implementing a CSR policy in the shipping industry. Moreover, this chapter investigated the linkages, differences and similarities between sustainable development and CSR, in their current expression, and how such developments have been aligned to the shipping industry. Along with the various academic and intellectual approaches on the relationship and intersections between sustainable development and CSR, the United Nations 2030 Agenda came to strengthen even more the regulatory requirements over sustainability and CSR and as such, to give a new perspective on the role that CSR has to play in achieving sustainable development (Sciberras and Silva 2018). An example to that is the statement of Mr. Yvetot's, done during the United Nations Industrial Development Organization Multi-Stakeholder Forum on CSR, held in Brussels on February 2013, that: *"SDGs are about achieving development goals from an economic, social and environmental perspective. In this view, we can think about CSR as a way to implement these goals at the level of enterprises."* (UNIDO 2015). The shipping industry has been strongly affected by the developments that have been taking place in the global sustainability and CSR field as the International Maritime Organization has already demonstrated its commitment and desire to ensure and promote the sustainable character of shipping through CSR. This is proved by IMO's belief, expressed during the 2013 World Maritime Day Symposium, where the Organization stated that should, *"inter alia, anchoring the vision of sustainable development into "Corporate Social Responsibility" (CSR) related activities"* (Sekimizu pp.22 2012).

What can be inferred by the literature review is that the concept of CSR is a relatively new notion and unexplored area to the shipping industry. It could not be identified so far an explicit and systematic legislative initiative (at National or International Level) that has addressed or promoted the concept and practice of CSR to the shipping industry. Additionally, review of existing knowledge showed that, with the exception of a few shipping segments (i.e. containerships and cruise ship sector), it was not evidenced a wide academic research to display perceptions over CSR and the extent and form of its applicability as a management tool (that measures, reports and discloses on CSR performance). On the other hand, it should be commented that in the field of sustainable development the shipping industry seems to be more familiar with the concept and practices to achieve sustainability (energy efficiency, environmental protection, labor rights laws, and health and safety regulations). However, in the light of such regulatory development, it would be interesting to investigate how prepared and familiar the shipping industry is with the terms of sustainability and CSR. Having concluded our literature review, we have established the theoretical foundations in order to move forward and study the current shipping industry perceptions and practices related to sustainable development and CSR and, in particular, the capability and efficacy of CSR to lead to sustainable maritime operations. In the outcome of past empirical studies and theoretical analysis the next chapter will discuss the formulation of 6 hypotheses developed to meet our stated objectives.

7 CHAPTER THE CONCEPTUAL HYPOTHESES DEVELOPMENT FRAMEWORK

7.1 Introduction

Our research began deductively, namely, it focused on existing theory and literature review in the fields of CSR and sustainability and attempted, furthermore, to assess what is the current status, development and level of application of these notions to the shipping industry. Additionally, it adopted the positivist approach, which entails that the social phenomenon of CSR and sustainability will be approximated in an objective manner and an empirical investigation will be conducted (via survey research) in order to collect the supporting evidence. Such evidence relates to quantitative information which will be further utilized to test the formulated hypotheses, derived by the earlier literature review. Quantitative research is linked to positivist principles and is concerned with the test of variables and hypotheses (Greener 2008). A hypothesis is seen as the scientific method that transforms ideas, questions, guesses and views into new knowledge. In quantitative research, it is quite common for researchers to use hypotheses, having first reviewed existing theory and, then, collect empirical data in order to test them. When we commence a study we are not aware on which hypotheses hold true in the real world. As such, the literature review gives us the theoretical foundation to channel and refine our thoughts and, therefore, formulate our own hypotheses (Neuman 2014). According to Neuman (2014), a hypothesis is *"an empirically testable version of a theoretical proposition that has not yet been tested or verified with empirical evidence. It is most used in deductive theorizing and can be restated as a prediction"* (Neuman, pp.68, 2014). There are two forms of Hypotheses: null and alternative. In the null hypothesis case researchers make a prediction that no relationship or difference exists between groups on a variable. On the other hand, in the alternative hypothesis the researcher makes a prediction for the anticipated research outcome, based on the literature review findings (Research Questions and Hypotheses 2018). Testing of a hypothesis will inform us whether it is true or not, or more properly, for which cases or conditions it holds true and for which cases or conditions it does not hold true (Neuman 2014). This chapter discusses the conceptual framework that has resulted to the conception of our research hypotheses, which have been categorized into four thematic areas.

7.2 Demographics

This study investigates the subject of CSR and sustainability in the tanker and dry bulk sector. To do so, it will seek to collect quantitative data from companies that manage tankers and/or dry bulk carriers related to their practices, perceptions and developments in the field of CSR and sustainable development. Participating companies with diverse fleets (i.e. containers, general cargo etc.) can also participate in the survey; however, it is compulsory that they will manage, as part of their overall fleet, dry bulkers and /or tankers. The Demographic part refers to the collection of data related to some particular characteristics of our sample population (responder gender and age, market sector, fleet size, employees' number and respondents working department etc). Moreover, in this part, we collect information regarding the company's base country from which the technical management of the ships is performed. Demographic information gathered from our survey questionnaire will assist us to analyse and compare the demographic data across other information collected by this survey. For example, we will use such information in order to discover how the market sector (dry or tanker and company's size), company's size and base country correlates with CSR/sustainability perceptions and attitudes practiced by the shipping companies. Another valuable point of the demographic part would the collection and comparison of information over the various industry standards (i.e. ISO9001, ISO14001 etc.) for which companies have been certified, the awareness over CSR and sustainable development, the obstacles and motives for the implementation of CSR etc. Moreover, such data will enable us to analyse and compare the CSR awareness and practices of certified against non-certified companies and associate how CSR and SD perceptions differentiate according to their management style (i.e. ship-owners, third party managers etc.).

7.3 Awareness and Attitude

The 2030 Agenda and incorporated Sustainable Development Goals signalized a new era for global sustainable development, where nations and stakeholders, from the public and private sector, will be soon called to demonstrate achievements towards specific targets. The shipping industry has been significantly impacted from those developments (Griggs et al. 2013). The International Maritime Organization has already welcomed the SDGs and has been actively participating to the formulation of Organization's strategy and plan. Such IMO's vision for a sustainable maritime transportation system came at a transition moment

in the history of sustainable development, where the end of the Millennium Development Goals was followed by the era of Sustainable Development Goals and the 2030 Agenda (Lister 2015). IMO, in its attempt to cope with United Nations sustainability mandates, has already published its Strategic Directions and High level Action Plan (HLAP) (IMO 2017). Thus, it should be anticipated that such maritime regulatory framework will translate and disseminate SDGs into specific measurable requirements that will be, subsequently, applied to the maritime industry. In the area of corporate social responsibility, literature review showed that with the exception of the container and cruise ship sector CSR in the tanker and dry bulk sector still remains at voluntary level (Fafaliou et al. 2006). In that sense, sustainability and CSR themes are more understood as the responsibility of shipping companies to run their ships in compliance with mandatory health, safety and environmental statutory requirements. As such, although there is an obvious motivation and pursuit for the development of a homogenous CSR framework, initiatives, collaboration, standards, and practices in the maritime sector, however, such attempts are relatively recent and limited (Coady et al. 2013).

Nevertheless, existing voluntary CSR initiatives and collaborations in the maritime industry continue to grow. Irrespective of their perspective, they all seek to establish a common language and vision on CSR concept, encourage adoption of sustainability practices and inspire maritime companies to go beyond mere compliance with environmental, health and safety national and international standards (Lu et al. 2009). Policy developments in the international maritime arena, such as IMO's statement that we should, *"inter alia, anchoring the vision of sustainable development into "Corporate Social Responsibility" (CSR) related activities"* (Sekimizu pp.22 2012) have indicated CSR as an indispensable mean to achieve sustainable development. Further to that, the multidimensional character of CSR has been also stressed out by the European Commission. Compliance with applicable legislation is considered of paramount importance and a vital prerequisite for companies to meet their social obligations. However, as per Commission, a social responsible firm should go beyond mere compliance with applicable legislation and "*have in place a process to integrate social, environmental, ethical, human rights and consumer concerns into their business operations and core strategy in close collaboration with their stakeholder*" (European Commission, pp.1, 2011). In other words, a socially responsible company should find a way to deal with

all multiple aspects of sustainability (environmental, social and economic). Though, it should be born in mind that exceeding regulatory compliance is an inherent feature of CSR principles (Amini and Bienstock 2014).

In a study carried out on the implementation of corporate social responsibility in the Baltic Sea maritime sector it has been affirmed that, although voluntarily, though, shipping companies have been increasingly taking part in activities that contribute to environmental protection, society's welfare and establishment of better relationships with stakeholders. As a result, over the last decades, various ethical, social, environmental and economic challenges have transformed their perception and have broadened their understanding on CSR (Coady et al. 2013). Similarly, CSR has not been merely recognized as a tactic to deal with maritime health, safety and environmental regulatory issues, but rather as a voluntary mean to contribute to the overall company's social, environmental and economic performance, advancement of provided service quality and enhancement of company's commercial image and reputation (Kunnaala and Viertola 2014). Such evolution to the understanding of CSR in the shipping sector is also in line with Crowther (2008) study that identifies CSR as a broad, multilateral issue that goes beyond compliance with minimum and mandatory legal or regulatory requirements. Similarly, IMO's statement that "*optimally, a safety culture **should go beyond mere regulatory compliance** and deliver added value for the System through the promotion of safety culture aims* (Sekimizu pp.12 2012). However, such combined CSR understanding is believed to be have been influenced by current introduction of sustainability in the maritime sector as an integrated triptych (Colbert and Kurucz 2007). As a matter of fact, sustainability notion superseded that of CSR. It is interesting though that, nowadays, UNs 2030 Agenda and SDGs have attempted a wide-ranging diffusion of sustainable development under its three dimensions (Yakovleva et al. 2017). According to Fauzi et al. (2010) achieving sustainability today requires integrated solutions and decisions taken at strategic level. Therefore, integrating sustainability dimensions (economic, social and environmental aspects) across business operations and, thus, leading the organization to the achievement of sustainability objectives can be better accomplished by adopting CSR into business strategy (Ganescu 2012).

Accordingly, such integrated approach to sustainability reinforces CSR understanding as voluntary business approach that will assimilate current sustainability elements under its

auspices (Teece 2010). Thereby, it is reasonably assumed that UNs sustainable development approach as has been formulated under its three dimensions (economic, social and environmental), is expected to have further shaped CSR understanding in the maritime industry as an integrated and beyond regulatory compliance model to manage sustainability. Therefore, it is hypothesized that:

H_1: CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions.

7.4 Practices, Measurement and Disclosure

As previously discussed, regulatory and policy developments have, steadily, diffused CSR in the shipping sector which, nowadays, has been, increasingly, incorporated into the philosophy and strategy of maritime companies (Coady et al. 2013). An indicative example of such trend is the container shipping industry where we have witnessed a motivation and adoption of social initiatives such as, reduction of $CO2$ emissions, use of eco-friendly containers made from less wood which are up to 100% recyclable and establishing humanitarian activities such as, the "Containers of Hope" project run by CMA CGM company, which provide free shipping of humanitarian material and equipment (CMA CGM Group 2017). Moreover, other container companies, such as Evergreen Marine Corporation, have been actively engaging in CSR reporting through structured assessment and disclosures on employee welfare, education and training, ship emission management, stakeholders' management, charitable activities and involvement and support of various greenhouse effect projects and research (Evergreen marine Corporation 2016). However, irrespective of such worldwide growing CSR and sustainability trends, the maritime world has always been conversed and challenged by themes such as, health, safety and environmental protection, seafarers labour rights, energy efficiency and emissions reduction (Pun et al. 2003). The management of ships has customarily been an activity that requires several cross-border maritime activities to be taking place on a daily basis (such as transactions with multinational entities and individuals, global ship operations and stakeholders' management) (Donaldson 1994). Thinking and acting internationally has always been a routine for shipping professionals and compliance with safety, health and environmental regulations refers to an integral and vital element of shipping business (DeSombre 2006).

Attempting to frame CSR within the maritime context, it can be inferred that, traditionally, CSR concept could be treated as synonymous to the term: *'quality shipping'.* Such term, initially, depicted ship-owners to run their ships in compliance with all applicable, national, regional and international rules related to health, safety, environmental protection, maintaining, thus, profitability of their business. Therefore, CSR could be assumed that was understood as synonymous to *'quality'* with only a few entrepreneurs being aware of its deepest meaning and intersections it might have with CSR (Donaldson 1994). However, globalization trends, stricter environmental regulation, increasing efforts for transparency and control on labour rights, easier information flow, growing stakeholders' pressure and concern on sustainability and the sensitive and vulnerable to disasters and accidents image of shipping have urged shipping companies to transform their perceptions of *'quality shipping'* which, nowadays, refers to a multidimensional term (Lund-Thomsen 2016). Within the quality context, Frolova and Lapina (2014) highlight that CSR correlates to *quality management* philosophy. Therefore, a quality management strategy is considered to be a determinant and critical element to the creation and diffusion of CSR and sustainability across the organization (Frolova and Lapina 2014).

As it is generally the case in all high risk industries and activities, equally in shipping, it is the duty of every employer to ensure that all essential means are in place with the aim to eliminate operation risks and safeguard the safety of people and environment protection. As such, a safety management system needs to be established as a mean to define all resources and organizational arrangements for managing health, safety and environmental risks at the workplace (Gallagher et al. 2003). The Health & Safety at Work Act 1974 (HSWA), refers to an indicant piece of regulation that sets the basis for the development of health and safety law, as it prescribes employers and employees duties with regards the institution of a health, safe and environmental friendly workplace in United Kingdom (Hughes and Ferrett 2011). Similarly, the introduction of the International Safety management (ISM) Code, by IMO, in 1998, aimed at establishing the legal framework for the formation of safety management systems in the shipping industry (O'Neil 2008). Eliciting the multilateral nature of CSR and sustainability, it could be supported that an inherent feature of these notions is to safeguard and promote sound health, safety and environmental practices at workplace. Thus, it is expected that by placing CSR and sustainability at strategic level, inadvertently, makes

health and safety at workplace an integral component of corporate objectives and depicts the gravity and management commitment to the whole issue (Castka et al. 2004). Subsequently, several health, safety, social and environmental requirements and processes across the organization are, inevitably, enriched and shaped by CSR and sustainability values (Pawlowska 2013).

Recalling the quality issue, it can be claimed that integrating CSR and sustainability principles will promote health, safety and environmental performance which, without any doubt, will improves quality of operations. It is ascertained though that CSR and quality concepts have plenty intersections and complement each other (Bernal-Conesa et al. 2016). Achieving quality shipping operations is imperative for maritime business. However, the management of ships has been traditionally governed and ruled by typical maritime statutory standards, such as the ISM, ISPS Code, SOLAS and MARPOL Conventions and, therefore, the structure of safety or marine management systems has been significantly shaped by the elements of such standards (Acciaro 2012). In the new era, it is believed that incorporation of CSR and sustainability principles at strategic level will, unavoidably, transform overall organization's functioning and attitude and, thereby, influence the structure of marine safety management systems (Kunnaala and Viertola 2014). Under such approximation, it is expected that adoption of a CSR and sustainability strategy will transform and modernize the structure of marine safety management systems and, hence, supplement and align organizational processes with current CSR and sustainability Standards' requirements (Strand 2014) improving, thus, indirectly, service quality, seafarers' well-being and reduction of workplace risks (Pawlowska 2013). In the outcome of such argumentation, the following hypotheses are formulated:

H2 (a): Incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy.

H2 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is significantly influenced by engagement of CSR principles into company's policy.

7.5 Drivers and Barriers

Measuring and disclosing on sustainability is not a new activity and origins of sustainability reporting systems can be traced back to the 70s or 80s. As literature review showed, over the last 3 decades, several measuring and reporting systems have been developed each one being

based on different methodological and conceptual foundations. In discussions and forums on management practices it has been widely argued that: *You cannot manage what you cannot measure.* Therefore, it has been recognized that managing and measuring CSR and sustainability performance is as important as measuring the economic one. Currently, CSR and sustainability measurement and reporting systems have been greatly developed and employed at national, company and product levels (Hoekstra et al. 2014). A 2013 report of the Global Reporting Initiative and the UNEP depicts the growing CSR and sustainability disclosure. As it has been revealed in 2006, 58% of the 60 policies across 19 countries and regions were imposing mandatory reporting systems. 7 years later, in 2013, 72% of the 180 policies across 45 countries and regions were using mandatory sustainability reporting systems (Miller and Loman 2014). Nevertheless, mandatory and comprehensive CSR measurement and reporting systems in shipping are still at the beginning, with CSR and sustainability reporting and disclosure methods to vary and remain mostly at voluntary level (Fafaliou et al. 2006).

7.5.1   Drivers to CSR Implementation

Companies are not isolated entities functioning outside the real world and societal system. Contrary, they form part of a community and are, thus, frequently held accountable for their social and environmental impacts. Business decisions and operations bear impacts and affect people's lives, either individually or as part of a group (Epstein and Roy 2003). The theory of stakeholder management constitutes an integral part of CSR philosophy and it is imperative for a socially responsible firm to listen the issues raised by the society. As stakeholders can be defined as all those entities that can, directly or indirectly, affect or be affected by business operations (Mitchell et al, 1997). Managing stakeholders' relationships is of paramount importance for enterprises and adoption and implementation of a CSR program needs to be evaluated and feedback to be communicated to stakeholders (O'Rourke, 2004). Along with stakeholder theory, market dynamics represents a critical theory that has urged the evolution of CSR reporting. Markets and firms operating freely at international level require complete and sufficient information. And stakeholder awareness about social, environmental and financial performance is synonym to the concept of the free market (Freeman and McVea 2001). Therefore, better information entails better decision making. Further to the theory of free market, identifying and reporting business externalities

(negative impacts) is the first step in order to correct and prevent them. Information disclosure on business externalities offers a better understanding of the problem and gives the chance of a more fair allocation system of costs and benefits associated with a business activity (Healy and Palepu 2001). Regulatory forces of information disclosure is another driver of CSR reporting as governments have been increasingly adopting CSR and sustainability programs for measurement and disclosure. It should be commented though that measuring and reporting on CSR highly contributes to the improvement of company's performance and relationships with stakeholders (O'Rourke, 2004).

Currently, in view of CSR and sustainability developments, maritime stakeholders demonstrate a greater concern for issues such as, transparency, accountability, social and environmental performance of shipping operations. Commercial viability of a shipping company is significantly influenced by relationships and the way stakeholders perceive its social profile (Poulovassilis and Meidanis 2013). In that sense, disclosure on social, environmental and economic figures is greatly seen by stakeholders as a transparency mechanism and mean to mitigate and communicate positive and negative impacts emanating by business operations. Particularly in the shipping sector, maritime companies have been regularly dealing with a variety of stakeholders such as, Flag Administrations, Port State Controls, Labour Unions and Associations etc. Thereby, stakeholder engagement refers to a crucial aspect of ship management, policy making and ocean governance (Roe 2013). Since maritime stakeholders have been showing a growing interest towards CSR and sustainability issues interaction with those entities generates significant risks such as, loss of trust and commercial reputation, detention of a ship, loss of hire and harm of company's image, fines imposed by statutory violations etc. It is, therefore, understandable that shipping companies are highly seeking to eliminate such risks in order to ensure their overall commercial viability (Kunnaala and Viertola 2014).

As previously highlighted adoption of a CSR strategy, measurement and reporting program has proved to be a useful tool in the hands of organizations in their attempt to improve relationships with stakeholders and enhance company's ability to manage corporate risks (Kytle and Ruggie 2005). Further considering the stakeholder issue, a study carried out for the CSR application in the Baltic Sea Maritime sector showed that shipping companies value and consider CSR activities as a mean to increase customer trust, loyalty and chances to

attract new customers (namely, charterers) and, therefore, expand their business. Besides, in this study shipping companies expressed the belief that trust and reputation in the market improves significantly when engaging with CSR activities (Kunnaala and Viertola 2014). Under such analysis, it is believed that an encouraging attitude by stakeholders on CSR disclosure would positively incline shipping companies to adopt a CSR strategy, measurement and reporting program. As such, the following hypothesis is developed:

H₃: Adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.

7.5.2 Barriers to CSR Implementation

Sustainable Development Goals (SDGs) have already opened the door for governments to embed in their policies comprehensive sustainability and CSR business reporting and measurement requirements. Businesses that address CSR and sustainable development issues into their operations will definitely benefit and lead the way forward (Biermann et al. 2017). However, regardless the existence or not of a uniform and statutory CSR standard, success of a CSR undertaking is greatly dependent on many factors, with organizational culture being one of the most critical parameter (Jaakson et al. 2009).The are several viewpoints that have been used to describe organizational culture, which over time has become a highly ambiguous term and major area of concern for organizations and academics (Ouchi and Wilkins 1985). Reviewing related literature has been ascertained that various approaches and definitions have been employed to identify organizational culture with plenty of them to contradict as they serve different purposes and points of view (Daugherty 2007). However, attempting to establish a widely adopted viewpoint, organizational culture could be defined as the entire norms, working atmosphere and practices adopted by organizations in their attempt to achieve their corporate targets (O'Donnell and Boyle 2003). Organizations, definitely, require a tool that could be used to shape behaviours and attitudes across company enabling, thus, the organization to adapt to the external environment and challenges. Strategic management is critically important since it is seen as the conductor that delivers corporate culture directions to employees and, therefore, shapes organizational behaviour in the respective market sector (Tasgit et al. 2017). Decision to adopt a CSR policy is strongly reflected and governed by organizational culture. Considering such view

from the opposite direction we can assume that a corporate culture that is not supportive and keen to embrace CSR elements will, unavoidably, form a principal barrier to every CSR undertaking (Valkovičová 2018).

Senior management commitment refers to a key determinant for the success of every business initiative. Beliefs and commitment of top management has been closely considered as the mirror of organizational culture. Management executives play a vital role in shaping and diffusing organization's principles across all layers of the organization. Consequently, their principles and beliefs about how an organization should be managed will be, considerably, reflected into organization's processes and social concerns and will, therefore, greatly influence company's CSR venture (Swanson 2008). Senior managers convey corporate strategy, materialize policies and set their guidelines in order to influence and motivate their subordinates to the desired direction. Forming and disseminating CSR values across the organization will definitely fail without the prior appreciation and belief of senior managers on the benefits of such venture (Valkovičová 2018). As such, adoption of a CSR strategy, measurement and reporting program will not be fruitful without the earlier commitment and support of senior managers. A company that operates with a sole profit making target will not be able to appreciate and pass the philosophy to employees about the long term benefits that CSR values could bring to the organization (Shen et al. 2015). It is understandable though that organizational culture, reflected through senior management commitment, is held responsible for the success of every major undertaking within an organization. Therefore, the lack of a CSR culture and determination from senior managers represents the leading discouraging factor to the adoption of a CSR initiative within the firm (Lee and Kim 2017).

Nowadays, there are significant arguments and developments that urge the application of CSR and sustainability codes in the shipping industry. Most of them lay on the critical for the industry topics of Ocean Governance and International Standardization, Environmental Stewardship and Energy Efficiency, Safety and Security at Sea, Human Element, Education and Wellbeing and Commercial and Market Incentives (Sekimizu 2012). Previous literature review showed that CSR concept has progressively, directly or indirectly, been taking place within shipping industry practices. The container and cruise ship sector is a remarkable example of such growing trend (Lekakou et al. 2016). However, such case is an exception as

the remaining shipping sectors (takers and bulk carriers) have not shown a wide commitment and encouragement for the application of CSR standards (Fafaliou et al. 2006). As a matter of fact, customarily, shipping companies have been managed in a manner that CSR aspects have not been explicitly reflected into their operations. The non-existence of a senior management culture and commitment to appreciate the benefits that CSR principles could bring to the organization and, thus, encourage its implementation is considered to be the most important deterring factor for shipping companies for such late adoption a CSR policy and reporting program (Kunnaala and Viertola 2014). Similarly, Yuen and Lim (2016) supports that the lack of CSR appreciation and encouragement from senior management has been, highly, indicated as an obstacle to CSR implementation in the maritime industry. Specifically, the non-recognition on behalf of top management of the added benefits born by CSR engagement refers to a major restraining factor to CSR implementation by shipping companies (Yuen and Lim 2016). It is, thus, hypothesised that:

H4: Adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.

7.6 Linkage between CSR and Sustainable Development

In our attempt to investigate and identify the linkages and correlations between CSR and sustainable development literature review has revealed several approaches and interpretations between those terms (Ebner and Baumgartner 2006). Largely, CSR relates to a multilateral notion as various interpretations and versions have been emanated by practical encountering with such term (Van Marrewijk 2003). Along with its various versions and understandings, CSR has been also characterized as a constantly evolving concept, which has been growingly shaped and reflected into business setting (Khan et al. 2012). Since its initial appearance, during the 1950s and the 1960s, it was primarily identified as firm's minimum obligation to ensure and improve employees' and society's standard of living (Davis 1960). In this line, philanthropic activities and charities represented some widely accepted CSR versions of that era (Murphy 1978). However, such emerging CSR trends were frequently controverted by other cynic viewpoints, which regarded private corporations as solely profit making entities (Friedman 2007). In a similar perspective, Wilson (2003) identified CSR as a managerial tactic and tool used to offer profit-maximization solutions, without being governed by any emotional or moral substance. Closely related to such

approximation the majority of scholars lend to CSR a managerial orientation employed to deal with issues such as, business ethics and transparency, stakeholder engagement and sustainability achievement (Ebner and Baumgartner 2006). Thus, CSR identification as a business model seems to prevail in the overall business setting, with the profit-making CSR orientation to be also complemented by further firm's pursuits (McWilliams and Siegel 2001). Environmental degradation and climate change impacts that emerged during the 1980s and the 1990s, shifted CSR conception towards sustainability thinking and stakeholder management issues (Carroll 2000). As Dewangga et al. (2008) suggests growing environmental sensitivity and the need to balance stakeholders' needs have highly diffused CSR as a voluntary and beyond regulatory approach employed to integrate and manage firm's environmental, social and economic challenges. Interestingly, such CSR recognition as a business model and strategic management tool has been growing, closely, with the need to manage emerging sustainability needs (Bowen and Haire 1975).

Sustainable development concept was introduced in an attempt to eliminate environmental degradation and reverse the negative impacts to society generated by unceasing economic growth (Reid 2005). Protecting our environmental ecosystem and ensuring the continuity and availability of our natural resources for the future generations was the primal determinant of sustainability introduction (Huge and Waas 2011). However, evolving perceptions, coupled by the need to deal with environmental and social issues in an integrated manner, gave rise to the formation of sustainability as an integrated notion, the so called '*triple bottom line*' approach, which was first conceptualized by Elkington (1997). Since then, there is a general consensus and acceptance of sustainable development under such integrated form (social, environmental and economic) as the most effective approach to ensure business viability (Gibson et al. 2005). Similarly, in the aftermath of United Nations 2030 Agenda, the global community has reinforced the meaning of sustainability in such integrated manner (Nam 2015). It is worth noting, though, that such promotion of sustainability as a unified term has been grown simultaneously with the diffusion of CSR as a business model that will support sustainability objectives (Dey and Sircar 2012). Thus, CSR has been considered as a strategic tool that will enable the organization to design and incorporate in its functions and processes the elements of sustainability (Kurucz et al. 2008). However, a remarkable point in our analysis refers to fact that, nowadays, and further to

regulatory developments, sustainability has been placed and considered as a major determinant of corporate strategy (Rochlin et al. 2005). Undeniably, achieving recent sustainability mandates requires effective designing and embedding sustainability principles into corporate strategy. Hence, inserting sustainable development at strategic level has inclined managers to look for management patterns that will serve such needs (Ganescu 2012). Therefore, such consideration of sustainability principles as part of CSR corporate strategy has shaped and channelled CSR understanding to a business model and strategic management tool to deal with such challenges (Teece 2010).

The International maritime Organization appears to be consistent with above considerations, namely, that CSR should form the organizational framework and managerial tactic to anchor sustainable maritime initiatives. IMO, in its release and commitment for a sustainable maritime transportation system appeared fully harmonized with United Nations Sustainable Development Goals and urged the maritime industry to integrate such sustainable development dimensions into a CSR grounded business model and management system (Sekimizu 2012). At regional level, the European Commission, through the formation of the European Sustainable Shipping Forum (ESSF), created on September 2013, stressed the necessity to promote a sustainable European shipping sector. Aligned with IMO viewpoint, the European Commission has also highlighted the need to consider sustainability in an integrated manner and, thereby, utilize CSR as the vehicle to achieve it (Van Leeuwen 2015). The Norwegian Ship owners' Association refers to another maritime entity that has investigated and encouraged contribution of the shipping industry to the achievement of United Nations sustainability mandates. Specifically, the Norwegian Ship owners' Association, after having recognized shipping industry's contributions to SDGs, has also recognized CSR principles as an effective mean to achieve a sustainable shipping industry. UNs Global Compact Ten Principles are employed as the managerial tool and business model to assist maritime companies to align their policies and operations with SDGs (Norwegian Ship owners' Association 2019).

As per above discussion, it could be assumed that CSR in shipping has been understood and played the role of a wider business model to be employed by businesses in their attempt to deal with their economic, social and environmental challenges, leading thus, to sustainable development achievement. However, it is believed that such recognition of CSR as a

strategic management tool has been initiated by companies' simultaneous stance to invest in sustainable development and, thus, consider sustainability objectives as integral part of their corporate strategy. As such, the following hypothesis is developed:

H5: Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.

Private corporations operate in a multifaceted business environment experiencing several challenges such as, technological advances, regulatory updates, societal acts, resources constrains and subject to overall globalization trends (Giesen et al. 2010). Careful consideration and planning of business actions is imperative, along with a thorough understanding of strengths and limitations that will enable them to effectively design and plot their commercial orientation (Casadesus-Masanell and Ricart 2010). Strategy or strategic thinking is, therefore, defined as a process through which organizations identify risks and opportunities, prioritize action areas, set their policy objectives and goals and establish directions on how to achieve them (Chandler 1962). It is worth distinguishing at this point the meaning of strategy and activity. Strategy lies on the top level of an enterprise and refers to the planning and designing of activities that will bring to the organization desired results (Porter 1996). Further to that, an activity is the succeeding result of a strategic thinking (Osterwalder 2004). Hereafter, a conductor is required to transmit a firm's strategy across the organization and, thus, shape processes and activities in a way that corporate objectives are achieved. A business model is commonly referred as the mean to serve such pursuit (Mustafa and Werthner 2011). Since business model term shares many attributes, thus, there is not a standardised model to describe it. However, largely, a business model encompasses organization's operating practices as have been created by preceding strategic directions (Markides 2013). Senior management definitely needs a business model in order to convey strategic directions across the organization reaching, thus, its set objectives (Venkatramann and Henderson 1998). Besides, a business model adopted by an organization is representative to its culture, since it expresses the fundamental reasoning and rationale that governs associated business processes such as, business ethics, perceptions of health and safety at workplace, labour rights, risk management, stakeholders' relationships contributing, thus, to value creation (Petrovic et al. 2001). Hence, a linear directional association is identified between corporate strategy and business model, which is,

furthermore, depicted into company's detailed procedures used to achieve corporate targets (Harreld et al. 2007).

As can be inferred so far a business model refers to a wide-ranging term and it is up to the discretion senior management to shape it and make it work. Thereby, effective functioning of a business model requires designing specific procedures, formerly, adjusted to organization's particular needs and operating features (Pardy and Andrews 2009). The nature of business, its defined scope and strategic objectives will, therefore, determine selection of the appropriate model to be followed (Raišienė 2011). Several industry Standards, statutory Codes and guidelines have been developed with the objective to provide the founding principles and operating framework so as to enable organizations to develop specific tailor-made procedures adjusted to its services and business scope. Some of them, which also find wide applicability in shipping, refer to ISO9001 (quality management), ISO14001 (environmental management) and OHSAS18001 (health & safety management) (Oskarsson and Von Malmborg 2005). Hence, incorporating elements of such industry Standards refers to a common practice and flexible tactic in business setting and shipping as well, allowing thus, companies to integrate elements of such industry Standards with applicable statutory regulations. Such developed uniform management schemes, are frequently termed as integrated management system (IMS) (McDonald et al. 2003). Although elements of such Standards can function independently, however, developing integrated management systems provides a systematic, flexible and coordinated method to manage organization processes eliminating, thus, duplication, conflicting activities and waste of resources (Wright 2000).

In terms of corporate social responsibility management, as mentioned previously CSR adoption commences at strategic level and, therefore, reflects organization's philosophy and stance in making business (Weber 2008). It is reasonable, though, that integrating CSR into business strategy requires the development of a suitably designed business model so as to fulfil organization's strategic CSR vision (Deming 2018). In such effort, the IMS approach provides a viable solution to transmit and materialize company's CSR strategic objectives and goals across all organizational levels and business processes. Accordingly, organization's processes, operating risks, stakeholders' expectations and performance targets can be balanced and managed through a structured business model, termed 'integrated

management system' (Asif et al. 2013). Similarly, such management attitude can suit sustainability chases and provides the policy framework to attain sustainable operations via an integrated management system model (Gianni et al. 2017). Thus, having primarily considered CSR as a management tool to serve corporate objectives, indirectly, forms the basis for sustainability integration through adoption an IMS models so as to accomplish such complicated venture. Subsequently, principles of applicable industry standards each one dealing with a plethora of safety, social, economic and environmental regulations can be embraced and standardized across organization's functions (Abrahamsson et al. 2010).

United Nations 2030 Agenda and associated Sustainable Development Goals have brought several implications for shipping companies, which surely need to transform their overall approach to sustainability and, actively, contribute to such ambitious global venture (Sachs 2012). The integrated management system refers to a comprehensive tool in the hands of senior managers in their attempt to meet such current sustainability needs (Başaran 2017). In the light of such developments, shipping companies have a vital role to play and contribute to United Nations and IMO commitment for a sustainable maritime transportation system (Sekimizu 2012). However, it is worth mentioning that the IMS philosophy refers to a management tactic that has been adopted in the maritime industry since a long time and has enabled shipping companies to align their strategy with operations and excel in the multifaceted maritime business environment (Samy et al. 2015). However, corporate social responsibility, although a relatively recent concept in shipping, has increasingly attracted the interest of international and regional Organizations (such as IMO and European Commission) and has been promoted as a significant business model to integrate sustainability mandates contributing, thus, to the success of Sustainable Development Goals (Toffel et al. 2003). In line with this, Poulovassilis and Meidanis (2013) support that embedding CSR at strategic level is a significant step to the recognition of the IMS approach as an effective method to manage current sustainability challenges. In the aftermath of recent sustainability trends, it is assumed that establishing a CSR framework can cultivate a business culture and, thus, guide maritime companies to choose an integrated management system as a mean to achieve current multilateral sustainability objectives (environmental, social and economic) (Ionescu et al. 2018). It is consequently hypothesized that:

H_6: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.

7.7　Conclusion

This chapter concludes and draws from the knowledge acquired by previous conducted literature review and will, subsequently, underpin the later empirical inquiry of this study fulfilling, thus, our key research objectives. It has provided the foundations and conceptual framework on which 6 testable hypotheses have been developed with the aim to get a more thorough view of how CSR and sustainable development concepts are perceived and function in today's shipping business, the degree to which regulatory trends have been adopted and affected the maritime industry and their interactions. As literature review revealed, there has already been in place an established business culture on CSR in other industries, in contrast to shipping, where regulatory developments are relatively recent and perceptions and practices, related to CSR and sustainability, somewhat unexplored. To determine shipping industry's CSR and sustainability awareness and attitude, hypothesis 1 suggests that CSR is understood as an integrated and beyond regulatory compliance notion, which is significantly influenced by latest sustainability diffusion under the *triple bottom line* approach. The next two hypotheses, hypothesis 2(a) and 2 (b), seek to provide insights on the extent to which maritime activities, as executed through marine safety management systems, has been influenced by latest CSR and sustainability developments. Hypotheses 3 and 4 seek to examine the barriers and drivers associated with CSR implementation in shipping and draw their assumptions on organizational culture and stakeholder theory. Moreover, hypotheses 5 and 6 draw from overall literature examination and aspire to provide conclusions about the relationship between CSR and sustainability in shipping and the role that CSR can play in accomplishing United Nations Sustainable Development Goals. Particularly, hypothesis 5 argued that, opposing to other theories on the relationship between CSR and sustainability, the maritime sector perceives CSR as a strategic management tool that embraces sustainability under its auspices. Similarly, hypothesis 6 suggests that comprehending CSR as a business model to deal with sustainability challenges will, inevitably, guide maritime companies to the adoption of the integrated management

system approach. The next chapter discusses the results from the application of statistical techniques, as underpinned by our adopted research methodology.

8 QUANTITATIVE DATA ANALYSIS - THE RESULTS

8.1 Introduction

Descriptive (univariate) and inferential (bivariate) statistical methods are employed so as to analyze collected data. Quantitative data analysis equipped in this study is structured into two sections. Firstly, **section 8.2** incorporates the results of the univariate analysis, aiming to show the frequency distributions of a number of variables, analyzing one variable at a time. Secondly, **section 8.3** employs bivariate analysis techniques, seeking to describe the relationship between two variables testing, thus, formulated hypotheses. Both univariate and bivariate analysis techniques are explained below. To estimate and conduct our quantitative data analysis (Univariate and Bivariate) the IBM SPSS Software, Version 25, for windows was used.

8.2 Descriptive Statistics - Univariate Analysis

As it was previously mentioned, this study utilizes quantitative data collection and analysis methods in order to approximate and provide an understanding of our research topic. As such, a number of variables are employed to describe and analyze present conformations of corporate social responsibility and sustainability in the shipping industry. However, as it is the case in univariate analysis, only one variable is analyzed at a time. In that sense, certain methods for data collection and analysis are used and enable us to describe the characteristics, situations or behaviors of a sample population. They are methodically designed, planned and organized in a way that quantifiable data can be collected and produce a summary of conclusions on the frequency, mean, median, mode, percentage, variables correlation and deviance from the mean (Research Methodology 2018). However, due to the particular features of our collected data, which are **categorical measured on a nominal** (i.e. Yes, No, I am not sure) and **ordinal** (i.e. Strongly Agree to Strongly Disagree) **scale**, our univariate analysis will describe the variables by their frequency distribution only. The **frequency distribution** refers to a univariate data analysis method which shows the individual values, for a particular variable, as a summary of the frequency, percentage or ranges of values. It employs tables and graphs (pie charts, bar charts etc.) to summarize and present unorganized data (Arithmetic mean From Wikipedia 2018).

The highest participants' rate (76%) was males. In addition, 24% of the participants were females. The majority of participants (34%) belonged to the 41-50 age group, with the minority of them (6%) belonging to the 20-30 age group. The rest of the participants belonged to the following age groups: 14 participants belonged to the 31-40 age group (28%) and 16 participants belonged to the 51+ age group (23%). The highest participants' rate (72%) answered that they manage Tankers and/or Gas Carriers vessels, while 4% of the companies answered that they manage Passenger/Cruise ships, additionally to their tanker/bulker fleet. The highest participants' rate (42%) answered that they manage a number of ships that ranges between 1 to 20 ships, while, 10% of the participants answered that their fleet size ranges between 21 to 40 vessels. As far as the rest of the companies is concerned, 17 participants stated that their company manages more than 61ships (34%) and 7 companies stated that their fleet ranges between 41 to 60 ships (14%). The highest participants' rate (58%) answered that the number of company's employees (both at the office and ashore personnel) exceeds 251 persons, while 8% of the companies answered that their number of employees ranges between 1 to 50 persons. The highest participants' rate (64%) answered that they work in the QHSE department, while 4% of the respondents answered that they work in the technical and accounting department. From the remaining respondents, 6 participants (12%) work in the human resources, 5 (10%) in the operations and 3 (6%) in other company's department (Communications and CSR). Table 8 summarizes above mentioned descriptive data.

Table 8 General Descriptive Data

Gender		Age Group		Types of Vessels		Fleet Size	
Male:	38	**20 – 30:**	3	**Dry**	: 25	**1-20**	:21
Female:	12	**31 – 40:**	14	**Tankers/Gas**	: 36	**21-40**	:5
		41 – 50:	17	**Container/General**	:12	**41-60**	:7
		51 + :	16			**61 +**	:17

In total, 50 companies participated in the survey, which belonged in 14 countries. The majority of the responding companies were based in Norway (22%) and Greece (20%), while the remaining companies were based in Italy (2%), Monaco (2%), Sweden (2%), Turkey (2%) and Belgium (2%). Such distribution of companies home country provides a diversification in our study data, which are not constrained to the opinions of a sole country. A summary of companies' base country is presented at **Table 8.1** below.

Table 8.1 Frequency Table of Companies' base county

Countries	Frequency	Percent
Norway	11	22
Greece	10	20
Denmark	7	14
Cyprus	8	8
Germany	8	8
Finland	3	6
Canada	2	4
Switzerland	2	4
The Netherlands	2	4
Italy	1	2
Monaco	1	2
Sweden	1	2
Turkey	1	2
Belgium	1	2

The highest participants' rate (48%) answered that they work in a ship-owning company that performs exclusive technical ship management services to a sole ship owner, while 4% operate a mix of owned and chartered tonnage outsourced to a third party company. From the remaining, 22% represent a third party ship management company and 26% perform technical ship management services, mainly, for one ship owner but periodically to other ship owners. As can be viewed by such results our research sample includes maritime companies representing several management '*styles*', a fact that gives a high diversity to our results background. These results are presented at **Figure 8.1** that follows.
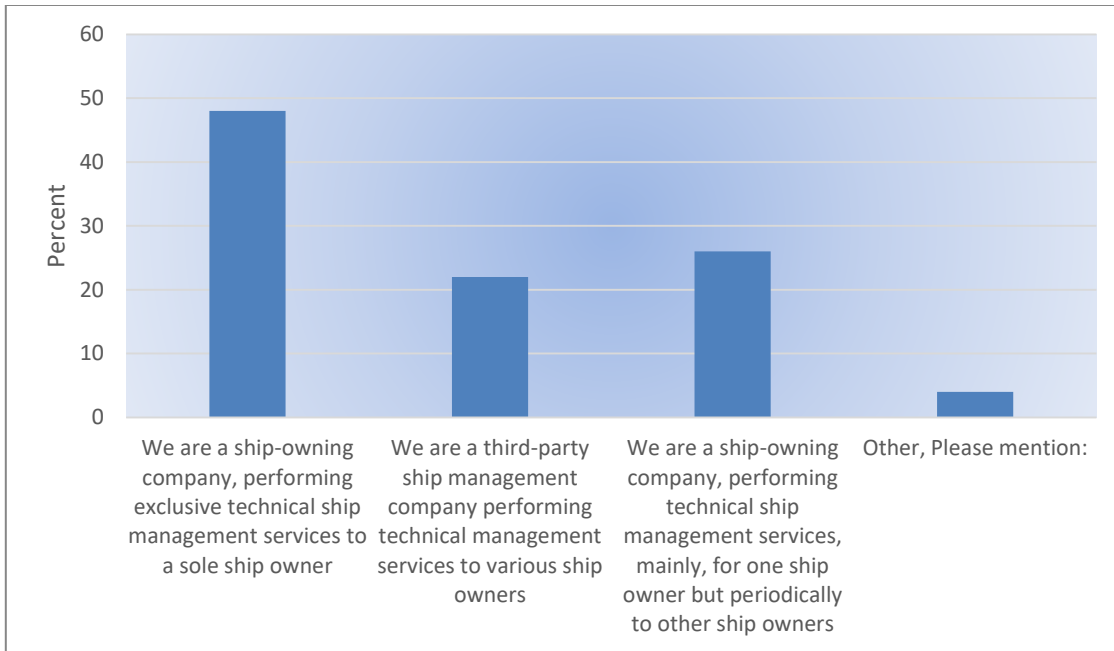
Figure 8.1. Bar Chart of the percentage of Companies' management 'style'

The highest participants' rate (94%) answered that they were personally aware of CSR theme; while 6% of the participants replied that they were not aware of it. It is, therefore evident that shipping industry's CSR awareness remains at a high rate, a finding which confirms the expanding diffusion of such notion in the sector, as drawn by conducted literature review. These results are represented at **Figure 8.2** that follows.

Figure 8.2. Bar Chart of the respondents'personal awareness on CSR

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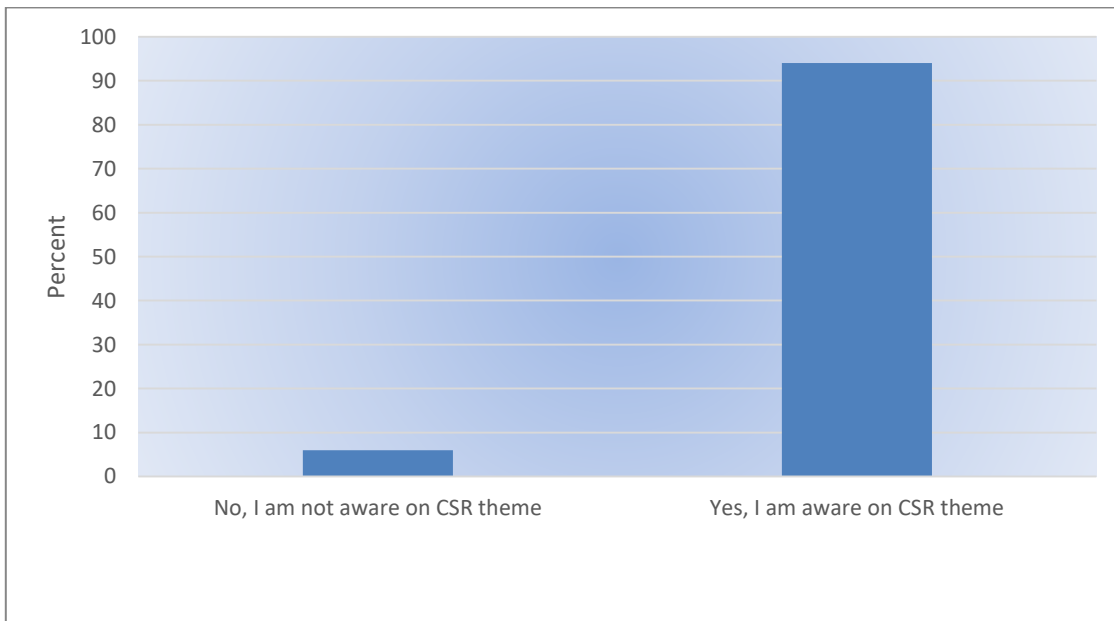
58% of the respondents answered that they have been certified against ISO 9001 Quality Management Standard, while only 2% of the respondents answered that they have been certified against a CSR Standard. Moreover, respondents have been certified against ISO 14001 Environmental Management Standard (62%), OHSAS 18001 health & safety Standard (26%), ISO 50001 Energy Management Standard (12%) and ISO 21000 Risk Management Standard (4%). Also 16% of the respondents answered that they have not been certified against any industry standards. Reviewing such results it is affirmed that the maritime industry is well conversed with the adoption of industry standards to complement their ship management activities. However, as it is found, inclination towards the adoption of an official CSR standard is extremely limited. These results are represented at **Figure 8.3** that follows.
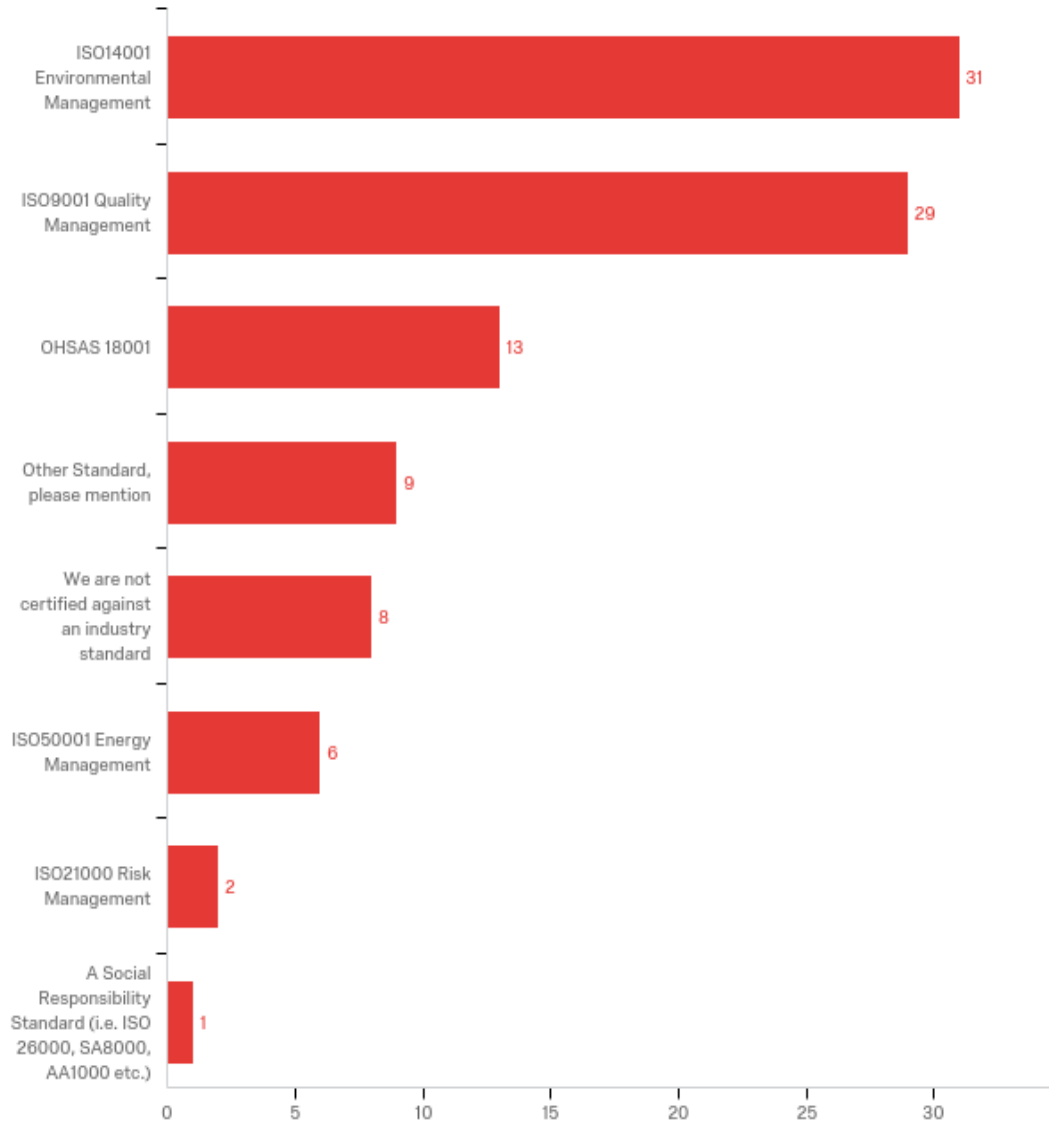
Figure 8.3. Bar Chart of the standard(s) under which the companies have been certified

The majority of the participants (82%) answered that they their company has adopted Corporate Social Responsibility policy/principles in its ship management operations, while 10% indicated that they have not incorporated. Such finding shows the sector's growing recognition and integration of CSR principles at strategic/policy level. These results are represented at **Figure 8.4** that follows.
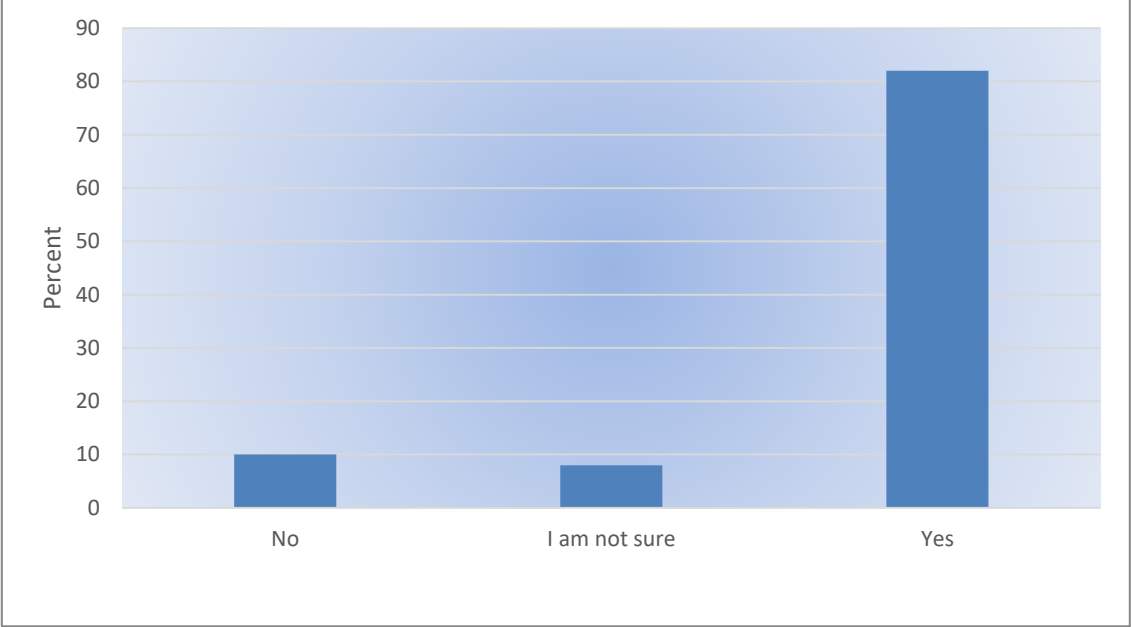
Figure 8.4. Bar Chart of the Companies rate that has adopted a CSR policy/principles

The majority of the participants (86%) answered that ensuring decent working conditions for seafarers (i.e. adequate food, recreation facilities, mandatory days off, rest hours etc.) should be part of company's CSR policy/program, while 12% responded that it shouldn't be part of company's CSR policy/program. Additionally, the majority of the participants (70%) answered that establishing a Sustainability Policy/Program in order to manage long-term social, economic, environmental risks should be part of company's CSR policy/program; while 20% responded that it shouldn't be part of company's CSR policy/program. Furthermore, topics such as managing risks and relationships with stakeholders (charterers, PSC, Flag administrations, local communities etc.) (78%), implementing an Environmental management programme (82%), implementing an energy consumption/saving program

(82%), complying with applicable statutory health, safety and environmental legislation (84%) and adopting a Business Code of Conduct and ethics compliance (Anti-corruption, extortion, bribery) (84%) are highly rated to be part of company's CSR policy/program. Topics such as conducting donations, charities to communities or organizations (46%), following up with technological upgrades (62%) and providing training to employees to deal with technological upgrades (62%) are less indicated that should form part of company's CSR policy/program. Interestingly, a Sustainability Policy/Program is identified to be part of a CSR policy, a fact that distinguishes and clarifies sustainability understanding as a matter embraced under the auspices of CSR (a viewpoint analogous to recent IMO direction for a sustainable maritime transportation system). Another valuable point is the high rate of stakeholders' relationships management through a CSR policy/program, a fact that highlights the weightiness and changing perception of the maritime sector in dealing with stakeholders. These results are represented at **Figure 8.5** that follows.
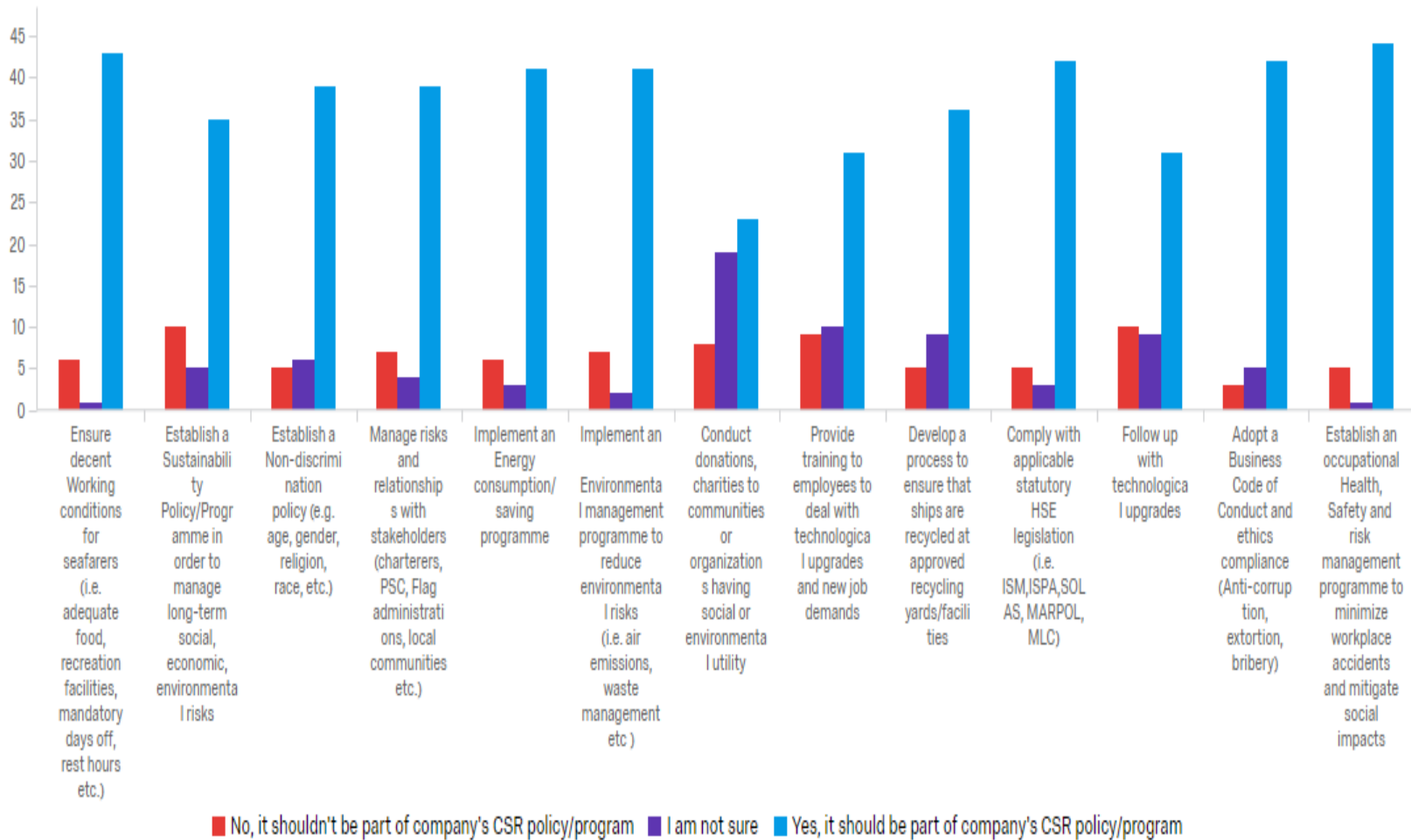
Figure 8.5. Bar Chart of the topics that should be part of a company's CSR policy/program

The majority of the participants (96%) answered that they strongly agree to agree with the statement that Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy, while 2% strongly disagree with this statement. It has been affirmed tough that, alike other industries, CSR is perceived, by the maritime industry, as an activity that exceeds statutory regulatory compliance and still remains at voluntary level. Such finding, potentially explains the limited certification of shipping companies against an official CSR standard. These results are represented at **Figure 8.6** that follow.
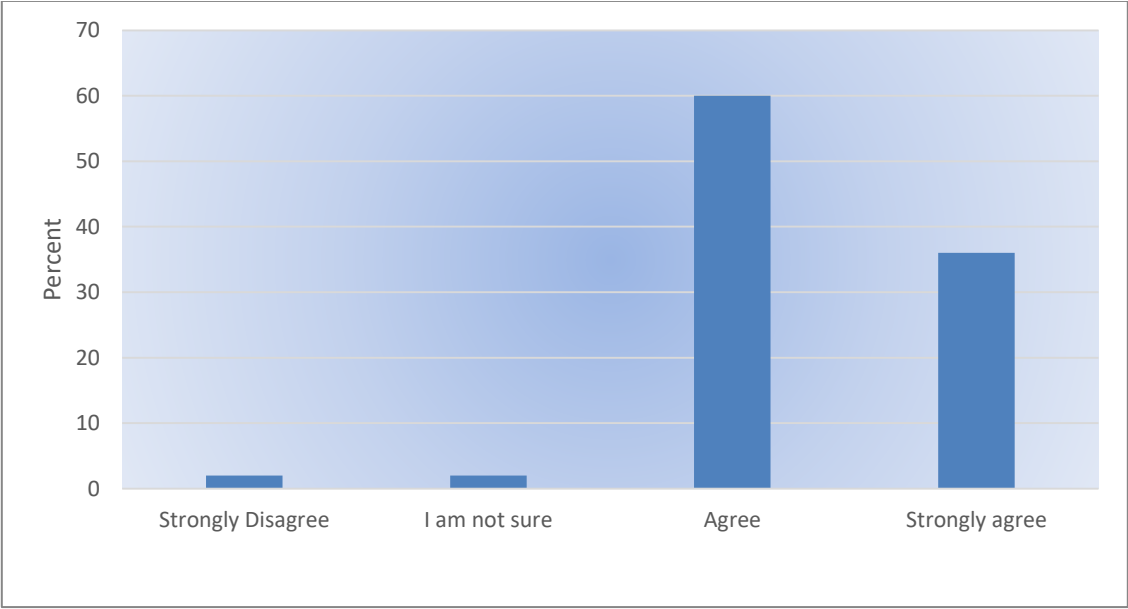
Figure 8.6. Companies' rate of agreement on CSR understanding as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations

The majority of the participants (82%) answered that they agree with the statement that Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks, while 4% of the respondents strongly disagree to disagree with this

statement. Such result reflects shipping industry's harmonization with United Nations 2030 Agenda and IMO directions that sustainability, nowadays, should be designed and achieved under its three dimensions (environmental, social and economic). These results are represented at **Figure 8.7** that follow.
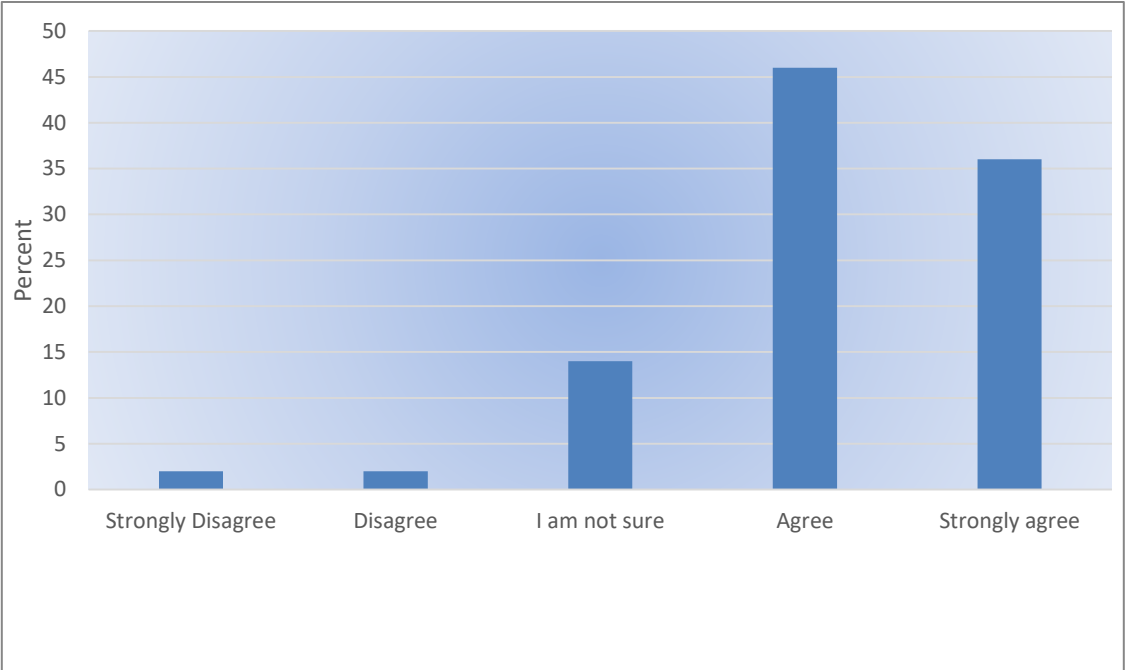
Figure 8.7. Companies' rate of agreement on Sustainable Development understanding as the conduct of business in a way that company's economic, social and environmental impacts are considered

The majority of the participants (82%) answered that they consider the provisions of maritime statutory legislation (i.e. ISM Code, MLC, SOLAS, MARPOL, STCW etc.) to be very important to the formulation of company's Safety Management System (SMS), while 2% of the respondents consider them to be slightly important. Moreover, CSR principles and requirements/guidelines of an approved CSR Standard (58%), Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard (52%) and provisions of other industry Standards (i.e. ISO9001, ISO14001, OHSAS 18001 etc.) (46%) are indicated to be significantly important to the formulation of company's Safety Management System (SMS). It is, therefore, confirmed that the shipping industry still considers statutory regulations to the design of safety management systems, though, it

should not be overlooked the increasing incorporation of CSR and sustainability principles. These results are represented at **Figure 8.8** that follows.
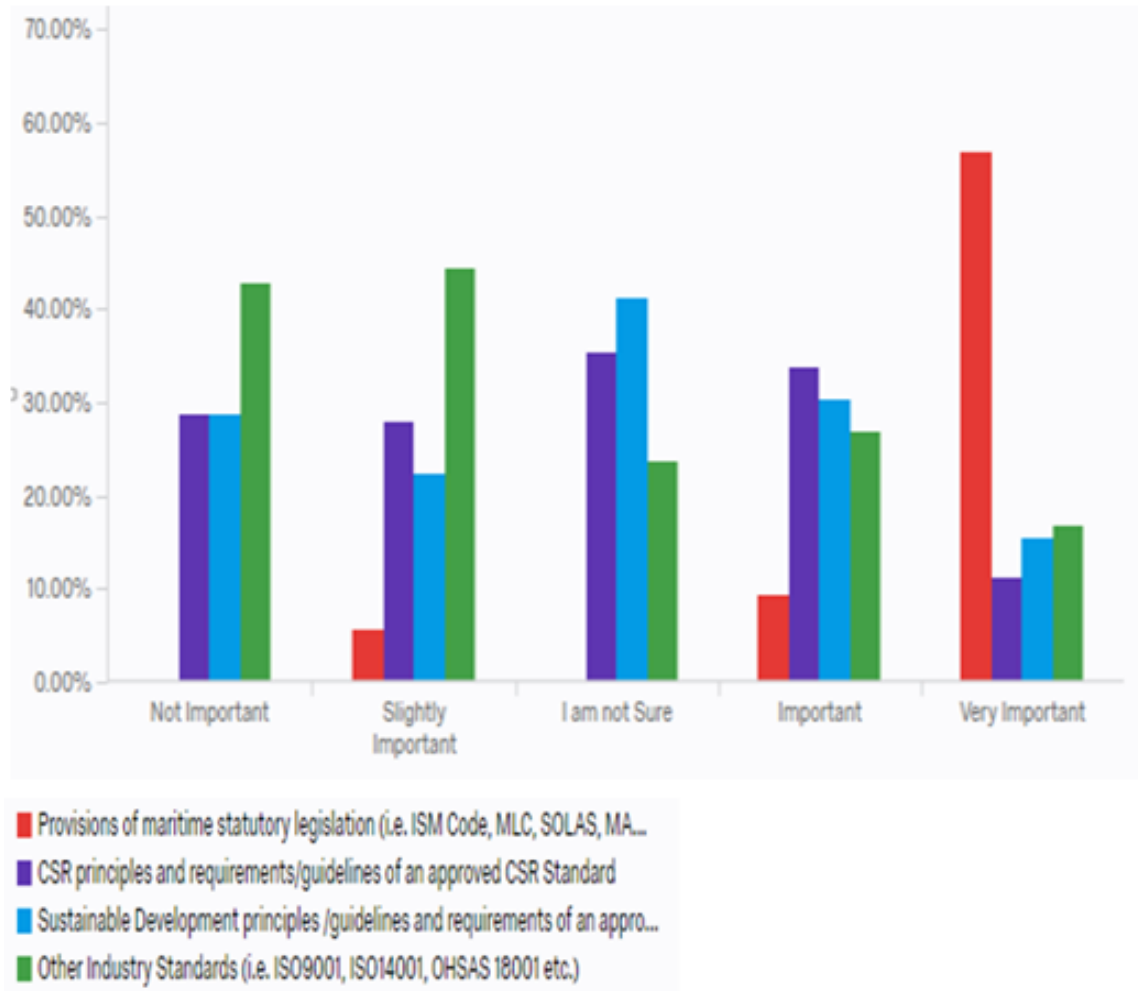
Figure 8.8. Bar Chart of the importance of the Provisions of maritime statutory legislation, CSR, Sustainability and other industry Standards to the formulation of Company's Safety Management System (SMS)

52% of the companies answered that they produce an integrated health, safety and environmental report as a performance measurement and reporting mean. Dissemination of an environmental performance report (22%), a stand-alone CSR and/or Sustainability report (11%) or a BIMCO KPI and management reviews report (11%) refer to other performance measurement and reporting means. 2% of the companies answered that they do not produce

any kind of performance measuring and reporting within their company. Reviewing such finding, in conjunction with the limited CSR certification, it can be supported that the area of CSR measuring and reporting remains at primal stage in shipping, with the majority of shipping companies selecting to communicate their performance through an integrated health, safety and environmental report. Results are presented at **Figure 8.9**.
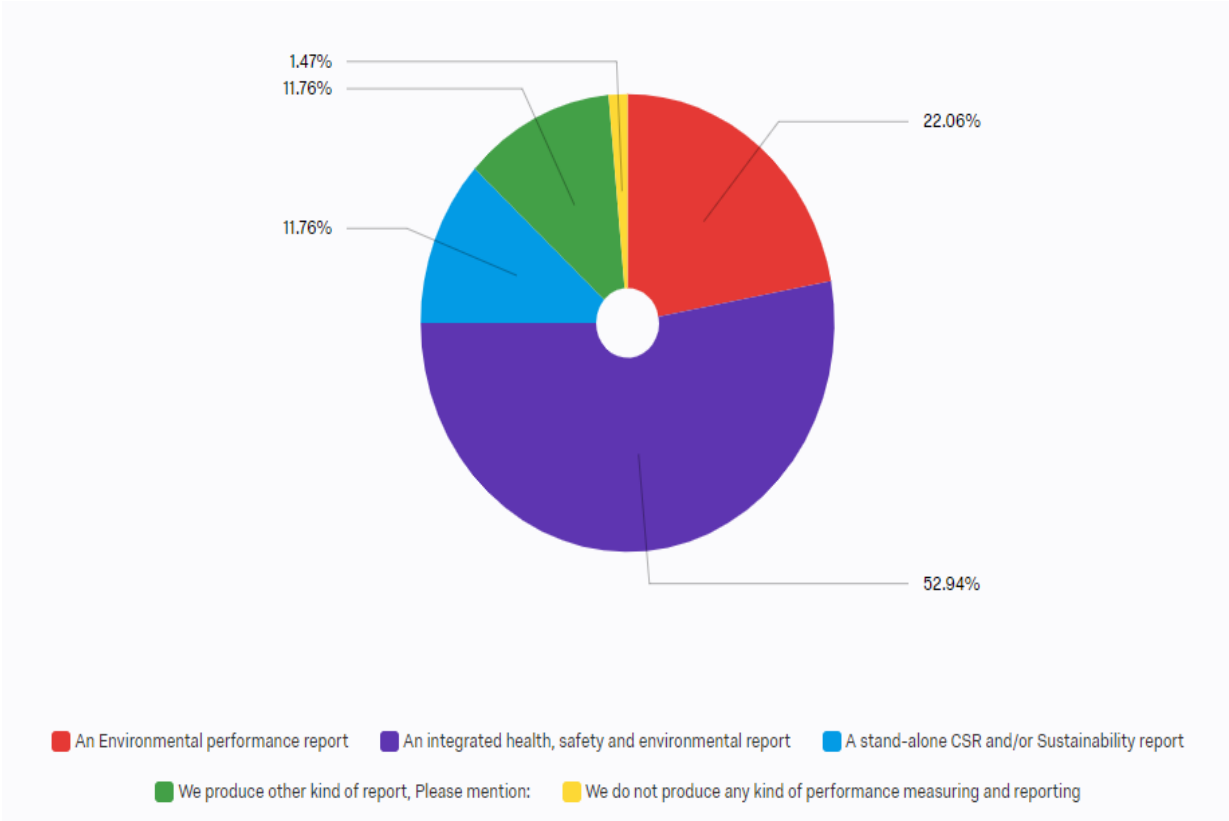
Figure 8.9. Bar Chart of companies' employed reporting types, as a mean to measure and communicate their overall performance

94% of the companies that produce one of the above kinds of reporting answered that they communicate such report to company's Top management /Board of Directors. Additionally, 70% communicate their performance report to company's employees (office staff and seafarers) and 62% to charterers/clients. Suppliers and contractors (18%), industry press/internet (18%) and Flag Administrations (8%) refer to less preferred stakeholders for dissemination of company's performance. An interesting feature of this finding is that, along with limited CSR certification and generation of a dedicated CSR/sustainability report,

maritime companies appear to be fairly not so keen and accustomed to share and communicate performance or organizational matters. Results are presented at **Figure 8.10.**
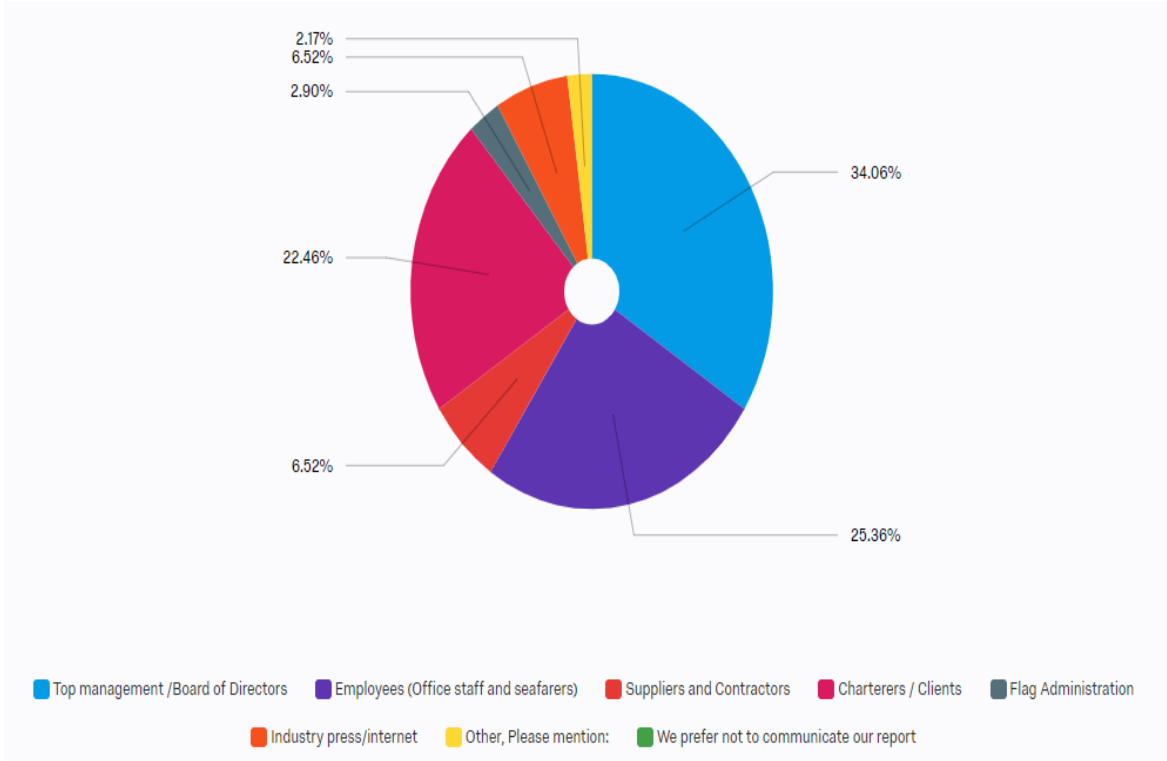
Figure 8.10. Bar Chart of the stakeholders to which companies communicate their overall performance report

With regards to the barriers that would deter companies to implement a CSR policy and reporting program, the lack of understanding about the long term benefits and value CSR can bring (40%) and the lack of adequate knowledge over CSR principles and standards (44%) are perceived to be the most rated barriers. However, barriers such as the lack of a maritime regulatory regime (38%), the non-recognition of CSR as a corporate strategic priority (42%), the lack of corporate culture and senior management commitment (58%), the high costs borne by the implementation of CSR (38%) and the lack of resources (i.e. personnel) (36%) are not significantly recognized as deterring factors that would discourage the implementation of a CSR policy and reporting program. It is worth commenting at this point that the subject of training and overall information about CSR is an area that requires improvement and further support. This is likely to explain the restricted

production of a dedicated CSR report and dissemination to the public. Moreover, the low recognition of the lack of a maritime regulatory regime, as a deterring factor to CSR adoption, complements previous assumption that CSR is a voluntary notion and, consequently, shipping companies do not expect the establishment of a CSR statutory regulation in order to embrace CSR. These results are represented at **Figure 8.11** that follows.
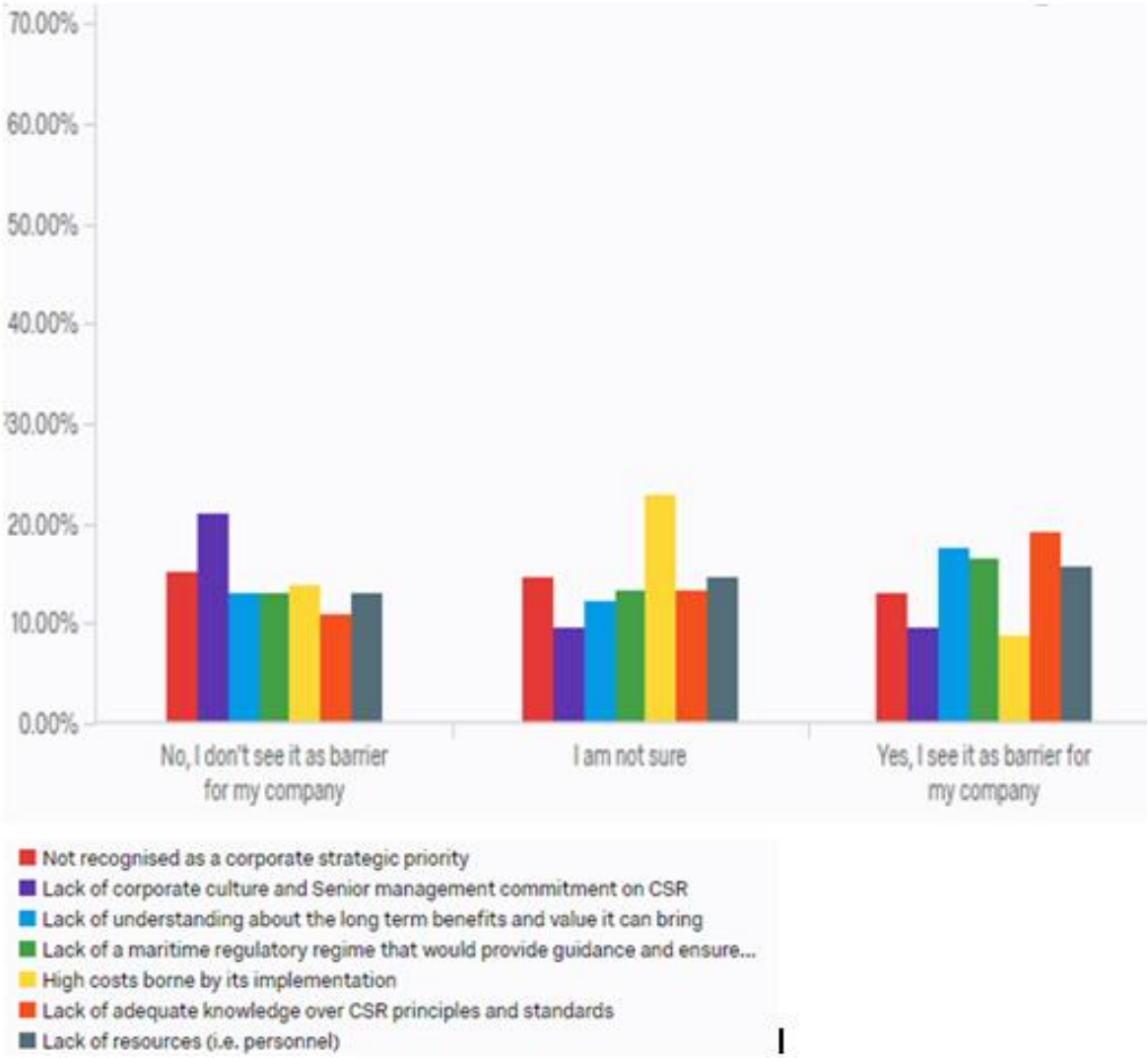
Figure 8.11. Bar Chart of the barriers that would discourage the implementation of a CSR policy and reporting program

The majority of the participants highlighted as motivating factors to the implementation of a CSR policy and reporting program the improvement in company's ethics, economic transparency and efficiency (84%), increased trust and improved company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.) (82%) and the better relations and increased trust between to be built between company and its employees (68%). Though, less encouraging factors are seen to be the enhancement of company's ability to comply with statutory maritime legislation (56%), the improved environmental performance and compliance (66%) and the improved safety performance and reduced accidents (54%). An interesting finding here refers to the high recognition of stakeholders management as motivating factor to CSR adoption, which is fully aligned with stakeholder management theory, as CSR driving force, discussed during the literature review stage. Moreover, limited recognition of CSR as a mean to enhance compliance with health, safety and environmental legislation and improve safety performance is, potentially, explained by the plethora and adequacy of existing maritime legislation to deal with such issues. These results are represented at **Figure 8.12** that follows.
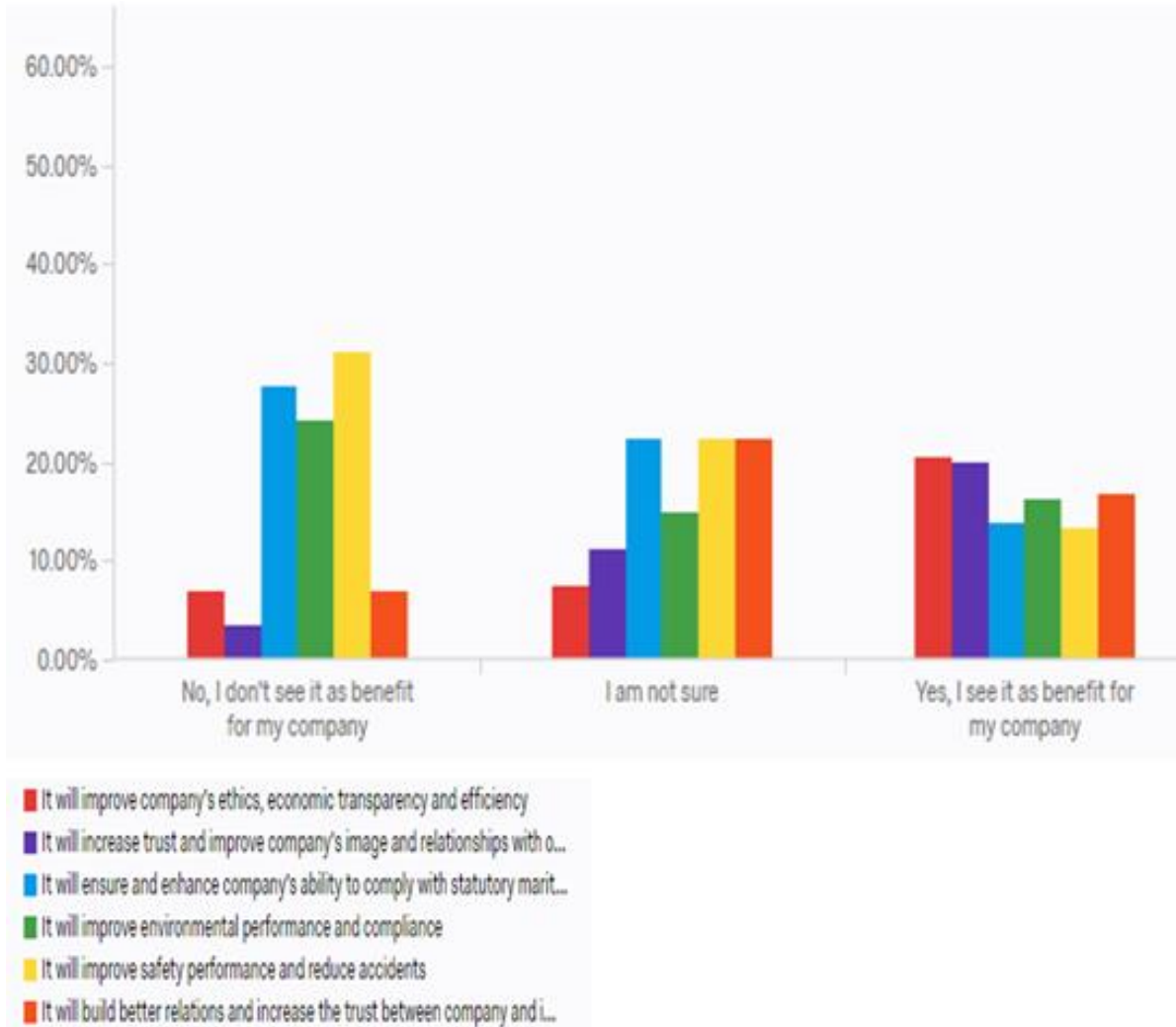
Figure 8.12. Bar Chart of the benefits that would encourage the implementation of a CSR policy and reporting program

The majority of the participants (74%) answered that they agree to strongly agree with the statement that CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability, while 6% s disagree to strongly disagree with that specific statement. Such result affirms literature review findings and identifies CSR as a business model solution to manage sustainability in the maritime sector, a finding that is also aligned with IMO and European Commission

directions for maritime sustainability management. These results are represented at **Figure 8.13** that follows.
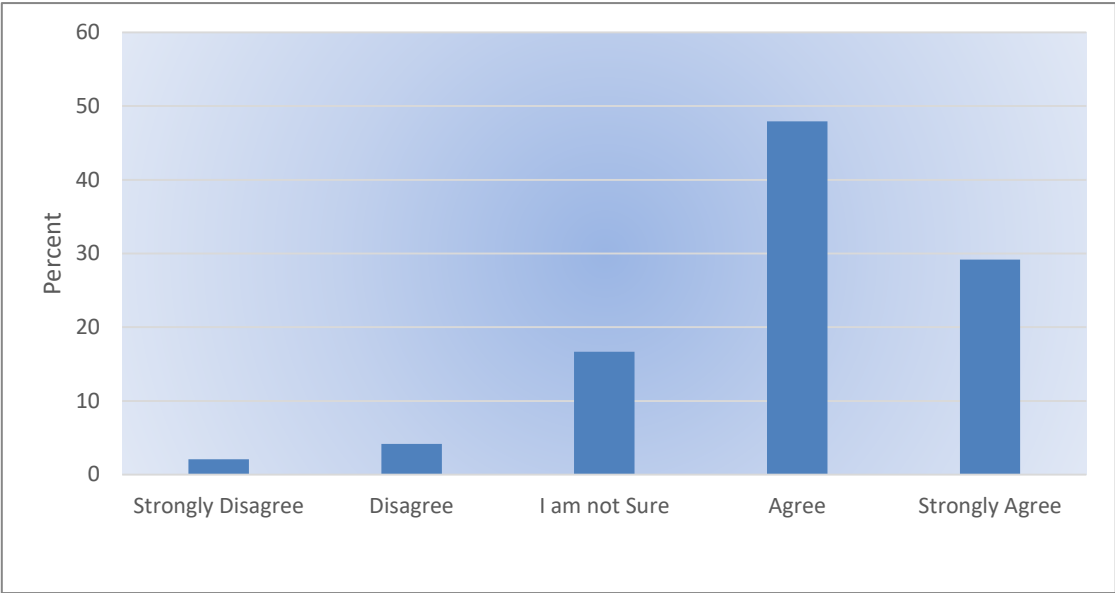
Figure 8.13. Bar Chart of Companies rate of agreement that CSR concept relates to a business model and strategic management tool that can assist them to integrate their social, economic and environmental challenges

The majority of the participants (88%) answered that agree to strongly agree with the statement that Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations, while 8% disagree to strongly disagree with this statement. It is, therefore, recognized that multifaceted sustainability challenges in shipping require a uniform approach. An integrated management system approach is indicated as the most preferred tactic to achieve and integrate sustainable development requirements in shipping. These results are represented at **Figure 8.14** below.
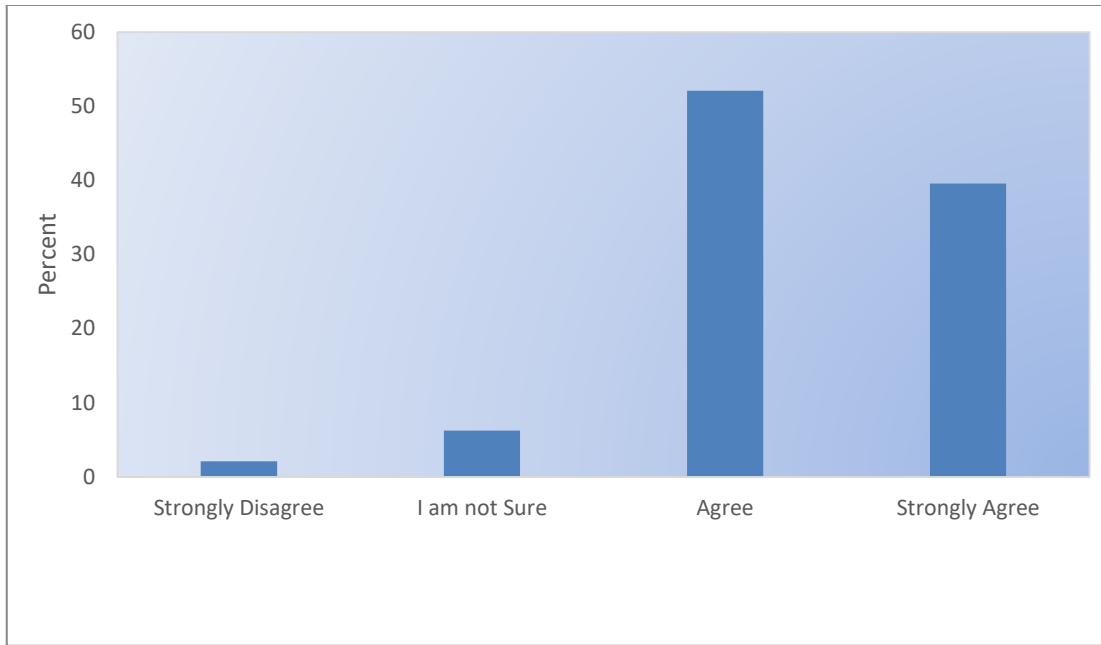
Figure 8.14. Bar Chart of Companies rate of agreement that Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach

8.3   Inferential Statistics - Bivariate Analysis

Contrary to descriptive statistics and univariate analysis, in which collected data are simply described by analyzing one variable at a time, inferential statistics refer to statistical techniques that enable us to use collected data and make generalizations about populations (Descriptive and Inferential Statistics 2018). By employing bivariate analysis, which is incorporated in inferential statistics techniques, we can achieve the simultaneous analysis of the empirical relationships between two variables and, moreover, test hypotheses. Specifically, bivariate analysis *explores the concept of relationship between two variables, whether there exists an association and the strength of this association, or whether there are differences between two variables and the significance of these differences* (Bivariate Analysis 2018). The SPSS version 25 for windows was used for conducting our bivariate analysis. The following part discusses the type and scale of measurement of the dependent and independent variables that are to be utilized in our bivariate analysis and justifies the selection of the appropriate statistical test for verifying identified hypotheses.

8.3.1   Variables to be Used in our Bivariate Analysis

In our Research Methodology chapter (Chapter 7) we provided an overview of the variables incorporated in this study. However, not all of those variables will be used in our bivariate statistical analysis. The selection of the variables to be examined in our bivariate analysis was performed with the criterion to choose those variables that will better investigate and light perceptions, attitudes, practices, drivers and barriers and linkages between CSR and sustainable development. Moreover, selection of the dependent and independent variables to be measured was carried out with the intention to verify our research hypotheses (Bivariate Analysis 2018). Therefore, the **dependent** and **independent** variables that have been incorporated in our bivariate analysis, and which are **categorical, measured on a nominal** and **ordinal** scale, are summarized in **Table 8.9.**

8.3.2   Choosing the Appropriate Statistical Tests for Hypotheses Testing

Hypotheses testing refers to a critical part of this study. Selection of the appropriate statistical test for verifying formulated hypotheses is dependent on the type and level of measurement of the dependent and independent variables incorporated in the analysis. As such, given the fact that both our dependent and independent variables are **categorical** (measured on a **nominal** and **ordinal** scale), the **Pearson's chi-square independence** test and **Spearman's correlation coefficient** measure are selected in order to test all our 6 hypotheses.

In particular, *hypothesis 1 and 6* is tested using *Spearman's correlation coefficient* measure. Such selection is done on the basis that both dependent and independent variables are categorical, measured on an ordinal scale. The *p-value* obtained by the observed correlation and the sample size, determine whether a statistically significant relationship between variables exists. A *p-value* which is less than *a=0.05* (level of significance) highlight a statistically significant relationship between variables and, thus, implies rejection of null hypothesis. Moreover, *Spearman's correlation coefficient* (R_s) is used to determine the strength of such association. Coefficient R_s ranges between -1 (perfect negative correlation) to 1 (perfect positive correlation). A value close to 0 implies no relationship

between variables (Spearman's Rank Correlation Coefficient Rs and Probability (p) Value Calculator 2018).

Concerning *hypotheses 2(a), 2(b), 3, 4 and 5 chi-square test of independence* is employed to examine whether a statistically significant relationship between variables exists. Selection of this test was based on the assumption that variables are categorical, measured on a nominal and ordinal scale. On a conceptual basis, the null hypothesis is rejected, when the *p-value* is less than *a=0.05* (significance level). Suitably to the data type, *contingency coefficient* (C) measure is further used to determine the strength of such association. *Contingency coefficient* (C) value ranges between -1 to 1. Values close to -1 indicate a strong negative association, while values close to 1 show a perfect positive association. 0 values imply that there is no association between variables (Chi-square contingency 2018).

8.3.3 Hypothesis for Awareness and Attitude
8.3.3.1 Testing of Hypothesis 1 - H₁

Spearman's correlation coefficient measure was applied in order to test the statistical significance and strength of association between variables of hypothesis 1. As per results, at the level of significance *a=0.05*, a statistical significant association found between CSR understanding as an integrated and beyond regulatory compliance notion and sustainability perception under its three dimensions (*p-value = 0.000 < 0.05*). As such the null hypothesis is rejected.

Moreover, as per obtained *correlation coefficient* value (**Rs = 0,526**), a quite positive association has been identified. On such a basis, it is supported that diffusing and perceiving sustainability under its three dimensions, positively stimulates CSR understanding as an integrated and beyond regulatory compliance notion to deal with sustainable development. These results are presented at **Table 8.2.**

Table 8.2 Hypothesis 1 Testing results: Application of Spearman's correlation measure

Null Hypothesis	p-value	Spearman's correlation coefficient (R_s)	H_0 Rejected (a<0.05)
H_0: CSR understanding as an integrated and beyond regulatory compliance notion is not significantly influenced by sustainability perception under its three dimensions.	0,000*	0.526**	Yes

Notes: * H_0 rejected at significance level p<0.05
** $-1 \leq (Rs) \leq 1$, -1= perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.4 Hypothesis for Practices, Measurement and Disclosure
8.3.4.1 Testing of Hypothesis 2 - H2(a)

On the basis of obtained data, *chi-square independence test* results showed that, at the level of significance *a= 0.05*, incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy (*$X^2 (8) = 36,832$, p-value = 0.000 < 0.05*). Therefore, the null hypothesis is rejected.

Furthermore, as per obtained *contingency coefficient (C)* value, a strong enough positive relationship between selected variables has been identified (*C = 0.651*). Such a finding implies that the more companies engage CSR principles into their policy, the more they increase transformation of their SMS as per the provisions of a CSR Standard. These results are presented at **Table 8.3.**

Table 8.3. Hypothesis 2 (a) Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0 (a): Incorporation into company's SMS of the provisions of a CSR Standard is not significantly influenced by engagement of CSR principles into company's policy.	0,000*	36,832	0.651**	Yes

Notes: * H_0 rejected at significance level *p<0.05*
** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.4.2 Testing of Hypothesis 2 - $H_2(b)$

Continuing the application of *chi-square independence te*st in hypothesis $H_{2(b)}$, it is found that at the level of significance *a= 0.05*, a statistically significant association exists between incorporation into company's SMS of the provisions of a Sustainability Standard and engagement of CSR principles into company's policy. Accordingly, the null hypothesis is rejected (***X^2 (8) = 30,402, p-value = 0.000***).

Moreover, as per *contingency coefficient (C)* value (***C = 0.615***)*,* incorporation into company's SMS of the provisions of a Sustainability Standard is strongly affected by engagement of CSR principles into company's policy. These results are presented at **Table 8.4.**

Table 8.4. Hypothesis 2 (b) Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is not significantly influenced by engagement of CSR principles into company's policy.	*0,000**	*30,402*	*0.615***	*Yes*

Notes: * H_0 rejected at significance level *p<0.05*

** -1≤ C ≤1, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.5 Hypothesis for Drivers and Barriers
8.3.5.1 Testing of Hypothesis 3 – H3

On the basis of obtained results, we found support for hypothesis 3. In that sense, at the level of significance *a= 0.05*, a statistically significant relationship found between adoption of a CSR policy and reporting program and the increased trust and improved image and relationships it will bring with stakeholders (***X^2 (4) = 15,033, p-value = 0.005***). In view of such result, the null hypothesis is rejected. Moreover, as per contingency coefficient value (C = 0.488), a strong enough association is identified. Thus, it is assumed that the more companies appreciate the increased trust and improved image and relationships with stakeholders as benefit to be accrued by

CSR implementation, the more will be inclined towards CSR adoption. These results are presented at **Table 8.5.**

Table 8.5. Hypothesis 3 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected
H_0: Adoption of a CSR policy and reporting program is not likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.	0,005*	15,033	0,488**	*Yes*

Notes: * H_0 rejected at significance level *p<0.05*

** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.5.2 Testing of Hypothesis 4 – H₄

According to *chi-square test of independence* results, we found no support for hypothesis 4. Thus, at the level of significance *a= 0.05*, obtained *p-value* is *0.250 > 0.05,* which implies the non-existence of a statistically sigificant relationship between the the lack of a corporate culture and senior management commitment on CSR and the adoption of a CSR policy and reporting program (**X^2 (4) = 5,388, p-value = 0.250**). Thus, the null hypothesis is retained. Additionally, *contingency coefficient* (C) value (*0.318*) indicates a weak association between hypothesis 4 variables. As such, adoption of a CSR policy and reporting program is not likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR. These results are presented at **Table 8.6.**

Table 8.6. Hypothesis 4 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H₀ Rejected
H₀: Adoption of a CSR policy and reporting program is not likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	*0,250**	*5,388*	*0,318***	*No*

Notes: * H₀ rejected at significance level *p<0.05*

** -1≤ C ≤1, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.6   Hypothesis for Linkage Between CSR and SD

8.3.6.1   Testing of Hypothesis 5 – H₅

The statistical significance of hypothesis 5 was tested using *pearson chi-square test of independence*. Results support the existence of a statistically significant association between selected variables. Thus, at the level of significance *a= 0.05*, understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy. As such, the null hypothesis is rejected (**X^2 (8) = 27,349, p-value = 0.001**).

Moreover, as per c*ontingency coefficient (C)* measure, the estimated value is **0,602**. In that sense, it is expected that the more sustainability is perceived as a notion embedded into company's CSR policy, the more CSR will be understood as a business model and strategic management tool to manage sustainability challenges. These results are presented at **Table 8.7.**

Table 8.7. Hypothesis 5 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0: Understanding CSR as a business model and strategic management tool is not significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	0,001*	27,349	0.602**	*Yes*

Notes: * H_0 rejected at significance level *p<0.05*

** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

8.3.6.2   Testing of Hypothesis 6 – H_6

The statistical significance of hypothesis 6 variables was tested using *Spearman's correlation coefficient* measure. As per results, obtained ***p-value* is *0.001*** *< a = 0.05* (where a the level of significance). Further to that, a statistically significant relationship has been identified between selected varibles leading, thus, to the rejection of null hypothesis. Such finding implies that recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.

Likewise, identified *correlation coefficient* (Rs) value (***0, 457***), indicates the existence of a quite positive association. It is, therefore, assumed that raising CSR understanding as a business model and strategic management tool will subsequently promote recognition of the integrated management system approach as the most effective tactic to achieve sustainability. These results are presented at **Table 8.8.**

Table 8.8. Hypothesis 6: Application of Spearman's correlation coefficient measure

Null Hypothesis	p-value	Spearman's correlation coefficient (R_s)	H_0 Rejected (a<0.05)
H_0: *Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is not closely related to CSR understanding as a business model and strategic management tool.*	*0,001**	*0,457***	*Yes*

Notes: * H_0 rejected at significance level $p<0.05$
** $-1 \leq (Rs) \leq 1$, -1= perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

Further to the above results, below **Table 8.9.** summarizes our hypotheses, variables, testing method and results from the application of pearson chi-square test.

Table 8.9. A summary of Hypotheses, Testing methods, Dependent and Independent Variables and Results

Hypothesis Description	Testing Method	Independent Variable	Dependent Variable	Result
H1: CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions.	Spearman's correlation coefficient	Sustainability perception under its three dimensions. (Ordinal)	CSR understanding as an integrated and beyond regulatory compliance notion. (Ordinal)	Hypothesis Supported
H2 (a): Incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy.	Chi-square test of independence	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a CSR Standard (Ordinal)	Hypothesis Supported
H2 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is significantly influenced by engagement of CSR principles into company's policy.	Chi-square test of independence	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a Sustainability Standard. (Ordinal)	Hypothesis Supported
H3: Adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.	Chi-square test of independence	Increased trust and improved image and relationships with stakeholders. (Nominal)	Adoption of a CSR policy and reporting program. (Nominal)	Hypothesis Supported
H4: Adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	Chi-square test of independence	Lack of corporate culture and senior management commitment. (Nominal)	Adoption of a CSR policy and reporting program by companies. (Nominal)	Hypothesis not Supported
H5: Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	Chi-square test of independence	Considering sustainability principles part of CSR corporate strategy. (Nominal)	CSR understanding as a business model and strategic management tool to integrate sustainability. (Ordinal)	Hypothesis Supported
H6: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.	Spearman's correlation coefficient	CSR perception as a business model and strategic management tool. (Ordinal)	Recognition of the integrated management system approach as the most effective tactic to achieve sustainability. (Ordinal)	Hypothesis Supported

8.4   Conclusion

This chapter presented the results and major research findings. Initially, it discusses descriptive statistics analysis generated by the survey data. Next, it summarizes respondents' opinions on 5 principal identified thematic areas of: demographics, awareness and attitude, practices, measurement and disclosures, drivers and barriers and linkages between CSR and sustainable development and describes research variables by their frequency distribution. Secondly, a list of the **dependent** and **independent** variables incorporated in our bivariate analysis is presented. Besides, results of bivariate analysis, conducted by employing **chi-square independence test and Spearman's correlation measure,** are presented with the aim to test the previously formulated 6 hypotheses. Further to that, and based on the results obtained by conducted data analysis H_1, $H_2(a)$, $H_2(b)$, H_3, H_5 and H_6 were accepted, while H_4 was rejected. As a whole, the shipping industry seems to be well conversed with CSR and sustainability developments and has been actively engaging such notions into daily operations. However, the area of training and more thorough information on CSR reporting and the benefits to be accrued remains an opportunity for improvement in the maritime sector. **Table 8.9.** above provides an overview of study hypotheses, variables, testing method and results from hypotheses testing activity. The following chapter 9 discusses in more detail and elaborates commentary research findings, which are structured and grouped in accordance with the primal identified research thematic areas: awareness and attitude, practices, measurement and disclosures, drivers and barriers and linkages between CSR and sustainable development.

9 CHAPTER DISCUSSION AND CONCLUSION

9.1 Introduction

Reviewing research findings in conjunction with literature review deductions it is indicated that shipping companies have already started engaging CSR and sustainable development notions into their operating practices. As it can be determined by the study results, we are going through an era where the 2030 Agenda and SDGs have already started to be incorporated into countries national legislation where, moreover, private business, regardless of the industry and business scope, has been clearly identified as a major contributor. In the light of such progress, the shipping industry has not remained unaffected. The International Maritime Organization has already published its Strategic Directions and High level Action Plan (HLAP) in order to cope with United Nations sustainability mandates. It is a matter of time for Flag Administrations and other regional organizations, such as Port States, to incorporate Sustainable Development Goals into their policies, develop mandatory regulations and, thus, cascade them to the ships flying their Flag or calling their ports. The maritime industry though, should be prepared for the coming changes and start mapping the SDGs and IMO's Strategic Directions with their stakeholders' needs and core business processes and challenges. Under such developments, the findings of quantitative analysis support the view that CSR can constitute a significant strategic tool and business model for shipping companies in their pursuit to operate sustainably. Moreover, as this study addresses, adoption of an integrated management system approach, is seen as the most effective management system 'pattern' to achieve sustainability throughout shipping operations. This aim of this chapter is to interpret and critically analyze the research findings, in relation to the research objectives and questions, compare and commentary elaborate them against existing research and literature review, discuss research implications for knowledge, identify research limitations and suggest areas of future research.

9.2 Interpreting the Research Findings

Based on the gaps identified from literature review, the aim of this study is twofold. Firstly, it seeks to approach the concepts, practices and developments in the field of CSR and sustainable development in shipping and contribute to existing knowledge by investigating

and critically analysing how they have been perceived and extended to the maritime industry. Secondly, our research pursues to investigate the applicability of CSR and sustainability to the shipping industry and how effectively CSR activities can address and contribute to sustainable development challenges. In other words, it aims to link the concepts of corporate social responsibility and sustainable development and provide a deeper understanding of the relationship between them. The following sections present the main conclusions drawn by our research and analyse commentary the research findings that are grouped under the below four research thematic areas.

9.2.1 Perceptions, Awareness and Attitude on CSR and Sustainable Development

Interpreting perceptions, awareness and attitudes on CSR, it has been obvious that the majority of shipping companies (94%) are well conversed with CSR concept and has adopted relevant CSR policy/principles into their ship management operational practices (82%). In addition, as quantitative study has indicated, topics such as, securing decent working conditions, establishment of a sustainability policy/program, implementation of an energy consumption/saving program, provision of training to employees to deal with technological upgrades and new job demands, adoption of a Business Code of Conduct and ethics compliance, compliance with applicable statutory health, safety and environmental legislation and establishment of an occupational health, safety and risk management program to minimize workplace accidents refer to themes that are highly appraised as CSR related subjects (Kunnaala and Viertola 2014). Moreover, it has been evident though that such findings are in accordance with shipping industry's multilateral understanding and attitude on CSR concept, as has been identified by previous literature review (Pruzan - Jorgensen and Farrag 2010), and, furthermore, affirm the feeling that CSR refers to an expanding and steadily reflected concept into shipping companies' policy and operating practices (Lombardo 2009). Interestingly, establishment of a sustainability policy/programme to manage long-term social, economic, environmental risks has been greatly recognized as significant part of company's CSR policy/program (Lu et al. 2009). Such finding is aligned and strengthens even more IMO's vision on United Nations Sustainable Development Goals, namely, that *sustainable development vision should be anchored into CSR related activities* (Sekimizu 2012). As such, as can be further affirmed

by research results shipping companies have already commenced engaging CSR principles in their operations, are conversant with their multilateral character and identify sustainability as a notion embedded into a company's wider CSR policy (Amini and Bienstock 2014).

In addition, quantitative study indicated that shipping companies perceive CSR as the conduct of business operations in a manner that goes beyond mere compliance with statutory regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates further social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy (Aras and Crowther 2008). Such companies' understanding suggests that CSR subject is considered to be a multidimensional issue, which embraces various topics and a business approach that extend beyond mere compliance with mandatory legal and regulatory requirements (Reinhardt and Stavins 2010). With reference to sustainable development, research results revealed that such term has been understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks. Such evidence supports the fact that shipping companies have significantly recognized sustainable development under its three dimensions (social, economic and environmental), an attitude that is fully harmonized with contemporary United Nations *triple bottom line* approach to sustainability (Alhaddi 2015). Similarly, evidence from testing **hypothesis H_1** suggests that perceiving CSR as the conduct of operations in a manner that goes beyond mere regulatory compliance and integrates social, economic and environmental concerns into business operations, is more likely to have been motivated by sustainable development understanding under its three dimensions (Yliskylä-Peuralahti and Gritsenko 2014). A plausible explanation of such finding is attributed to the fact that the profound diffusion of sustainability under the '*triple bottom line*' approach has transformed and reshaped shipping industry's perspective towards alternative and integrated solutions to manage such multifaceted challenges (Gjølberg et al. 2017). As stressed previously, dealing with sustainability regulations, nowadays, requires shipping companies to adjust and reshape their mind-set on the impacts their operations can bring (Norwegian Shipowners Association 2019). Thus, inclination towards a business model that goes beyond compliance and considers stakeholders needs has been, potentially,

triggered by the need to identify and implement effective management solutions that would integrate the complex social, environmental and economic mandates of sustainability into a uniform corporate strategy (Baumgartner 2014). In this manner, shipping companies seem to have been influenced by recent sustainability trends and have picked CSR as an effective and integrative solution to deal with United Nations and IMO sustainable development objectives.

9.2.2 Practices, Measurement and Disclosure on CSR and Sustainable Development

In the area of practices, measurement and disclosure the vast majority (98%) has considered provisions of maritime statutory legislation to be very important to the formulation of their safety management system. Interestingly, research findings indicate that incorporation of CSR and sustainability principles into company's safety management system is sure enough a reality in shipping, since a high rate of shipping companies (74%) have been incorporating into their SMS the provisions of CSR and sustainability Standards. Reviewing such findings, in conjunction with our literature review outcomes it is affirmed that despite recent CSR and sustainability regulatory developments shipping operations continue to be mainly governed by typical maritime statutory standards, such as the ISM, ISPS Code, SOLAS and MARPOL Conventions. However, CSR and sustainability principles have been gradually taking a prominent place in the design and operating practices of shipping companies increasing, thus, their ground into modern marine safety management systems (Kunnaala and Viertola 2014; Donaldson 1994). Similarly, testing results of **hypothesis H_2 (a) and H2 (b)** confirm that engaging CSR principles into company's policy has extensively increased incorporation into company's SMS of the provisions of a CSR and sustainability Standard. In other words, the actual motivation of shipping companies to adopt CSR and sustainability principles at strategic level has been, further, accompanied by the factual formulation of their SMS, based on the provisions of CSR and sustainability Standards (Kunnaala and Viertola 2014). Consequently, it can be reasonably assumed that adopting CSR and sustainability at strategic level, inevitably, diffuses their principles at operating level (Strand 2014). Additionally, it has been shown the growing recognition towards the value that CSR and sustainability principles can bring to daily shipping operations, with such a fact to be reflected into the content and structure of safety management systems (Pawlowska 2013). Another sensible

explanation would stem from the fact that shipping companies, operating in an international and changing environment, have sought to adapt their traditional approach to SMS formulation. In that way, they have moved one step forward and, thus, driven by current CSR and sustainability challenges have renovated their safety management system approach by incorporating CSR and sustainability elements, additional to statutory maritime legislation (Gjølberg et al. 2017).

It is worth commenting at this point, that incorporation into companies' SMS the provisions of CSR and sustainability Standards has not been essentially complemented by companies' desire to achieve official certification against an approved CSR standard. Indeed, according to study results, although the vast majority of shipping companies has adopted CSR principles in their ship management activities (82%) and has also designed their SMS based on the provisions of a CSR and sustainability Standard (74%), however, only a limited percentage of them (2%) have sought certification against an official CSR/Sustainability Standard (i.e. ISO 26000, SA8000, AA1000 etc.). Such interesting companies' stance could be potentially attributed to the plethora of maritime regulations that have been, customarily, dealing with social, health, safety and environmental aspects of maritime operations (Yuen and Lim 2016). All those regulations that have, traditionally, been governing the shipping industry, have already covered a wide spectrum of health, safety, economic and environmental aspects and are, therefore, considered sufficient to guarantee a socially responsible and sustainable operation of a maritime company (Abrahamsson et al. 2010). Such companies' stance can be also attributed to their voluntary approach to CSR, as was previously indicated in the study results. It is also interesting to mention that the majority of shipping companies measure and communicate their overall CSR/Sustainability performance by producing an integrated health, safety and environmental report (72%), while a few of them prefer to generate a stand-alone CSR and / or Sustainability report (16%). Besides, communication of such performance is mainly intended for internal use (top management and company's employees (94%)). It could be reasonable assumed at this point that such low usage of dedicated CSR/sustainability measuring and reporting method demonstrates industry' limited knowhow on modern CSR/sustainability measuring and reporting methods and confirms that the use of dedicated

CSR measurement and reporting tools in shipping, although growing, however, remains at primal state (Lund-Thomsen et al. 2016). This is potentially the reason that the majority of participants indicated the lack of adequate knowledge on CSR issues, and potentially on the methods to produce a dedicated CSR report, as the greater barrier encountered by CSR implementation.

9.2.3 Drivers and Barriers from CSR Policy and Reporting Implementation

According to literature review, adoption of a CSR strategy, measurement and reporting program has proved to be a useful tool in the hands of organizations in an attempt to improve relationships with stakeholders and enhance company's ability to manage corporate risks (Kunnaala and Viertola 2014). Study findings found to be consistent with literature review assumptions and support our understanding that increased trust and improved company's image and relationships with stakeholders has been, widely, recognized as significant benefit to be accrued by the implementation of a CSR policy and reporting program. Similarly, verification of **hypothesis H_3** implies that companies that adopt a CSR policy and reporting program are more likely to be motivated by the increased trust and improved image and relationships it will bring with their stakeholders. This is an indicant example of the determinant role that maritime stakeholders play for shipping business viability (Arenas et al. 2009). As a matter of fact, shipping companies have been, regularly, dealing with a variety of stakeholders, such as Flag Administrations, Port State Controls, Labour Unions and Industry Associations (Roe 2013). In that sense, and among increasing pressures for service quality and regulatory developments, maritime stakeholders have raised their expectations for greater accountability, environmental consciousness and operating efficiency.

As per our findings, company's employees have been indicated as important stakeholders and, as such, CSR has been considered to increase trust and improve relations between company and its employees. Within the stakeholder field, assessing and eliminating risks resulting by business interaction with such entities (namely, loss of trust and commercial viability, detention of a ship and damage of company's image, imposed fines from statutory violations etc.), is imperative in order to ensure maritime business sustenance and profitability (Poulovassilis et al. 2013). In line with this deduction, study findings have

also identified a strong positive relationship between CSR adoption and companies' motivation to be attributed to the increased trust and improved company's image and relationships it will bring with its stakeholders. Interpreting further such result, it implies that a more positive and encouraging attitude and, possibly, commercial incentives given by key maritime stakeholders on CSR, such as charterers, would, positively, motivate and boost CSR adoption by shipping companies. In that sense, a worth standing point of this research refers to the fact that improved safety and environmental performance, accident reduction and enhanced regulatory compliance have not been appreciated as significant benefits of a CSR program. Such finding strengthens even more and supports our assumption that CSR in shipping is greatly associated with stakeholder matters (Yliskylä-Peuralahti and Gritsenko 2014).

However, contrary to our initial argumentation, study results have not acknowledged the lack of a corporate culture and senior management commitment as significant barrier to the adoption of a CSR policy and reporting program. Accordingly, **hypothesis H_4**, which claimed that companies that do not adopt a CSR policy and reporting program are more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR has been rejected (Barker et al. 2014). Such result would be worth to be reviewed by taking into consideration the voluntary and beyond regulatory compliance character that shipping companies see in CSR concept, in combination with the increasing CSR awareness and incorporation of CSR within maritime companies' corporate strategy (Yliskylä-Peuralahti and Gritsenko 2014). As per study results, shipping companies found well aware of CSR theme and the vast majority of them has adopted CSR. Though, the lack of understanding about the long term benefits and value CSR can bring and the lack of deeper knowledge over CSR principles and standards have been highly indicated by participants as the most significant barriers that would discourage CSR adoption. A plausible explanation to this, identified also during the literature review stage, could be that implementation of CSR concept and associated practices in the shipping industry (tanker and dry bulk sector) are at a, relatively, primal stage. And as Lund-Thomsen et al. (2016) suggests such recent application of CSR in shipping is logical to be supplemented by the

lack of in-depth knowledge to reveal and highlight the long-term benefits and value that CSR can bring to the organization.

The non-verification of *hypothesis 4* can be further explained by another aspect of maritime operations. It has been admissible that the maritime industry has, since a long time, been heavily regulated by several Codes, Conventions and other maritime industry Standards. Therefore, maritime companies have been placing most of their efforts to cope with existing regulatory burden, rather than advancing their business through the implementation of voluntary CSR practices (Yuen et al. 2016). In line with this finding, the low rate of companies' certification against a CSR Standard (2%) and the low percentage of companies that generate a stand-alone CSR report (16%) come to support such voluntary and informal perceived character of CSR in shipping resulting, potentially, by the existing overburdened regulatory regime. It is logical, hence, to assume that such amalgam of factors, in an industry that furthermore lacks the skills and knowledge to implement and appreciate CSR benefits, would inevitably discourage its further adoption. And unsurprisingly, in such a developing and unformed maritime CSR philosophy, the lack of a corporate culture and senior management commitment will, subsequently, be given a secondary importance as a barrier to discourage CSR implementation (Fortanier et al. 2011).

9.2.4 The relationship Between CSR and Sustainable Development in the Maritime Industry

Literature review revealed various approaches and interpretations to describe the relationship between sustainable development and CSR. With regards to the shipping industry, there is not much available research though to describe perceptions over such relationship and moreover, the contribution and role of CSR in achieving sustainability. This study results, along with literature review assumptions, leaded us to the deduction that CSR in the shipping industry has been broadly understood as a business model that can be employed by firms in order to deal with their economic, social and environmental challenges, leading thus, to sustainable development achievement (Wilson 2013). Such understanding, over the relationship between CSR and sustainable development has been expected since it represents the core of IMO's vision and direction to the achievement of a Sustainable Maritime Transportation System, namely that we should sustainable

development initiative should be framed in a wider CSR business model and related activities (Sekimizu 2012). In this line has been also the European Commission (EC), through the formation of the European Sustainable Shipping Forum (ESSF), which has also highlighted the need to consider sustainability in an integrated manner and, thereby, utilize CSR as the vehicle to achieve it (Van Leeuwen 2015).

Moreover, the fact that most companies argued that establishment of a Sustainability Policy/Program should be embedded into company's CSR policy clarifies and sheds some light on CSR notion in shipping, which is neither perceived as a notion synonymous to sustainable development nor is considered as the social dimension of sustainability. Contrary, as per results shipping companies view CSR as a managerial approach and business tool that plays a vital role in dealing with sustainability challenges (Teece 2010). Likewise, verification of **hypothesis H$_5$** supports even further quantitative analysis conclusions over the relationship between CSR and sustainable development. In that sense, it is implied that considering sustainability under the auspices of a CSR strategy stimulates promotes CSR understanding as a business model and strategic management tool to integrate sustainability requirements (Ganescu 2012). A reasonable explanation can be that by implanting and considering sustainability as an integral part of corporate strategy places company in a pathway to seek for an effective business model to accomplish such pursuit. And CSR turns out to be a comprehensive managerial solution to respond to such demands. Thereby, the more companies understand and embed sustainability in their business strategy, the more will be inclined to adopt a CSR strategy in favour of such chase.

Interestingly, bearing in mind literature review conclusions, in conjunction with quantitative study results it is confirmed that the majority of shipping companies believe that sustainable shipping operations can be effectively achieved by adopting an integrated management system approach (Abrahamsson et al. 2010; McDonald et al. 2003). Furthermore, as this study has shown, understanding CSR as a managerial approach has been widely disclosed as a significant supporter of the integrated management system approach as the most effective management system '*'tactic'* to achieve sustainable shipping operations (Deming 2018). Similarly, evidence from testing **hypothesis H$_6$** affirms such earlier assumption. This is, potentially, explained by the complex and multifaceted

sustainability related challenges that shipping has to deal with nowadays and the industry's desire to act coherently and eliminate superfluous processes and operating models (Yuen et al. 2016). Indeed, in such a demanding situation shipping companies have clearly indicated CSR as the umbrella that will embrace their strategic objectives. And such a stance seems to have driven them, inadvertently, in quest of a flexible business model that will be governed by CSR principles and will easily deliver their corporate objectives across maritime operations (Yliskylä-Peuralahti and Gritsenko 2014). To do so, results of this study highlighted the integrated management system approach to be a preferred feasible solution in the current sustainability pursuits. What could be further ascertained by study findings is a linear relationship between CSR strategy, CSR business model and integrated management system (Mustafa and Werthner 2011). Similarly, such deductions found to be consistent with IMO's, United Nations and other shipping Associations standpoints that seek to promote the role of CSR as a business model and facilitator to the achievement sustainable shipping (Sekimizu 2012; Norwegian Shipowners' Association 2019; European Commission 2017). Moreover, the strong identified relationship between variables of hypothesis H_6, apparently, implies that growing appreciation of CSR as a business model and strategic management tool will, progressively, promote the integrated management system approach as the most effective mean to achieve sustainability (Asif et al. 2013; Jørgensen et al. 2006). And alike other industry studies, it is exactly such mentality that has stimulated recognition of the integrated management system model as the best mean to deal with safety, social, economic and environmental regulations achieving, thus, sustainable development objectives (Poulovassilis and Meidanis 2013).

9.3 Implications of This Study

This research focused on the investigation of CSR and sustainable development in the maritime industry, in the aftermath of United nations 2030 Agenda and SDGs. Focusing primarily on theoretical assumptions and subsequently reviewing them in conjunction with empirical findings it managed to determine perceptions and practices with regards to the application of CSR and sustainability in the shipping industry. Moreover, by addressing the research objectives and testing implicit hypotheses, this thesis generated conclusions regarding the relationship between CSR and sustainable development and, moreover, the

particular mode under which CSR is expected to contribute in attaining sustainable maritime operations. A useful contribution refers to the identified and summarized chronological developments and facts that led to the extension of CSR and sustainability to the shipping industry. **Figure 9.1** presents a summary of the latest course of events, from the adoption of United Nations 2030 Agenda, to the development of specific Sustainable development Goals (SDGs), the subsequent disclosure of the IMO concept on a 'Sustainable Maritime Transportation System' and the successive formulation of the IMO's High Level Action Plan in order to meet SDGs. As has been deduced by this study, formation of a CSR strategy by maritime companies, with the aim to integrate sustainability demands, represents the outcome of such regulatory development process and, hence, has been placed at the top - end of the chronological events arrow.
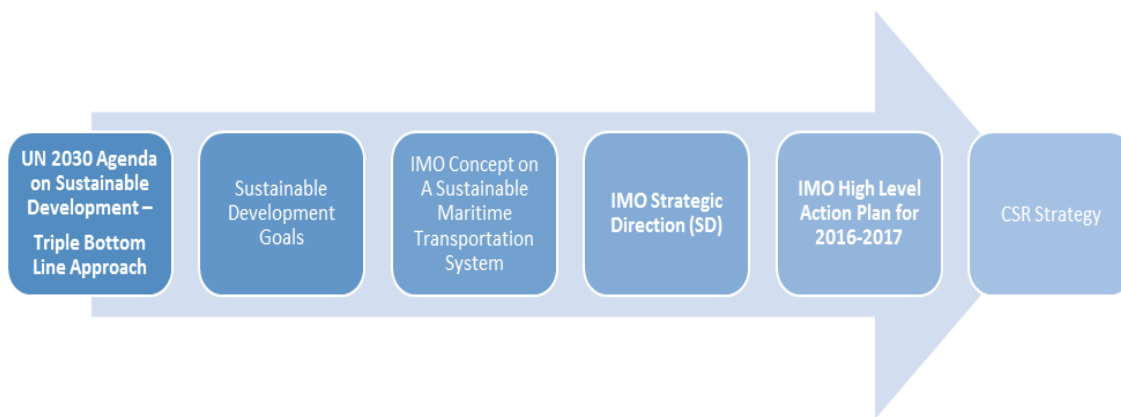
Figure 9.1 From the United Nations 2030 Agenda to the Formation of a CSR Strategy

The next section discusses overall implications of this study.

9.3.1   Implications for Research and Knowledge

At theoretical level, study findings have notable implications for research and knowledge as they advance our understanding and insights on contemporary CSR and sustainable development formations and, besides, can lend researchers with a good starting point for further empirical investigation. An important implication to knowledge is the disclosure of an endogenous link and relationship between CSR and sustainable development, which is duly consistent with IMO's latest mandate that *a sustainable development vision should be anchored into CSR related activities* (Sekimizu 2012). In particular, this study illuminated

the role and context in which CSR could constitute a contributory factor to the achievement of sustainable shipping operations. In this respect, our knowledge is enriched by becoming aware that CSR is regarded a key and contributory factor to the achievement of sustainable development perceived, though, as a business model and strategic management tool. As such, our knowledge is enhanced by affirming that accomplishment of sustainable shipping operations can be better achieved via the adoption an integrated management system approach that consolidates and balances the requirements of various voluntary standards and statutory regulations.

Moreover, literature review assumptions, coupled by study results have indicated that shipping companies' understanding on CSR is identified as an activity that goes beyond mere compliance with statutory regulations and, furthermore, integrates sustainability challenges. It is admissible, though, by study results, that maritime companies have already adjusted the structure and content of their safety management system by incorporating the elements of voluntary CSR and sustainability Standards. A determinant for such action refers to the growing adoption of a CSR strategy at corporate level. In addition, maritime industry's perceptions on sustainable development are duly harmonized with the contemporary *triple bottom line* approach (economic, social and environmental integration), which is, practically, regarded by shipping companies as an integral element of company's CSR strategy/policy. Such a finding constitutes a notable contribution to knowledge since, as this study has confirmed, the various interpretations of CSR (i.e. CSR constitutes the social element of sustainability etc.) do not find applicability in shipping. Opposing, recent introduction of sustainable development as an integrated triptych has turned the eyes of maritime companies on CSR as an effective business model to embrace under its spectrum recent sustainability challenges.

In terms of the drivers and barriers, this study advances our knowledge by providing a holistic understanding on the new areas where academia may provide support and spread knowledge on how to overcome future obstructions from CSR implementation, while at the same promote the benefits to be accrued. To do so, findings suggest that the lack of adequate knowledge regarding CSR implementation, along with insufficient information on the long term benefits CSR can bring to organizations represent some areas where shipping

companies require support. Interestingly, and contrary to our initial assumptions, the lack of corporate culture and senior management commitment is not perceived as major restricting factor to CSR implementation. Moreover, identification of CSR as a positive contributor on the increased trust and improved image and relationships with stakeholders (i.e. charterers) illuminates an area where shipping companies see significant benefits from CSR engagement.

9.3.2 Implications for Policy Makers and Regulators

From a regulatory and policy making perspective, study findings have significant implications. Understanding the angle from which shipping companies view and exercise CSR and sustainable development nowadays, encountered drivers and barriers associated with such implementation and the perceived relationship between CSR and sustainability can, positively, contribute to the design of effective CSR and sustainability regulatory and policy instruments that would be supportive and practicable for the shipping industry.

According to this study, CSR is perceived and practiced as a notion that clearly goes beyond compliance with the statutory maritime legislation and mostly holds a voluntary character in the mind of ship managers. Moreover, CSR is a business model and managerial approach employed to embrace sustainability aspects in maritime operations. As it is supported by the study results, shipping companies definitely navigate in the era of CSR and sustainability. However, as the analysis showed they maintain a voluntary and informal approach in the way they integrate such notions into their operations. For example, although the majority of them have incorporated CSR and sustainability principles, however, only 2% has been officially certified against a CSR Standard. In the light of such argumentation and being encouraged by the study results, it is significantly important for policy makers and regulators to realize that CSR can be integrated into maritime operations and maritime companies show such desire. However, such a transition could be achieved without the need to create and enforce a new mandatory CSR regulatory regime, maintaining thus, the voluntary approach that shipping companies lend to CSR subject.

Having comprehended their benefits and barriers, as highlighted by this study, policy makers and regulators will be able to work in the right direction and establish a fruitful CSR regime that will encourage and provide incentives to shipping companies to operate

sustainably. Stakeholder management and theory should be taken into account since such parameter appears to significantly motivate maritime companies to adopt CSR. On the other hand, the fact that lack of adequate information on CSR implementation, in combination with the limited knowledge on the long term benefits to the organization denotes that the shipping industry needs such kind of assistance. Therefore, provision of guidance on leadership, education and training in the design, implementation and monitoring of CSR are, possibly, the areas that policy makers and regulators should focus on. Such point, in combination, with the fact that the lack of a maritime regulatory regime on CSR is not highly seen as a barrier to CSR implementation by shipping companies affirms that existing shipping regulation are considered adequate to ensure a socially responsible behaviour.

Introduction and the widely acceptance of sustainability as an integrated (social, economic and environmental) notion has clearly shaped shipping industry's understanding on CSR, which is obviously treated as a managerial model to deal with sustainability. As this study implied, such perception, in combination with the need to identify an effective management pattern, has directed shipping companies to the integrated management system approach as the most rated business model solution. Therefore, it is suggested that policy makers should work on the promotion of a framework that would reflect CSR into corporate strategy, derived business objectives and processes and, thereby, to sustainability achievement through company's existing safety management system (SMS). All over again is emphasized that their work should be directed in providing a common language on CSR and sustainability and development of practical guidelines that will assist shipping companies to integrate several elements, rather than creating a new CSR regulatory regime.

9.4 A conceptual CSR Framework for the Achievement of a Sustainable Maritime Industry

Bearing in mind literature review assumptions and coupled by the study findings CSR can lend shipping companies with a strategic management tool to contribute to the fulfillment of United Nations' Sustainable Development Goals and subsequent IMO's Strategic Directions for the achievement of a sustainable shipping industry. The ever changing and demanding nature of shipping calls ship managers to remain on the top of developments, in terms of modern sustainability mandates, in order to secure their business sustainability and survival.

As study findings implied, ship managers should focus on the incorporation of CSR into company's strategic objectives. Thus, CSR should be seen primarily as the *vehicle* to deal with sustainable development requirements and fulfil stakeholders' demands. In that respect, CSR requires deep knowledge, broad interpretation and extensive integration of SDGs, IMO's Strategic directions, Flag Administration rules and other industry requirements into company's processes. Moreover, key stakeholders' expectations (employees, suppliers, charterers, labour unions, local community) should be analysed and their concerns be integrated into business processes. Equally important is the integration of principles and requirements of individual safety management systems, in order to suit company's goals. As our study findings revealed, multiple systems and standards exist to deal with efficiency, environment, social accountability and occupational safety. In such a plethora of regulations and management standards, the use of fragmentary and isolated management systems would not promote efficiency and, additionally, would bring confusion at employee and operational level. Therefore, company's SMS needs to be filtered and their requirements to be integrated and adjusted to company's objectives, business profile, management culture, and overall commercial potential. Practically, job manuals, procedures, processes and instructions need be written and communicated to employees in a manner that avoid duplication and confusion, promote efficiency, address stakeholders and sustainability needs and can be measurable and auditable at any time (Asif et al. 2013).

In the light of such argumentation, below proposed conceptual CSR framework depicted in **Figure 9.2**, suggests a structured pathway on how CSR can be structured into business operations. Such conceptual approach commences at top management level with the dissemination of CSR into the strategic management objectives and processes (Matten and Moon 2008). Firstly, it is imperative the creation of a CSR strategy that places sustainability at the core of business. Secondly, it is vital the integration of CSR principles into company's business activities, through the appropriate transformation of the safety management system, in such a way that company's economic objectives are balanced with stakeholders' expectations, societal anticipations and environmental challenges (Zwetsloot 2003). Thereafter, it will continue with the integration of existing management systems to meet stakeholders' requirements. The whole process will be concluded, thereupon, at the

operational level by setting work instructions and procedures that promote efficiency, ensure a safe workplace, respect the environment, consider the society and manage stakeholders' requirements (Asif et al. 2013). However, in order such attempt to be productive it has to be systematic, measurable and clearly defined into core business strategy, processes and objectives (Burke and Logsdon 1996).

Figure 9.2 summarizes the foremost phases to be passing through in order to create and integrate CSR into company's shipping operations.

Figure 9.2. A conceptual CSR framework for a sustainable maritime industry

It is worth reminding at this point that as per obtained study results, dedicated CSR measuring and reporting has not been a practice widely followed by shipping companies. In contrast, typically, shipping companies generate an integrated health, safety and environmental report, mainly for internal use. However, as this study showed, ship managers can benefit from CSR measuring and reporting in many forms, one of which is the increased trust and improved company's image and relationships with stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.). Hence, in order CSR to be fruitful, it should be practically addressed through quantifiable and defined indicators, tailored to the requirements of sustainable development (economic, social, and environmental) and stakeholder pursuits (Schaltegger and Wagner 2006). The Global Reporting Initiative framework can provide a suggestive example of CSR measuring and reporting Standard. However, selection of CSR measurement indicators is a decision that should be taken according the individual characteristics of each company and measurement of CSR performance should be followed by CSR measurement and reporting (Toppinen et al. 2012). As **Figure 9.2** illustrates, CSR measurement and reporting should lay on the end of the CSR implementation process, as it has been encompassed in our proposed top-down integrated approach to CSR. Measuring and reporting on CSR can provide ship managers with an overview of the success of their CSR initiatives, highlight areas of improvement and assist, furthermore, in the reassessment and orientation of company's strategy. Though, ship managers should realize that CSR audit is a valuable tool that provides a snapshot of the implementation state of company's corporate mandates and strategic objectives. Audit results can be later evaluated and decisions taken on where an improvement effort should be undertaken (Asif et al. 2013).

9.5   Limitations and Future Research Opportunities

This thesis aimed to provide a deeper understanding on CSR and sustainable development perceptions and practices in the shipping industry (tanker and dry bulk sector) and, moreover, to investigate the relationship between them. To do so, it has adopted a quantitative research approach. Our data collection instrument referred to the survey questionnaire and data analysis was performed by employing descriptive (frequency distribution) and inferential (bivariate analysis - chi-squared independence test and

Spearman's correlation coefficient) statistics. However, it should not be ignored that there are some limitations associated with this study and their identification and interpretation can transform them to opportunities of future research.

Our survey questionnaire was sent to shipping companies and was answered by personnel that were involved in the technical management of ships (tankers and dry bulk carriers). Therefore, survey findings represented the perceptions and views of a single target group, namely, the ship management personnel. Future research could incorporate the investigation of CSR perceptions and practices of other maritime stakeholders, such as, charterers, financial institutions, non-governmental organizations, Flag Administrations, Port States etc. In that respect, it would be interesting to investigate CSR and sustainability perceptions, best practices, programs and strategies of maritime stakeholders. Further to that, our study could be enriched by further researching and mapping how maritime stakeholders have responded to the United Nations Sustainable Development Goals and, in particular, which are their CSR expectations, actions, and focus areas in order to meet UN's sustainability mandates.

Our study concentrated on the investigation of CSR and sustainability perceptions, practices and attitudes of 50 shipping companies operating in dry and tanker sector. Therefore, our findings and analysis were restricted to that context. In that respect, such concentration into the specific dry and tanker shipping sector represents a limitation for the generalization of results and comparisons between sectors. A future recommendation would be to expand the sample population, by incorporating in the study companies that manage additional types of ships (containership, cruise ships, offshore vessels etc.). Such an approach will enable us to make more secure generalizations by comparing how CSR and sustainability perceptions and practices diversify across the various shipping sectors (offshore vessels, cruise ships, containerships etc.).

Within this study, the relationship between CSR and sustainable development was investigated and the contributory role of CSR strategic management tool to the achievement of sustainable shipping operations was confirmed. An interesting extension of such conclusion would be to expand our research and test the robustness of such relationship by investigating '*how*', practically, CSR can contribute to sustainability. That could be

achieved by reviewing and plotting CSR and sustainability initiatives, programs, operating procedures and processes, with the aim to identify '*how'* shipping companies encompass in the safety management system CSR and sustainability principles. Moreover, the impact of the implementation of CSR programs on maritime marketplace, commercial viability, workplace safety and wellbeing, community prosperity and environment refer to some topics with high research potential.

To sum up, employing a single research methodology (quantitative approach) to investigate perceptions and practices of shipping companies on CSR and sustainability, restricts our ability to compare and reconfirm obtained findings with data collected by other research methods (i.e. qualitative-interviews, case studies, content analysis etc.). Having, therefore, examined the relationship between variables and after verifying our hypotheses, it would be beneficial, for the completeness of our study, to reconfirm such numerical data and conclusions with individuals' personal feelings, opinions, thoughts and experiences by such interaction. Reviews and observations of actual operating practices and official documents related to CSR and sustainability could provide us with deeper insights towards this direction. Thus, it is highly recommended the conduct of a qualitative research (i.e. via semi-structured interviews, case study etc). Thereafter, mixing both qualitative and quantitative findings is advisable (mixed methodology) as it will offer us a deeper and broader understanding of the research problem and balance any shortcomings appear when using a single research approach.

9.6   Conclusion

This study employed a quantitative research approach to investigate CSR and sustainability issues in the shipping industry (tanker and dry maritime sector). Despite the aforementioned limitations, this study is believed to have provided a sufficient overview in terms of identified CSR and sustainability perceptions, practices and their inherent relationship in the maritime industry. Data collection was based on a questionnaire survey and 50 responses received by ship management companies, based in 14 different countries across the world. Such feature adds some diversification to study conclusions and overcomes any cultural limitations might arise in case research data had been collected by a single country. With regards to our major concluding points, recent UNs sustainability developments have led to

the formation of IMO's Strategic Plan demonstrating, thus, Organization's desire to align its policy with United Nations' 2030 Agenda and SDGs. As such, IMO's Strategic Directions (Resolution A.1097 (29)) is considered IMO's formal reaction to the new global mandates on Sustainable Development Goals. Besides, such action should be regarded as the beginning of a series of new Resolutions or amendments to existing statutory regulations with the aim to provide more specific requirements for maritime stakeholders (Ugochukwu 2017). It should be shortly expected that such legislation will be reflected into Flag Administrations national policies. It would be of great interest for a future study to investigate *how* Flag Administrations have responded to such developments. Nevertheless, shipping companies need to see themselves as supporters and assist governments to achieve the goals. Putting sustainability, as it has been defined by UNs *triple bottom line* approach, in the core of their business will assist them to gain a competitive advantage against competitors, improve quality of their operations and, possibly, maintain their license to operate. The maritime sector seems to have recognized such trend since, as per this study, a growing number of tanker and bulk carrier companies have adopted CSR and sustainability principles into their ship management.

Developing a CSR statutory regulatory regime has not been positively considered the best option by shipping companies. What is needed is to synthesize existing regulatory pieces, while, primarily, having established the necessary framework. An integrated management systems approach is recommended in order maritime companies to effectively build CSR into their current business practices (Labodová 2004). As a matter of fact, a 'top-down' level approach is discussed in order to summarize the basic process steps through which CSR can be integrated into business operations. In that context, CSR should primarily function as a strategic management tool and business model that will assist shipping companies to embed sustainability in their core of business activities and develop mechanisms in order to measure, report, review, continuously improve negative impacts on sustainable development (Asif et al. 2013). As can be clearly seen from **Figure 9.2**, CSR needs to be embedded at every level of the organization. In that sense, CSR should be seen as a strategic decision to integrate sustainable development requirements fulfilling, thus, stakeholders' demands (Jørgensen et al. 2006). Equally important is the integration of

sustainability principles into company's safety management system, in a way that serves company's goals and business processes. As this study showed, shipping companies seem to have well adapted to that need. Then, such venture will, subsequently, continue at policy level with the dissemination of company's sustainability objectives and commitment across all layers of the organization (Górny 2014). Stakeholder management and theory should be taken into account since such parameter has appeared to have significantly motivated maritime companies to adopt CSR. A fruitful CSR regime that would provide commercial incentives to shipping companies to operate sustainably would be a motivating reason, though, the voluntary and non-statutory character of CSR should be maintained across the industry (Yliskylä-Peuralahti and Gritsenko 2014). Measuring and reporting CSR and sustainability performance is placed at the end of the process and, along with CSR auditing, is equally important for providing feedback at top management, so as to facilitate proper decisions for continual improvement (Asif et al. 2013). This refers to a critical step in which, according to study findings, shipping companies need further assistance and guidance in order to acquire knowledge and update their performance measurements and disclosure techniques with modern CSR and sustainability reporting systems. A close up investigation of existing CSR and sustainability measurement and reporting systems in the maritime industry is highly recommended for future research.

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LIST OF APPENDICES
APPENDIX I – Questionnaire
Demographics

What is your gender?
□ Male
□ Female

What is your age group?
□ 20 - 30
□ 31 – 40
□ 41 – 50
□ 51 +

What type of ships are managed by your company?

□ Dry Bulkers

□ Tankers and/or Gas Carriers

□ Containers, General Cargo, Ro/Ro ships, other cargo vessels

□ Passenger/Cruise Ships

□ Mix Fleet (Tankers/Gas, Bulk Carriers, Container ships and other cargo vessels)

What is your company's fleet size?

□ 1-10

□ 11-20

□ 21-29

□ 30 +

What is approximately the number of your company's employees (both at the office and ashore personnel)?

□ 1-50

□ 51-150

□ 151-250

□ 251 +

In which company's department you are employed?

Operations	□
QHSE	□
Technical	□
Accounting/Management	□
Human Resources	□

Other, Please mention: ………………..

In which country is your company based (that has assumed the technical management of your ships)?

Please mention: ………………………….

Which from the below management 'styles' best describes your company?

Please tick as appropriate.

□ We are a ship-owning company, performing exclusive technical ship management services to a sole ship owner

□ We are a third-party ship management company performing technical management services to various ship owners

□ We are a ship-owning company, performing technical ship management services, mainly, for one ship owner but periodically to other ship owners

□ Other, Please mention:

Awareness and attitude

Are you personally aware on the theme of corporate social responsibility (CSR)?
Please tick as appropriate.
No, I am not aware on CSR theme
Yes, I am aware on CSR theme

 Please specify the standard(s) under which your company has been certified:

Please tick as appropriate.

ISO9001 Quality Management

ISO14001 Environmental Management

ISO50001 Energy Management

ISO21000 Risk Management

A Social Responsibility Standard (i.e. ISO 26000, SA8000, AA1000 etc.)

OHSAS 18001

Other:

We are not certified against an industry standard

To what extent do you agree with the following statement:

My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.

Please tick as appropriate.

□ Yes

□ No

□ I am not sure

Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?

Please tick as appropriate.

Areas/subjects you consider to be part of a Corporate Social Responsibility (CSR) policy/strategy	Yes should be part of CSR policy/program	I am not sure	No should not be part of CSR policy/program
Ensure decent Working conditions for seafarers (i.e. adequate food, recreation facilities, mandatory days off, rest hours etc.)			
Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks			
Establish a Non-discrimination policy (e.g. age, gender, religion, race, etc.)			
Manage risks and relationships with stakeholders (charterers, PSC, Flag administrations, local communities etc.)			
Implement an Energy consumption/saving programme			
Implement an Environmental management programme to reduce environmental risks (i.e. air emissions, waste management etc)			
Conduct donations, charities to communities or organizations having social or environmental utility			
Provide training to employees to deal with technological upgrades and new job demands			
Develop a process to ensure that ships are recycled at approved recycling yards/facilities			
Comply with applicable statutory HSE legislation (i.e. ISM,ISPA,SOLAS, MARPOL, MLC)			
Follow up with technological upgrades			
Adopt a Business Code of Conduct and ethics compliance (Anti-corruption,			

extortion, bribery)			
Establish an occupational Health, Safety and risk management programme to minimize workplace accidents and mitigate social impacts			

To what extent do you agree with the following statement:
***Corporate Social Responsibility* is understood as** t*he conduct of business operations in a manner that **goes beyond** mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy.*

Please tick as appropriate.

□ Strongly Agree

□ Agree

□ Indecision

□ Disagree

□ Strongly Disagree

To what extent do you agree with the following statement:

Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.

Please tick as appropriate.

□ Strongly Agree

□ Agree

□ Indecision

□ Disagree

□ Strongly Disagree

Practices, Measurement and disclosure

Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures.

Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?

Please rank (1 = not important, 5 = very important).	Level of Importance				
Elements taken into consideration when formulating SMS	Not Important	Slightly important	I am not	Important	Very Important

			sure		
Provisions of maritime statutory legislation (i.e. ISM Code, MLC, SOLAS, MARPOL, STCW etc)	1	2	3	4	5
CSR principles and requirements/guidelines of an approved CSR Standard	1	2	3	4	5
Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard	1	2	3	4	5
Other Industry Standards (i.e. ISO9001, ISO14001, OHSAS 18001, ISO26000 etc.)	1	2	3	4	5

Which from the below types of reporting has been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate.

An Environmental performance report ☐

An integrated health, safety and environmental report ☐

A stand-alone CSR and / or Sustainability report ☐

We produce other kind of report, Please mention: ☐

We do not produce any kind of performance measuring and reporting ☐

If you produce one of the above reports, **to which from the below stakeholders** do you communicate your report?
Note: If you replied on Question 16 that you do not produce any kind of performance measuring and reporting, please disregard Question 17

Please tick as appropriate.

Top management /Board of Directors	
Employees (Office staff and seafarers)	
Suppliers and Contractors	
Charterers / Clients	
Flag Administration	
Industry press/internet	
Other, please specify:	
We prefer not to communicate our report	

Drivers and Barriers

CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.

Which from the below items do you see as **barriers** to your company that would **discourage** the implementation of a CSR policy and reporting program?

Factors that would <u>discourage</u> company to implement a CSR strategy, measurement and reporting program	Yes, I see it as barrier for my company	I am not sure	No, I do not see it as barrier for my company
Not recognised as a corporate strategic priority			
Lack of corporate culture and Senior management commitment on CSR			
Lack of understanding about the long term benefits and value it can bring			
Lack of a maritime regulatory regime that would provide guidance and ensure compliance with CSR principles			
High costs borne by its implementation			
Lack of adequate knowledge over CSR principles and standards			
Lack of resources (i.e. personnel)			

CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.

 Which from the below items do you see as **benefits** to your company that would **encourage** the implementation of a CSR policy and reporting program?
Please tick as appropriate.

Factors that would <u>motivate</u> Company to adopt a CSR strategy, measurement and reporting programme	Yes, I see it as benefit for my company	I am not sure	No, I don't see it as benefit for my company
It will improve company's ethics, economic transparency and efficiency			
It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).			
It will ensure and enhance company's ability to comply with statutory maritime legislation			
It will improve environmental performance and			

compliance			
It will improve safety performance and reduce accidents			
It will build better relations and increase the trust between company and its employees			

Linkage between CSR and SD

To what extent do you agree with the following statement:
CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.

Please tick as appropriate.
□ Strongly Agree
□ Agree
□ Indecision
□ Disagree
□ Strongly Disagree

To what extent do you agree with the following statement:
Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.

Please tick as appropriate.
□ Strongly Agree
□ Agree
□ Indecision
□ Disagree
□ Strongly Disagree

THIS PART IS OPTIONAL - Personal Statements and Contact Details

OPTIONAL - Please add anything else here that was not covered by this questionnaire and you believe it is important to this research.

OPTIONAL - Please write your personal contact details.

APPENDIX II – Survey Introductory Letter

Department of Naval Architecture,

Ocean & Marine Engineering

Dear Sir/Madam,

My name is Ioannis Fasoulis and through this letter I would like to take the opportunity to introduce myself as a postgraduate research student (MPhil research degree) at the **University of Strathclyde, Department of Naval Architecture, Ocean and Marine Engineering**.

Currently, I am conducting a research on the application of **Corporate Social Responsibility and Sustainability** to the shipping industry. The **aim** of my study is to: Investigate shipping companies' perceptions, awareness, attitudes and practices related to the themes of Corporate Social Responsibility and Sustainability (CSR), Identify benefits and barriers to be accrued by their implementation and Describe the inherent relationship (if any) between CSR and sustainability.

I would kindly ask you to answer the survey questionnaire by considering that your responses reflect, to the extent possible, the predominant awareness, practices and understanding of your organization on the subjects of **Corporate Social Responsibility and Sustainable Development**, as they are perceived and experienced through your company's ship management operations.

Completing the Questionnaire: I would be grateful if you could read and answer for me the electronic questionnaire, by **clicking** at the below link: …………………………………

Confidentiality: **Declaration of your name and personal details is not required**. Your answers will be treated in **full confidentiality** at every stage of the project and will never be used to identify you or your company. The research results are intended to provide data and conclusions to my postgraduate research degree and possible publication in academic journals **without, however, to reveal respondents' or companies' names.**

Contacting the researcher: If you have any queries please do not hesitate to contact me by **e-mail**: ioannis.fasoulis@strath.ac.uk, or by **telephone**: +306948661605**.** Thank you in advance for devoting your precious time and knowledge, which are vital for the completion of my research degree.

Yours Sincerely,

Ioannis Fasoulis, Postgraduate Research Student (MPhil),

University of Strathclyde, Glasgow

APPENDIX III - Pearson and Spearman Test Results

Hypothesis 1

```
CROSSTABS
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Correlations			13. To what extent do you agree with the following statement: Please tick as appropriate. - Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy.	14. To what extent do you agree with the following statement: Please tick as appropriate - Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.
Spearman's rho	13. To what extent do you agree with the following statement: Please tick as appropriate. - Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy.	Correlation Coefficient	1,000	,526**
		Sig. (2-tailed)	.	,000
		N	50	50

			,526**	1,000
14. To what extent do you agree with the following statement: Please tick as appropriate - Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.	Correlation Coefficient	,526**	1,000
	Sig. (2-tailed)	,000	.
	N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis 2
H2(a)

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard	50	100,0%	0	0,0%	50	100,0%

11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard	50	100,0%	0	0,0%	50	100,0%

11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard

Crosstab
Count

	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard	Total

11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.		Not Important	Slightly Important	I am not Sure	Important	Very Important	
	No	2	2	0	1	0	5
	I am not sure	0	0	2	0	2	4
	Yes	0	3	4	28	6	41
Total		2	5	6	29	8	50

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	36,832a	8	,000
Likelihood Ratio	27,439	8	,001
Linear-by-Linear Association	13,123	1	,000
N of Valid Cases	50		

a. 13 cells (86,7%) have expected count less than 5. The minimum expected count is ,16.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	,651	,000
N of Valid Cases		50	

H2 (b)

11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?
Please rank your preference - Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard
Crosstab

		15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard					Total
		Not Important	Slightly Important	I am not Sure	Important	Very Important	
11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.	No	2	2	0	1	0	5
	I am not sure	0	0	0	2	2	4
	Yes	0	2	7	23	9	41
Total		2	4	7	26	11	50

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	**30,402ᵃ**	**8**	**,000**
Likelihood Ratio	21,113	8	,007
Linear-by-Linear Association	11,276	1	,001
N of Valid Cases	50		

a. 12 cells (80,0%) have expected count less than 5. The minimum expected count is ,16.

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	**,615**	,000

N of Valid Cases	50	

Hypothesis 3

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).	48	96,0%	2	4,0%	50	100,0%

11. To what extent do you agree with the following statement:Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.). Crosstabulation
Count

		19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).			
		No, I don't see it as benefit for my company	I am not sure	Yes, I see it as benefit for my company	Total
11. To what extent do you agree with the following statement:Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.	No	1	2	2	5
	I am not sure	0	1	2	3
	Yes	0	3	37	40
Total		1	6	41	48

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15,033ª	4	,005
Likelihood Ratio	9,942	4	,041
Linear-by-Linear Association	13,000	1	,000
N of Valid Cases	48		
a. 7 cells (77,8%) have expected count less than 5. The minimum expected count is ,06.			

Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	**,488**	,005
N of Valid Cases		48	

Hypothesis 4

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Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR	48	96,0%	2	4,0%	50	100,0%

11. To what extent do you agree with the following statement:
Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations. * 18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR Crosstabulation

Count

| | | 18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR | | | |
		No, I don't see it as barrier for my company	I am not sure	Yes, I see it as barrier for my company	Total
11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.	No	1	2	2	5
	I am not sure	2	1	0	3
	Yes	26	5	9	40
Total		29	8	11	48

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)

227

Pearson Chi-Square	5,388[a]	4	,250
Likelihood Ratio	5,894	4	,207
Linear-by-Linear Association	1,725	1	,189
N of Valid Cases	48		

a. 6 cells (66,7%) have expected count less than 5. The minimum expected count is ,50.

Symmetric Measures			
		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	,318	,250
N of Valid Cases		48	

Hypothesis 5

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Sustainability in the Maritime Industry_June 19, 2018_10.01.sav'.
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Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability. * 12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks	48	96,0%	2	4,0%	50	100,0%

20. To what extent do you agree with the following statement:
Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability. *
12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks
Crosstabulation

Count

		12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks			Total
		No, it shouldn't be part of company's CSR policy/program	I am not sure	Yes, it should be part of company's CSR policy/program	
20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.	Strongly Disagree	0	0	1	1
	Disagree	1	0	1	2
	I am not Sure	0	2	6	8
	Agree	0	3	20	23
	Strongly Agree	9	0	5	14
Total		10	5	33	48

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)

Pearson Chi-Square	27,349ᵃ	8	,001
Likelihood Ratio	30,889	8	,000
Linear-by-Linear Association	5,911	1	,015
N of Valid Cases	48		

a. 12 cells (80,0%) have expected count less than 5. The minimum expected count is ,10.

Symmetric Measures			
		Value	Approximate Significance
Nominal by Nominal	Contingency Coefficient	,602	,001
N of Valid Cases		48	

Hypothesis 6

Correlations			
		20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.	21. To what extent do you agree with the following statement: Please tick as appropriate. - Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.
Spearman's rho	20. To what extent do you agree with the following statement:	Correlation Coefficient	1,000	,457**
		Sig. (2-tailed)	.	,001

	Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.	N	48	48
	21. To what extent do you agree with the following statement:	Correlation Coefficient	,457[**]	1,000
		Sig. (2-tailed)	,001	.
	Please tick as appropriate. - Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.	N	48	48
**. Correlation is significant at the 0.01 level (2-tailed).				

APPENDIX IV - Results of Descriptive Analysis

```
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Frequencies

Notes		
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Comments		
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=Q1 Q2 Q3_1 Q3_2 Q3_3 Q3_4 Q3_5 Q3_5_TEXT Q4 Q5 Q6 Q6_6_TEXT Q7 Q8 Q8_4_TEXT Q9 Q10_1 Q10_2 Q10_3 Q10_4 Q10_5 Q10_6 Q10_7 Q10_8 Q10_7_TEXT Q11_1 Q12_1 Q12_2 Q12_3 Q12_4 Q12_5 Q12_6 Q12_7 Q12_8 Q12_9 Q12_10 Q12_11 Q12_12 Q12_13 Q13_1 Q14_1 Q15_1 Q15_2 Q15_3 Q15_4 Q16_1 Q16_2 Q16_3 Q16_4 Q16_5 Q16_4_TEXT Q17_1 Q17_2 Q17_3 Q17_4 Q17_5 Q17_6 Q17_7 Q17_8 Q17_7_TEXT Q18_1 Q18_2 Q18_3 Q18_4 Q18_5 Q18_6 Q18_7 Q19_1 Q19_2 Q19_3 Q19_4 Q19_5 Q19_6 Q20_1 Q21_1 /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00,19
	Elapsed Time	00:00:00,33

Statistics

		1. What is your gender?	2. What is your age group?	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Dry Bulkers	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Tankers and/or Gas Carriers	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Container ships, General Cargo, Ro/Ro ships, other cargo vessels	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Passenger/Cruise ships	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Other, Please mention:
N	Valid	50	50	25	36	12	2	6
	Missing	0	0	25	14	38	48	44

Statistics

		3. What type of ships are managed by your company? Please tick as appropriate. - Other, Please mention: - Text	4. What is your company's fleet size? Please tick as appropriate.	5. What is approximately the number of your company's employees (both at the office and ashore personnel)? Please tick as appropriate.	6. In which company's department you are employed? Please tick as appropriate. - Selected Choice	6. In which company's department you are employed? Please tick as appropriate. - Other, Please Mention: - Text	7. In which country is your company based (that has assumed the technical management of your ships)? Please write the country.	8. Which from the below management 'styles' best describes your company? Please tick as appropriate. - Selected Choice
N	Valid	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0

Statistics

		8. Which from the below management 'styles' best describes your company? Please tick as appropriate. - Other, Please mention: - Text	9. Are you personally aware on the theme of corporate social responsibility (CSR)? Please tick as appropriate.	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO9001 Quality Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO14001 Environmental Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO50001 Energy Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO21000 Risk Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice A Social Responsibility Standard (i.e. ISO 26000, SA8000, AA1000 etc.)
N	Valid	50	50	29	31	6	2	1
	Missing	0	0	21	19	44	48	49

Statistics							
	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice OHSAS 18001	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice Other Standard, please mention	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice We are not certified against an industry standard	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Other Standard, please mention - Text	11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Ensure decent Working conditions for seafarers (i.e. adequate food, recreation facilities, mandatory days off, rest hours etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks
N Valid	13	9	8	50	50	50	50
Missing	37	41	42	0	0	0	0

Statistics							
		12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Non-discrimination policy (e.g. age, gender, religion, race, etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Manage risks and relationships with stakeholders (charterers, PSC, Flag administrations, local communities etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Implement an Energy consumption/saving programme	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Implement an Environmental management programme to reduce environmental risks (i.e. air emissions, waste management etc)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Conduct donations, charities to communities or organizations having social or environmental utility	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Provide training to employees to deal with technological upgrades and new job demands	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Develop a process to ensure that ships are recycled at approved recycling yards/facilities
N	Valid	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0

Statistics

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Comply with applicable statutory HSE legislation (i.e. ISM,ISPA,SOLAS, MARPOL, MLC)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Follow up with technological upgrades	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Adopt a Business Code of Conduct and ethics compliance (Anti-corruption, extortion, bribery)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish an occupational Health, Safety and risk management programme to minimize workplace accidents and mitigate social impacts	13. To what extent do you agree with the following statement: Please tick as appropriate. - Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns	14. To what extent do you agree with the following statement: Please tick as appropriate - Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Provisions of maritime statutory legislation

N	Valid	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0

Statistics

	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Sustainable	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Other	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice An Environmental performance report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice An integrated health, safety and environmental report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice A stand-alone CSR and/or Sustainability report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice We produce other kind of report, Please mention:

N	Valid	50	50	50	15	36	8	8
	Missing	0	0	0	35	14	42	42

Statistics

		16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice We do not produce any kind of performance measuring and reporting	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - We produce other kind of report, Please mention: - Text	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Top management /Board of Directors	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Employees (Office staff and seafarers)	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Suppliers and Contractors	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Charterers / Clients	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Flag Administration
N	Valid	1	50	47	35	9	31	4
	Missing	49	0	3	15	41	19	46

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Statistics

	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Industry press/internet	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Other, Please mention:	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice We prefer not to communicate our report	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Other, Please mention: - Text	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Not recognised as a corporate strategic priority	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of understanding about the long term benefits and value it can bring

N	Valid	9	3	0	50	48	48	48
	Missing	41	47	50	0	2	2	2

Statistics

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of a maritime regulatory regime that would provide guidance and ensure compliance with CSR principles	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - High costs borne by its implementation	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of adequate knowledge over CSR principles and standards	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of resources (i.e. personnel)	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve company's ethics, economic transparency and efficiency	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will ensure and enhance company's ability to comply with statutory maritime

N	Valid	48	48	48	48	48	48	48
	Missing	2	2	2	2	2	2	2

Statistics					
	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve environmental performance and compliance	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve safety performance and reduce accidents	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will build better relations and increase the trust between company and its employees	20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.	21. To what extent do you agree with the following statement: Please tick as appropriate. - Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.
N Valid	48	48	48	48	48
Missing	2	2	2	2	2

Frequency Table

1. What is your gender?				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Male	38	76,0	76,0	76,0
	Female	12	24,0	24,0	100,0
	Total	50	100,0	100,0	

2. What is your age group?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 30	3	6,0	6,0	6,0
	31 - 40	14	28,0	28,0	34,0
	41 - 50	17	34,0	34,0	68,0
	51 +	16	32,0	32,0	100,0
	Total	50	100,0	100,0	

3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Dry Bulkers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Dry Bulkers	25	50,0	100,0	100,0
Missing	System	25	50,0		
Total		50	100,0		

3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Tankers and/or Gas Carriers					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tankers and/or Gas Carriers	36	72,0	100,0	100,0
Missing	System	14	28,0		
Total		50	100,0		

3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Container ships, General Cargo, Ro/Ro ships, other cargo vessels					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Container ships, General Cargo, Ro/Ro ships, other cargo vessels	12	24,0	100,0	100,0
Missing	System	38	76,0		

		Frequency	Percent	Valid Percent	Cumulative Percent
Total		50	100,0		

3. What type of ships are managed by your company?
Please tick as appropriate. - Selected Choice Passenger/Cruise ships

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Passenger/Cruise ships	2	4,0	100,0	100,0
Missing	System	48	96,0		
Total		50	100,0		

3. What type of ships are managed by your company?
Please tick as appropriate. - Selected Choice Other, Please mention:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other, Please mention:	6	12,0	100,0	100,0
Missing	System	44	88,0		
Total		50	100,0		

3. What type of ships are managed by your company?
Please tick as appropriate. - Other, Please mention: - Text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		44	88,0	88,0	88,0
	Bulk Carriers	1	2,0	2,0	90,0
	FSIV; Accommodation Barges; offshore support vessels	1	2,0	2,0	92,0
	Off-shore	1	2,0	2,0	94,0
	Super yachts	1	2,0	2,0	96,0
	Tugs	1	2,0	2,0	98,0
	Tugs, Pilot	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

4. What is your company's fleet size?
Please tick as appropriate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-20	21	42,0	42,0	42,0
	21-40	5	10,0	10,0	52,0
	41-60	7	14,0	14,0	66,0
	61 +	17	34,0	34,0	100,0
	Total	50	100,0	100,0	

5. What is approximately the number of your company's employees (both at the office and ashore personnel)?
Please tick as appropriate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-50	4	8,0	8,0	8,0
	51-150	10	20,0	20,0	28,0
	151-250	7	14,0	14,0	42,0
	251+	29	58,0	58,0	100,0
	Total	50	100,0	100,0	

6. In which company's department you are employed?
Please tick as appropriate. - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Operations	5	10,0	10,0	10,0
	QHSE	32	64,0	64,0	74,0
	Technical	2	4,0	4,0	78,0
	Human resources	6	12,0	12,0	90,0
	Accounting\Management	2	4,0	4,0	94,0
	Other, Please Mention:	3	6,0	6,0	100,0
	Total	50	100,0	100,0	

6. In which company's department you are employed?
Please tick as appropriate. - Other, Please Mention: - Text

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		47	94,0	94,0	94,0
	Communications and CSR	1	2,0	2,0	96,0
	Nautical	1	2,0	2,0	98,0
	Operations, QHSE, Technical, Human resources	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

7. In which country is your company based (that has assumed the technical management of your ships)?
Please write the country.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Canada	2	4,0	4,0	4,0
	Cyprus	4	8,0	8,0	12,0
	Denmark	7	14,0	14,0	26,0
	Europe	1	2,0	2,0	28,0
	Finland	3	6,0	6,0	34,0
	Germany	4	8,0	8,0	42,0
	Greece	6	12,0	12,0	54,0
	GREECE	4	8,0	8,0	62,0
	Italy	1	2,0	2,0	64,0
	Monaco	1	2,0	2,0	66,0
	Netherlands	1	2,0	2,0	68,0
	Norway	8	16,0	16,0	84,0
	NORWAY	1	2,0	2,0	86,0
	Norway / Denmark / Brazil	1	2,0	2,0	88,0
	Norway, Singapore, Germany and Finland.	1	2,0	2,0	90,0
	Sweden	1	2,0	2,0	92,0
	Switzerland	1	2,0	2,0	94,0
	Switzerland and The Netherlands	1	2,0	2,0	96,0
	The Netherlands	1	2,0	2,0	98,0
	Turkey	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

8. Which from the below management 'styles' best describes your company?
Please tick as appropriate. - Selected Choice

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	We are a ship-owning company, performing exclusive technical ship management services to a sole ship owner	24	48,0	48,0	48,0
	We are a third-party ship management company performing technical management services to various ship owners	11	22,0	22,0	70,0
	We are a ship-owning company, performing technical ship management services, mainly, for one ship owner but periodically to other ship owners	13	26,0	26,0	96,0
	Other, Please mention:	2	4,0	4,0	100,0
	Total	50	100,0	100,0	

8. Which from the below management 'styles' best describes your company?
Please tick as appropriate. - Other, Please mention: - Text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		48	96,0	96,0	96,0
	Operation of a mix of owned and chartered tonnage in total 249 dry cargo and 53 tanker vessels.	1	2,0	2,0	98,0
	we are a shipowner that has outsourced all technical management to third party	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

9. Are you personally aware on the theme of corporate social responsibility (CSR)?
Please tick as appropriate.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I am not aware on CSR theme	3	6,0	6,0	6,0
	Yes, I am aware on CSR theme	47	94,0	94,0	100,0
	Total	50	100,0	100,0	

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice ISO9001 Quality Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ISO9001 Quality Management	29	58,0	100,0	100,0
Missing	System	21	42,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice ISO14001 Environmental Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ISO14001 Environmental Management	31	62,0	100,0	100,0
Missing	System	19	38,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice ISO50001 Energy Management

		Frequency	Percent	Valid Percent	Cumulative Percent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ISO50001 Energy Management	6	12,0	100,0	100,0
Missing	System	44	88,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice ISO21000 Risk Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ISO21000 Risk Management	2	4,0	100,0	100,0
Missing	System	48	96,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice A Social Responsibility Standard (i.e. ISO 26000, SA8000, AA1000 etc.)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A Social Responsibility Standard (i.e. ISO 26000, SA8000, AA1000 etc.)	1	2,0	100,0	100,0
Missing	System	49	98,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice OHSAS 18001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OHSAS 18001	13	26,0	100,0	100,0
Missing	System	37	74,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice Other Standard, please mention

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other Standard, please mention	9	18,0	100,0	100,0
Missing	System	41	82,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Selected Choice We are not certified against an industry standard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	We are not certified against an industry standard	8	16,0	100,0	100,0
Missing	System	42	84,0		
Total		50	100,0		

10. Please specify the standard(s) under which your company has been certified:

Please tick as appropriate. - Other Standard, please mention - Text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		41	82,0	82,0	82,0
	360Q, ISM	1	2,0	2,0	84,0
	Green Shipping, ISO 29000	1	2,0	2,0	86,0
	ISM	1	2,0	2,0	88,0
	ISM Code	1	2,0	2,0	90,0
	ISM resolution A.1022(26)	1	2,0	2,0	92,0
	MARPOL, IMO, DK, EU and UN law etc.	1	2,0	2,0	94,0
	Shipping standards like ISM	1	2,0	2,0	96,0
	TMSA	1	2,0	2,0	98,0
	We adhere and follow SA8000 but not certified	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	5	10,0	10,0	10,0
	I am not sure	4	8,0	8,0	18,0
	Yes	41	82,0	82,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?

Please tick as appropriate. - Ensure decent Working conditions for seafarers (i.e. adequate food, recreation facilities, mandatory days off, rest hours etc.)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	6	12,0	12,0	12,0
	I am not sure	1	2,0	2,0	14,0
	Yes, it should be part of company's CSR policy/program	43	86,0	86,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	10	20,0	20,0	20,0
	I am not sure	5	10,0	10,0	30,0
	Yes, it should be part of company's CSR policy/program	35	70,0	70,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Non-discrimination policy (e.g. age, gender, religion, race, etc.)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	5	10,0	10,0	10,0
	I am not sure	6	12,0	12,0	22,0
	Yes, it should be part of company's CSR policy/program	39	78,0	78,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Manage risks and relationships with stakeholders (charterers, PSC, Flag administrations, local communities etc.)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	7	14,0	14,0	14,0
	I am not sure	4	8,0	8,0	22,0
	Yes, it should be part of company's CSR policy/program	39	78,0	78,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Implement an Energy consumption/saving programme

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	6	12,0	12,0	12,0
	I am not sure	3	6,0	6,0	18,0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes, it should be part of company's CSR policy/program	41	82,0	82,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Implement an   Environmental management programme to reduce environmental risks (i.e. air emissions, waste management etc)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	7	14,0	14,0	14,0
	I am not sure	2	4,0	4,0	18,0
	Yes, it should be part of company's CSR policy/program	41	82,0	82,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Conduct donations, charities to communities or organizations having social or environmental utility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	8	16,0	16,0	16,0
	I am not sure	19	38,0	38,0	54,0
	Yes, it should be part of company's CSR policy/program	23	46,0	46,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Provide training to employees to deal with technological upgrades and new job demands

		Frequency	Percent	Valid Percent	Cumulative Percent

Valid		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	9	18,0	18,0	18,0
	I am not sure	10	20,0	20,0	38,0
	Yes, it should be part of company's CSR policy/program	31	62,0	62,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Develop a process to ensure that ships are recycled at approved recycling yards/facilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	5	10,0	10,0	10,0
	I am not sure	9	18,0	18,0	28,0
	Yes, it should be part of company's CSR policy/program	36	72,0	72,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program?
Please tick as appropriate. - Comply with applicable statutory HSE legislation (i.e. ISM,ISPA,SOLAS, MARPOL, MLC)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	5	10,0	10,0	10,0
	I am not sure	3	6,0	6,0	16,0
	Yes, it should be part of company's CSR policy/program	42	84,0	84,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Follow up with technological upgrades

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	10	20,0	20,0	20,0
	I am not sure	9	18,0	18,0	38,0
	Yes, it should be part of company's CSR policy/program	31	62,0	62,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Adopt a Business Code of Conduct and ethics compliance (Anti-corruption, extortion, bribery)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	3	6,0	6,0	6,0
	I am not sure	5	10,0	10,0	16,0
	Yes, it should be part of company's CSR policy/program	42	84,0	84,0	100,0
	Total	50	100,0	100,0	

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish an occupational Health, Safety and risk management programme to minimize workplace accidents and mitigate social impacts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, it shouldn't be part of company's CSR policy/program	5	10,0	10,0	10,0

		Frequency	Percent	Valid Percent	Cumulative Percent
	I am not sure	1	2,0	2,0	12,0
	Yes, it should be part of company's CSR policy/program	44	88,0	88,0	100,0
	Total	50	100,0	100,0	

13. To what extent do you agree with the following statement:

Please tick as appropriate. - Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management strategy.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2,0	2,0	2,0
	I am not sure	1	2,0	2,0	4,0
	Agree	30	60,0	60,0	64,0
	Strongly agree	18	36,0	36,0	100,0
	Total	50	100,0	100,0	

14. To what extent do you agree with the following statement:

Please tick as appropriate - Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2,0	2,0	2,0
	Disagree	1	2,0	2,0	4,0
	I am not sure	7	14,0	14,0	18,0
	Agree	23	46,0	46,0	64,0
	Strongly agree	18	36,0	36,0	100,0
	Total	50	100,0	100,0	

15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures.

Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?

Please rank your preference - Provisions of maritime statutory legislation (i.e. ISM Code, MLC, SOLAS, MARPOL, STCW etc)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Slightly Important	1	2,0	2,0	2,0
	Important	8	16,0	16,0	18,0
	Very Important	41	82,0	82,0	100,0
	Total	50	100,0	100,0	

15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures.

Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?

Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	4,0	4,0	4,0
	Slightly Important	5	10,0	10,0	14,0
	I am not Sure	6	12,0	12,0	26,0
	Important	29	58,0	58,0	84,0
	Very Important	8	16,0	16,0	100,0
	Total	50	100,0	100,0	

15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures.

Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?

Please rank your preference - Sustainable Development principles /guidelines and requirements of an approved Sustainability Standard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	2	4,0	4,0	4,0
	Slightly Important	4	8,0	8,0	12,0
	I am not Sure	7	14,0	14,0	26,0
	Important	26	52,0	52,0	78,0
	Very Important	11	22,0	22,0	100,0
	Total	50	100,0	100,0	

15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures.

Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)?

Please rank your preference - Other Industry Standards (i.e. ISO9001, ISO14001, OHSAS 18001 etc.)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	3	6,0	6,0	6,0
	Slightly Important	8	16,0	16,0	22,0
	I am not Sure	4	8,0	8,0	30,0
	Important	23	46,0	46,0	76,0
	Very Important	12	24,0	24,0	100,0
	Total	50	100,0	100,0	

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - Selected Choice An Environmental performance report

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	An Environmental performance report	15	30,0	100,0	100,0
Missing	System	35	70,0		
Total		50	100,0		

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - Selected Choice An integrated health, safety and environmental report

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	An integrated health, safety and environmental report	36	72,0	100,0	100,0
Missing	System	14	28,0		
Total		50	100,0		

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - Selected Choice A stand-alone CSR and/or Sustainability report

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A stand-alone CSR and/or Sustainability report	8	16,0	100,0	100,0
Missing	System	42	84,0		
Total		50	100,0		

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - Selected Choice We produce other kind of report, Please mention:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	We produce other kind of report, Please mention:	8	16,0	100,0	100,0
Missing	System	42	84,0		
Total		50	100,0		

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - Selected Choice We do not produce any kind of performance measuring and reporting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	We do not produce any kind of performance measuring and reporting	1	2,0	100,0	100,0
Missing	System	49	98,0		
Total		50	100,0		

16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance?
Please tick as appropriate. - We produce other kind of report, Please mention: - Text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		42	84,0	84,0	84,0
	BIMCO KPI	1	2,0	2,0	86,0

		Frequency	Percent	Valid Percent	Cumulative Percent
	F-6, Master's SMS Review Form+Management review of SMS,	1	2,0	2,0	88,0
	Management Review Report	1	2,0	2,0	90,0
	Management review touch upon the various thems listed above in varying degree	1	2,0	2,0	92,0
	Management Reviews	1	2,0	2,0	94,0
	Technical Operations; IT; Human Resources	1	2,0	2,0	96,0
	we are a privately owned company and our reporting is for internal use only	1	2,0	2,0	98,0
	with a few other KPI	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
Please tick as appropriate. - Selected Choice Top management /Board of Directors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Top management /Board of Directors	47	94,0	100,0	100,0
Missing	System	3	6,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
Please tick as appropriate. - Selected Choice Employees (Office staff and seafarers)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employees (Office staff and seafarers)	35	70,0	100,0	100,0

		Frequency	Percent	Valid Percent	Cumulative Percent
Missing	System	15	30,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Suppliers and Contractors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Suppliers and Contractors	9	18,0	100,0	100,0
Missing	System	41	82,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Charterers / Clients

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Charterers / Clients	31	62,0	100,0	100,0
Missing	System	19	38,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Flag Administration

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Flag Administration	4	8,0	100,0	100,0
Missing	System	46	92,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Industry press/internet

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Industry press/internet	9	18,0	100,0	100,0
Missing	System	41	82,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
Please tick as appropriate. - Selected Choice Other, Please mention:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other, Please mention:	3	6,0	100,0	100,0
Missing	System	47	94,0		
Total		50	100,0		

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
Please tick as appropriate. - Selected Choice We prefer not to communicate our report

		Frequency	Percent
Missing	System	50	100,0

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
Please tick as appropriate. - Other, Please mention: - Text

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		47	94,0	94,0	94,0
	All stakeholders, once it`s on the company website.	1	2,0	2,0	96,0
	Auditors	1	2,0	2,0	98,0

		Frequency	Percent	Valid Percent	Cumulative Percent
	Managment review is shared with customers as a part of audit process or upon request.	1	2,0	2,0	100,0
	Total	50	100,0	100,0	

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Not recognised as a corporate strategic priority

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	21	42,0	43,8	43,8
	I am not sure	12	24,0	25,0	68,8
	Yes, I see it as barrier for my company	15	30,0	31,3	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	29	58,0	60,4	60,4

		Frequency	Percent	Valid Percent	Cumulative Percent
	I am not sure	8	16,0	16,7	77,1
	Yes, I see it as barrier for my company	11	22,0	22,9	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of understanding about the long term benefits and value it can bring

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	18	36,0	37,5	37,5
	I am not sure	10	20,0	20,8	58,3
	Yes, I see it as barrier for my company	20	40,0	41,7	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of a maritime regulatory regime that would provide guidance and ensure compliance with CSR principles

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	18	36,0	37,5	37,5
	I am not sure	11	22,0	22,9	60,4
	Yes, I see it as barrier for my company	19	38,0	39,6	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - High costs borne by its implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	19	38,0	39,6	39,6
	I am not sure	19	38,0	39,6	79,2
	Yes, I see it as barrier for my company	10	20,0	20,8	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of adequate knowledge over CSR principles and standards

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	15	30,0	31,3	31,3
	I am not sure	11	22,0	22,9	54,2
	Yes, I see it as barrier for my company	22	44,0	45,8	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program.
Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - Lack of resources (i.e. personnel)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as barrier for my company	18	36,0	37,5	37,5
	I am not sure	12	24,0	25,0	62,5

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes, I see it as barrier for my company	18	36,0	37,5	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.
Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - It will improve company's ethics, economic transparency and efficiency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as benefit for my company	2	4,0	4,2	4,2
	I am not sure	4	8,0	8,3	12,5
	Yes, I see it as benefit for my company	42	84,0	87,5	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.
Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as benefit for my company	1	2,0	2,1	2,1
	I am not sure	6	12,0	12,5	14,6
	Yes, I see it as benefit for my company	41	82,0	85,4	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.
Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - It will ensure and enhance company's ability to comply with statutory maritime legislation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as benefit for my company	8	16,0	16,7	16,7
	I am not sure	12	24,0	25,0	41,7
	Yes, I see it as benefit for my company	28	56,0	58,3	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.
Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - It will improve environmental performance and compliance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as benefit for my company	7	14,0	14,6	14,6
	I am not sure	8	16,0	16,7	31,3
	Yes, I see it as benefit for my company	33	66,0	68,8	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance.
Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program?
Please tick as appropriate. - It will improve safety performance and reduce accidents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, I don't see it as benefit for my company	9	18,0	18,8	18,8
	I am not sure	12	24,0	25,0	43,8
	Yes, I see it as benefit for my company	27	54,0	56,3	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

		Frequency	Percent	Valid Percent	Cumulative Percent
19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will build better relations and increase the trust between company and its employees					
Valid	No, I don't see it as benefit for my company	2	4,0	4,2	4,2
	I am not sure	12	24,0	25,0	29,2
	Yes, I see it as benefit for my company	34	68,0	70,8	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

		Frequency	Percent	Valid Percent	Cumulative Percent
20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.					
Valid	Strongly Disagree	1	2,0	2,1	2,1
	Disagree	2	4,0	4,2	6,3
	I am not Sure	8	16,0	16,7	22,9
	Agree	23	46,0	47,9	70,8
	Strongly Agree	14	28,0	29,2	100,0
	Total	48	96,0	100,0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Missing	System	2	4,0		
Total		50	100,0		

21. To what extent do you agree with the following statement: Please tick as appropriate. - Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	2,0	2,1	2,1
	I am not Sure	3	6,0	6,3	8,3
	Agree	25	50,0	52,1	60,4
	Strongly Agree	19	38,0	39,6	100,0
	Total	48	96,0	100,0	
Missing	System	2	4,0		
Total		50	100,0		

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:6_6_TEXT :7 :8 :8_4_TEXT
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Q12_1 Q12_2 Q12_3 Q12_4 Q12_5
    Q12_6 Q12_7 Q12_8 Q12_9 Q12_10 Q12_11 Q12_12 Q12_13 Q13_1 Q14_1 Q15_1
Q15_2 Q15_3 Q15_4 Q16_1 Q16_2
    Q16_3 Q16_4 Q16_5 Q16_4_TEXT Q17_1 Q17_2 Q17_3 Q17_4 Q17_5 Q17_6 Q17_7
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Frequencies

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Warnings

No valid cases remain for 17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report?
 Please tick as appropriate. - Selected Choice We prefer not to communicate our report. A bar chart or histogram cannot be produced.

Statistics

	1. What is your gender?	2. What is your age group?	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Dry Bulkers	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Tankers and/or Gas Carriers	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Container ships, General Cargo, Ro/Ro ships, other cargo vessels	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Passenger/Cruise ships	3. What type of ships are managed by your company? Please tick as appropriate. - Selected Choice Other, Please mention:
N Valid	50	50	25	36	12	2	6
Missing	0	0	25	14	38	48	44

Statistics

	3. What type of ships are managed by your company? Please tick as appropriate. - Other, Please mention: - Text	4. What is your company's fleet size? Please tick as appropriate.	5. What is approximately the number of your company's employees (both at the office and ashore personnel)? Please tick as appropriate.	6. In which company's department you are employed? Please tick as appropriate. - Selected Choice	6. In which company's department you are employed? Please tick as appropriate. - Other, Please Mention: - Text	7. In which country is your company based (that has assumed the technical management of your ships)? Please write the country.	8. Which from the below management 'styles' best describes your company? Please tick as appropriate. - Selected Choice
N Valid	50	50	50	50	50	50	50
Missing	0	0	0	0	0	0	0

Statistics

		8. Which from the below management 'styles' best describes your company? Please tick as appropriate. - Other, Please mention: - Text	9. Are you personally aware on the theme of corporate social responsibility (CSR)? Please tick as appropriate.	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO9001 Quality Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO14001 Environmental Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO50001 Energy Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice ISO21000 Risk Management	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice A Social Responsibility Standard (i.e. ISO 26000, SA8000, AA1000 etc.)
N	Valid	50	50	29	31	6	2	1
	Missing	0	0	21	19	44	48	49

Statistics

		10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice OHSAS 18001	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice Other Standard, please mention	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Selected Choice We are not certified against an industry standard	10. Please specify the standard(s) under which your company has been certified: Please tick as appropriate. - Other Standard, please mention - Text	11. To what extent do you agree with the following statement: Please tick as appropriate. - My company has adopted Corporate Social Responsibility (CSR) policy/principles in its ship management operations.	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Ensure decent Working conditions for seafarers (i.e. adequate food, recreation facilities, mandatory days off, rest hours etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Sustainability Policy/Programme in order to manage long-term social, economic, environmental risks
N	Valid	13	9	8	50	50	50	50
	Missing	37	41	42	0	0	0	0

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Statistics						
	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish a Non-discrimination policy (e.g. age, gender, religion, race, etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Manage risks and relationships with stakeholders (charterers, PSC, Flag administrations, local communities etc.)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Implement an Energy consumption/saving programme	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Implement an Environmental management programme to reduce environmental risks (i.e. air emissions, waste management etc)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Conduct donations, charities to communities or organizations having social or environmental utility	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Provide training to employees to deal with technological upgrades and new job demands	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Develop a process to ensure that ships are recycled at approved recycling yards/facilities

N	Valid	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0

Statistics

12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Comply with applicable statutory HSE legislation (i.e. ISM,ISPA,SOLAS, MARPOL, MLC)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Follow up with technological upgrades	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Adopt a Business Code of Conduct and ethics compliance (Anti-corruption, extortion, bribery)	12. Which from the below topics should be part of a company's Corporate Social Responsibility (CSR) policy/program? Please tick as appropriate. - Establish an occupational Health, Safety and risk management programme to minimize workplace accidents and mitigate social impacts	13. To what extent do you agree with the following statement: Please tick as appropriate. - Corporate Social Responsibility is understood as the conduct of business operations in a manner that goes beyond mere compliance with statutory health, safety and environmental regulations (i.e. ISM, ISPS, SOLAS, MARPOL, MLC etc.) and integrates social, economic, environmental, ethical, human rights and consumer concerns into business operations and management	14. To what extent do you agree with the following statement: Please tick as appropriate - Sustainable Development is understood as the conduct of business in a way that company's economic, social and environmental impacts are considered and, as such, business activities are performed transparently and with the aim to eliminate social and environmental risks.	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System

N	Valid	50	50	50	50	50	50	50
	Missing	0	0	0	0	0	0	0

Statistics

15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - CSR principles and requirements/guidelines of an approved CSR Standard	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Sustainable Development principles /guidelines and requirements of an approved	15. Shipping operations are executed based on company's Safety management System, which includes policies, objectives, plans, procedures, responsibilities and other measures. Taking into consideration your company's Safety Management System (SMS), please rate the importance of the below elements to the formulation of your company's Safety Management System (SMS)? Please rank your preference - Other Industry Standards (i.e. ISO9001, ISO14001, OHSAS 18001 etc.)	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice An Environmental performance report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice An integrated health, safety and environmental report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice A stand-alone CSR and/or Sustainability report	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice We produce other kind of report, Please mention:

N	Valid	50	50	50	15	36	8	8
	Missing	0	0	0	35	14	42	42

Statistics

		16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - Selected Choice We do not produce any kind of performance measuring and reporting	16. Which from the below types of reporting have been used by your company, as a mean to measure and communicate its overall performance? Please tick as appropriate. - We produce other kind of report, Please mention: - Text	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Top management /Board of Directors	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Employees (Office staff and seafarers)	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Suppliers and Contractors	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Charterers / Clients	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Flag Administration
N	Valid	1	50	47	35	9	31	4
	Missing	49	0	3	15	41	19	46

Statistics

17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Industry press/internet	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice Other, Please mention:	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Selected Choice We prefer not to communicate our report	17. If you produce one of the above reports, to which from the below stakeholders do you communicate your report? Please tick as appropriate. - Other, Please mention: - Text	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Not recognised as a corporate strategic priority	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of corporate culture and Senior management commitment on CSR	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of understanding about the long term benefits and value it can bring

N	Valid	9	3	0	50	48	48	48
	Missing	41	47	50	0	2	2	2

Statistics

18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of a maritime regulatory regime that would provide guidance and ensure compliance with CSR principles	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - High costs borne by its implementation	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of adequate knowledge over CSR principles and standards	18. CSR policy and reporting is becoming an increasing trend and practice for companies, however, there are many barriers associated with the implementation of a CSR policy and reporting program. Which from the below items do you see as barriers to your company that would discourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - Lack of resources (i.e. personnel)	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve company's ethics, economic transparency and efficiency	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will increase trust and improve company's image and relationships with our stakeholders (i.e. Charterers, local communities, Port State Controls, Flag Administrations etc.).	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will ensure and enhance company's ability to comply with statutory maritime

N	Valid	48	48	48	48	48	48	48
	Missing	2	2	2	2	2	2	2

Statistics

		19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve environmental performance and compliance	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will improve safety performance and reduce accidents	19. CSR policy and reporting is becoming an increasing trend and practice for companies that wish to communicate their social, environmental and economic performance. Which from the below items do you see as benefits to your company that would encourage the implementation of a CSR policy and reporting program? Please tick as appropriate. - It will build better relations and increase the trust between company and its employees	20. To what extent do you agree with the following statement: Please tick as appropriate. - CSR concept relates to a business model and strategic management tool that can assist companies to integrate their social, economic and environmental challenges into their business operations and, therefore, achieve sustainability.	21. To what extent do you agree with the following statement: Please tick as appropriate. - Sustainable Shipping operations can be effectively achieved by adopting an integrated management system approach that consolidates and balances the requirements of various voluntary standards (i.e. ISO9001, ISO14001, OHSAS18001 etc.) and statutory regulations (i.e. ISM, ISPS, MLC etc.) into business operations.
N	Valid	48	48	48	48	48
	Missing	2	2	2	2	2

Appendix V - List of Tables
Chapter 2

Table 2.1 Research Aim, Objectives and Questions of this Study

Research Aim	Research Objectives	Research Questions
	To review and illuminate wide-ranging CSR and sustainable development concepts, regulatory developments and business attitudes.	What are the current industry's perceptions, business attitudes and regulatory developments with regards to CSR and sustainable development?
Contribute to existing knowledge by investigating and critically analyzing perceptions, attitudes of shipping companies and the contributory role of CSR in achieving a sustainable maritime industry	To critically review and portray implications of existing conceptual and regulatory frameworks associated with CSR and sustainability for shipping companies.	To what extent maritime companies have adopted CSR and/or sustainability principles and reporting standards in their management systems?
	To ascertain drivers and barriers associated with the implementation of a CSR policy and reporting program.	What are the main drivers and barriers associated with the implementation of a CSR policy and reporting program by shipping companies?
	To investigate the potential linkages, relationship and contributory role of CSR in achieving sustainable shipping operations.	What is the relationship between CSR and sustainable development?

Chapter 3

Table 3.1. Major differences between exploratory and conclusive research types

Factor	Conclusive	Exploratory
Objectives	To test hypothesis and relationships	To get insights and understanding
Characteristics	Information needs a clearly defined Research process is formal and structured Large representative sample Data analysis is quantitative	Information needs are loosely defined Research process is unstructured and flexible Small, non-representative sample Primary data analysis is qualitative
Findings	Conclusive	Only tentative
Outcome	Findings used as input to decision making	Generally followed by further exploratory conclusive research

(Research Methodology 2018).

Table 3.2. Examples for Casual research studies

Research title	Cause	Effect
The role of globalization into the emergence of global economic and financial crisis of 2007-2009	Globalization	Global economic and financial crisis of 2007-2009
Impacts of CSR programs and initiatives on brand image: a case study of Coca-Cola Company UK.	CSR programs and initiatives	Coca Cola brand image

(Research Methodology 2018).

Table 3.3 Examples for Descriptive research studies

Research title	Focus of description
Born or bred: revising The Great Man theory of leadership in the 21st century	The Great Man theory
Creativity as the main trait for modern leaders: a critical analysis	Creativity
Critical analysis into the role of CSR as an effective marketing tool	CSR

(Research Methodology 2018).

Table 3.4. The main characteristics of Explanatory, Exploratory and Descriptive research

	Explanatory	Exploratory	Descriptive
Amount of uncertainty characterising decision situation	Clearly defined	Highly ambiguous	Partially defined
Key research statement	Research hypotheses	Research question	Research question
When conducted?	Later stages of decision making	Early stage of decision making	Later stages of decision making
Usual research approach	Highly structured	Unstructured	Structured
Examples	'Will consumers buy more products in a blue package?' 'Which of two advertising campaigns will be more effective?'	'Our sales are declining for no apparent reason' 'What kinds of new products are fast-food consumers interested in?'	'What kind of people patronize our stores compared to our primary competitor?' 'What product features are th most important to our customers?'

(Research Methodology 2018).

Table 3.5. Major differences between Deductive and Inductive approach

Deduction emphasises	Induction emphasises
• scientific principles • moving from theory to data • the need to explain causal relationships between variables • the collection of quantitative data • the application of controls to ensure validity of data • the operationalisation of concepts to ensure clarity of definition • a highly structured approach • researcher independence of what is being researched • the necessity to select samples of sufficient size in order to generalise conclusions	• gaining an understanding of the meanings humans attach to events • a close understanding of the research context • the collection of qualitative data • a more flexible structure to permit changes of research emphasis as the research progresses • a realisation that the researcher is part of the research process • less concern with the need to generalise

(Saunders et al. 2009).

Table 3.6. The major elements of research paradigms

	Positivism	Realism	Interpretivism	Pragmatism
Ontology: *the researcher's view of the nature of reality or being*	External, objective and independent of social actors	Is objective. Exists independently of human thoughts and beliefs or knowledge of their existence (realist), but is interpreted through social conditioning (critical realist)	Socially constructed, subjective, may change, multiple	External, multiple, view chosen to best enable answering of research question
Epistemology: *the researcher's view regarding what constitutes acceptable knowledge*	Only observable phenomena can provide credible data, facts. Focus on causality and law like generalisations, reducing phenomena to simplest elements	Observable phenomena provide credible data, facts. Insufficient data means inaccuracies in sensations (direct realism). Alternatively, phenomena create sensations which are open to misinterpretation (critical realism). Focus on explaining within a context or contexts	Subjective meanings and social phenomena. Focus upon the details of situation, a reality behind these details, subjective meanings motivating actions	Either or both observable phenomena and subjective meanings can provide acceptable knowledge dependent upon the research question. Focus on practical applied research, integrating different perspectives to help interpret the data
Axiology: *the researcher's view of the role of values in research*	Research is undertaken in a value-free way, the researcher is independent of the data and maintains an objective stance	Research is value laden; the researcher is biased by world views, cultural experiences and upbringing. These will impact on the research	Research is value bound, the researcher is part of what is being researched, cannot be separated and so will be subjective	Values play a large role in interpreting results, the researcher adopting both objective and subjective points of view
Data collection techniques most often used	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth investigations, qualitative	Mixed or multiple method designs, quantitative and qualitative

(Research and Evaluation in Education and Psychology 2017).

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Table 3.7. A Summary of Quantitative Vs Qualitative Research Features

QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
Researchers test hypotheses that are stated at the beginning.	Researchers capture and discover meaning once they become immersed in the data.
Concepts are in the form of distinct variables.	Concepts are in the form of themes, motifs, generalizations, and taxonomies.
Measures are systematically created before data collection and are standardized.	Measures are created in an ad hoc manner and are often specific to the individual setting or researcher.
Data are in the form of numbers from precise measurement.	Data are in the form of words and images from documents, observations, and transcripts.
Theory is largely causal and is deductive.	Theory can be causal or noncausal and is often inductive.
Procedures are standard, and replication is frequent.	Research procedures are particular, and replication is very rare.
Analysis proceeds by using statistics, tables, or charts and discussing how what they show relates to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent, consistent picture.

(Neuman 2014).

Table 3.8. Quantitative/Qualitative and Mixed Methods Approaches

Tend to or Typically . . .	Qualitative Approaches	Quantitative Approaches	Mixed Methods Approaches
• Use these philosophical assumptions	• Constructivist/ advocacy/ participatory knowledge claims	• Post-positivist knowledge claims	• Pragmatic knowledge claims
• Employ these strategies of inquiry	• Phenomenology, grounded theory, ethnography, case study, and narrative	• Surveys and experiments	• Sequential, concurrent, and transformative
• Employ these methods	• Open-ended questions, emerging approaches, text or image data	• Closed-ended questions, predetermined approaches, numeric data	• Both open- and closed-ended questions, both emerging and predetermined approaches, and both quantitative and qualitative data and analysis
• Use these practices of research as the researcher	• Positions him- or herself • Collects participant meanings • Focuses on a single concept or phenomenon • Brings personal values into the study • Studies the context or setting of participants • Validates the accuracy of findings • Makes interpretations of the data • Creates an agenda for change or reform • Collaborates with the participants	• Tests or verifies theories or explanations • Identifies variables to study • Relates variables in questions or hypotheses • Uses standards of validity and reliability • Observes and measures information numerically • Uses unbiased approaches • Employs statistical procedures	• Collects both quantitative and qualitative data • Develops a rationale for mixing • Integrates the data at different stages of inquiry • Presents visual pictures of the procedures in the study • Employs the practices of both qualitative and quantitative research

(The Selection of a Research Approach 2018).

Table 3.9. The Variables Used in our Survey

Thematic area	Hypothesis	Independent Variable	Dependent Variable
Awareness and attitude	H1: CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions.	Sustainability perception under its three dimensions. (Ordinal)	CSR understanding as an integrated and beyond regulatory compliance notion. (Ordinal)
Practices, Measurement and Disclosure	H2 (a): Incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy.	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a CSR Standard (Ordinal)
	H2 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is significantly influenced by engagement of CSR principles into company's policy.	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a Sustainability Standard. (Ordinal)
Drivers and Barriers	H3: Adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.	Increased trust and improved image and relationships with stakeholders. (Nominal)	Adoption of a CSR policy and reporting program. (Nominal)
	H4: Adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	Lack of corporate culture and senior management commitment. (Nominal)	Adoption of a CSR policy and reporting program by companies. (Nominal)
Linkage between CSR and Sustainability	H5: Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	Considering sustainability principles part of CSR corporate strategy. (Nominal)	CSR understanding as a business model and strategic management tool to integrate sustainability. (Ordinal)
	H6: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.	CSR perception as a business model and strategic management tool. (Ordinal)	Recognition of the integrated management system approach as the most effective tactic to achieve sustainability. (Ordinal)

Chapter 4

Table 4.1. CSR Metrics

Audience for CSR	Goal Hierarchy	Effectiveness Metrics
Society	Educated, Healthy, Wealthy, Happy, Stable, Cohesive Community.	Quality of Life Indicators: Physiological (Health), Economic, Educational, Social, Psychological. Examples: Percentage of population impacted; Life expectancy; Literacy rates; Income/nutrition p.c.; Disease Incidence rates; Birth/ Death rate by age.
Environment	Sustainable.	Sustainability; Improvement in indices; Pollution and toxicity levels (water, air, other).
Regulators, Auditors, NGOs	Ensuring compliance with existing regulations; Identifying new regulations to keep consumer welfare interests in line with corporate profitability goals.	Credit from regulators; Inclusion in CSR indices.
Media	Providing accurate, timely, and newsworthy information to the public.	Quantity and quality of press impact.
Financial Markets	Stability, Growth, and Profitability.	Rates of Return, Volatility, turnover, and liquidity over time.
Economy	Stability, Growth, and Profitability.	GDP/ GNP, per capita and overall; Debt ratios, foreign exchange reserves.

(Lemon et al. 2011).

Chapter 5

Table 5.1.United Nations SDGs

Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts*

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development

_____

* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change.

(Lee 2016).

Chapter 6

Table 6.1. IMO Response to Sustainable Development Goals

UN Sustainable Development Goals (SDGs)	IMO Strategic Direction (SD) 2016-2021	IMO High Level Action Plan for 2016-2017
SDG 7. Ensure access to affordable, sustainable and modern energy for all.	IMO will focus on reducing and eliminating adverse impacts from shipping on the environment	-Keep under review IMO measures to reduce atmospheric pollution - Keep under review measures to reduce adverse impact on the marine environment caused by ships - Continue to develop appropriate measures to address climate change - Promotion of technical cooperation and transfer of technology relating to the improvement of energy efficiency of ships - Further technical and operational measures for enhancing the energy efficiency of international shipping
SDG 9. Built resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	With a view to enhancing its contribution to sustainable development, IMO will strengthen its maritime capacity-building programmes	-Establish partnerships with governments, organizations and industry to enhance the delivery of IMO's capacity-building programmes - Promote and strengthen partnerships with global maritime training institutions and training

		programmes
		- Maintain, promote and demonstrate the linkage between the ITCP and the Sustainable Development Goals (SDGs)
		- Consider, prioritize and implement technical cooperation programmes
		- Undertake regular technical cooperation (TC) impact assessments
		- Further encourage the active participation of all stakeholders to achieve the Organization's mission objectives through consultation and liaison
SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development	IMO will take the lead in enhancing the quality of shipping	-Use formal safety assessment techniques in the development of technical standards
		-Use risk-based tools that take account of costs and the human element in the development of operational standards
		-Keep under review the effectiveness of the ISM Code with regard to safety and protection of the marine environment
	IMO will seek to enhance environmental conscience within the shipping community	-Encourage the use in shipping of the best available environmental technology not entailing excessive costs, in line with the goal of sustainable development
		-Strengthen awareness of the

		need for a continuous reduction of the adverse impact of shipping on the environment

(IMO 2015).

Chapter 8

Table 8 General Descriptive Data

Gender	Age Group	Types of Vessels	Fleet Size
Male: 38	**20 – 30:** 3	**Dry** : 25	**1-20** :21
Female: 12	**31 – 40:** 14	**Tankers/Gas** : 36	**21-40** :5
	41 – 50: 17	**Container/General** :12	**41-60** :7
	51 + : 16		**61 +** :17

Table 8.1 Frequency Table of Companies' base county

Countries	Frequency	Percent
Norway	11	22
Greece	10	20
Denmark	7	14
Cyprus	8	8
Germany	8	8
Finland	3	6
Canada	2	4
Switzerland	2	4
The Netherlands	2	4
Italy	1	2
Monaco	1	2
Sweden	1	2
Turkey	1	2
Belgium	1	2

Table 8.2 Hypothesis 1 Testing results: Application of Spearman's correlation measure

Null Hypothesis	p-value	Spearman's correlation coefficient (R_s)	H_0 Rejected (a<0.05)
H_0: CSR understanding as an integrated and beyond regulatory compliance notion is not significantly influenced by sustainability perception under its three dimensions.	*0,000**	*0.526***	*Yes*

Notes: * H_0 rejected at significance level p<0.05

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** $-1 \leq$ (Rs) ≤ 1, $-1=$ perfect negative relationship, $0=$ No relationship, $1 =$ perfect positive relationship

Table 8.3. Hypothesis 2 (a) Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0 (a): Incorporation into company's SMS of the provisions of a CSR Standard is not significantly influenced by engagement of CSR principles into company's policy.	$0,000^*$	36,832	0.651^{**}	Yes

Notes: * H_0 rejected at significance level $p<0.05$
   ** $-1 \leq$ C ≤ 1, $-1=$perfect negative relationship, $0=$ No relationship, $1 =$ perfect positive relationship

Table 8.4. Hypothesis 2 (b) Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is not significantly influenced by engagement of CSR principles into company's policy.	$0,000^*$	30,402	0.615^{**}	Yes

Notes: * H_0 rejected at significance level $p<0.05$

** $-1 \leq$ C ≤ 1, $-1=$perfect negative relationship, $0=$ No relationship, $1 =$ perfect positive relationship

Table 8.5. Hypothesis 3 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected
H_0: Adoption of a CSR policy and reporting program is not likely to be motivated by the increased trust and improved image and relationships it will bring with stakeholders.	0,005*	15,033	0,488**	Yes

Notes: * H_0 rejected at significance level $p<0.05$

** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

Table 8.6. Hypothesis 4 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected
H_0: Adoption of a CSR policy and reporting program is not likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	0,250*	5,388	0,318**	No

Notes: * H_0 rejected at significance level $p<0.05$

** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

Table 8.7. Hypothesis 5 Testing results: Application of chi-square test of independence and Contingency Coefficient

Null Hypothesis	p-value	X^2	Contingency Coefficient (C)	H_0 Rejected (a<0.05)
H_0: Understanding CSR as a business model and strategic management tool is not significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	0,001*	27,349	0.602**	Yes

otes: * H_0 rejected at significance level $p<0.05$

** $-1 \leq C \leq 1$, -1=perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

Table 8.8. Hypothesis 6: Application of Spearman's correlation coefficient measure

Null Hypothesis	p-value	Spearman's correlation coefficient (R_s)	H_0 Rejected (a<0.05)

| H₀: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is not closely related to CSR understanding as a business model and strategic management tool. | 0,001* | 0,457** | Yes |

Notes: * H₀ rejected at significance level $p<0.05$

    ** $-1 \leq (Rs) \leq 1$, -1= perfect negative relationship, 0= No relationship, 1 = perfect positive relationship

Table 8.9. A summary of Hypotheses, Testing methods, Dependent and Independent Variables and Results

Hypothesis Description	Testing Method	Independent Variable	Dependent Variable	Result
H1: CSR understanding as an integrated and beyond regulatory compliance notion is significantly influenced by sustainability perception under its three dimensions.	Spearman's correlation coefficient	Sustainability perception under its three dimensions. (Ordinal)	CSR understanding as an integrated and beyond regulatory compliance notion. (Ordinal)	Hypothesis Supported
H2 (a): Incorporation into company's SMS of the provisions of a CSR Standard is significantly influenced by engagement of CSR principles into company's policy.	Chi-square test of independence	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a CSR Standard (Ordinal)	Hypothesis Supported
H2 (b): Incorporation into company's SMS of the provisions of a Sustainability Standard is significantly influenced by engagement of CSR principles into company's policy.	Chi-square test of independence	Engagement of CSR principles by companies. (Nominal)	Incorporation into company's SMS of the provisions of a Sustainability Standard. (Ordinal)	Hypothesis Supported
H3: Adoption of a CSR policy and reporting program is more likely to be motivated by the increased trust and	Chi-square test of independence	Increased trust and improved image and relationships with stakeholders. (Nominal)	Adoption of a CSR policy and reporting program. (Nominal)	Hypothesis Supported

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improved image and relationships it will bring with stakeholders.				
H4: Adoption of a CSR policy and reporting program is more likely to be discouraged by the lack of a corporate culture and senior management commitment on CSR.	Chi-square test of independence	Lack of corporate culture and senior management commitment. (Nominal)	Adoption of a CSR policy and reporting program by companies. (Nominal)	Hypothesis not Supported
H5: Understanding CSR as a business model and strategic management tool is significantly influenced by consideration of sustainability principles as part of CSR corporate strategy.	Chi-square test of independence	Considering sustainability principles part of CSR corporate strategy. (Nominal)	CSR understanding as a business model and strategic management tool to integrate sustainability. (Ordinal)	Hypothesis Supported
H6: Recognizing the integrated management system approach as the most effective tactic to achieve sustainability is closely related to CSR understanding as a business model and strategic management tool.	Spearman's correlation coefficient	CSR perception as a business model and strategic management tool. (Ordinal)	Recognition of the integrated management system approach as the most effective tactic to achieve sustainability. (Ordinal)	Hypothesis Supported

Appendix VI – List of Figures

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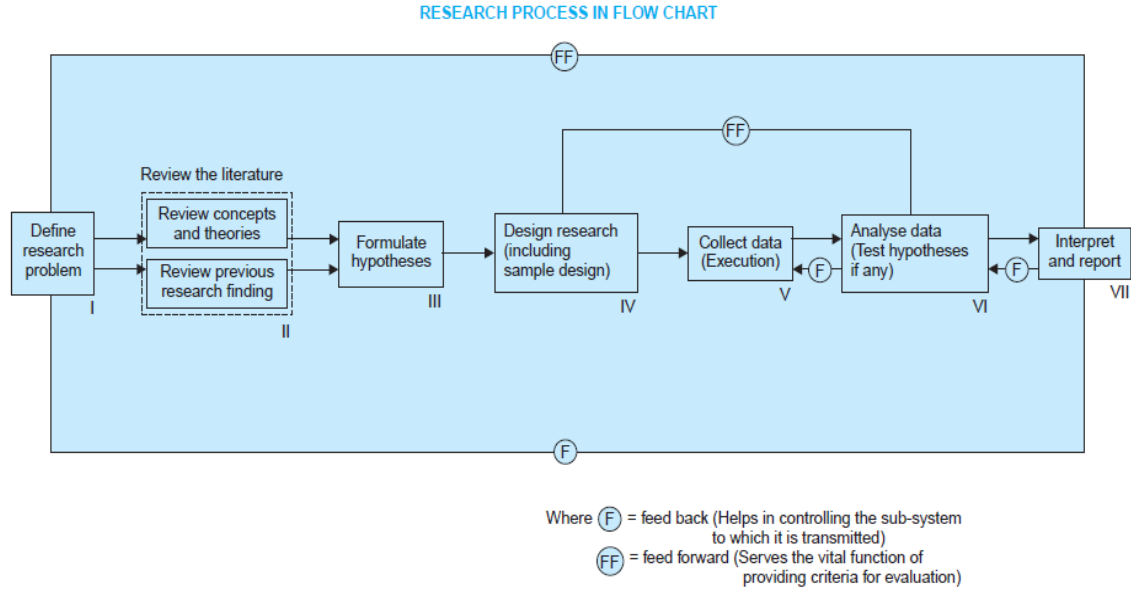
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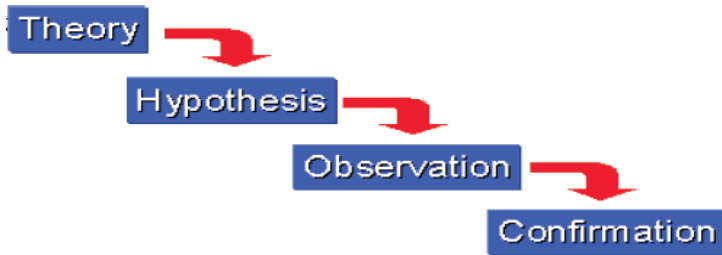
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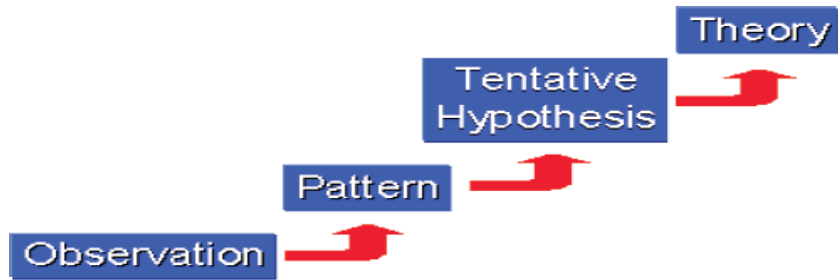
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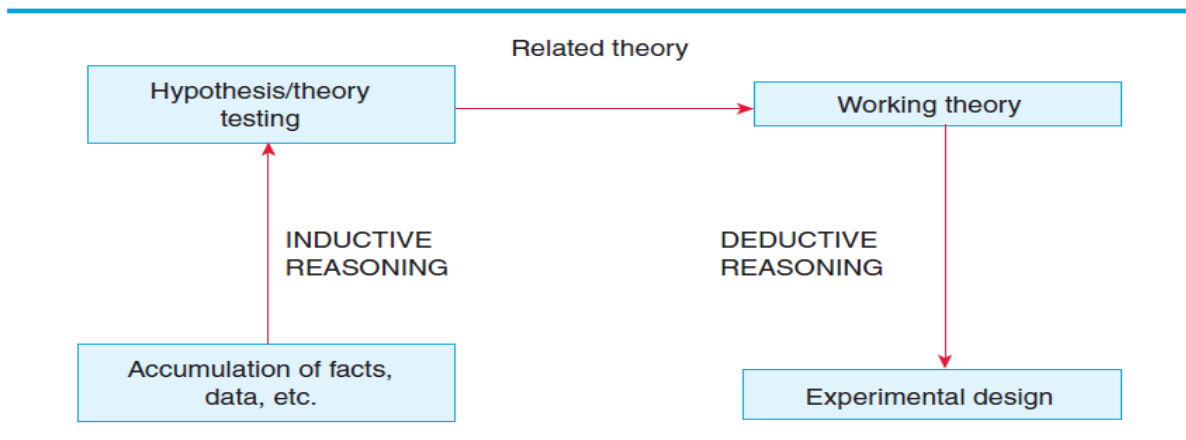
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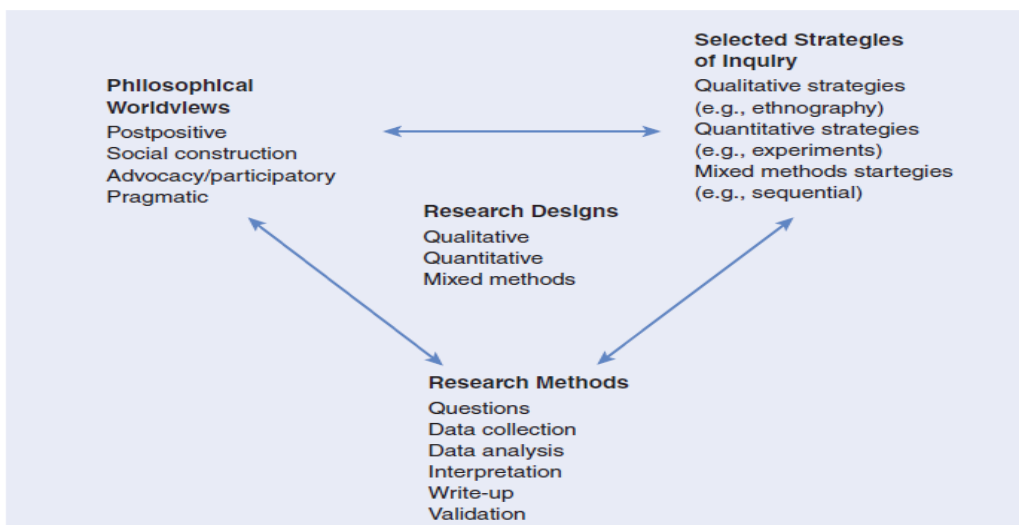
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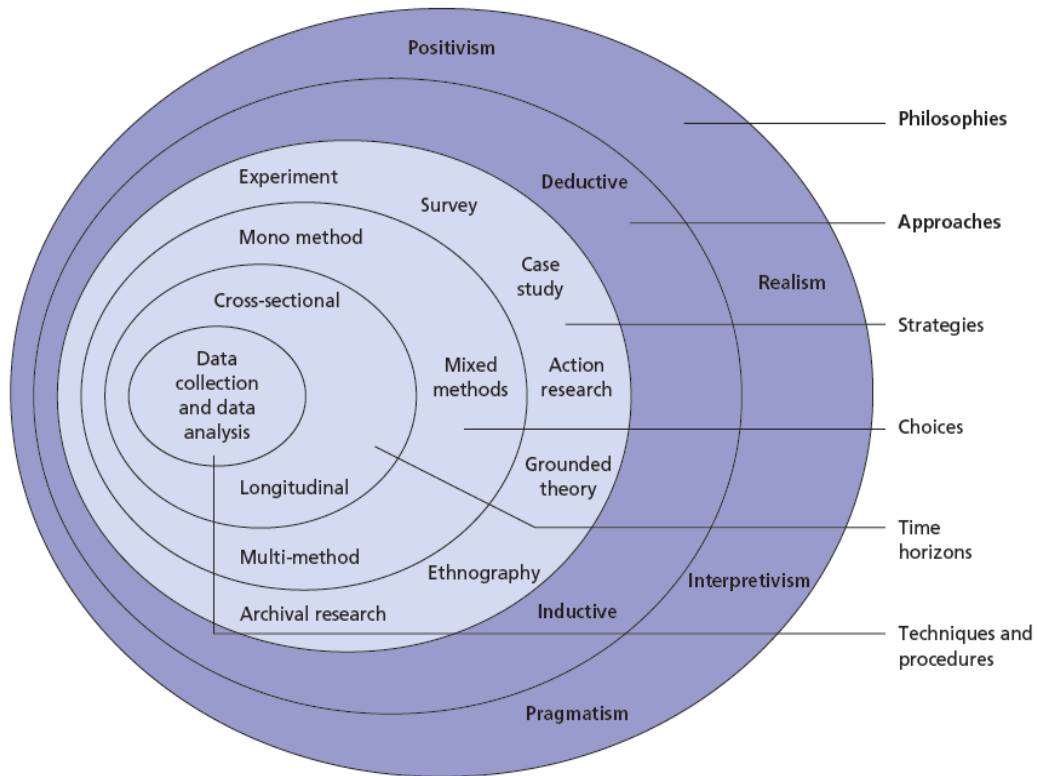
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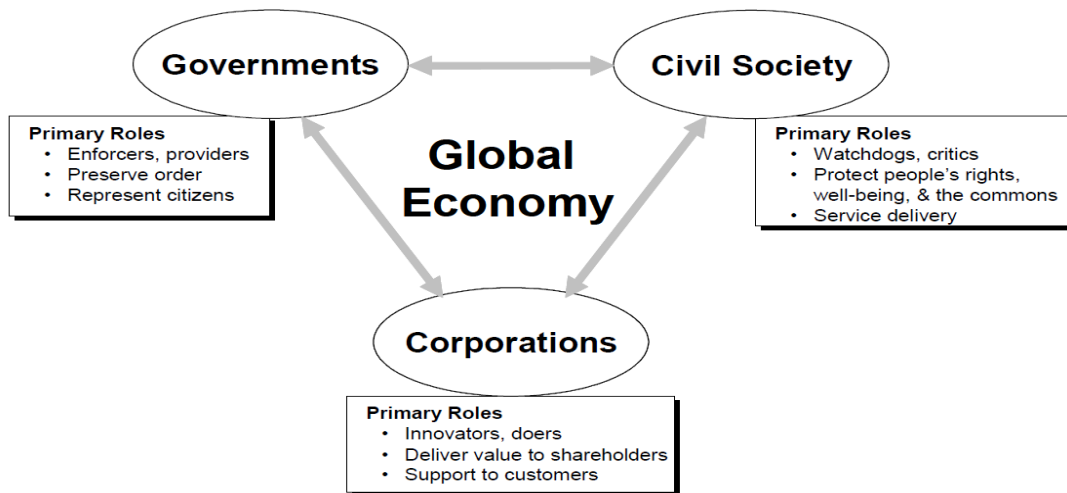
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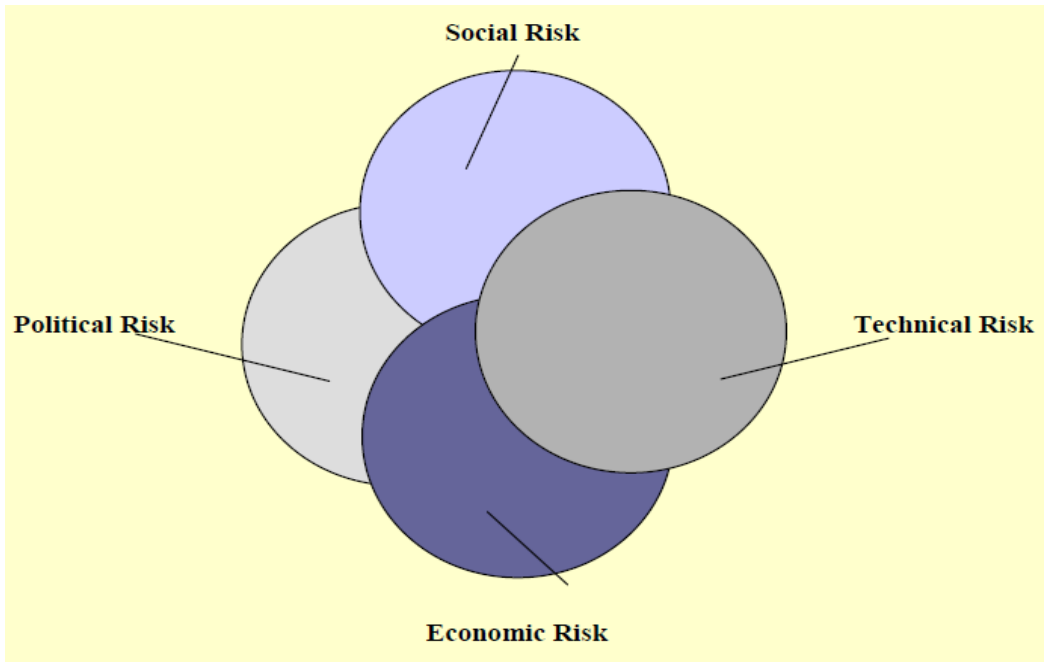
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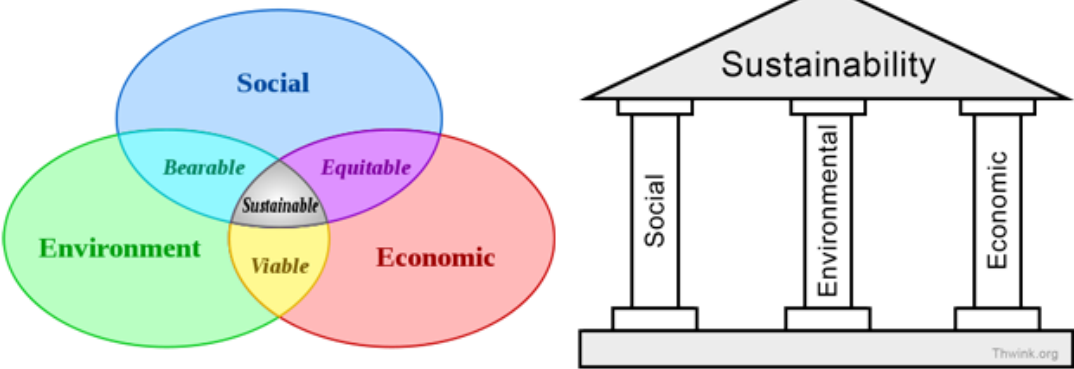
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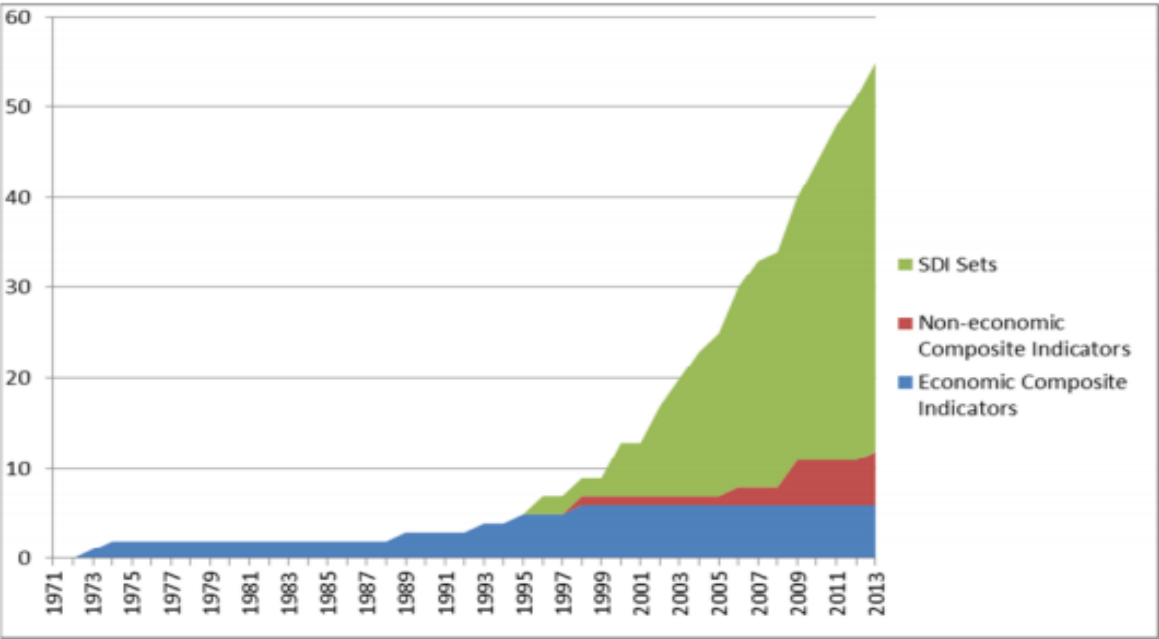
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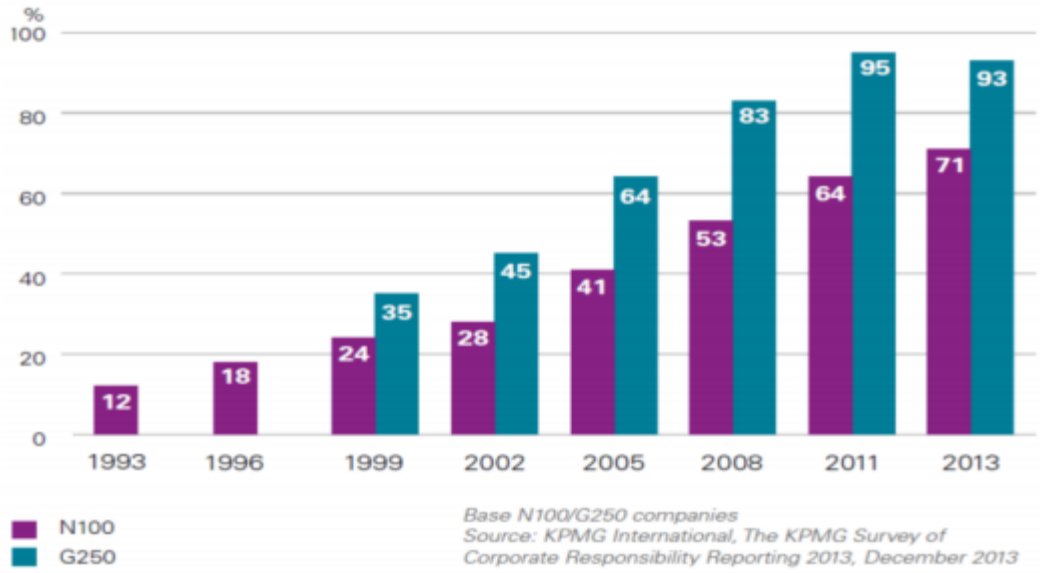
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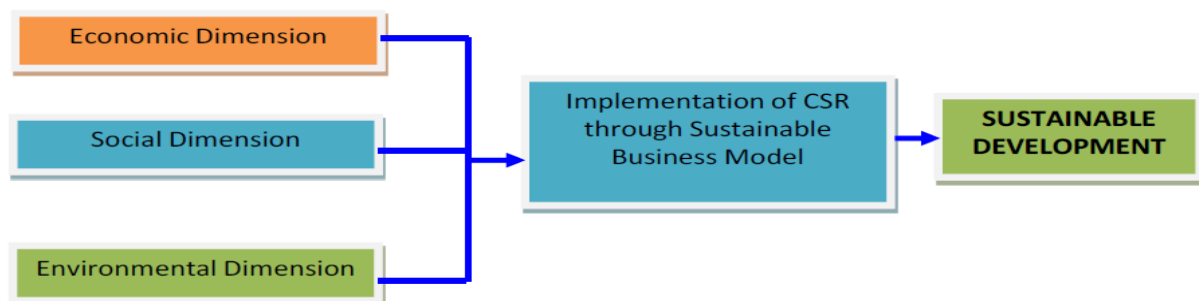
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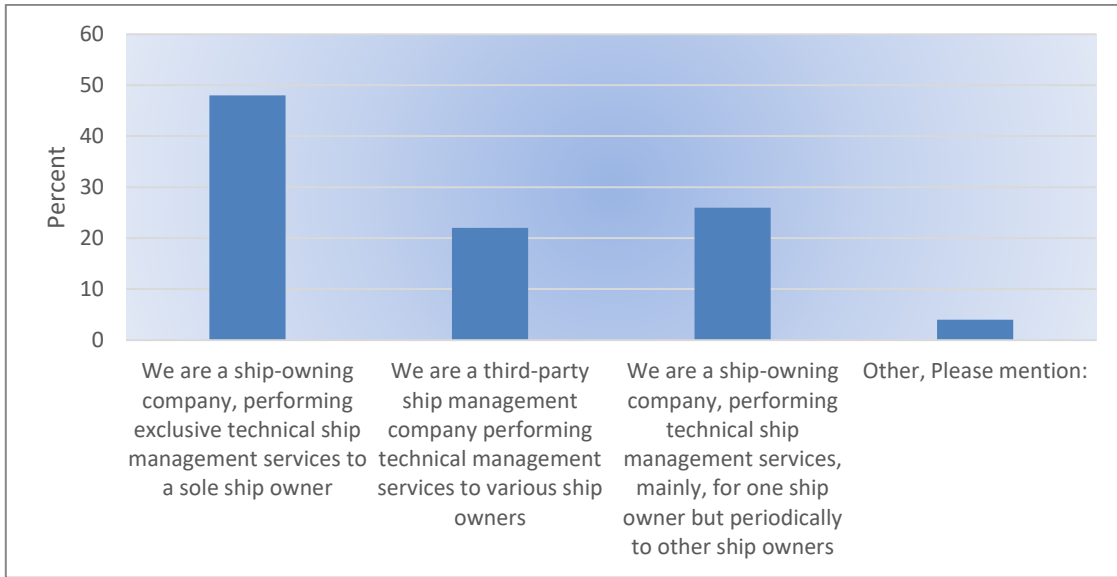
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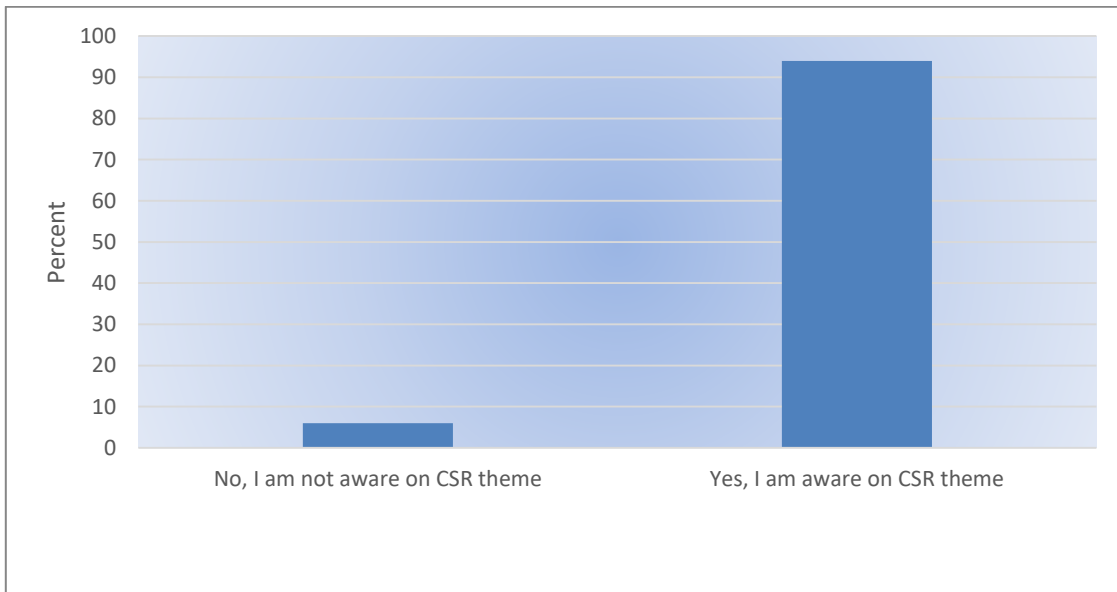
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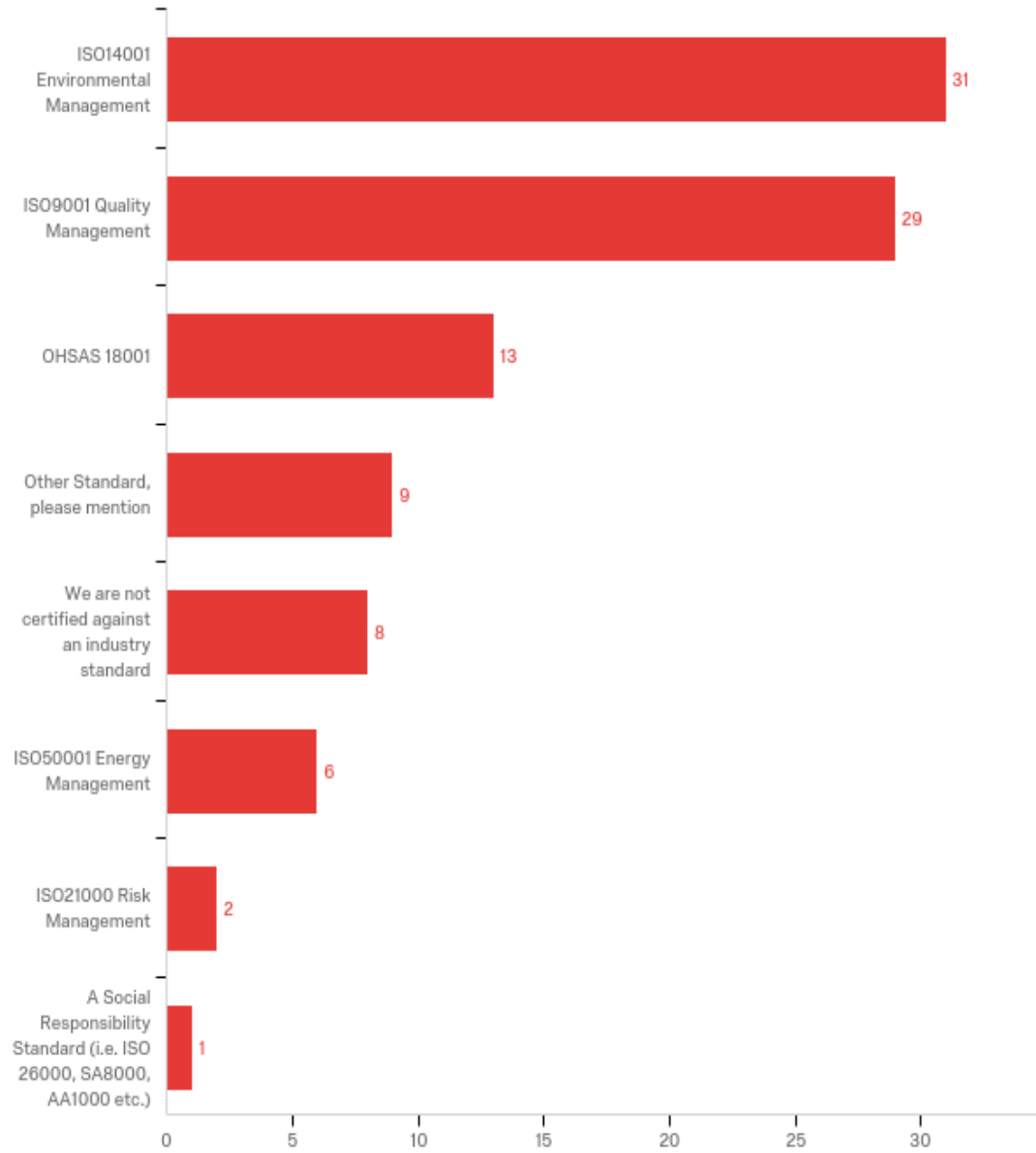
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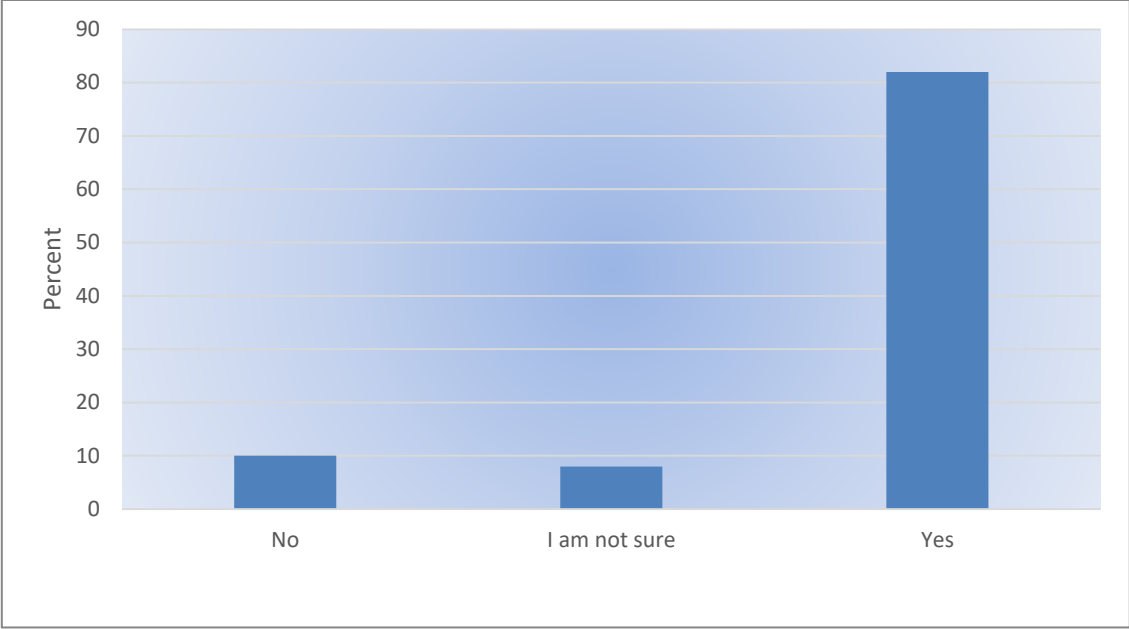
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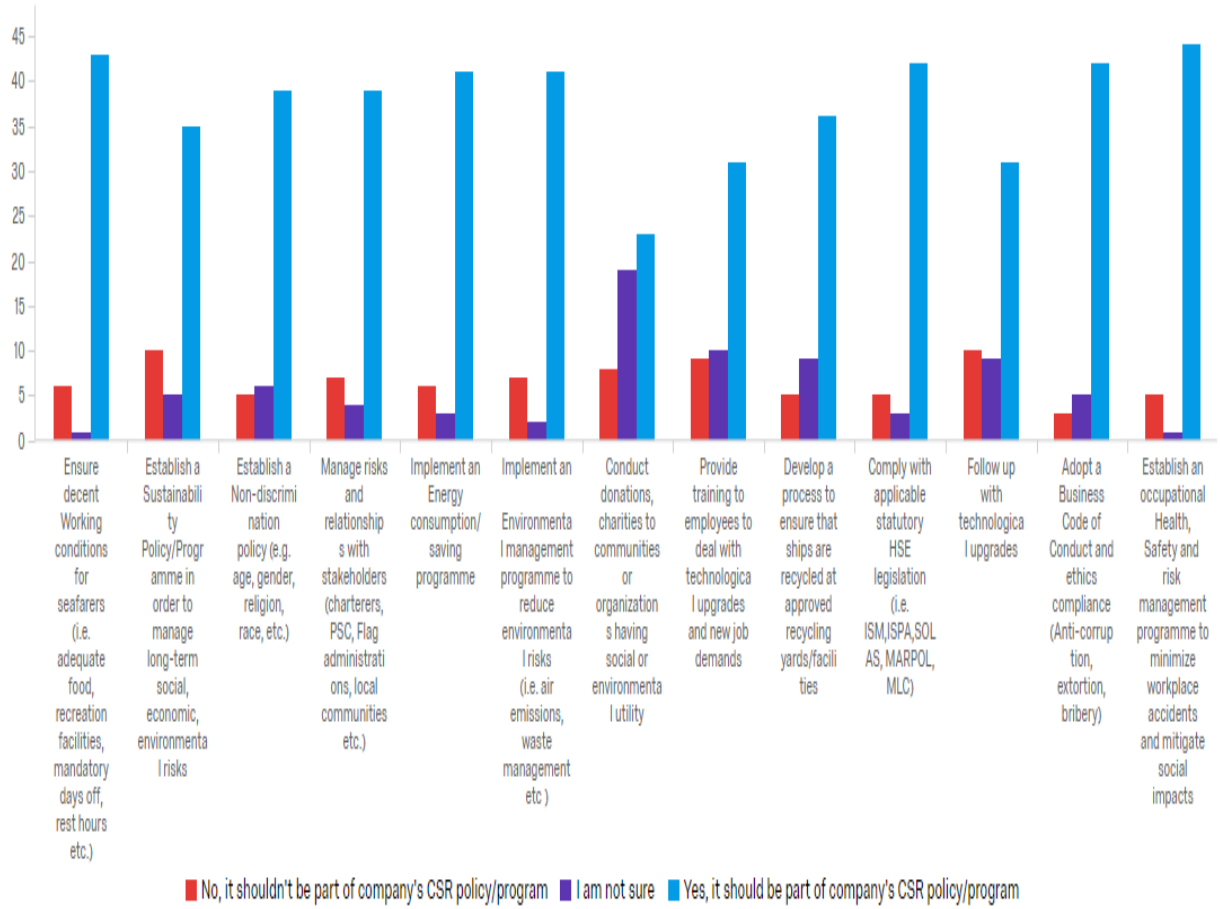
Legend: ■ No, it shouldn't be part of company's CSR policy/program ■ I am not sure ■ Yes, it should be part of company's CSR policy/program

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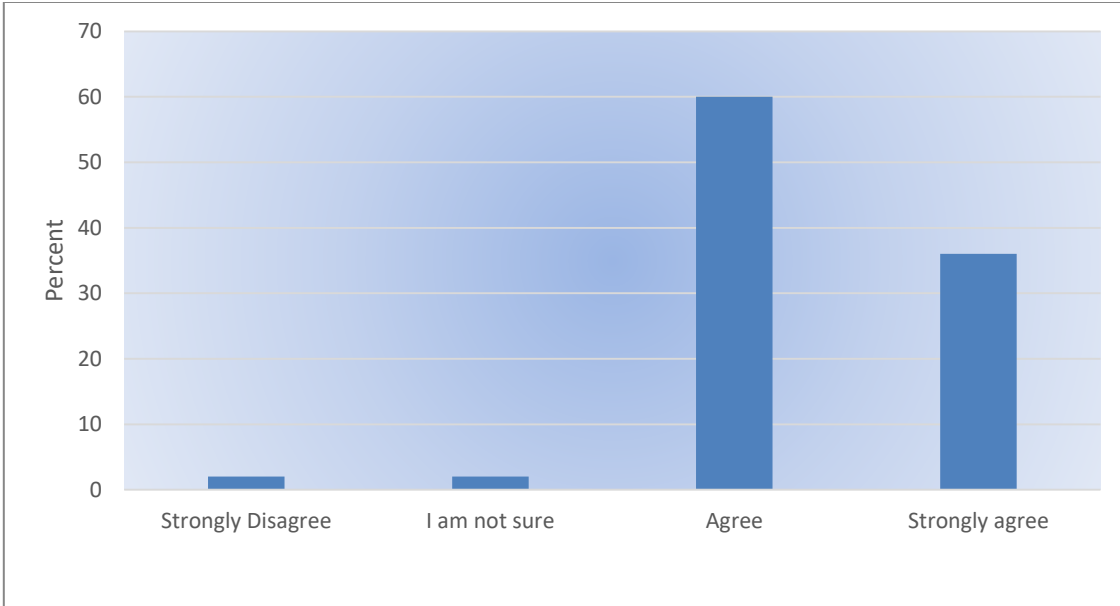
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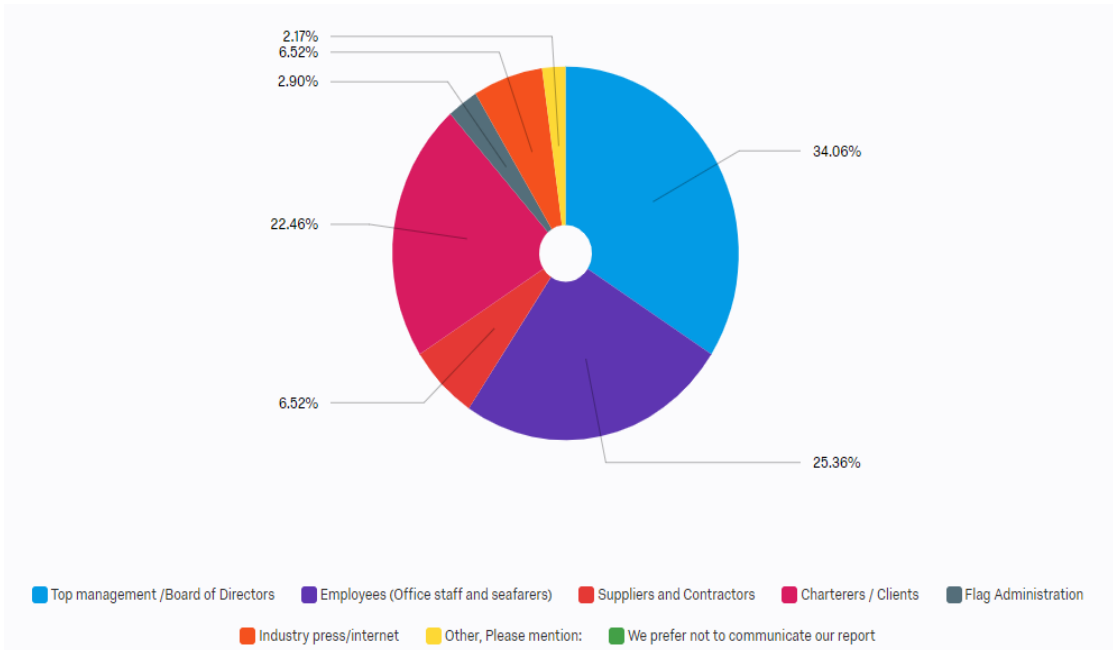
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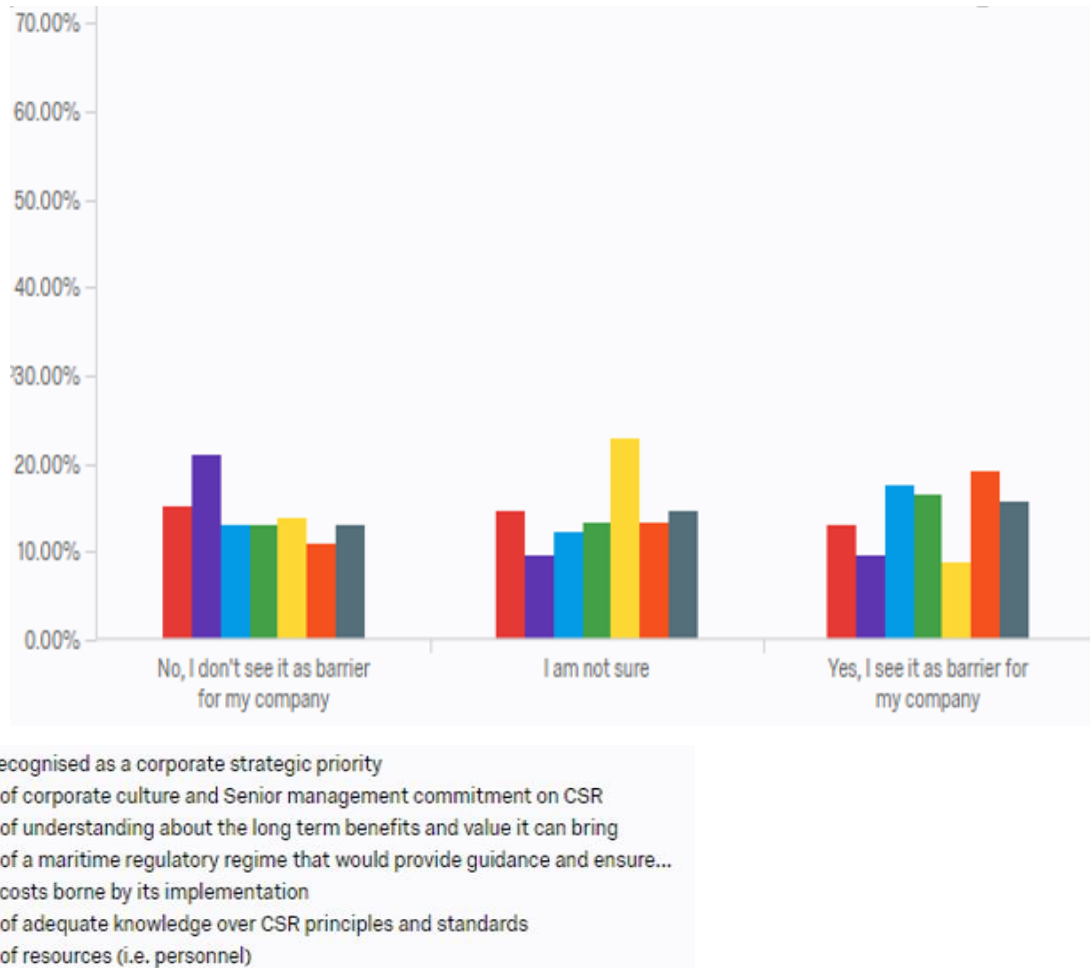
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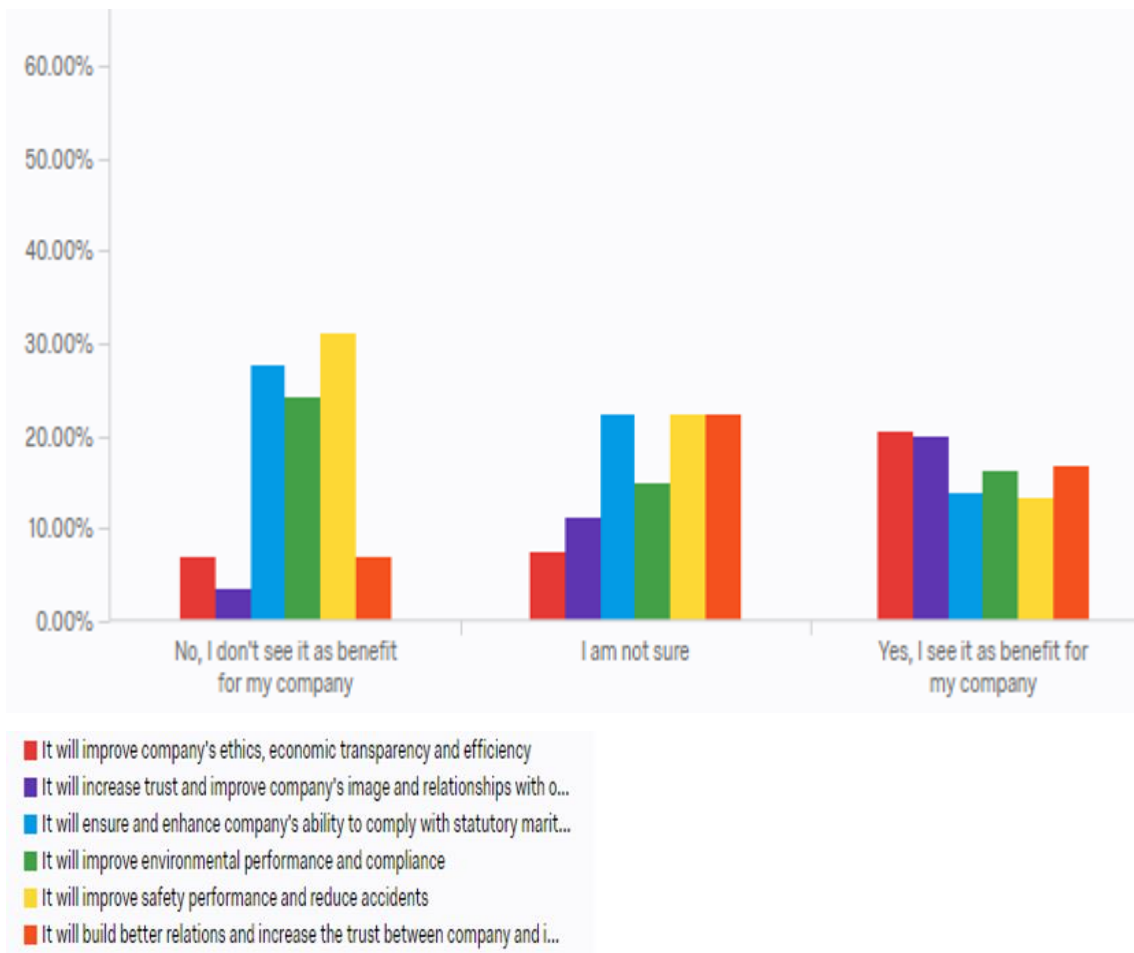
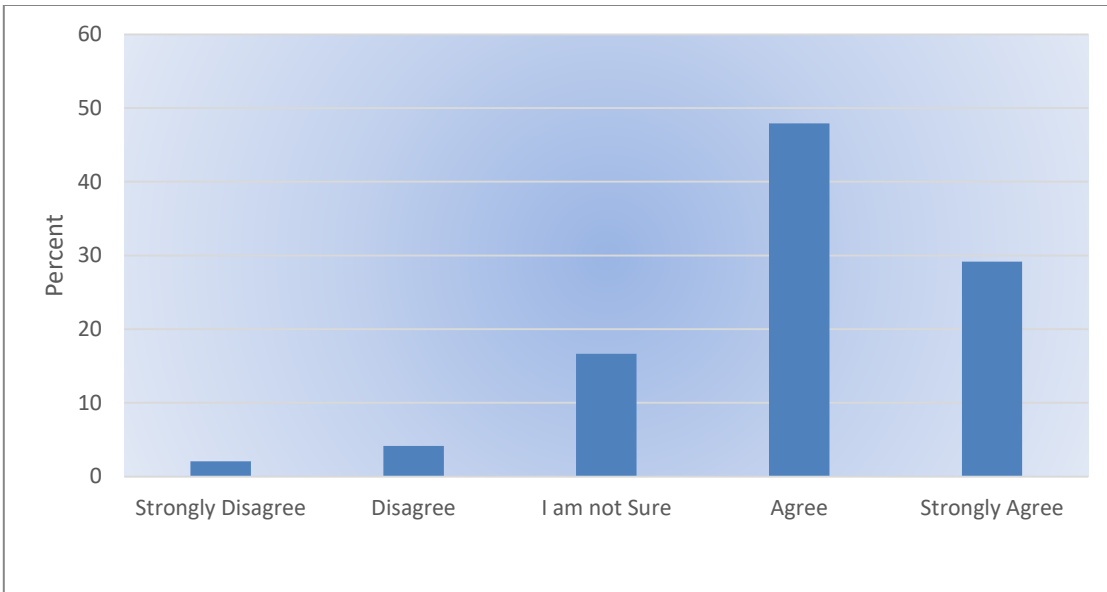*Figure 8.12. Bar Chart of the benefits that would encourage the implementation of a CSR policy and reporting program*

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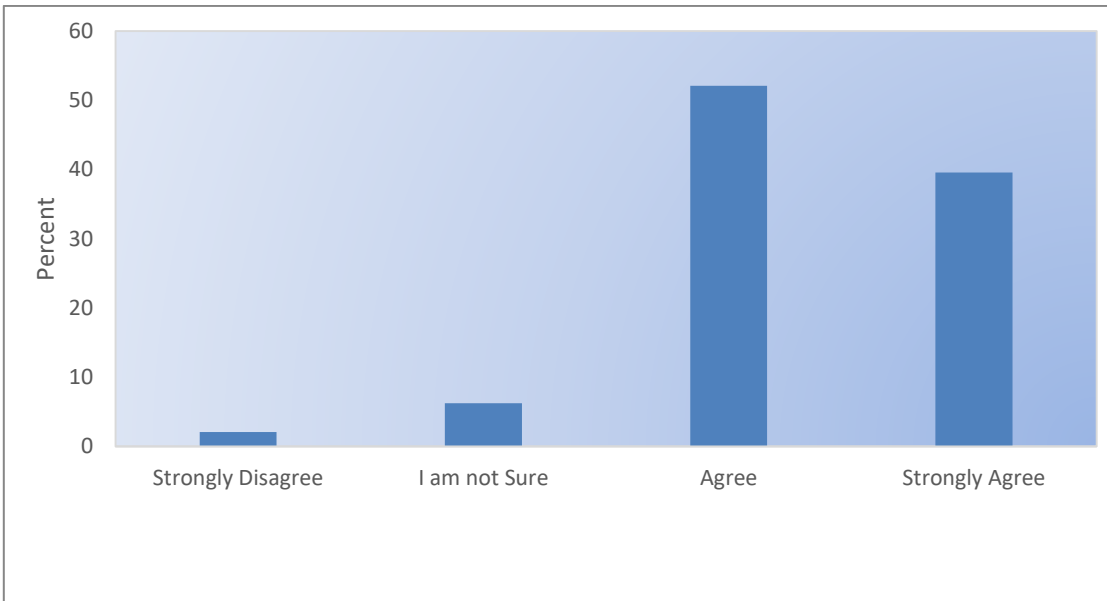

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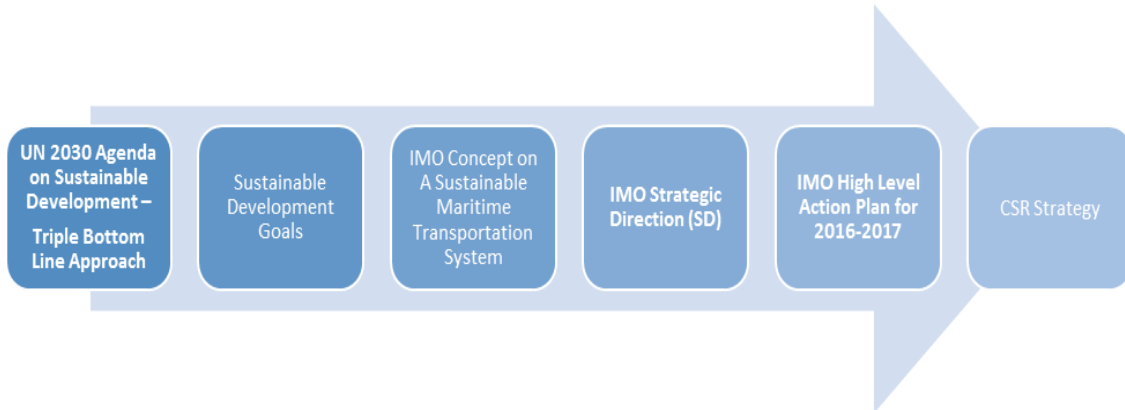
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