CORPORATE SUSTAINABILITY IN MARITIME PORTS

by

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DEDICATION

To my amazing parents and awesome brother,

who are my first and strongest motivation to pursue my dreams and never give up, and who have taught me the importance of acquiring the wisdom to be compassionate, and to be humble…

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

The main objective of this doctoral dissertation is to provide a holistic and in-depth understanding of corporate sustainability in maritime ports. The study consists of two parts: the first part entails two original research articles focusing on the conceptual and theoretical foundations of corporate sustainability, and the second part entails three original research articles focusing on the application of corporate sustainability in maritime ports. The five research articles address a set of sub-objectives: 1) to develop a deep understanding of the notions of corporate sustainability and corporate social responsibility, as well as the distinctiveness, complementarities, and integration of the two fields (*a critical review study*); 2) to develop a deep understanding of the conceptual evolutionary path and theoretical underpinnings of corporate sustainability and corporate social responsibility (*a narrative review study*); 3) to develop a deep understanding of drivers influencing maritime ports' sustainability activities, as well as actions taken by ports to attain sustainability objectives as a response to these drivers (*a systematic review study*); 4) to develop a deep understanding of the state of sustainability in maritime ports, focusing on the perception of port executives towards sustainability, ports' sustainability strategies and practices, and main factors influencing future adoption and implementation of sustainability in ports (*a survey-based empirical study*); and 5) to develop a deep understanding of the role of multi-stakeholder cooperation to strengthen sustainability of maritime ports and maritime transport and logistics (*a case study-based empirical study*).

This dissertation contributes to the corporate sustainability literature in maritime transport and logistics, and maritime ports in particular, by providing insights about why and how corporate sustainability should be embedded in a corporate business model to help improving and sustaining the viability of corporations. It also provides suggestions for supporting and strengthening sustainability at the corporate level, as well as the industry level through multi-stakeholder cooperation.

LIST OF ABBREVIATIONS USED

AAPA	American Association of Port Authorities
ACPA	Association of Canadian Port Authorities
AIVP	Worldwide Network of Ports Cities
B2B	Business-to-Business
BC	British Columbia
BCIT	British Columbia Institute of Technology
CAAP	Clean Air Action Plan
CE	Circular Economy
CEO	Chief Executive Officer
CFP	Corporate Financial Performance
CINO	Chief Innovation Officer
CS	Corporate Sustainability
CSO	Chief Sustainability Officer
CSP	Corporate Social Performance
CSR	Corporate Social Responsibility
ECAs	Emission Control Areas
ECHO	Enhancing Cetacean Habitat and Observation
EMAS	Eco-Management and Audit Scheme
EMS	Environmental Management System
ESPO	European Sea Ports Organization

EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GRI	Global Reporting Initiatives
HEP	Habitat Enhancement Program
IAPH	International Association of Ports and Harbors
ICT	Information and Communication Technology
IMO	International Maritime Organization
ISO	International Organization for Standardization
KPI	Key Performance Indicator
LNG	Liquefied Natural Gas
MARPOL	International Convention for the Prevention of Pollution from Ships
MEPC	Marine Environment Protection Committee
NGOs	Non-Governmental Organisations
PDTR	Port Drayage Truck Registry
PERS	Port Environmental Review System
PIANC	World Association for Waterborne Transport Infrastructure
PM	Particulate Matter
PNW	Pacific Northwest
SDGs	Sustainable Development Goals
SDM	Self Diagnosis Method
SFU	Simon Fraser University
SLO	Social Licence to Operate

SMEs	Small and Medium-Sized Enterprises
TBL	Triple Bottom Line
UN	United Nations
UNCED	United Nations Conference on Environment and Development
VBS	Vehicle Booking System
VFPA	Vancouver Fraser Port Authority
WCED	World Commission on Environment and Development
WESTAC	Western Transportation Advisory Council
WPCI	World Ports Climate Initiative
WPSP	World Ports Sustainability Program
WRAS	WhaleReport Alert System

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CHAPTER 1

INTRODUCTION

This introductory chapter provides the background to the work and research objectives. It also provides a description of the structure of the document, by describing the sequence of chapters, and a brief description of the content of each.

1.1. Background

In today's era, corporations operate in a different competitive environment from those operating decades ago. Corporations are expected not only to focus on making profits, but to fulfill their responsibilities towards society and the natural environment (Lozano, 2015; Vermeulen and Witjes, 2016). Such a transition to more sustainable practices is evidenced by the remarkable increase in the number of corporations (more than 7,700 companies in 130 countries) adopting the United Nations (UN) Global Compact, one of the foremost voluntary initiatives promoting corporate sustainability practices (Lozano et al., 2017). Benefits of implementing sustainability practices, including cost savings, improving efficiencies, and improved stakeholder relations have encouraged corporations to proactively invest in sustainability (Dyllick and Muff, 2016). Global sustainable investment topped US$30 trillion at the start of 2018—up 68% since 2014 (GSIR, 2018). This reflects the ability and interest of corporations to identify opportunities to develop, implement, and improve sustainability strategies in their business model.

The potential for corporations to contribute positively to society and the environment, in addition to maximizing profits, has indeed become a shared focus for both scholars and

practitioners (Hahn et al., 2017). Operationalizing this potential has been the crux of the emergence of corporate social responsibility (CSR) and corporate sustainability (CS). While both CS and CSR seek to identify, manage, measure, and report social, environmental, and economic elements of corporate impacts on, responsibilities to, and relationships with different stakeholder groups, each originated independently via a different pathway. The early definitions of CSR did not include the environmental dimension explicitly, but focused mainly on voluntary activities of corporations that were more closely linked with philanthropic activities. Contemporary CSR, however, transitioned from a social/philanthropic focus into a more holistic view of social, environmental, and economic responsibilities; moving towards the triple bottom line (TBL) which includes the simultaneous pursuit of economic prosperity, environmental quality and social equity (Sarkar and Searcy, 2016).

The definition of CS, on the other hand, benefits from having roots in the concept of sustainable development, and therefore there exists less inconsistency among scholars on what CS means (Hahn et al., 2015). CS is widely seen as a management strategy to be embedded in a corporation's core values, promoting integration and balance of the three pillars of economic, environmental, and social aspects while considering the long-term temporal dynamics of corporate strategies (Ashrafi et al., 2018). Some scholars emphasize the need either to more accurately distinguish CSR and CS or, on the contrary, merge them into one construct that will account for all the social, environmental, and economic issues in businesses (Montiel, 2008). Others accentuate the need to clarify and explain the distinctiveness, complementarities, and integration of these two research traditions (Bansal and Song, 2017). Moreover, it is important to understand and consider the common

theoretical perspectives underpinning both CSR and CS (Ashrafi et al., 2020). This dissertation will address these research gaps through detailed examination of CSR and CS fields. The rest of the dissertation is designed as a multifaceted integral pilaster focusing on the application of CS in maritime ports.

CS is increasingly acknowledged as an essential component of any business strategy, and maritime ports (i.e., port authorities/managing bodies and port operators—herein referred to as 'ports') are not excluded (Kim and Chiang, 2014). This is largely attributed to the maritime industry catching up with international trends related to sustainability agendas, and because the industry is striving to meet expectations of community groups and civil society organizations who are increasingly scrutinizing port activities and demanding more transparency and accountability (Notteboom et al., 2015; Dooms, 2019). 'The 2030 Agenda for Sustainable Development' that emphasizes the need for all economic sectors, including the maritime transport industry, to monitor and measure performance and report on the progress towards meeting social, environmental and economic goals is further evidence of the growing importance of CS in this sector (UNCTAD, 2016).

This trend will likely continue in the future and sustainability will acquire a more important role in the definition of port strategies. This is, in part, because ports, in addition to aligning interests of employees, management, and shareholders, serve and interact with a diverse group of stakeholders, including terminal operators, vessel operators, railways, trucking companies, industry associations, communities, government agencies, and Indigenous groups (Ashrafi et al., 2019). It is also because ports increasingly operate as global multinationals whose customers extend far beyond geographical boundaries of ports

in the region (Oh et al., 2018). The strategic position of ports in the supply chain indeed enables them to contribute to the overall sustainability of the whole industry (Poulsen et al., 2018).

Nevertheless, CS implementation is complex as oppositional elements co-exist (Hahn et al., 2015). This makes it particularly challenging, yet imperative, for ports to identify, manage, and measure drivers of CS implementation and systems and structures that can be created to effectively boost CS performance. A careful identification and evaluation of CS drivers can help corporations ensure success in their strategy implementation process (Epstein and Roy, 2001). Therefore, this line of inquiry of CS drivers in the context of ports should be pursued. Moreover, despite a rapid increase in studies focusing on the importance of CS in ports (Dinwoodie et al., 2012; Acciaro et al., 2014; Acciaro, 2015; Roh et al., 2016; Sislian et al., 2016; Kang and Kim, 2017; Langenus and Dooms, 2018; Oh et al., 2018), the extent to which such importance is translated into port investment in CS strategy is yet under-investigated (Santos et al., 2016). As well, there is a diverse range of stakeholders interested in or concerned with port operation and development (Wagner, 2017) whose pressure derives from and at the same time influences strategic and operational choices of port managers (Dooms et al., 2013). Therefore, it is imperative to identify influencing factors (motivations/driving factors and key challenges/barriers) for CS adoption and implementation in ports to understand underlying factors that might affect integration of CS in ports in the future.

Also, CS is not just propelled by self-interest in improving corporate performance and competitiveness, but greatly fostered by cooperative efforts among different industry stakeholders (Cheon and Deakin, 2010; MacDonald et al., 2019). Cooperation is critical

for improving sustainability of not only ports, but the entire maritime transport and logistics as benefits extend to all supply chain actors (Acciaro, 2015). Ports are, in particular, recognized as 'linchpins or even lead institutions' at the heart of maritime transport and logistics that must be responsive to opportunities for cooperative actions both within their proximate geographic region and beyond (Haezendonck and Verbeke, 2018). This is also in line with Goal 17 of the United Nations Sustainable Development Goals (UN SDGs) that squarely puts cooperation at the heart of achieving the ambitious targets of 'the 2030 Agenda for Sustainable Development' (UNGA, 2015). How cooperative arrangements among various stakeholder groups in maritime transport and logistics can be developed to strengthen CS in ports, as well as the sustainability performance across the sector needs to be explored (Langenus and Dooms, 2018). This dissertation will shed light on these questions and provide a deeper understanding of CS in maritime ports, as well as the role of cooperation in support of CS within maritime ports, sustainability in maritime transport and logistics, and the global UN SDGs.

1.2. Research Objectives

Maritime ports, as the hub of maritime transport and logistics, are well-suited to share a significant contribution to sustainable development. This study aims to explore how embedding CS into a port's business strategy can help its transition towards sustainable development. There are five research objectives enumerated below, together with the sub-group research questions:

1. *Is CS the ultimate goal for a corporation?*
    1.1. What are CS and CSR?
    1.2. What are the points of overlap and distinction between CS and CSR?

1.3. How can CSR be integrated into CS?

2. *What are the theoretical underpinnings of CS and CSR?*

   2.1. How does each of CS and CSR emerge within business management?

   2.2. How can theories of the firm support the integration of CS and CSR into a corporation's business model?

3. *What are the CS drivers in maritime ports and how ports have responded to such shifts?*

   3.1. How are decisions for adopting CS motivated in ports?

   3.2. What are the examples of CS strategies and practices in maritime ports as responses to CS drivers?

4. *What is the state of CS in maritime ports?*

   4.1. How do maritime ports perceive CS and how important is it to their organization?

   4.2. What are the standards and voluntary initiatives in place to measure and report ports' CS performance?

   4.3. What are the motivations and barriers for maritime ports to invest in CS strategies?

5. *Is cooperation a key solution to strengthen CS in maritime ports?*

   5.1. How can cooperation promote CS in maritime ports?

   5.2. How could sustainability of maritime transport and logistics be strengthened through multi-stakeholder cooperation?

1.3. Outline of Dissertation

This dissertation has seven chapters and is structured as follows:

Chapter 1 – Introduction: This chapter introduces the background of the study and describes research goals. An outline of dissertation is also described and presented.

Chapter 2 – How Corporate Social Responsibility can be Integrated into Corporate Sustainability: A Theoretical Review of their Relationships: This chapter discusses trends in the development of CSR and CS, and various viewpoints on the relationships between the two. Also, a relationship model to better understand how CSR can be integrated into CS as either a transitional stage or ultimate goal for a corporation is proposed and discussed. This chapter has been published in the *International Journal of Sustainable Development & World Ecology*.

Chapter 3 – Understanding the Conceptual Evolutionary Path and Theoretical Underpinnings of Corporate Social Responsibility and Corporate Sustainability: This chapter reviews the conceptual evolutionary path of CSR and CS, as well as the contributions of three theories of the firm, namely resource-based theory, institutional theory, and stakeholder theory in supporting the integration of CSR and CS into business strategic decisions and operation processes to help improving the viability of corporations. This chapter has been published in the *Sustainability*.

Chapter 4 – A Review of Corporate Sustainability Drivers in Maritime Ports: A Multi-Stakeholder Perspective: This chapter provides a synthesis of various research perspectives for drivers of CS in maritime ports using the lens of stakeholder theory. In addition, examples of actions taken by ports in response to perspectives of various stakeholders using

selected case examples from existing literature are discussed. This chapter has been published in the *Maritime Policy & Management*.

Chapters 5 – Corporate Sustainability in Canadian and US Maritime Ports: This chapter discusses the current state of CS in maritime ports in Canada and the US through exploring the perception of port executives towards sustainability, port sustainability strategies and practices, and main factors influencing future adoption and implementation of CS in ports. This chapter has been published in the *Journal of Cleaner Production*.

Chapter 6 – Cooperation in Maritime Transport and Logistics: Strategic Action to Strengthen Sustainability: This chapter discusses how sustainability of maritime transport and logistics can be strengthened through multi-stakeholder cooperation, based on a Canadian case study. A guiding model to illustrate how multi- stakeholder cooperation can act as the transmission belt to assist maritime transport and logistics actors to strengthen sustainability of their organization and the sector, and further contribute to sustainability of a nation and global SDGs is also developed and discussed. This chapter is planned to be submitted to the *Journal of Business Ethics*.

Chapter 7 – Conclusion: This chapter provides conclusions and describes the contributions of the study. The chapter also presents some suggestions on CS integration and implementation.

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CHAPTER 2

HOW CORPORATE SOCIAL RESPONSIBILITY CAN BE INTEGRATED INTO CORPORATE SUSTAINABILITY: A THEORETICAL REVIEW OF THEIR RELATIONSHIPS

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2.1. Abstract

The notion that corporations are expected to have social and environmental performance standards and practices while meeting their financial and legal obligations is commonly referred to as corporate social responsibility (CSR) or corporate sustainability (CS). Previous studies have discussed whether the two terms are converging or should be used as stand-alone concepts. After reviewing the trends in development of CSR and CS, and the various viewpoints on the relationships between the two, a relationship model is proposed to better understand how CSR can be integrated into CS as either a transitional stage or ultimate goal for a corporation. This study aims to provide researchers and practitioners with further insights on the adoption of CSR and CS. The model is intended to provide a plausible view of the relationships between CSR and CS to help to lessen the confusion and ease the communication both between and within these fields.

Keywords: Corporate Social Responsibility (CSR); Corporate Sustainability (CS); Relationship Model; Sustainable Development; Social and Environmental

2.2. Introduction

To achieve development that is sustainable from social, environmental, and economic perspectives, different actors including corporations, governments, and citizens are required to engage and cooperate (Lankoski, 2016). Corporations, as major actors, have a particularly substantive role to play in the process of achieving sustainable development (Baumgartner and Rauter, 2017; Dyllick and Hockerts, 2002), contributing to various multiplier effects such as job creation, income generation and empowerment, human capital development, technology transfer and skill training, and product and service development. Corporations endeavour to fulfil their social responsibilities through various practices, such as ensuring good corporate citizenship, maintaining strong corporate governance, reporting on corporate performance, making socially responsible investments, and behaving ethically in a general sense (Escrig-Olmedo et al., 2014; Fray, 2007). Corporations can also extend sustainability practices by developing a business model that is socially, environmentally and financially sustainable, and potentially scalable. The effective integration of sustainability can not only add to competitive advantage, but can enable the corporation to maintain a leading position of excellence in their sector (Laszlo and Zhexembayeva, 2011). Such a transition to more sustainable practices is evidenced by the remarkable increase in the number of corporations (more than 7,700 companies in 130 countries) adopting the UN Global Compact, one of the foremost voluntary initiatives promoting corporate sustainability (CS) practices (Lozano et al., 2017).

The perpetuation of poverty, food insecurity, safe water access issues, civil and political conflict, and environmental problems associated with resource scarcities, however, continues to intensify the necessity for corporations' shift towards sustainable development

at a faster pace than they do now (Dyllick and Muff, 2016). There is a need to anticipate and plan for improved integration of social, environmental and economic aspects into business activities as social standards evolve and science continues to advance. While the value of sustainability has been addressed in the literature thoroughly, the complexity of its journey into practice has not been lessened considerably (Amini and Bienstock, 2014). The integration of sustainability requires the consideration of the complex interactions of social, environmental, and economic aspects simultaneously, and of varying degrees of temporal impact (short-term vs. long-term) (Langer and Schön, 2003; Lozano et al., 2017).

The two most common concepts used to express corporate transition into this space are corporate social responsibility (CSR) and CS. The terms have been introduced to provide corporations with the necessary guidance to maintain or enhance their profitability while improving their performance towards society and the environment. Several studies have attempted to review the relationships between CSR and CS (Van Marrewijk, 2003; Steurer et al., 2005; Ebner and Baumgartner, 2006; Montiel, 2008; Schwartz and Carroll, 2008; Linnenluecke et al., 2009; Lozano, 2012; Bansal and Song, 2017; Chang et al., 2017). While some are in favour of viewing the two terms as the same concept (Montiel and Delgado-Ceballos, 2014), others argue that the terms have different roots, and therefore should be maintained as separate concepts (Bansal and Song, 2017). This study aims to build on the work of Bansal and Song (2017) and further explore the evolution of CSR and CS, but with the intent of offering insight regarding how CSR can be integrated into CS as either a transitional stage or ultimate goal for a corporation, rather than necessitating the concepts remain wholly separate. The paper is structured to include an introduction to the importance of moving towards sustainable development followed by a historical review of

the development of CSR and CS, respectively. The various interpretations of the complex relationships between CSR and CS are explored with a view to explicate how CSR can be integrated into CS within the broader concept of sustainable development. Previous studies corroborate that visual/graphical representations can help to express the concepts more clearly and succinctly (Lozano, 2008); therefore, the proposed relationship between CSR and CS is presented through schematic design. The intent is to contribute to a better understanding of one theory of CSR's potential interaction and/or integration into CS. The paper is concluded with the potential broader contribution of theoretical offering and recommendation for future research.

2.3. Evolution of Sustainability and Sustainable Development

The term 'sustainable' was first used in a UN document in 1978 in the context of 'eco-development'. Its roots, however, are embedded in the concepts of ecological/carrying capacity, natural resource/environment, biosphere, critique of technology, and no growth/slow growth, all of which were developed before the term sustainability or sustainable development was used (Kidd, 1992). The concepts of sustainability and sustainable development are somewhat intertwined, such that the two terms are frequently used more or less synonymously in the literature (Poveda, 2017). There are numerous definitions for the two terms (Robinson, 2004; Glavič and Lukman, 2007; Stubbs and Cocklin, 2008), making it somewhat difficult to understand the concepts precisely, resulting in losing their action-guiding power (Christen and Schmidt, 2012). By 1992, there were at least 70 different definitions for sustainable development (Lozano, 2008) and close to 300 definitions of sustainability and sustainable development by 2007 (Johnston et al., 2007).

In spite of the overwhelming number of definitions, the most cited definition of sustainable development comes from the 1987 World Commission on Environment and Development (WCED) report *Our Common Future*, also known as the *Brundtland Commission Report*, that defines sustainable development as "development which meets the needs of current generations without compromising the ability of future generations to meet their own needs" (p. 41). The concept of sustainable development was popularized through the *Brundtland Commission Report* (Robinson, 2004; Redclift, 2005); however, it remains a topic of discourse today (Poveda, 2017). The term was initially called an 'oxymoron' by Herman Daly in 1990 (Daly, 1990) and later by other scholars as there are several interpretations for what weight is to be attached to each component of the term (Redclift, 2005). For instance, Robinson's oft-cited article asserts that NGOs and academic environmentalists have concerns that the 'development' in the sustainable development discourse implies mostly economic growth, neglecting social and environmental aspects (Robinson, 2004). Moreover, the word 'needs' within the definition of sustainable development has raised some ambiguity about what kinds of needs or whose needs are going to be met (Redclift, 2005; Poveda, 2017). The definition from the *Brundtland Commission Report* might not manifest the underlying complexities and contradictions of the sustainable development concept; nevertheless, it highlights the fundamental value that economic development must not undermine social values and the environment upon which they are based.

In 1992, the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in Brazil [Rio Earth Summit] aimed to build upon the objectives of the *Brundtland Commission Report*, and focus on developing a global framework for

addressing environmental challenges, such as climate change and biodiversity loss through sustainable development (Redclift, 2005). A decade after the *Brundtland Commission Report*, John Elkington (1998) provided a more specific definition of sustainable development, which evolved through the theory of the 'triple bottom line' (TBL) (i.e., the simultaneous pursuit of economic prosperity, environmental quality and social equity). The TBL, also known as 3Ps, aims to achieve a balance between social (people), environmental (planet), and economic (profit) dimensions of sustainability in equal harmony. Indeed, integrating and balancing social, environmental, and economic dimensions simultaneously together with focusing on the long-term nature of business activities are the key characteristics of sustainable development (Robinson, 2004; Hahn et al., 2015).

2.4. Conceptual Shift in CSR

In theory, CSR is a way of showing a corporation's concern and commitment towards society. Howard R. Bowen, who was called the "Father of Corporate Social Responsibility" (Carroll, 1999: p. 270), defines social responsibility as "obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen, 1953: p. 6). The concept of CSR, as the 1960s transitioned into the 1970s, revolved around two contrasting viewpoints. Proponents of CSR who believed that corporations are part of society and therefore are obliged to develop their social and environmental performance beyond economic and legal obligations (Frederick, 1960; McGuire, 1963). On the other hand, CSR opponents who followed the classical economic ideology of free market, argue that corporations have only one responsibility and it is to make profit within the law (Levitt, 1958; Friedman, 1970).

In spite of different perspectives on how CSR could benefit (or hinder) corporate performance, the concept of CSR continued to develop and expand through the years. Since the 1950s, several CSR models are developed to elaborate the respective roles and responsibilities of corporations towards shareholders (stockholders) and stakeholders. These models have been reviewed in the literature (Kanji and Agrawal, 2016), some of which are the Liberal Model (Friedman, 1970), the Concentric Circles Model (CED, 1971), the Ackerman Model (Ackerman and Bauer, 1976), the Stakeholder Model (Freeman, 1984), the Pyramid Model of CSR (Carroll, 1991), the Three-Domain Model of CSR (Schwartz and Carroll, 2003), and the 3C-SR Model (Meehan et al., 2006).

Over the past half century, many CSR definitions are proposed within the literature, yet there is not a common definition of the term (Matten and Moon, 2008; Nasrullah and Rahim, 2014). Sarkar and Searcy (2016) identified 110 definitions of CSR from peer-reviewed journal, books, and non-academic publications from 1953 to 2014 and categorized them into three periods. The idea of CSR of the first period (1953-1982) was built around the notion that "firms have not only economic and legal obligations but also certain social responsibilities that they should meet voluntarily" (p. 1429). The second period (1983-2002) witnessed "an increasing use of ethics-related terms" (p. 1430). Environmental, sustainability, and stakeholder concerns were also highlighted in a number of definitions from this period. In the third period (2003-2014), environmental, stakeholder, and ethical considerations continue to form a core component of the definition. Dahlsrud (2008) also identified and analyzed 37 definitions of CSR from 1980 to 2003 and concludes that "the definitions are predominantly congruent".

The contemporary understanding of CSR emphasizes responsibilities of corporations beyond what the law or legislation requires them to do (McWilliams et al., 2006; Pintea, 2015). It has also transitioned from a social/philanthropic focus into a more holistic view of social, environmental, and economic responsibilities, moving towards the TBL theory (Dahlsrud, 2008; Sarkar and Searcy, 2016). It might be true that CSR in its early definitions did not include the environmental dimension explicitly and it mainly focused on voluntary activities that were more closely linked with philanthropic activities. However, as the concept was developed and explained in a more detail, the environmental and social dimensions were given equal attention (Loew et al., 2004; Dahlsrud, 2008). The development of CSR definition stresses that social responsibilities of any corporations are not anymore limited to solely making profits and complying with legislation and law. Corporations are now more challenged to meet values and interests of shareholders as well as consumers, employees, communities, government, the environment, and other stakeholders (Nasrullah and Rahim, 2014). In fact, the contemporary CSR takes into account the inclusion of the TBL of economic, social, and environmental performance (Aguinis, 2011; Aguinis and Glavas, 2012). Creating shared value is also an integral part of the contemporary CSR (Bansal and DesJardine, 2014; Carroll, 2015).

2.5. Emerging Theory of CS

Much like CSR, CS is a contested concept that shows corporate commitments to advancing its performances in three dimensions of social, environmental, and economic. The two concepts seem to be converging recently (Montiel, 2008); however, CS focuses not only on short-term but also long-term aspects of corporate's activities (Bansal and DesJardine, 2014; Hahn et al., 2015). The root of CS concept seems to be traced to the late 1980s at the

same time when the concept of sustainable development was gaining traction (Schwartz and Carroll, 2008; Hahn et al., 2017). The definition of CS is therefore adopted from sustainable development and could be attributed as meeting the needs of a corporation's shareholders and stakeholders without compromising its ability to meet the needs of future generations (Dyllick and Hockerts, 2002). As a multidisciplinary, strategic, proactive business approach, CS creates long-lasting shareholders' and stakeholders' values for corporations (Dyllick and Muff, 2016). The benefits from sustainability practices and threats from unsustainable practices have been discussed in the literature (Azapagic, 2003; Kiron et al., 2012; Kiron et al., 2013). The conclusion is that the economic pillar of sustainability alone is insufficient for corporations' success (Dyllick and Hockerts, 2002; Bansal, 2005; Rego et al., 2017). This is perhaps the main reason for corporations seeking opportunities to mitigate risks and improve their reputation through sustainability practices.

The concept of CS has been developing and maturing since its inception and it is best reflected in the number of academic articles, published in specialized social/environmental management journals in recent years, devoted to CS-related topics (Montiel and Delgado-Ceballos, 2014). Early researchers identified CS with mainly the environmental dimension; usually referred to as 'environmental sustainability' (Reinhardt, 2000), 'ecological sustainability' (Shrivastava, 1995) or 'anything that is merely environmentally friendly' (Chisholm et al., 1999). It has also been argued that although CS grew out of the environmental movement, it still overemphasizes environmental issues and therefore neglects social and economic aspects (Poveda, 2017). The environmental pillar of sustainability has acquired more attention because environmental issues have been

neglected or considered of less importance for many years. Schaefer (2004) and Lo (2010) assert that, in the past, environmental problems were under-represented in business strategy for so long that this resulted in more attention being allocated to environmental issues compared with social issues. It is true that the multidisciplinary nature of CS might obscure the interrelationships between the three pillars of sustainability, but it does not indicate the absence of social or economic considerations. It rather emphasizes the importance of developing and improving approaches to balance and interconnect the three pillars of social, environmental, and economic within and throughout the time dimension when developing business strategies (Lozano, 2011). Székely and Vom Brocke (2017) also state that even though the three dimensions of CS can be seen distinct on an operational level, they all must be integrated on strategic level.

Concisely, true CS could be defined as the application of sustainable development at the micro level (i.e., the corporate level), including the short-term and long-term economic, environmental and social performance of a corporation (Steurer et al., 2005; Baumgartner and Ebner, 2010; Lozano, 2011; Dyllick and Muff, 2016; Hahn et al., 2017). In order to be considered sustainable, corporations need to embed sustainability strategies into their business models through adopting new governance strategies and performances that involve stakeholders conscientiously and contribute to the continuous improvement of social, environmental, and economic conditions on a regional and/or global scale (Dyllick and Muff, 2016; Székely and Vom Brocke, 2017). At the present time, drivers for transition to a CS-oriented corporation are not limited only to government regulations and economic benefits, but include external pressures such as customers, financial partners, NGOs, and even internal pressure from within the corporation itself as well as from the business sector

in which they are operating (Keijzers, 2002; Lozano, 2015; Székely and Vom Brocke, 2017). Moreover, previous studies show that individual stakeholders, as well as intercorrelation between multi-stakeholders, influence CS performances (Sharma and Henriques, 2005).

2.6. The Relationships Between CSR and CS

CSR and CS are both "voluntary business activities" that aim to contribute to better performance of corporations in the social, environmental, and economic spheres (Lo, 2010: p. 312). The terms are being used individually or in a combination, and sometimes even a different version of terminology is used when addressing corporate activities and responsibilities towards society and the environment. For instance, some researchers use the term "CSR" as they believe that concepts such as sustainable development were added to the CSR debate just to build on notions of social responsibilities of corporations (De Bakker et al., 2005), whereas researchers like Lozano (2011) use the term "CS" as they see it as an alternative to CSR but more encompassing. Further, others have used terms like 'CS/CSR' (Van Marrewijk, 2003), 'corporate sustainability and responsibility (CS-R)' (Van den Brink and Van der Woerd, 2004), 'CSR and environmental CSR' (Flammer 2013), or 'corporate sustainability and responsibility or CSR 2.0' (Visser, 2014) instead. This ambiguity and disagreement in terminology can also be seen in corporate reporting. Even though 'sustainability reports' seem to be adopted more in recent years, other names such as 'social reports', 'CSR reports', 'corporate citizenship reports', and 'corporate responsibility reports' have been used by corporations (Carroll, 2015; Székely and Vom Brocke, 2017). In the following section, different views on the relationships between CSR and CS are briefly discussed.

Some scholars perceive CSR and CS as the same concept but recommend keeping a slight difference in terms of their application in business practice. For instance, Van Marrewijk (2003), one of the first scholars who commented on the relationships between CSR and CS, considers CSR and CS as two sides of a coin but recommends keeping a small distinction, that is to associate CSR with "the communion aspect of people", such as stakeholder dialogue and sustainability reporting, and CS with "the agency principle", such as value creation, environmental management, and so forth (p. 102). Steurer et al. (2005) also perceive CSR and CS as similar concepts, but describe CS as a normative micro-level approach and CSR as management practices concerned with implementing CS in the short-term. Steurer et al. (2005) discuss the relationships among sustainable development, CS and CSR, and describe the terms as "closely connected, tripartite concepts, yet on different levels of specification with different conceptual nuances" (p. 275). In this sense, the authors propose a four-concentric circle where the inner circle represents the management systems (e.g., EMAS or ISO); the first middle circle represents the management approach (regarded as CSR); the second middle circle represents the corporate concept (regarded as CS); and the outer circle represents the societal concept (regarded as sustainable development).

In contrast, there are scholars who do not see CSR and CS as the same discourse. For instance, Ebner and Baumgartner (2006) argue that CSR and CS are not the same concept, and recommend the use of CSR as a social strand of CS [or sustainable development], which is mainly built on a sound stakeholder approach. Linnenluecke et al. (2009) also consider CSR as the social aspect of CS where the corporation (1) pays attention to its internal staff development, (2) attempts to deal proactively with its community base, and (3) engages with its stakeholder. On that note, Lozano (2012) also states that even though

CSR has great potential to contribute to CS, it is limited by a few issues, namely: being defined many times so that the definitions are sometimes confusing and contradicting; in many cases equated to philanthropy; and perceived as referring to the social dimension solely (such as stakeholder engagement with some links to assessment and communication).

Given that the confusion among academics continues, some scholars emphasize the need to either more accurately distinguish CSR and CS or, on the contrary, merge them into one construct that will account for all the social, environmental, and economic issues in the business (Montiel, 2008; Bansal and Song, 2017). For instance, Montiel (2008), after reviewing definitional differences between CSR and CS, suggests that in the academic literature the conceptualizations and measures of the two concepts "seem to be converging" and in practice both terms are being used as "interexchangeable" by corporations (p. 264). The author states that those who are in favour of integrative CSR and CS should determine whether the two terms are equal or different and also search for valid measures of social and environmental performance in each CSR and CS perspective (Montiel, 2008). Bansal and Song (2017) also in a recent study emphasize the different origins of each field (responsibility in normative economics and ethics vs. sustainability in systems science) and assert that "blurring between responsibility and sustainability has caused confusion and stunted the growth of the field". The authors suggest exploring the distinctiveness, complementarities, and integration of these two research traditions (Bansal and Song, 2017). Moreover, the choice of constructs to describe each term has also made the development of the field more challenging in educational institutions. Doh and Tashman (2014), who studied how faculty at business schools integrate these terms, argue that

'knowledge constraints' (e.g., terminology confusion) is one of the key factors constraining business schools to include the definition of CSR and CS and how they are related in their curricula. This issue also goes beyond business schools and scientific communities and affects the performance of corporations as well. Dyllick and Muff (2016) state that the poor integration of "different topical streams" such as CSR or CS in business sustainability is one of the main reasons that resulted in a big disconnect between corporate activities and the global state of the environment and society's well-being.

A potential interim solution to the current confusion is to ensure that researchers and corporate practitioners reveal their perception of sustainability (and its related concepts) explicitly (Lankoski, 2016; Bansal and Song, 2017). Defining CSR and CS precisely in individual research context would help to understand how the researchers perceive these terms and how their research contributes to each field's development. Additionally, a more clearly defined characterization of CSR or CS as viewed from within corporate business strategy is imperative; it reveals how each of these concepts is perceived in a business context and the impact [if any] of any divergences in the two notions as applied in practice.

2.7. Integrating CSR and CS

Contemporary CSR aims to maximize the shared value (i.e., shareholder's value and stakeholder's value) (Carroll, 2015). Likewise, CS, if embedded in core business strategies and operations, can also create shared value (Dyllick and Muff, 2016). Moreover, CSR, like CS, embraces the TBL theory (Aguinis, 2011). Schwartz and Carroll (2008) suggest that CSR and CS, both contenders in the field of business and society, share the three core concepts of generating value or benefit, balance different stakeholder and shareholder interests, and are accountable to their stakeholders (mainly through auditing and reporting).

The main points of similarities between the two concepts are the notions of creating shared value that provides meaningful benefit to society and the environment, all whilst balancing and integrating social, environmental, and economic components. Yet, there appears to be two elements within CS that prove to be more fully encompassing than the notion of CSR. Within the term CS, sustainability implies the notion of both internal- and external-facing responsibility and a temporal focus that encompasses both short-term and long-term views.

Given that the global population is expected to increase from seven billion to nine billion by 2050, and that the earth's resources are finite, corporations need to reinvent themselves to secure their access to resources and the social license to operate and grow (Strandberg, 2015). Moreover, as the expectations of society have increased, so has its power to scrutinize; corporations need to take into account society's current and future needs (Browne and Nuttall, 2013). Many researchers argue that the current approaches to sustainable development such as CSR are insufficient for a corporation to make the transition towards sustainable development, while CS embedded in its very core creates business value and supports greater responsibility (Laszlo and Zhexembayeva, 2011; Schaltegger et al., 2016; Baumgartner and Rauter, 2017). In fact, integrating CS into corporate strategy is a long-term survival strategy that goes beyond immediate responsibility (Engert et al., 2016). This implies that integrating CS into corporate strategy is more than a responsibility; corporations are recognizing the necessity for being socially, environmentally and financially sustainable to be able to survive over time even if it is not explicitly defined in their business ethics or code of conduct. Those corporations that integrate CS into their business model are therefore inclusive of social responsibility, but the reverse is not necessarily true; CSR itself does not imply the integration of

sustainability practices within corporations. Moreover, corporations increasingly appear to have a greater penchant for CS; it is gaining momentum over CSR as an explicit strategy as it "does not elicit immediate objections from business people as the term CSR does" with its insinuation of trying to pinpoint responsibility (Carroll, 2015: p. 93). This implies that CS is more than simply corporate responsibility and indeed is a core value (Hopkins, 2011). This is perhaps the main reason why corporations do not oppose seeking opportunities to invest in different dimensions of sustainability; they view CS as an opportunity to gain a powerful advantage over their national and international competitions (Laszlo and Zhexembayeva, 2011).

The other advantage of CS over CSR is the focus on various temporal aspects of corporate activities. The long-term performance of corporations in the contemporary definition of CSR is not a core idea of the notion (Dahlsrud, 2008; Montiel and Delgado-Ceballos, 2014). Reviewing the list of CSR definitions assembled by Dahlsrud (2008), Montiel (2008), and Sarkar and Searcy (2016) shows that there is no (commonly used) CSR definition focused on long-term corporate activities (Dahlsrud, 2008; Montiel, 2008; Sarkar and Searcy, 2016). The review of the CSR definitions indicates that CSR should ideally contribute to linking business success with sustainability (Dahlsrud, 2008). However, those same definitions only seem to focus on incorporating social, environmental, and economic considerations in corporate decisions, rather than integrating and interconnecting the three dimensions in strategic decisions and operations within a long-term perspective.

Conversely, CS involves both the TBL and a consideration of the longer-term implications of corporate's activities (Hahn et al., 2015). It requires, therefore, a

corporation to perform responsibly in the three spheres while ensuring continuity of its benefits to society, the environment, and business. Dyllick and Hockerts (2002) suggested that a key element of CS is reflected when corporations integrate social, environmental, and economic aspects; maintain a view on both short-term and long-term aspects; and manage the three different forms of capital (economic, social and natural). Schwartz and Carroll (2008) also remark that CS has certain strengths relative to CSR, which includes an emphasis on the long-term nature of corporate benefits to society. Similarly, Carroll (2015) states that the primary advantage of CS is its focus on long-term performance of corporations.

The literature includes many examples where temporality is explicitly expressed as part of the CS definition (Held, 2001; Steurer et al., 2005; Lozano, 2008; Bansal and DesJardine, 2014; Vermeulen and Witjes, 2016; Hahn et al., 2017). Held (2001) originally stated that "sustainable development is inherently a temporal concept", and argued the importance of "timescape" and how this perspective might help to understand the degree to which different corporate activities are sustainable or unsustainable (p. 351). Since that time, Lozano (2008) reported the dynamic time perspective in sustainability and sustainable development proposing the 'Two-Tiered Sustainability Equilibria (TTSE)', where the issues in social, environmental, and economic aspects holistically interact with each other through time (present and future). Moreover, Bansal and DesJardine (2014) stated that "time is central to sustainability, which differentiates it from other similar concepts, such as CSR, corporate citizenship, and even the triple bottom line" (p. 71).

Hahn et al. (2017) and Steurer et al. (2005) assert that CS is the application of sustainable development on the corporate level; addressing the short-term and long-term

social, environmental, and economic performance of corporations. The difference between sustainable development and CS is that sustainable development refers to sustainability at the macro-level whereas CS is linked to sustainability at the micro-level or the corporate level (Dyllick and Muff, 2016). The long-term aspect is, therefore, a non-separable aspect of CS. Vermeulen and Witjes (2016) also discuss the time dimension as an essential imperative for CS and argue that the first step for corporations to implement CS would be to find out how the long-term ambition should be set. The authors conclude that corporations "should engage in identifying probable future trends in their markets and anticipate the design of pathways for long-term adaptation to create positive impacts on society and ecology" (Vermeulen and Witjes, 2016: p. 2825). CS should, therefore, remain focused on both the short-term and long-term nature of corporate social, environmental, and economic performances. Taken together with the other core values, this is indeed the reason for calling CS 'the emerging 21st century business paradigm' (Elkington, 1998).

Based on the definitions of CSR and CS, one can purport that CS should be the 'ultimate goal' for a corporation. However, in practice CSR is being used almost the same as CS (Montiel, 2008), so, it can be suggested that CSR has the potential to be integrated into CS journey. CSR can be integrated into CS as either a transitional stage or ultimate end-goal for contributing to sustainable development. Figure 2.1 illustrates the conceptualized integration of CSR into CS. In this instance, both CSR and CS use a holistic approach focusing on social, environmental and economic aspects of the business. The areas lying outside the centre of the diagram (A, B, and C), the union of two circles, provide only a partial focus and cannot be considered as the fully integrated CSR or CS. If a corporation, for instance, only performs well in area 'A' (i.e., social area, such as

involvement in community education) but fails to perform in a manner in which it is reasonably expected in areas 'B' (such as natural resource stewardship) and 'C' (such as energy-efficiency), it does not represent a true CSR or CS vision. Therefore, CSR or CS is to represent a holistic approach, both embracing all three pillars of social, environmental and economic simultaneously in some kind of appropriate balance.

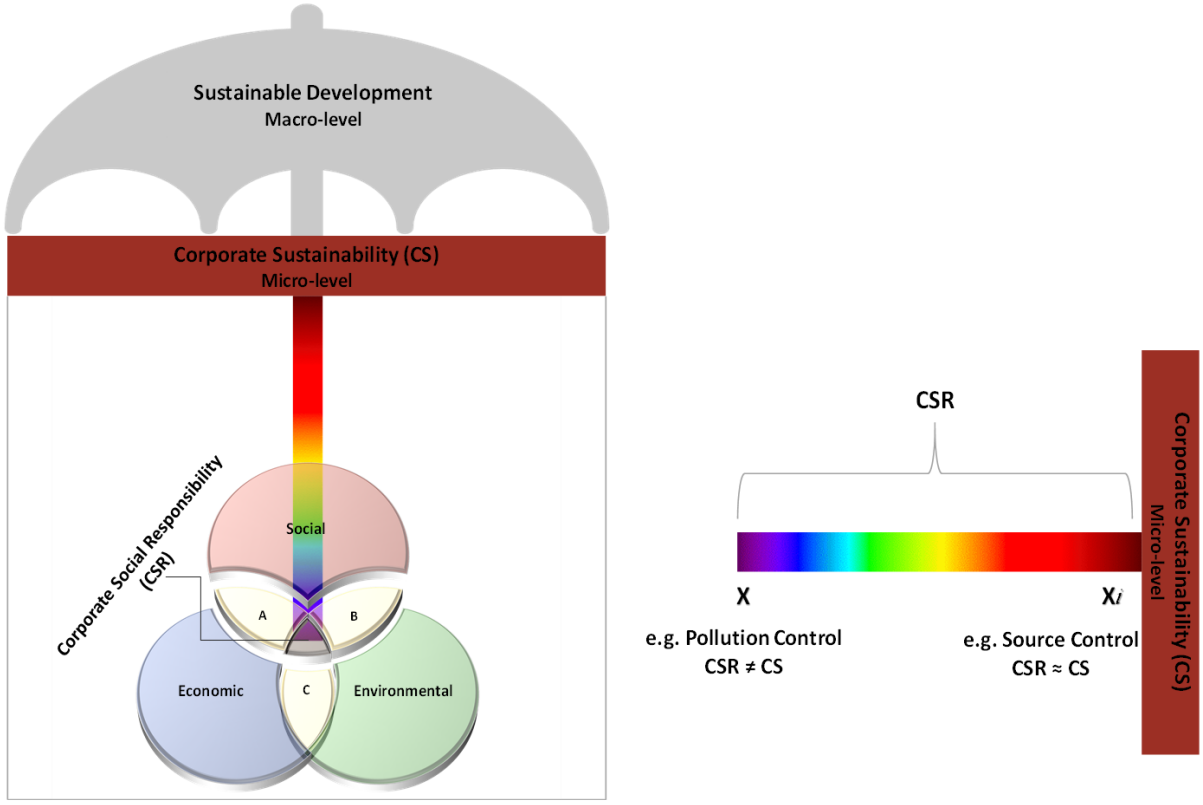

Figure 2.1 The relationships between CSR, CS and sustainable development

Figure 2.1 also presents a view of CSR that can be likened to a spectrum that includes activities ranging from minimum practices at the very bottom of the spectrum to the highest level of corporate performance at the other end. When CSR is at *x*, it does not focus on long-term aspects of corporate's activities and therefore cannot be equated with CS; whereas CSR at x_i includes those activities that have long-term benefits to society, the environmental and economy alike, and therefore can be considered the same as CS.

Philanthropy is a common practice for corporations to show their responsibilities towards society (Ameer and Othman, 2012). When corporations have uncoordinated philanthropic activities (such as a one-time charitable donation) that are disconnected from the corporate strategy and neither make any meaningful social impacts nor strengthen the corporation's long-term competitiveness, CSR is not equated with CS and acts only as a transitional stage (Porter and Kramer, 2006; Bansal and DesJardine, 2014). On the other hand, those corporations having a strategic philanthropy plan (such as investing in college education or healthy forests) that leverages activities and capabilities to improve the TBL through the lens of long-term value creation encompass CS principles (CSR at x_i) (Porter and Kramer, 2006; Bansal and DesJardine, 2014).

Furthermore, CSR acts as a transitional stage when corporations only focus on mitigating various impacts from their value chain activities in order to be viewed simply as a good corporate citizen, whereas CSR acts as ultimate goal for those corporations that transform value chain activities in a way to benefit society while reinforcing strategy, so it can become a source of opportunity, innovation, and competitive advantage (Porter and Kramer, 2006). An example of when CSR is at x is when corporations adopt a pollution control approach to reduce or eliminate the impact of their pollutants before they are disposed or released into the environment. This approach, usually referred to as the 'end-of-pipe' approach, is often mentioned in CSR reports to show corporate responsibility towards society and the environment. However, this approach is not in line with a sustainable development vision in that it does not focus on pollution prevention (Glavič and Lukman, 2007); it therefore cannot be considered as a CS practice (Bansal, 2005).

Alternatively, source control is a proactive pollution preventing approach that serves to control, treat and - ultimately - eliminate pollutants before they enter the environment. Previous studies have found strong evidence that pollution prevention leads to better environmental performance and financial gain, helping corporations to a achieve competitive edge in business (King and Lenox, 2002; Basu et al., 2019). Therefore, both corporate efficiency and corporate profitability increase through a pollution prevention approach, which aligns well with the long-term nature of CS strategies (CSR at x_i). Another example for when CSR is equated with CS and acts as the ultimate goal is when a corporation adopts practices such as industrial symbiosis, the circular economy, and cradle-to-cradle product streams. These mature corporations not only incorporate basic CSR practices, but also focus on working collaboratively with other peer sectors to maximize the added value through optimising the use of resources, closing material loops, and reducing the dependence on non-renewable sources of energy as well as proactively engaging stakeholders and taking the lead in addressing their needs (Yu et al., 2014). Such practices involve progressively more community engagement, and cooperation and coordination among corporations, which serve to protect the social, environmental and economic values of the region - all hallmarks of CS (Bansal and McKnight, 2009).

The relationship model (Figure 2.1) emphasizes the contemporary definition of CSR and CS, which focuses on the importance of looking at any business activities through a holistic lens of social, environmental and economic aspects. It also suggests that CSR can act as either a transitional stage or ultimate goal for corporations. CSR as a transitional stage is when a corporation moves through the spectrum towards sustainable development, so that it might go beyond what laws and regulations require them to do, yet not necessarily

encompassing comprehensive sustainable activities (CSR at x). CSR acting as part of the corporation's ultimate goal is when not only the inclusion of the TBL in every aspect of corporate activities, but the long-term goals are salient as well; representing CS principles (CSR at x_i).

2.8. Concluding Remarks

The intent of this work was to first provide an overview of the two most common concepts used in the discussion of corporate activities, CSR and CS. The analyses revealed that CSR was developed because of social pressure or economic benefits to answer questions like "To whom are corporations responsible?", "What are the responsibilities?", and "How should responsibilities be addressed?". It was initially started from a social/philanthropic perspective, but over time it has transitioned into a more holistic business strategy that emphasizes social, environmental, and economic responsibilities of corporations. CS, on the other hand, benefits from having roots in sustainability and sustainable development. It needs a holistic, multidisciplinary approach as it aims to perform sustainably in social, environmental, and economic spheres in a long-term perspective; supporting greater responsibility.

The study continues with exploring various interpretations of the complex relationships between CSR and CS and highlighting the key features of CS, being a core value and embracing temporality. These make CS the most sophisticated approach to transform corporations in a way that they can contribute to sustainable development. The last section of the paper presents a relationship model on how CSR can be integrated into CS. The model discusses how the integration can proceed based on the contemporary definition of CSR that has evolved over half a century from an ethical and philanthropic focus to taking

an active role in solving issues and challenges in social, environmental, and economic development. In this model, CSR can act as either a transitional or ultimate goal for corporations. The model is elucidated further by discussing a few examples as when CSR is acting only as a transitional stage, and when it is equal with CS by focusing on the TBL in the long-term as the ultimate goal for corporations.

Future research should investigate the corporations' perception of CSR and CS to explore their understanding of the concepts and the language they use to disseminate information about their performances. It is important and necessary to explore how different terms linking to corporate activities are being perceived by corporate practitioners to ensure consistency and accuracy when addressing different issues. The drivers and challenges for corporations to implement one, the other, or both terms should be studied to show the level of a corporation's commitment to being responsible and/or sustainable.

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CHAPTER 3

UNDERSTANDING THE CONCEPTUAL EVOLUTIONARY PATH AND THEORETICAL UNDERPINNINGS OF CORPORATE SOCIAL RESPONSIBILITY AND CORPORATE SUSTAINABILITY

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3.1. Abstract

To unlock the potential for corporations to play a more proactive role in sustainable development, it is critical to have a fundamental understanding of the pathways leading to a responsible and sustainable business. This study explores contributions of theories of the firm in explicating why and how integrating corporate social responsibility (CSR) and corporate sustainability (CS) into business strategic decisions and operation processes helps to improve the viability of corporations. The research objectives are addressed through a review of relevant literature by following the developmental and evolutionary sequences in business responsibility and sustainability while contemplating the connections between CSR and CS through the lens of the dominant theoretical perspectives underpinning the concepts. The study posits an integrative theoretical framework that offers supports for embedding CSR and CS into a corporate business strategy. It discusses that corporate choice of CSR and CS actions and policies is supported by dual internal and external mechanisms based on resource-based theory and institutional theory. This is to meet the interests and expectations of internal and external stakeholders, the basis upon

which stakeholder theory is constructed. Findings from this review corroborate the proposition that the three theories of resource-based, institutional, and stakeholder could be used as the primary approach to explain corporate recognition of the need for CSR and CS, and further build a coherent platform to support corporate choice and adoption of CSR and CS in business strategy.

Keywords: Sustainable Development; Corporate social responsibility (CSR); Corporate sustainability (CS); Institutional theory; Resource-based theory; Stakeholder theory.

3.2. Introduction

The discourse on the role of businesses in society has a long history, and with the growing environmental and social challenges facing society, this role has received increasing scrutiny from various quarters (Dyllick & Muff, 2016; Vermeulen and Witjes, 2016). Individual corporations are looking beyond the traditional profit-making goals, rethinking their impacts on society and the environment, and seeking to identify ways to cultivate positive and sustainable relationships with stakeholders (Lozano, 2015). Improved social and environmental performance can provide both tangible benefits such as cost reduction and risk management, and intangible benefits such as enhanced reputation and increased competitiveness (Dyllick and Muff, 2016). The potential for corporations to contribute positively to society and the environment, in addition to maximizing profits, has become a shared focus for both scholars and practitioners (Hahn et al., 2017). Operationalizing this potential has been the crux of the emergence of corporate social responsibility (CSR) and corporate sustainability (CS).

Both CSR and CS have flourished within the last two decades. During that time, researchers have developed a wealth of knowledge regarding the role of businesses and the

ability to deliver social and environmental benefits concurrently with economic growth (Montiel, 2008). While some studies use CSR and CS interchangeably in their research (Montiel and Delgado-Ceballos, 2014), others take the opposing position. Bansal and Song (2017), in particular, argue that each concept originated independently via a different pathway, but both have converged to the same place, using similar definitions, ontological assumptions, nomological networks, and measurement. The authors suggest that rather than assuming both constructs are the same, scholars need to explore the distinctiveness, complementarities, and integration of these two research traditions (Bansal and Song, 2017). A more recent study by Ashrafi et al. (2018) builds on the work of Bansal and Song (2017) and offers insight on how CSR can be integrated into CS as either a transitional stage or ultimate goal for a corporation, rather than necessitating that the concepts remain wholly separate. Although these definitional developments have brought CSR and CS ever closer together (Bansal and Song, 2017; Ashrafi et al., 2018), the common theoretical perspectives underpinning both CSR and CS still need more attention and a thorough discussion.

Moreover, a recent study of research trends on CSR and CS using the bibliometric method, by Abad-Segura et al. (2019), called for a qualitative study to review the relationship between CSR and CS in order to pinpoint overlaps which can help to understand underlying conditions that determine the integration of CSR and CS into a corporate business model. In the absence of studies with such a clear focus, this paper traces the conceptual evolutionary path of CSR and CS (together with its counterpart term of sustainable development from which it emanated) in depth while contemplating the connections between the two through a number of theories of the firm. The study intends

to provide insights into theoretical developments supporting corporate recognition and adoption of CSR and CS in their business strategy. “Theories of the firm provide a perspective for thinking about organizational objectives and a framework for analyzing important research problems” (Seth and Thomas, 1994: p. 165). Several theories of the firm, such as agency theory, institutional theory, evolutionary theory, resource-based theory, social contract theory, and stakeholder theory, have been proposed within the business responsibility and sustainability research agenda to explain how corporations function within a framework of CSR and CS (Starik and Kanashiro, 2013; Lozano, 2015). While there is no consensus on the most appropriate theories, this study discusses the application of institutional theory, resource-based theory, and stakeholder theory to frame the underlying grounds for integrating CSR and CS policies and actions into a corporate business strategy (Aguinis and Glavas, 2012; Gianni et al., 2017; Hahn et al., 2017).

The objective of this study is addressed through a narrative overview of the literature. First, a broad search of keywords, such as “corporate social responsibility”, “CSR”, “corporate sustainability”, “CS”, “sustainability”, “sustainable development”, “institutional theory”, “resource-based” and “stakeholder” in the following 10 high-impact management journals was conducted: *Academy of Management Review*, *Journal of Business Ethics*, *Strategic Management Journal*, *Organization & Environment*, *Journal of Cleaner Production*, *Business & Society*, *Academy of Management Journal*, *Business Strategy and the Environment*, *Corporate Social Responsibility and Environmental Management*, and *Journal of Management Studies*. Titles and/or abstracts of articles found in these journals were examined to identify a representative set of research articles that address the intersection of CSR/CS and institutional theory/resource-based

theory/stakeholder theory. The relevant articles, whose contributions to this study account for more than half of all cited articles, were then thoroughly studied. The reference lists of these articles were also checked to identify any additional management-oriented articles to further evaluate the complete set of findings to form this narrative review. This resulted in a total of 91 management-oriented articles, out of the 123 articles that contributed to this study (Figure 3.1). The management-oriented journals, all of which are Q1, except the practitioner-oriented journal *Harvard Business Review*, are within the subject area and category of 'Business, Management and Accounting', 'Strategy and Management' and 'Social Sciences'.

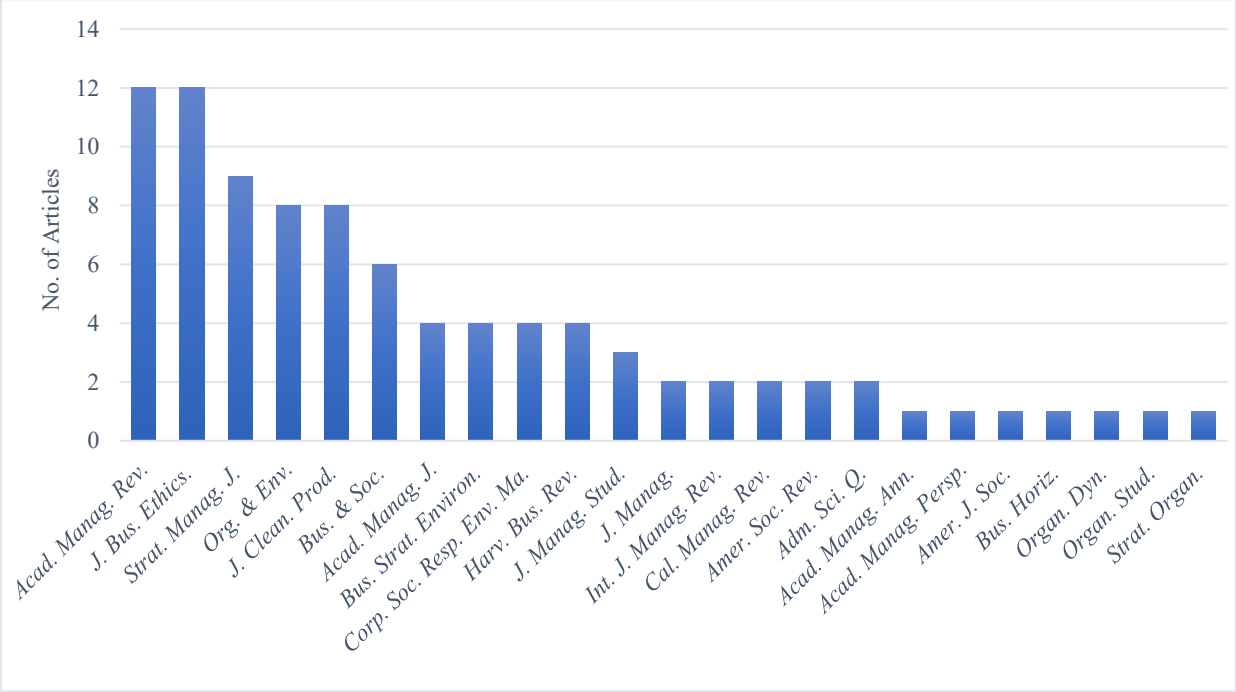

Figure 3.1 The management-oriented journals that contributed to the study

3.3. CSR and Theories of the Firm

The root of CSR can be traced to the 1920s, embedded in the concepts of corporate philanthropy, social give-back, codes of conduct, community service, and corporate managers as public trustees (Frederick, 2006). Due to the influence of the Great Depression of the 1930s and World War II in the 1940s, CSR, however, failed to become a serious topic amongst leading corporations until the 1950s (Carroll and Shabana, 2010). CSR found itself in the spotlight in 1951 when Frank W. Abrams, a former executive for Standard Oil Company, New Jersey, introduced the idea that businesses should be held accountable to society for their actions. He recognized the obligation of business managers "to conduct the affairs of the enterprise in its charge in such a way as to maintain an equitable and workable balance among the claims of the various … interested groups: the stockholders, employees, customers, and the public at large" (Abrams, 1951: p . 29-30). The modern era of CSR was, however, marked by Howard R. Bowen in 1953, who made the first significant scholarly contribution by publishing the book, *Social Responsibilities of the Businessman* (Carroll, 1979). He proposed the definition of CSR as "the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society" (Bowen, 1953: p. 6). In 1960, William C. Frederick, who has written extensively on CSR for decades, also recognized the social responsibilities of the businessman to "oversee the operation of an economic system that fulfills the expectations of the public. And this means in turn that the economy's means of production should be employed in such a way that production and distribution should enhance total socio-economic welfare" (Frederick, 1960: p. 60).

During the 1950s and 1960s, the focus of CSR was primarily on business responsibilities to society and acting in a socially responsible manner, and less so on how CSR could benefit the business (Carroll and Shabana, 2010). It was not until the late 1950s that Theodore Levitt raised concerns about the dangers of pursuing ambiguous corporate objectives such as CSR-related activities (Levitt, 1958) and openly criticized the concept. Similar arguments were made later by Milton Friedman, who purported that businesses have only one responsibility and it is to make as much money as possible for their shareholders while conforming to the basic rules of society (Friedman, 1962; 1970). Such views at the time constructed a new narrative around the notion of incorporating CSR into business objectives. For example, managers were perceived to be unfit for a role that rightly belongs to government, citing dangers such as distracting managers from profit-making tasks, or the potential misappropriation of shareholders' funds by executive managers in the name of CSR to advance their own social, political, or career agendas.

Over time there were further efforts to establish a positive linkage between CSR and shareholders' long-term interests. A major debate on how to reconcile CSR with the economic interests of corporations emerged in 1970. Henry C. Wallich and John J. McGowan (1970) recognized that it is consistent with shareholders' long-term interests to be socially minded, providing a new rationale to uphold CSR without compromising shareholders' interests (Lee, 2008). On that note, Keith Davis (1973), one of the first and most prominent CSR scholars of that period, recognized CSR as "the firm's obligation to evaluate in its decision-making process the effects of its decisions on the external social system in a manner that will accomplish social benefits along with the traditional economic gains which the firm seeks" (p. 312–313). Most of the research in favor of CSR that

followed supported the notion that it is in a business's long-term self-interest, so-called 'enlightened self-interest', to be socially responsible (Baumol, 1970; CED, 1971; Moyer, 1974). While the 'enlightened self-interest' model enabled CSR to be more widely accepted by business managers, it did not provide any theoretical framework to connect CSR to the outcomes of socially responsible initiatives and identify the benefits to a wide range of stakeholders (Lee, 2008). During this period, the concept of corporate social performance (CSP) was developed as an extension of CSR. CSP implies the capacity of a corporation to respond to social pressures and was pioneered by Robert W. Ackerman in 1973 (Ackerman, 1973); it was later referred to as CSR2 by Frederick (1994).

By the mid-1970s, Prakash S. Sethi developed a structural framework to facilitate the analysis of CSR and its linkage to CSP. Sethi (1975) recognized three stages for adoption of corporate behavior linked to social needs (i.e., social obligation, social responsibility, and social responsiveness). In Sethi's schema, social obligation is "corporate behavior in response to market forces or legal constraints"; social responsibility implies "bringing corporate behavior up to a level where it is congruent with the prevailing social norms, values, and expectations of performance"; and social responsiveness, which focuses on a corporation's long-run role in a dynamic social system, requires corporations "to anticipate the changes that are likely to take place in the system in the future" (Sethi, 1975:60, 62, 63). This perspective was strengthened by Archie B. Carroll, one of the discipline's most prestigious scholars. In 1979, Carroll developed the three-dimensional conceptual model of CSP that includes the integration of CSR, social responsiveness, and social issues (Carroll, 1979). He also proposed a four-part definition of CSR: "The social responsibility

of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time" (Carroll, 1979: p. 500).

Carroll later in 1991 enunciated this position by proposing the 'Pyramid of CSR', constituting four components: economic, legal, ethical, and philanthropic (Carroll, 1991). The economic component of the definition, in line with the capitalistic economic view, suggests that society expects corporations to make a profit. Legal responsibility suggests that corporations are expected to abide by laws established by the society's legal system. Ethical and discretionary/philanthropic components of the definition suggest a responsibility that extends beyond meeting minimum legal standards. Ethical responsibility mainly refers to corporate voluntary actions, as expected or prohibited by societal members, to promote those social goals that are beyond immediate corporate financial interest. Discretionary/philanthropic responsibility also includes a broad scope of corporate voluntary activities in response to various societal expectations, such as corporate contributions of financial resources or executive time to various causes (e.g., education, community improvement, arts and culture) (Carroll, 1979; 1991).

This three-dimensional integration of responsibility, responsiveness, and social issues by Carrol (1979) was furthered developed by other scholars. Wartick and Cochran (1985) extended the CSP model by recasting the three aspects of CSR, social responsiveness, and social issues into a framework of principles, processes, and policies. Furthermore, Wood (1991) built on the work of Carroll (1979) and Wartick and Cochran (1985) and explained three facets of the CSP model in detail: (1) 'principles of CSR' at the three levels of institutional, organizational, and individual; (2) 'processes of responsiveness' including environmental assessment, stakeholder management, and issues management; and (3)

'policies' developed by corporations to address social issues as the final outcome of corporate behavior motivated by principles and occurring through processes. Although the CSP model clearly advanced the CSR literature, it was not able to gain widespread application due to the lack of capacity to measure and empirically test the model (Lee, 2008).

The 1980s and 1990s witnessed a continued shift within the CSR literature away from an ethics orientation to a performance orientation, and from a macro level to a micro level (i.e., the corporate level) (Carroll and Shabana, 2010). Several theories of the firm, such as stakeholder theory, resource-based theory, and institutional theory, have been incorporated into CSR within business literature to underpin CSR activities of corporations. By the mid-1980s, the role of stakeholders was found to be significant in influencing corporate performance around CSR. In 1984, Edward R. Freeman articulated how the inclusion of stakeholders, defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives", in strategic management can mitigate corporate risk (Freeman, 1984; p. 46). Stakeholder theory was later expanded by Donaldson and Preston (1995), who distinguished three branches of the theory: (1) descriptive (how corporations behave), (2) normative (how corporations should behave), and (3) instrumental (how behavior affects corporate performance).

Concerning CSR and a corporation's relationships with its multi-stakeholders, Clarkson (1995) explained that a corporation that cultivates relationships with its primary stakeholders (e.g., shareholders, investors, employees, customers, suppliers, governments, communities) and meets their needs and expectations through CSR creates more value. Snider et al. (2003) investigated what firms communicate to various stakeholders in

relation to their CSR actions and stressed the importance of the linkage between CSR and corporate relations to its stakeholders in creating values. Other studies also discussed the importance of stakeholder influence in making a business case for CSR (Barnett, 2007). Stakeholder theory provides a base for understanding the actions of corporations necessary to carry out their missions with respect to the multi-stakeholders with whom they interact and hold responsibilities (Carroll, 2015). Since the 1990s, the emphasis of CSR has been on the responsibilities of a corporation to create value for both its shareholders and its various stakeholders, such as government agencies, customers, employees, and local communities. The similar objectives of CSR and stakeholder theory, such as value creation and effective stakeholder management, have allowed the two to coexist and to incorporate each other yet thrive independently (Freeman and Dmytriyev, 2017).

Resource-based theory, the notion of achieving competitive advantage through the deployment of specific corporate resources, gained substantial attention in the 1980s through notable contributions such as those of Rumelt (1984) and Wernerfelt (1984). The idea was heavily influenced by the earlier work of Edith T. Penrose (1959) who described a corporation as 'a bundle of resources'. The theory was later refined by Jay Barney (1991), who suggested that "sources of sustained competitive advantage are firm resources that are valuable, rare, imperfectly imitable, and non-substitutable" (p. 116). Similarly, Peteraf (1993) discussed a heterogeneity which reflects the presence of superior resources that enable organizations to gain a competitive advantage. A basic assumption within resource-based theory is that corporations have heterogeneous resource endowments, and therefore can use their resources to identify and employ those assets, capabilities, organizational

processes, and competencies that improve their efficiency and effectiveness to deliver superior competitive advantage.

Several studies have attempted to identify CSR actions and attribute them to resource-based theory as corporate resources. Litz (1996) studied the integration of resource-based theory into CSR through the inclusion of social and ethical perspectives; the conclusion was that social and ethical competencies have potential in facilitating the development of necessary corporate capabilities to lead to competitive advantage. Branco and Rodrigues (2006) also discussed the usefulness of resource-based theory in understanding why corporations engage in CSR. They emphasized the importance of investing in CSR to create intangible resources, such as improved reputation, improved corporate relations with external stakeholders, increased retention and corporate attractiveness to prospective employees, and increased employee motivation in role performance, commitment and loyalty (Branco and Rodrigues, 2006). This positions CSR as a dynamic intangible resource within resource-based theory, focusing on creating and maintaining a competitive advantage for corporations.

Another theory linked to CSR is institutional theory. First conceptualized by Philip Selznick (1948), and further supported by Meyer and Rowen (1977), institutional theory proposes the idea that "organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized in society. Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures" (p. 340). Its foundation holds forth that corporate survival is significantly improved by demonstrations of conformity to the norms and social expectations within which the

corporation operates. This corporate conformity brings a variety of rewards, such as increased prestige, stability, legitimacy, social support, internal and external commitment, attraction of personnel, and acceptance in professions (Oliver, 1991). DiMaggio and Powell (1983) built on the theory and described the three institutional views of isomorphism processes as coercive, mimetic, and normative, which lead to homogeneity in the structure, culture, and output of organizations; this is the focus of the new institutionalism (or neo-institutionalism).

Several studies have applied institutional theory to understand why CSR activities vary among different organizations in different geographical locations (Beliveau et al., 1994; Campbell, 2007; Matten and Moon, 2008). These researchers suggest taking into account institutional constituents—including historical, political, and cultural determinants—for CSR engagement as corporations face greater rational pressures to adopt CSR to legitimate their activities when stakeholders are empowered by these institutions. Shabana et al. (2017), drawing from DiMaggio and Powell's model, also discuss how isomorphism mechanisms have shaped CSR reporting practices over time, such that isomorphism is at work in each stage, but the underlying dynamics vary; initially driven by coercive isomorphism, then normative isomorphism, and finally mimetic isomorphism.

By the end of the 1990s, CSR researchers were integrating a focus on a tighter coupling between the economic and social performance of corporations. Griffin and Mahon (1997) studied the CSP and corporate financial performance (CFP) relationship and concluded a positive relationship between the two. Waddock and Graves (1997) used an empirical analysis to evaluate the linkage between CSP and CFP and also reported a positive association. Margolis and Walsh (2003) found that "there is a positive association, and

certainly very little evidence of a negative association, between a company's social performance and its financial performance" (p. 277). The meta-analysis of 52 studies by Orlitzky et al. (2003) also suggests a positive relationship between CSP and CFP. Moreover, the inclusion of environmental aspects of corporations into CSR gained more widespread recognition during this period. Environmental aspects of corporate activities indeed gained increased salience with the articulation of 'sustainable development', conceptualized by the World Commission on Environment and Development (WCED) report, *Our Common Future* (also known as the *Brundtland Commission Report*) (WCED, 1987). Sustainable development was explicitly linked to corporate activities and CSR with the introduction of the triple bottom line (TBL) in the late 1990s by John Elkington. The TBL directs corporate responsibility by placing emphasis on 'the simultaneous pursuit of economic prosperity, environmental quality and social equity' (Elkington, 1998). CSR subsequently started to embrace the environmental aspects more actively, so that the European Commission (2002) defined CSR as being "about companies having responsibilities and taking actions beyond their legal obligations and economic/business aims. These wider responsibilities cover a range of areas but are frequently summed up as social and environmental where social means society broadly defined, rather than simply social policy issues. This can be summed up as the 'triple bottom line approach: i.e., economic, social and environmental'" (p. 1).

Despite the abundant research, there is yet to be a common definition for CSR (Matten and Moon, 2008). Frederick (2006) states that "the content or substance—the operational meaning—of corporate social responsibility is supremely vague" (p. 38). Regardless of the ambiguity, there are some consistencies among the many CSR definitions. Dahlsrud

(2008), who identified and analyzed 37 definitions of CSR from 1980 to 2003, concludes that "the definitions are predominantly congruent" (p. 6). He also found the most frequently reported dimensions of CSR to be stakeholder, social, economic, voluntariness, and environmental dimensions (Dahlsrud, 2008). Sarkar and Searcy (2016) also analyzed 110 definitions of CSR from both peer-reviewed and gray literature published between 1953 and 2014, and found six similar dimensions: economic, ethical, social, stakeholder, sustainability, and discretionary.

The last two decades have been a productive time for CSR scholarly publications; over 40% of CSR articles have been published since 2005 (Aguinis and Glavas, 2012). Moreover, since 2000, CSR has been coupled with the strategy literature and focused on promoting corporate responsibility towards a wide range of stakeholder groups, including shareholders, civil society and the environment. The contemporary CSR reflects corporate responsibility towards different stakeholders with respect to the TBL of economic, social, and environmental performance (Aguinis and Glavas, 2012). Creating shared value (i.e., shareholders' value and stakeholders' value) has also become an integral part of the contemporary CSR (Bansal and DesJardine, 2014; Carroll, 2015).

There are other competing and complementary concepts, such as business ethics, corporate citizenship, and CS, which have been extensively studied by scholars (Schwartz and Carroll, 2008). All have received increasing attention as potential guidelines for corporations to effectively plan and implement strategies to drive their transformation and sustained growth while ensuring the continuity of benefits to society and the environment (Landrum, 2017). Notwithstanding that these concepts have largely been incorporated in CSR, each has its own body of literature which is beyond the scope of this study. In the

following section, CS—the most widely used interchangeable term for CSR—and related sustainable development terminology are discussed in detail.

3.4. CS and Theories of the Firm

The root of CS can be traced to the late 1980s when the concept of sustainable development was gaining traction (Schwartz and Carroll, 2008). The definition of CS is adopted from the concept of sustainable development and can be understood as the application of sustainable development at the corporate level, including the short-term and long-term economic, environmental, and social aspects of a corporation's performance (Steurer et al., 2005; Baumgartner and Ebner, 2010; Lozano, 2011; Dyllick and Muff, 2016; Hahn et al., 2017).

The concept of sustainable development itself was derived from the word 'sustainability' first used in 1972 in the context of man's future in the British book, *Blueprint for Survival*, and first used by the United Nations (UN) in 1978 in the context of 'eco-development' (Kidd, 1992). It grew out of the environmental movements (Redclift, 2005), but it has since been extended to include all three dimensions of economy, society, and the environment (Kaptein and Wempe, 2001; Hahn and Scheermesser, 2006; Schwartz and Carroll, 2008; Poveda, 2017). The debate over environmental protection (conservation/preservation) goes back to the 19th century, but it was at the end of the 20th century that mainstreaming of environmental considerations as necessary for the survival of societies gained greater salience through the emergence of 'sustainable devolvement', resulting in numerous publications aimed at providing guidance for transition to sustainable development (Robinson, 2004). One example is the *World Conservation Strategy*, published in 1991, which shifted the focus from primarily being on ecological issues,

published in 1981, toward achieving sustainable development through the inclusion of both the environment and human dimensions (Robinson, 2004). In between these two reports, the WCED published the *Brundtland Commission Report*.

The WCED (1987) encouraged development that could bridge the gap between environmental and social concerns regarding increasing impacts of human activities, and sustainable economic growth. Sustainable development was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (p. 41). Many others have attempted to define sustainable development as the definition proposed by the *Brundtland Commission Report* was found to be ambiguous and open to confusion, and ineffective in its action-guiding role (Christen and Schmidt, 2012). By 1992, there were at least 70 different definitions for sustainable development (Lozano, 2008); this increased to over 300 by 2007 (Johnston et al., 2007). Notwithstanding the many definitions of sustainable development and the ongoing discourse (Poveda, 2017), the *Brundtland Commission Report* has contributed to conceptualizing the concept and forcing it to the top of the agenda of the UN and other multilateral organizations (Daly, 1990). This is perhaps due to the central messages the Report conveys: (1) integrating the social dimension with the environmental dimension in promoting economic development; (2) integrating the three dimensions of social, environmental, and economic across all sectors and interests through partnership; and (3) integrating the spatial dimension (Robinson, 2004).

Since the early 1990s, researchers have sought to better understand the benefits of sustainable development to the corporation and determine how best to incorporate the concept (mainly the environmental dimension) into corporations. The central focus on

environment could be attributed to the historical under-representation of environmental considerations within business strategy (Daly, 1990). Many researchers attempted to understand the benefits of incorporating environmental considerations into business decisions using theories of the firm, such as resource-based theory, stakeholder theory and institutional theory. Hart (1995) was the first to apply environmental strategies to resource-based theory; he asserted that certain environmental strategies could constitute a resource or a capability that can lead to firm's competitive advantage. Hart (1997) continued his argument about the potential for sustainable development strategies to confer competitive advantage, concluding that the environmental dimension of sustainability might become a major source of revenue growth and competitive advantage if it is linked to strategy or technology development. On that note, Shrivastava (1995) called for the inclusion of environmental technologies in strategic management for corporations to gain competitive advantage. Many others have offered support for Hart (1995)'s argument. Judge and Douglas (1998) empirically examined the effects of integrating the environment into resource-based theory and concluded that there is a positive relationship between the level of integration of environmental issues into the strategic planning process and CFP. Sharma and Vredenburg (1998) examined the applicability of resource-based theory within the domain of environmental responsiveness and concluded that proactive environmental strategies within the corporation are linked to unique competitively valuable capabilities. Such studies reveal that the incorporation of environmental considerations into business strategies and operations may lead to competitive advantage as resource-based theory suggests.

Concurrently, other researchers sought to apply stakeholder theory to sustainable development-related research, such as developing environmental marketing strategy (Polonsky, 1995), pro-environmental responses in different corporations (Freeman and Clarke, 1996), and inclusion of the environment as a stakeholder entity (Starik, 1995; Phillips and Reichart, 2000; Driscoll and Starik, 2004). Buysse and Verbeke (2003) studied linkages between environmental strategies and stakeholder management through surveying 197 firms in Belgium, arguing that environmental leadership, in addition to resource allocation, is associated with a long-term vision to broaden and deepen linkages between corporations and multi-stakeholders. This aligns with stakeholder theory, which suggests that when corporations meet the needs and expectations of their stakeholders, they are capable of creating greater value over time (Freeman, 1984). Stakeholders' engagement also influences the sustainability performance of corporations by generating knowledge that can help identify potential process innovations. For example, Sharma and Henrique (2005) studied stakeholder influence on the sustainability performance of the Canadian forestry industry and reported a strong correlation between meaningful stakeholder engagement and the sustainability performance of firms.

Researchers have also sought to integrate institutional theory into sustainable development research. Although institutional theory emerged in the late 1970s (Meyer, 1977), its integration into the sustainable development field appeared in the 1990s. Jennings and Zandbergen (1995) studied the use of institutional theory as an approach to sustainable development to understand both how consensus is built around the meaning of sustainability and the ways in which sustainability practices are developed and implemented by corporations. Other studies also focused on the use of institutional theory

to analyze the adoption of environmental actions and policies by corporations (Hoffman and Ventresca, 1999; Prakash, 1999). Bansal and Clelland (2004) applied institutional theory to understand the relationship between a corporation's environmental legitimacy and its level of unsystematic risk and found that environmentally legitimate corporations incur less unsystematic risk. Bansal (2005) provided further insights through combining institutional theory and resource-based theory and concluded that the two theories influence sustainable development. So, organizations facing institutional pressures (e.g., media attention, scrutiny from activists, and community concerns) could gain legitimacy through exhibiting good sustainability performance. Institutional pressures influencing organizational legitimacy could also go beyond those of domestic markets and come from other regions and countries. On that note, a recent study by Park (2018) found that internationalization drives CS strengths and concerns in emerging markets' economies.

Since the 2000s, the use of the term 'corporate sustainability' has become widespread (Dyllick and Hockerts, 2002; van Marrewijk, 2003; Figge and Hahn, 2004; Steurer et al., 2005; Montiel, 2008; Vermeulen and Witjes, 2016; Hahn et al., 2017). One of the earliest and most cited definitions of CS is associated with the work of Dyllick and Hockerts (2002), who defined CS as "meeting the needs of a firm's direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, and communities), without compromising its ability to meet the needs of future stakeholders as well" (p. 131). Looking at the trend in the CS literature, one could surmise that the field of CS is still evolving (Montiel and Delgado-Ceballos, 2014). Nonetheless, the definition of CS benefits from having roots in the concept of sustainable development, and therefore, there exists less inconsistency among scholars on what CS means (Hahn et al., 2015). CS encompasses the

inclusion of the short-term and long-term economic, environmental, and social aspects of a corporation's performance (Baumgartner and Ebner, 2010; Lozano, 2011; Hahn et al., 2017). It also seeks to create long-lasting shareholders' and stakeholders' values for corporations (Dyllick and Muff, 2016).

There is consensus among scholars and practitioners that sustainable development at the societal level will require CS being incorporated as a core into corporate business strategies, but the notion that the business model is the key for initiating CS components has only recently gained increased attention. Schaltegger et al. (2016) recognized a business model for sustainability as one that "helps describing, analyzing, managing, and communicating (i) a company's sustainable value proposition to its customers, and all other stakeholders, (ii) how it creates and delivers this value, (iii) and how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries" (p. 6). Several studies have explored how embedding sustainability into a corporate business model can improve economic viability while reducing negative effects or creating positive effects for society and the environment (Stubbs and Cocklin, 2008; Schaltegger et al., 2012; Boons and Lüdeke-Freund, 2013; Bocken et al., 2014; Joyce and Paquin, 2016). These researchers suggest the integration of social and environmental aspects into the economic-centered view of a standard business model through an innovation process to create value and competitive advantage. They also emphasize developing internal structural and cultural capabilities, while collaborating with key stakeholders, as necessary conditions for a sustainability-oriented business model. Researchers further highlight that there is no 'one-size-fit-all' business model for sustainability, and the on-going creation of business cases for sustainability is imperative.

Nonetheless, recent literature stresses the need to broaden the current narrowly conceived CS. It must extend beyond the business case and shed light on developing new models that can help corporations understand the paradigm shift necessary to move towards sustainable development (Dyllick and Muff, 2016; Landrum, 2017). There has also been an emphasis on identifying driving factors for corporations to more earnestly adopt CS and advance pragmatic sustainability solutions and initiatives (Landrum, 2017). This includes investigating different levels of CS sophistication exhibited by corporations with respect to their social, environmental, and economic performance, as well as evaluating multi-stakeholder partnerships and synergies benefiting CS (Amini and Bienstock, 2014).

3.5. Integrative Theoretical Framework for CSR and CS

The literature includes many examples where temporality is explicitly expressed as part of the sustainable development or CS definitions (Held, 2001; Lozano, 2008; Bansal and DesJardine, 2014; Vermeulen and Witjes, 2016; Hahn et al., 2017); however, temporal aspects of corporate activities have not been a core idea of CSR (Ashrafi et al., 2018). Regardless of the differences that exist among these concepts, they have all become an integral part of business discussion (Carroll and Shabana, 2010). In fact, identifying, managing, measuring, and reporting social, environmental, and economic elements of corporate impacts on, responsibilities to, and relationships with different stakeholder groups is the basis upon which each notion is operationalized. The fundamental idea embedded in the contemporary CSR and CS notions is that businesses, in addition to focusing on profits, have an obligation to foster social and environmental stewardship. Different theories of the firm have been applied in business responsibility and sustainability (Bansal and DesJardine, 2014; Gianni, 2017; Hahn et al., 2017), among which institutional,

resource-based, and stakeholder theories are discussed in this study as a rationale for profound ethical, scientific, and practical decisions on CSR and CS, and for driving potential improvements in CSR and CS implementation. Figure 3.2 summarizes the evolution of CSR and CS from their early emergence and the main contributors to the understanding of the fields. It also highlights the tipping point in the implications of resource-based theory, institutional theory, and stakeholder theory in the context of CSR and CS (the mid-1990s), which is when the literature began to emphasize the use of these three theories in CSR and CS studies.

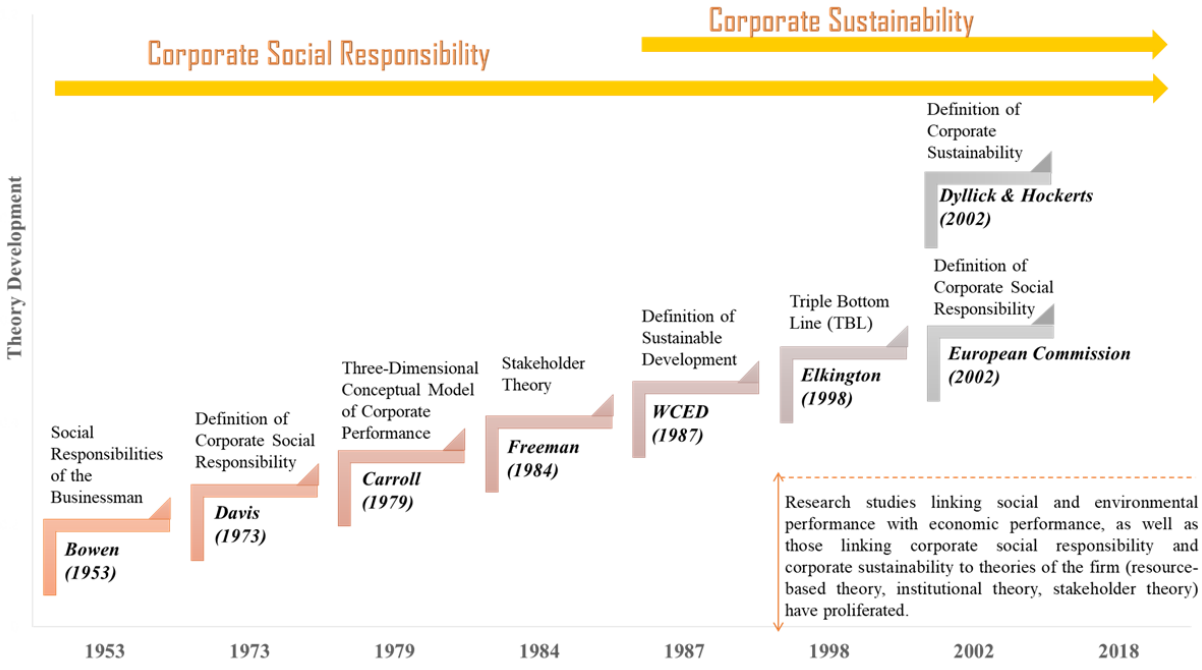

Figure 3.2 Chronology of developmental and evolutionary sequences in CSR and CS

The implications of resource-based theory, institutional theory, and stakeholder theory for CSR and CS can be grounded in an integrative theoretical framework (Figure 3.3). The framework posits that corporate choice of CSR and CS actions and policies is supported by dual driving forces; internal, based on resource-based theory, and external, based on institutional theory. This is to meet the interests and expectations of internal and external stakeholders, the basis upon which stakeholder theory is constructed. The integrative theoretical framework suggests that the three theories of resource-based, institutional, and stakeholder could be used as the primary step in explaining corporate recognition of the need for CSR and CS. It further suggests that these theories of the firm could also be used to promote the identification, development and inclusion of different CSR and CS actions and policies.

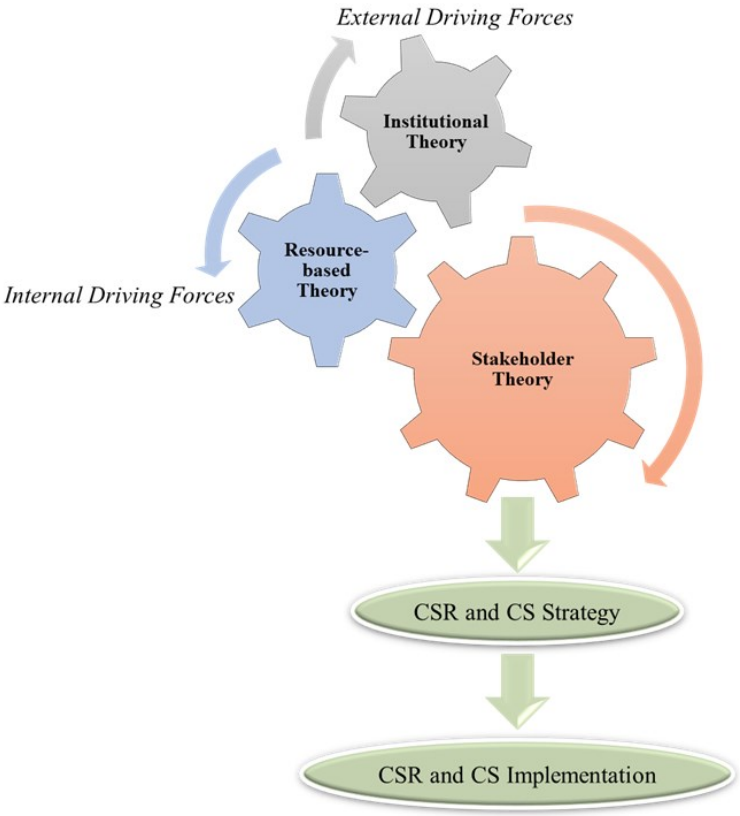

Figure 3.3 Integrative theoretical framework underpinning CSR and CS

Both resource-based theory and institutional theory play a dominant role in CSR and CS research to understand whether, and under which conditions, superior CSR or CS performance will lead to superior competitive advantage and societal values (Hahn et al., 2017). Resource-based theory and institutional theory, indeed, offer complementary explanations for why and how corporations make strategic choices to respond to their environment (Greening and Gray, 1994). Resource-based theory suggests that a corporation's competitive advantage can be achieved by leveraging those internal resources that are valuable, rare, non-substitutable, and not easily imitated by rivals (Barney, 1991). Therefore, heterogeneity in resource-based theory accounts for the generation of competitive advantage (Peteraf, 1993). The theory also stresses that corporate decisions about resource selection are mainly based on the economic rationale within the constraints of limited information, cognitive biases, and causal ambiguity (Oliver, 1997). According to this perspective, corporations adopt CSR and CS policies and actions contingent on corporate power and control over their distinctive internal resources and capabilities (e.g., reputation, in-house knowledge of technology, employment of skilled personnel, trade contacts, equipment, efficient procedures, and capital) to sustain their competitive advantage (Wernerfelt, 1984). Institutional theory, on the other hand, explains non-choice behaviour of corporations constrained by social judgement, historical limitations, and the inertial force of habit (Oliver, 1997). It proposes that corporate strategic choices are based on institutional isomorphic pressures exerted by the social environment, such as cultural norms, symbols, beliefs, and rituals (Powell and DiMaggio, 1991). There is no obvious economic or technical justification; conformity to social expectations is what contributes to corporate success and survival (Oliver, 1997). Based on this perspective,

corporate adoption of CSR and CS strategies might not be driven by profit-making interest nor be entirely economically justified; instead, such actions are largely induced by preconscious acceptance of institutionalized values and practices (Oliver, 1991). The compatibility of institutional theory with resource-based theory can be perceived through recognizing the importance of the social context in addition to the economic context of corporations for corporate survival and success. While the former fulfills the interests and expectations of a broad set of stakeholder groups, which have traditionally included regulatory and governmental agencies, professional associations, interest groups, and public opinion (Scott, 1987), the latter primarily fulfills the interests and goals of a more limited set of stakeholders (e.g., shareholders) in gaining competitive advantage through corporate distinctive internal resources and capabilities.

The inclusion of stakeholder theory, which implies the importance of creating value for all stakeholders, both internal and external (Freeman, 1984), as well as primary and secondary stakeholders (Clarkson, 1995), has provided a greater foundation for shaping CSR- and CS-driven policies and actions. According to this perspective, corporations adopt CSR and CS strategies for both normative, including moral and philosophical principles (e.g., fairness, environmentalism), and instrumental, including connections between stakeholder approaches and corporate desired objectives (e.g., profitability), values of consideration of multi-stakeholders' interests and the establishment of good relations with different stakeholder groups (Hörisch et al., 2014; Freeman and Dmytriyev, 2017). Stakeholder theory provides a foundation for the establishment and development of corporate management, operational, and stewardship plans to meet the interests and expectations of all relevant stakeholders (Herremans et al., 2016). In essence, integrating

the descriptive, normative, and instrumental aspects of stakeholder theory can contribute to creating shared values, which helps to drive and maintain stakeholder relationships (Hörisch et al., 2014). This is in line with creating a shared value goal of contemporary CSR and CS, upon which they are based (Ashrafi et al., 2018). The shared value-creating aspects of CSR and CS are conclusive only when CSR and CS relate to the core business model of a corporation and do not just comprise afterthought or add-on activities (Dembek, 2016).

In general, the actions and influence of stakeholders affect whether corporations choose to engage in CSR and CS, as well as the types of actions pursued (Horak et al., 2018). A greater influence exists when stakeholders are seen to have more power and legitimacy (Schwartz and Carroll, 2008). To this end, the notion of 'stakeholder salience' helps us understand how corporations manage their stakeholder relationships; corporate resource allocation is performed primarily for stakeholders with high salience (i.e., those with the highest levels of power, legitimacy, and urgency) (Mitchell et al., 1997). The management of competing stakeholder interests, however, requires corporations to recognize "the overall stakeholder relationship as a multifaceted, multiobjective, complex phenomenon" (Harrison and Freeman, 1999: p. 484). Corporations are therefore expected to go beyond the traditional logic of stakeholder salience, and to identify and engage 'fringe' stakeholders (i.e., those that are perceived to be non-legitimate, non-urgent, and powerless—even non-human) (Hart and Sharma, 2004). This helps corporations to identify the unit of analysis, beyond the corporation itself, based on their relationships with a broader group of stakeholders (Dembek, 2016) in order to manage disruptive changes and to create new, distinctive ideas shaping the future of business.

3.6. Academic and Managerial Implications

This study adds value to the academic research by following the developmental and evolutionary sequences in business responsibility and sustainability, while contemplating the connections between CSR and CS through the lens of the dominant theoretical perspectives underpinning the concepts. It enables young CSR/CS scholars, in particular, as well as researchers outside the fields to comprehend how CSR and CS are conceptualized and operationalized through theoretical developments. It also provides directions towards using an integrated view for CSR and CS studies, rather than an individual internal view or external view. This study also has managerial implications. It helps managers to comprehend clearly the need to integrate CSR and CS into strategic business decisions and operation processes to enable their corporations to successfully manage competing issues, and to effectively take the lead in their sector by devising and implementing sustainability and responsibility initiatives. Such integration is explained based on resource-based theory, institutional theory, and stakeholder theory, focusing on corporate distinctive internal resources and capabilities, preconscious acceptance of institutionalized values and practices, and finally, consideration of different stakeholder groups when defining corporate values to help corporations to autonomously analyze the conditions under which CSR and CS strategies are formulated, and to predict the ramifications of those strategies once implemented.

3.7. Study Limitations and Suggestions for Future Research

In this study, the CSR and CS literature was reviewed focusing mainly on primary studies in top management journals. While the study attempted to expand the review from as early as 1950 to current trends to address the research objective, it should be acknowledged that

not all studies on CSR and CS within this time frame were included, nor a systematic temporal approach was used, but rather relevant articles were reviewed by following the developmental and evolutionary sequences in business sustainability and responsibility. This is, of course, due to the CSR and CS literature being vast and widely scattered in different disciplines and thus, a major limitation for this narrative review. As much as the study sought all relevant, primary studies on CSR and CS, there may be other studies that could be possibly included to complement the discussion on contributions of resource-based, institutional, and stakeholder theories in the context of CSR and CS. Such a limitation, while presumably unavoidable for a narrative review, may be circumvented in a systematic review. Future studies could expand this review and explore contributions of different theories of the firm in the context of CSR and CS through a systematic review approach. Moreover, while future studies could continue to explore the complex interrelationships between corporate strategy and their implications for social, environmental, and economic sustainability using the integrative theoretical framework, there is also potential in the use of other theories, including legitimacy theory, to evaluate how CSR and CS leadership priorities are impacted. Given that stakeholder theory can play a compelling role in CSR and CS research, future works could examine factors influencing corporate choice of CSR and CS interplaying the internal and external, or those of primary and secondary, stakeholders to better understand how corporations could craft a business plan that is able to manage conflicting strategic imperatives. Best practices related to CSR and CS strategies should also be investigated based on a multi-stakeholder perspective to contribute to the adoption of a corporate business model with a clear focus on delivering sustained values for all stakeholders.

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Chapter 4

A REVIEW OF CORPORATE SUSTAINABILITY DRIVERS IN MARITIME PORTS: A MULTI-STAKEHOLDER PERSPECTIVE

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4.1. Abstract

Maritime ports play a pivotal role in facilitating trade, serving as key nodes in global transport chains. Competitive pressure exists for port managers and operators to search for ways to deliver consistent improvements in productivity and profitability. Additionally, external effects associated with port activities have been given more attention in recent years, thus favouring a holistic integration of sustainability into port planning and operations. In this process, factors driving ports to become more sustainable need to be examined. This study, which is based on a systematic review of literature published since 1987, synthesizes various research perspectives for drivers of corporate sustainability in maritime ports using the lens of stakeholder theory. Thirty drivers of corporate sustainability were identified, classified into ten main drivers and further grouped into five clusters, serving as the basis for development of a multi-stakeholder perspective. This study also discusses examples of actions taken by ports in response to perspectives of various stakeholders using selected case examples from existing literature. This study provides an

understanding of how decisions for adopting corporate sustainability are motivated in ports according to a multi-stakeholder perspective, and highlights how ports have responded to shifts through developing and implementing sustainability strategies using global case examples.

Keywords: Corporate sustainability; Drivers; Maritime ports; Stakeholders; Sustainability strategies.

4.2. Introduction

A growing number of actors throughout the maritime industry, including maritime ports (i.e., port authorities/managing bodies and port operators—herein referred to as 'ports'), across the world are seeking to improve their sustainability performance (Yigit and Acarkan, 2018). This is largely attributed to the maritime industry catching up with international trends related to sustainability agendas, and because the industry is striving to meet expectations of community groups and civil society organizations who are increasingly scrutinizing port activities and demanding more transparency and accountability (Notteboom et al., 2015; Dooms, 2019). The strategic position of ports in supply chain enables them to contribute to the overall sustainability of the industry (Papaefthimiou et al., 2017; Langenus and Dooms, 2018; Poulsen et al., 2018). Several tools are available for ports to help better improve sustainability of the industry. For example, pricing and incentives; monitoring and measuring; market access control; environmental standards regulation; alternative energy supply (e.g., cleaner fuels or renewable energy sources); and a range of emission-reducing technologies (e.g., electrification of cranes or use of hybrid tugboats) (Anastasopoulos et al., 2011; Acciaro et

al., 2014a; Lam and Notteboom, 2014; Balbaa and El-Amary, 2017; Misra et al., 2017; Poulsen et al., 2018).

Embedding sustainability into a port's strategic plans can be achieved through a corporate sustainability (CS) approach. In the context of ports, CS refers to a port strategy for creating value in the social, environmental, and economic spheres in ways that not only meet the needs of current stakeholders but of those in the future (Dyllick and Hockerts, 2002; AAPA, 2007; Oh et al., 2018). CS can provide opportunities for ports to demonstrate their contributions to sustainable development through meeting environmental and social objectives while balancing profitability and growth. Nevertheless, CS implementation is complex as oppositional elements co-exist (Hahn et al., 2015). This makes it particularly challenging, yet imperative, for ports to identify, manage and measure drivers of CS implementation, and systems and structures that can be created to effectively boost CS performance. A careful identification and evaluation of CS drivers can help corporations ensure success of their strategy implementation process (Epstein and Roy, 2001). A number of CS drivers have been identified in the literature to explain influential factors that lead corporations to adopt CS actions and policies (Bansal and Roth, 2000; Schrettle et al., 2014; Lozano, 2015; Brockhaus et al., 2017). However, there is a paucity of scholarly work that singularly focuses on drivers of CS implementation in maritime ports (Ashrafi et al., 2019). Moreover, as ports increasingly become more accountable to a broader set of stakeholders than was typical historically (Dooms et al., 2013), influences of each stakeholder perspective on all facets of port strategic management are important and should be recognized. Also, although several studies focused on CS innovations in ports (Hall et al., 2013; Acciaro et al., 2014b; Hiranandani, 2014; Acciaro, 2015), the linkages between

CS drivers specific to the port context, and innovation development and adoption processes that foster CS implementation are yet to be investigated (Ashrafi et al., 2019). This study aims to fill these gaps through addressing the following research questions: *What are the drivers of CS implementation in maritime ports in a multi-stakeholder perspective?* and *What are the port responses to these drivers?* The novel approach used in this study is the identification of CS drivers in ports using the lens of stakeholder theory. This study also sheds light on leading practices that have been adopted by ports around the world to implement CS in response to various drivers, considering a multi-stakeholder perspective. This study ultimately provides a comprehensive review of what drives ports to implement CS within their business model and how ports can translate various drivers successfully into purpose, strategy, and operations.

4.3. Theoretical Foundations

The inclusion of stakeholder theory, which implies the importance of creating value for all stakeholders, has provided stronger support in shaping CS-driven policies and actions (Branco and Rodrigues, 2006; Freeman and Dmytriyev, 2017). Stakeholders, as defined by Edward Freeman (1984), are "any group or individual who can affect or is affected by the achievement of the organization's objectives" (p. 46). As the number of stakeholders of a corporation could be quite vast, previous studies suggest the type and classification of stakeholders should be based on the corporate purpose and consider the contextual dynamics (Dooms and Macharis, 2003). Regardless of the need for a case-by-case approach to classify stakeholders, stakeholders could generally be placed within the broad categories of internal and external stakeholders (Freeman, 1984), or of primary and secondary stakeholders (Clarkson, 1995). The latter is an extension of Freeman's

classification based on the formal and informal relationships stakeholders have with a corporation (Kumar et al., 2016). Several researchers have discussed stakeholder relationships in the context of ports (Table 4.1) and suggest that support from multiple port stakeholders leads to a more successful implementation of strategic management decisions (Becker and Caldwell, 2015; Notteboom et al., 2015). Stakeholder pressure is indeed a relevant motivational element for improved CS performance (Govindan and Bouzon, 2018), and has the largest total effect on sustainability practice and business performance in maritime industry (Yuen et al., 2017).

Ports, in addition to aligning interests of employees, management, and shareholders, serve and interact with a diverse group of stakeholders including terminal operators, vessel operators, railways, trucking companies, industry associations, communities, government agencies, and Indigenous groups. Although managing such relationships is critical to the survival of ports, it is undoubtedly complex as port stakeholders often have incompatible and complex interests and expectations (Da Cruz et al., 2013) that can exert pressure in social, environmental, and economic perspectives (Denktas-Sakar and Karatas-Cetin, 2012). For instance, shipping companies may put economic pressure on ports as they seek economies of scale from larger vessels, which in turn require ports to dredge deeper navigation channels and adapt berths and cargo handling equipment. At the same time, local communities exert social pressure, such as demanding reduced environmental impacts. Moreover, different stakeholders have unequal power and influence over port functions, the greater their power, the greater the pressure they apply on port managerial decision-making (Denktas-Sakar and Karatas-Cetin, 2012). Understanding this multi-

stakeholder perspective can better inform managerial planning and decision making (Govindan and Hasanagic, 2018).

Identifying drivers of CS can help corporations achieve success in strategic planning and implementation (Epstein and Roy, 2001). Schrettle et al. (2014) discussed two mechanisms for influencing corporate response to CS moves. First, external influences, such as regulations and legislations, may impose pressure on corporations to adopt CS strategies to mitigate regulatory and compliance risks and avoid legitimacy challenges. This is true in relation to ports as well. Previous studies found that ports are likely to introduce CS initiatives as a result of demands from local government, a highly salient stakeholder of ports, while being supported by NGOs and Media (Bergqvist and Egels-Zandén, 2012). Second, internal motivations, such as seeking competitive advantage through resource efficiency, for example, influence individual corporations to adopt new CS strategies (Schrettle et al., 2014). Again, this mechanism also applies to ports, as studies have found that CS policies and actions can contribute to enhancing port competitiveness (Anastasopoulos et al., 2011; Da Cruz et al., 2013; Moon and Woo, 2014; Kim and Chiang, 2017). Therefore, independent of whether it is because of external influences or in the attempt to capture new opportunities and build on existing competitive advantages, ports must understand how both internal and external stakeholders interactively stimulate CS implementation in their organization, and how to respond effectively and efficiently. This study focuses on drivers of CS implementation in ports, taking into account a multi-stakeholder perspective, and also examines various actions taken by ports in relation to these drivers and their linkage to the multi-stakeholder perspective.

Table 4.1 Previous studies on stakeholder relationships in ports

Research themes	***Source***
Stakeholder salience (i.e., which stakeholders are most likely to influence ports)	(Bergqvist and Egels-Zandén, 2012)
Stakeholder influences on port sustainability	(Denktas-Sakar and Karatas-Cetin, 2012)
Perspective of port stakeholders on key factors of port competitiveness	(Da Cruz et al., 2013)
Stakeholder inclusion for long-term strategic port planning	(Dooms et al., 2013; Ravesteijn et al., 2014)
Perspective of port stakeholders on implementation of Environmental Management System (EMS)	(Le et al., 2014)
Adoption of strategies for disseminating information to different port stakeholders	(Cutroneo et al., 2014; Notteboom et al., 2015)
Perspective of port stakeholders on implementation of port resilience strategies	(Becker and Caldwell, 2015; Becker et al., 2015)
Perspective of port stakeholders on port sustainability indicators	(Shiau and Chuang, 2015)

4.4. Research Method

A systematic review of the literature was conducted using a four-step methodology approach adopted from Seuring and Gold (2012), similar to recent reviews in maritime logistics, ports and supply chain management (Davarzani et al., 2016; Govindan and Bouzon, 2018; Govindan and Hasanagic, 2018). Systematic reviews differ from traditional narrative reviews by adopting a replicable, scientific and transparent process; in other words, provide a detailed description of the steps taken by the researchers to minimize bias

concerning how the review was performed (Tranfield et al., 2003). The main steps are illustrated in Figure 4.1. Details of each step are explained in subsequent subsections.

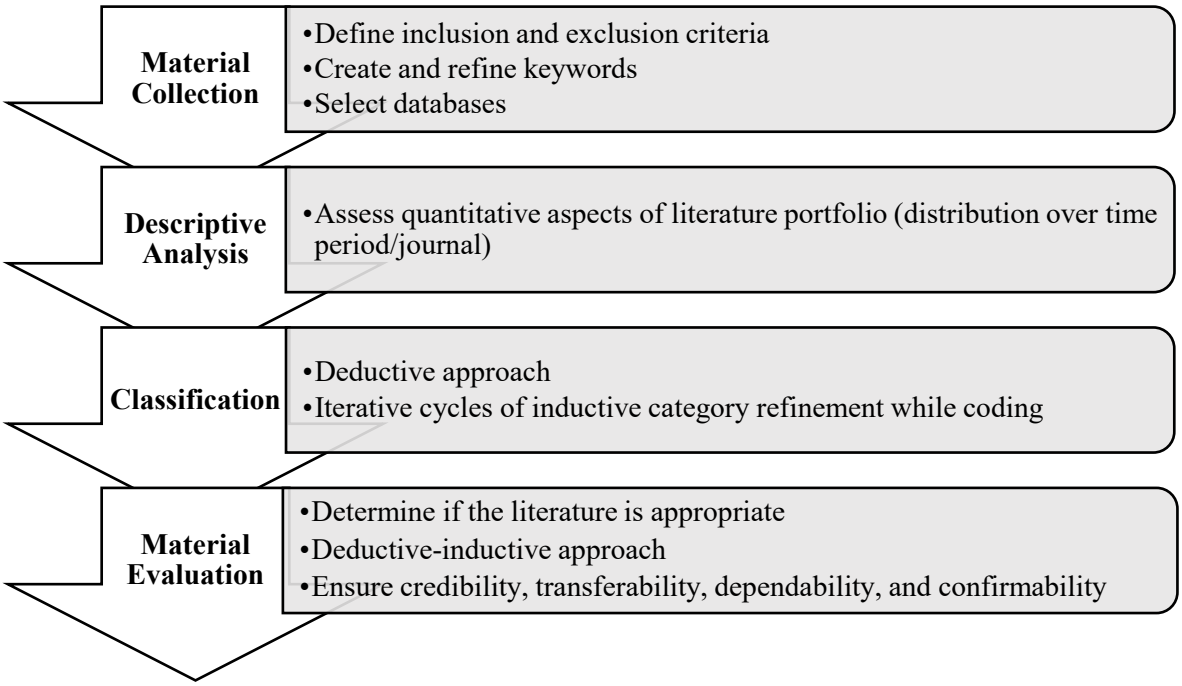

Figure 4.1 Research Process

4.4.1. Material Collection

Relevant literature was identified using a multi-step process, which was designed to assure that the scope and delimitation of this study is clear and appropriate.

(i) The review included only peer-reviewed journal articles, which represent the primary mode of communicating knowledge among researchers; therefore, they can be used as the unit of analysis (Crossan and Apaydin, 2010).

(ii) The review focused only on literature in English, covering the period from 1987 [when the most cited definition of sustainable development from the World Commission on Environment and Development (WCED) report *Our Common*

Future, also known as the *Brundtland Commission Report*, was published] to July 2018 [when this study was initiated].

(iii) The keyword search was carried out through several trial and error attempts. The initial set of keywords was defined based on the authors' experience and keywords used in other sustainability and maritime sector articles. After checking initial search results, further steps were taken to ensure that identified articles were relevant and deal with the research topic. This included a quick content check and updating the keywords accordingly. Through this process, a structured search for keywords was designed combining a two-level search structure to systematically search the literature to identify relevant articles (Table 4.2).

Table 4.2 Proposed two-level literature review search structure

Search Keywords
port **OR** seaport **AND** "sustain*" **OR** CS **OR** "corporate responsibility" **OR** CR **OR** stakeholder **OR** green **OR** "environment*" **OR** "corporate social responsibility" **OR** CSR

Note: The asterisk was used for "sustain" and "environment" to broaden the search and to retrieve all variations of these terms, such as sustainability, sustainable development, corporate sustainability, sustainable ports, environmental management, environmental performance, environmental responsibility.

(iv) Selected keywords (Table 4.2) were placed inside the search engine of Scopus and Web of Science databases to obtain all available literature that contain the selected keywords in their 'title'. The keyword search was first conducted in the Scopus database (www.scopus.com), which provides comprehensive coverage of high-quality scientific data and literature. Moreover, the Web of Science database (www.webofknowledge.com), which includes ISI-indexed journals, a trusted venue for high quality peer-reviewed publications, was used to improve validity and reliability of the keyword search. One limitation of the Scopus database is limited access to publications prior to 1996 (Davarzani et al., 2016), but using the Web of Science database strengthened the search to identify articles published before 1996.

4.4.2. Descriptive Analysis

A descriptive data analysis was used to examine the descriptive specification of the literature. The literature review resulted in a total of 732 articles from both Scopus and Web of Science databases. Search results were stored in RIS format and imported to EndNote bibliography software. Duplicated articles were eliminated, resulting in 475 articles. The main objectives of this study were to identify drivers of CS implementation in ports and port responses to these drivers; therefore, after examining the articles' abstracts and a quick content check when necessary, non-relevant articles were excluded (Table 4.3).

The pool was, subsequently, narrowed down to 112 articles published between January 1987 to July 2018. Each of the articles was thoroughly examined to address the research objectives, out of which 41 directly contributed. Roughly 60% of the articles have been published in the last five years, highlighting the increasing importance of sustainability-

related concerns among port economics and management researchers. Moreover, the articles are distributed among 26 journals, suggesting the emergence of port-sustainability research across a range of academic specializations, such as business management, environmental science and management, and public policy. Twelve more data sources, including peer-reviewed articles, book chapters, and port websites, were added from a representative set of relevant studies to provide supplementary information for the discussion on port responses to CS drivers, bringing the total number of data sources to 53.

Table 4.3 Examples of irrelevant subject areas

Theme	***Examples of studies***
Science aspects of ports	Studies relating to water circulation and sediment transport and deposition in ports, concentrations of hydrocarbons and other heavy metals in ports marine environment, or phytoplankton numbers and species at ports
Health science aspects of ports	Case studies relating to exposure of local communities to port pollution
High technical aspects of ports	Studies relating to Information and Communication Technology (ICT) solutions for increasing workers' safety at ports, or use of wave-driven seawater pumps, electric rubber-tired gantries, or underwater passive acoustic technologies in ports.

4.4.3. Classification

Two classification schemes were used to systematically organize the articles: structural dimensions and analytical categories. The structural dimensions were established deductively based on the research objectives (i.e., drivers of CS in ports and port responses). The analytical categories were derived both deductively and inductively. Some were first derived deductively based on stakeholder theory with previously defined categories and precise definitions identified by previous studies. Others were derived inductively from material under examination, employing an iterative process of category building, testing, and revising by constantly comparing categories and data. This means that the final set of articles selected for review was thoroughly examined in full, and both the drivers and port responses identified in the articles were organized based on the analytical categories using Microsoft Excel.

4.4.4. Material Evaluation

Trustworthiness was used to ensure validity and reliability of the study (Lincoln and Guba, 1985). Four criteria of credibility, transferability, dependability, and confirmability were used for enhancing trustworthiness. Credibility as an analog to internal validity was ensured through use of different data sources within the same method (data source triangulation). Transferability, as an analog to external validity, was ensured by setting suitable sampling criteria and developing classification schemes based on existing theory and research. This facilitated building coherent and consistent refinements to be transferable to other contexts or settings (thick description). An audit trail (a thorough and detailed documentation of data collection, analysis, and interpretations) was also maintained to ensure dependability (as an analog to reliability) and confirmability (as an

analog to objectivity), whereby an external research colleague evaluated dependability and confirmability through examination of both the process and the product of the research for consistency.

4.5. Content Analysis

Qualitative content analysis, using Microsoft Excel, was conducted to analyze the content of the articles. Qualitative content analysis is a data analysis technique that goes beyond merely counting words to interpreting the underlying context and inferred meanings of the content for the purpose of classifying large amounts of text into an efficient number of categories that represent similar meanings. In this study, qualitative content analysis is based on the definition by Hsieh and Shannon (2005) as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (p. 1278).

A directed approach was employed to content analysis in which the passages are highlighted using the predetermined codes from existing literature (Hsieh and Shannon, 2005). The analytical categories derived deductively from previous research are those stakeholder groups that influence performances of ports, namely shareholders/owners; regulatory agencies; civil society; employees; contractors and suppliers; customers; and competitors (Notteboom, 2006; Denktas-Sakar and Karatas-Cetin, 2012; Da Cruz et al., 2013; Notteboom et al., 2015; Wagner, 2017; Dooms, 2019). Concurrent with analyzing the passages through directed content analysis (based on the above-mentioned seven analytical categories), new codes were also derived inductively from material under examination; these were later merged with the existing codes. A few examples of

inductively derived codes are Media, local communities, and NGOs which were later merged into the main analytical category of 'civil society'.

Based on the analysis, a total of 30 basic categories of CS drivers in ports were identified (Table 4.4). In the next step, basic categories were subsumed under main categories based on their similarities and meaning. A total of 10 main categories of CS drivers in ports were constructed and further classified into five clusters, serving as the basis for development of the multi-stakeholder perspective. The five clusters of social-related factors, policy-related factors, economic-related factors, market-related factors, and governance-related factors emerged inductively from the analysis inspired by previous classification schemes found in the literature (e.g., Govindan and Bouzon, 2018). The inductive cluster formation approach was used to arrive at summarizing categories directly, which emanates from the material itself, not from theoretical considerations (Mayring, 2014).

Port responses were also derived from the reviewed studies and augmented in the final analysis; based on the identified seven stakeholder groups and the newly emerged categories, examples of actions taken by ports to attain sustainability objectives in their businesses were identified and delineated to provide a representative set of observations from the existing literature. The discussion on port responses to CS drivers was later framed based on the developed multi-stakeholder perspective.

Table 4.4 Drivers of CS implementation in ports classified into clusters

CS Drivers: Basic categories	*CS Drivers: Main Categories, and Clusters*	*Authors*
1. Good public image 2. Social licence to operate 3. Legitimacy from local communities 4. Social legitimacy 5. Social pressure 6. Media 7. NGOs	**Social-related factors** D1. Social legitimacy D2. Social license to operate	(Kolk and Van der Veen, 2002; Grewal and Darlow, 2007; Darbra et al., 2009; Bergqvist and Egels-Zandén, 2012; Dinwoodie et al., 2012; Dooms et al., 2013; Giuliano and Linder, 2013; Hall et al., 2013; Parola et al., 2013; Acciaro et al., 2014a; Acciaro et al., 2014b; Bergmans et al., 2014; Hiranandani, 2014; Lam and Notteboom, 2014; Acciaro, 2015; Notteboom et al., 2015; Puente-Rodríguez et al., 2016; Roh et al., 2016; Ahl et al., 2017; Kang and Kim, 2017; Poulsen et al., 2018)
8. Multi-level regulation 9. Regulatory compliance 10. Regulatory pressure 11. Regulatory license to operate	**Policy-related factors** D3. Regulatory compliance D4. Regulatory license to operate	(Kolk and Van der Veen, 2002; Grewal and Darlow, 2007; Darbra et al., 2009; Wiegmans and Geerlings, 2010; Giuliano and Linder, 2013; Hall et al., 2013; Acciaro et al., 2014a; Acciaro et al., 2014b; Bergmans et al., 2014; Hiranandani, 2014; Lam and Notteboom, 2014; Le et al., 2014; Puente-Rodríguez et al., 2016; Santos et al., 2016; Ahl et al., 2017; Kang and Kim, 2017; Poulsen et al., 2018; Woo et al., 2018)

CS Drivers: Basic Categories	*CS Drivers: Main Categories, and Clusters*	*Authors*
12. Direct economic benefits 13. Economic growth 14. Operational efficiency 15. Reduce costs 16. Cost saving 17. Business case 18. Competition 19. Competitive advantage 20. Increased competitiveness 21. Competitive pressure	**Economic-related factors** D5. Competitive advantage D6. Business growth	(Darbra et al., 2009; Bergqvist and Egels-Zandén, 2012; Dinwoodie et al., 2012; Giuliano and Linder, 2013; Hall et al., 2013; Acciaro et al., 2014a; Acciaro et al., 2014b; Hiranandani, 2014; Lam and Notteboom, 2014; Le et al., 2014; Acciaro, 2015; Puente-Rodríguez et al., 2016; Ahl et al., 2017; Kang and Kim, 2017; Poulsen et al., 2018; Woo et al., 2018)
22. Buyer-driven demands 23. Market players pressure 24. Customer demands 25. Competitor pressure	**Market-related factors** D7. Market players and competitor pressure D8. Customer demands	(Kolk and Van der Veen, 2002; Parola et al., 2013; Acciaro et al., 2014a; Acciaro et al., 2014b; Bergmans et al., 2014; Acciaro, 2015; Poulsen et al., 2018)
26. Collaboration 27. Coopetition 28. Ethical motivation for preserving environment 29. Ecological ethical pressure 30. Social responsibility	**Governance-related factors** D9. Cooperation D10. Ethics (Environmental and social responsibility)	(Bergqvist and Egels-Zandén, 2012; Lam and Notteboom, 2014; Acciaro, 2015; Puente-Rodríguez et al., 2016; Roh et al., 2016; Poulsen et al., 2018; Yoshitani, 2018)

4.6. Discussion

4.6.1. Port Multi-Stakeholder Perspective for CS Implementation

Stakeholder theory stresses the identification and consideration of both internal and external stakeholders (i.e., those who either are influenced by or can influence port decisions in adopting CS) as part of corporate strategic management (Freeman, 1984; 2010). Hence, the CS clusters were further linked to ports' internal and external stakeholder groups, and then grouped into four perspectives: governmental, societal, market, and organizational. This subsequently unfolds into a comprehensive multi-stakeholder perspective (Figure 4.2).

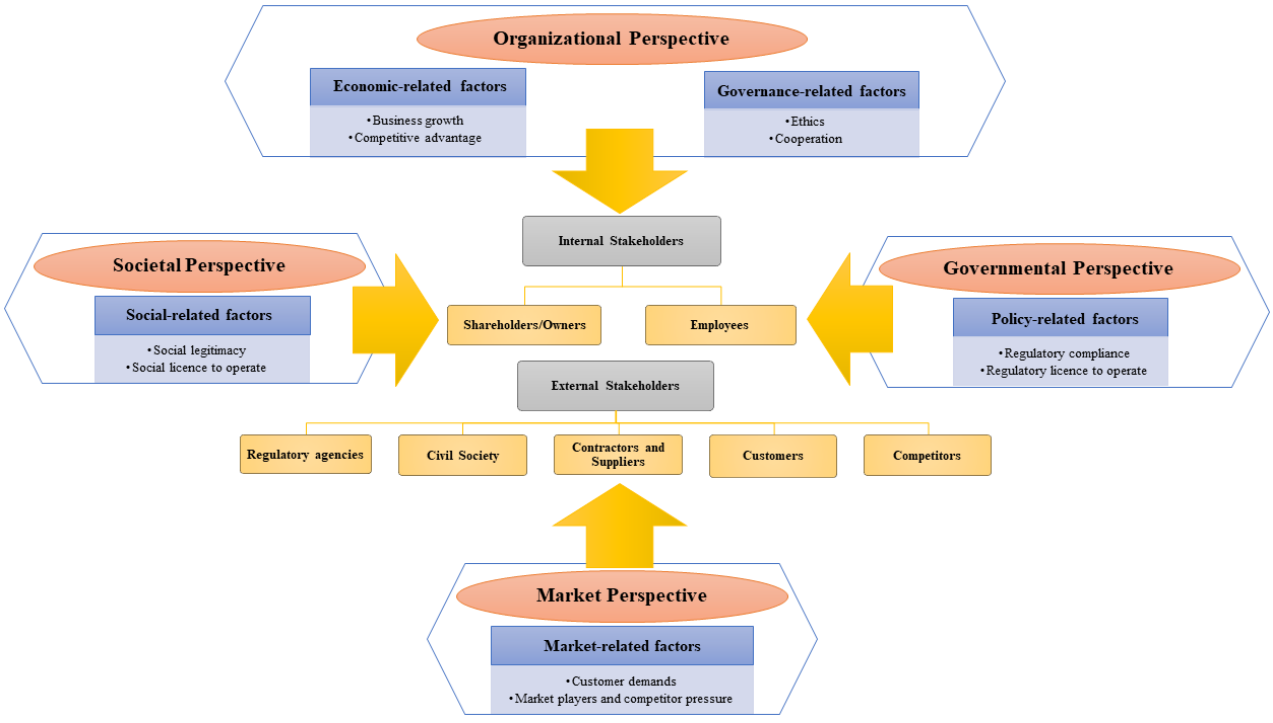

Figure 4.2 Port multi-stakeholder perspective for CS implementation

From the governmental perspective, ‘policy-related factors’ are considered as the external drivers to ports. External stakeholders within this group include the international, state, federal and local governments and regulatory agencies. From the societal perspective, ‘social-related factors’ are classified as the external drivers to ports. External stakeholders linked to ‘social-related factors’ are civil society, including local communities, NGOs, Media, and scientific institutions. From the market perspective, ‘market-related factors’ are linked to external stakeholders of customers and competitors. From the organizational perspective, ‘economic-related factors’ are linked to internal stakeholders which include shareholders/owners, whereas ‘governance-related factors’ are linked to both internal and external stakeholders. External stakeholders of ‘governance-related factors’ are regulatory agencies, civil society, contractors and suppliers, customers, and competitors, while internal stakeholders include employees (top management and union and non-union workforce). Although each of these stakeholders do not have equal power to influence ports, nor is their power static; each has different interests and expectations and is subsequently considered as a different source of influence on a port’s strategic plan (De Langen, 2006; Hall et al., 2013).

4.6.2. Port Responses to CS Drivers according to a Multi-Stakeholder Perspective

Several case examples of CS strategies and practices implemented by maritime ports in relation to CS drivers were analyzed and described to shed light on leading practices that have been adopted by ports around the world. Each stakeholder perspective with its associated CS drivers, as well as port case examples is presented in Table 4.5.

Figure 4.5 Port responses to CS drivers according to a multi-stakeholder perspective

Stakeholder Perspective	***CS Driver***	***Maritime Port***	***CS Strategy***
Governmental Perspective	▪ Regulatory compliance ▪ Regulatory license to operate	Port of Rotterdam	▪ World Ports Climate Initiative ▪ EcoPorts Self Diagnosis Method and Port Environmental Review System ▪ International Maritime Organization ▪ European Union Sulphur Directive 2016/802
Societal Perspective	▪ Social legitimacy ▪ Social license to operate	Port of Los Angeles Port of Long Beach	▪ Clean Air Act Plan
Market Perspective	▪ Market players and competitor pressure ▪ Customer demands	Port of Vancouver	▪ Shore Power installation
Organizational Perspective	▪ Competitive advantage	Port of Gävle	▪ Circular Economy application
	▪ Business growth	Port of Rotterdam	▪ Pronto
		Port of Auckland	▪ Vehicle Booking System
	▪ Cooperation	Port of Seattle Port of Tacoma	▪ Pacific Northwest Seaport Alliance
	▪ Ethics (Environmental and social responsibility)	Flinders Port	▪ Partnership arrangements with small and medium-sized enterprises (SMEs)

4.6.2.1. Governmental Perspective

This perspective includes port responses to policy-related factors such as initiatives developed to address regulatory compliance and regulatory licence to operate in both national and international arenas, as well as mandatory and voluntary policy mechanisms established by government agencies and bilateral and multilateral organizations. An example of an international voluntary initiative is the World Ports Climate Initiative (WPCI) aiming to reduce greenhouse gas (GHG) emissions and other environmental impacts of maritime transport at sea, in ports, port cities and their hinterlands. It was launched in July 2008 by the International Association of Ports and Harbors (IAPH) to provide maritime industry, ports in particular, with guidance towards lowering GHG emissions and promoting a path to more sustainable development (Nursey-Bray, 2016). In 2018, IAPH, in a joint program with the American Association of Port Authorities (AAPA), the Worldwide Network of Port Cities (AIVP), the European Sea Ports Organization (ESPO), and the World Association for Waterborne Transport Infrastructure (PIANC), launched the World Ports Sustainability Program (WPSP) to demonstrate global leadership of ports in contributing to the United Nations Sustainable Development Goals (UN SDGs) (Bergqvist and Monios, 2019).

There are also voluntary initiatives at the regional level. For instance, in North America the Green Marine program assists the North American ports, terminals, ship-owners, shipyards and seaway corporations to reduce their environmental footprint and measure their progress towards improved environmental performance (Walker, 2016; Hossain et al., 2019). In Europe, EcoPorts, which has been fully integrated into the ESPO since 2011, is the primary environmental initiative for European ports. It creates a level playing field for

ports to share knowledge and improve their environmental management through the Self Diagnosis Method (SDM) and Port Environmental Review System (PERS) tools (Darbra et al., 2004; Puig et al., 2015). Such voluntary initiatives aim to inspire a myriad of actions to help ports reduce their impacts while continuing as centres of trade and associated commerce.

There have also been specific regulations developed for shipping to address sustainability-related issues which compel ports to step up and take responsibility for leading the transition of the sector to a sustainable one. For example, in 2005, the International Maritime Organization (IMO), an agency of the UN, adopted amendments to the MARPOL Convention to establish standards for reducing SO_x, NO_x, and particulate matter (PM) emissions from ocean-going vessels. In May 2008, the IMO's Marine Environment Protection Committee (MEPC) approved additional regulations (Annex VI) to progressively reduce SO_x emissions from ships to 3.5% and 0.5% effective January 1, 2012 and January 1, 2020, respectively. Additionally, the revised IMO regulations imposed more stringent SO_x reductions in emission control areas (ECAs) to 1% effective July 1, 2010 and 0.1% effective January 1, 2015. ECAs are established in the North Sea, the Baltic Sea, the North American area, and the United States Caribbean Sea area (Knatz, 2009; Henttu and Hilmola, 2011).

The European Union (EU) also has expressed concerns about impacts of maritime transport on air quality and reported emissions generated by ships while at berth as a major concern for air pollution, which again encourages fostering sustainable logistics by ports. The EU recommended focused research on actions to develop renewable energy sources and on cleaner and more efficient energy use. This has led to establishment of Directive

2012/33/EU (which implementation validity ended on June 2016) and Directive 2016/802/EU now in force as an amendment to Directive 1999/32/EU for sulfur content in marine fuels. The Directives of 2012/33/EU and 2016/802/EU were amended in order to further adopt the EU legislation to the MARPOL Annex VI (EP and the Council, 2016; Tichavska et al., 2017; Di Vaio and Varriale, 2018). In addition, Directive 2014/94/EU requires all EU ports to prioritize shore power and LNG bunkering availability (Aregall et al., 2018). Development of such initiatives, standards, and regulations indicates increasing pressure on ports to contribute to the achievement of sustainable development through both voluntary and mandatory compliance.

The CS-related regulations and policies are indeed critical driving forces for ports to move towards sustainable development. Different ports, depending on their geographical location, comply with several mandatory and voluntary regulations and initiatives. This in turn enables the individual ports to position themselves as industry leaders for sustainability. In Europe, the Port of Rotterdam, for example, may plan and act according to a set of CS-related regulations and initiatives, such as:

- Being one of the participating WPCI ports (Merk, 2013);
- Being a member of EcoPorts SDM and PERS;
- Committed to comply with the IMO and EU Sulphur Directive 2016/802 (Port of Rotterdam, 2015).

4.6.2.2. Societal Perspective

This perspective includes port responses to social-related factors linked to social legitimacy, social licence to operate, good public image, Media, and NGOs. Establishing

social legitimacy in corporations could lead to gaining a social licence to operate (SLO), which is defined as a constraint on a corporation to meet societal expectations that mainly require taking actions 'beyond compliance' (Gunningham et al., 2004). The ability of ports to gain a SLO depends on the presence of an effective stakeholder engagement strategy moving from ad-hoc involvement to continuous inclusion (Dooms et al., 2013). Both Media and NGOs, in particular, have a substantial role to play in highlighting serious shortcomings including sustainability. A good example of adopted CS strategies linked to improving SLO is the San Pedro Bay Ports Clean Air Action Plan (CAAP) adopted by the Port of Los Angeles and the Port of Long Beach. The CAAP was originally adopted by the ports in 2006 when the ports were running the risk of losing their SLO and had to address public concerns to gain support for further growth. The CAAP intends to greatly accelerate the reduction of port-related emissions and related health risks (Knatz, 2009; Giuliano and Linder, 2013). It comprises a number of strategies to reduce pollution from every source, including:

- Clean Trucks Programs, such as banning pre-1989 trucks in 2008 and pre-2007 trucks in 2012 from entering the ports, and currently restricting new trucks entering the ports to be 2014 or newer model year, but only those that joined the Port Drayage Truck Registry (PDTR);
- Vessel pollution reduction programs, such as speed reduction, switching to low-sulfur fuel, and providing shore power;
- Advanced new technology for harbor craft, such as the world's first hybrid tugboat (San Pedro Bay Ports, 2017).

The CAAP highlights a situation where the adoption of CS strategies and practices was mainly due to pressures from civil society. It emerged to address expectations of external stakeholders; not only were ports required to take bold actions as landlords addressing their CS performance, but provided leverage to influence port tenants to implement CS requirements in the absence of a specific regulatory mechanism (Knatz, 2009).

4.6.2.3. Market Perspective

This perspective includes port responses to market-related factors such as responses to pressure from the main market players, competitors, and customers which influence CS implementation. One notable example is the shore power installation by the Port of Vancouver in Canada. The project was supported through contribution and commitments of various stakeholders, including the Government of Canada, the British Columbia (BC) Ministry of Transportation, Holland America Line, Princess Cruises, BC Hydro, and Port of Vancouver. This close partnership among different port stakeholders exemplifies the significant role of external stakeholders to influence the adoption of CS practices.

This innovation was adopted as a result of both market pressure and competitor pressure. In the first instance, Princess Cruise Lines, followed by its sister company Holland America, brought the idea of shore power to Vancouver after being prompted to reduce its air emissions at the popular cruise destination of Juneau, Alaska. Pressure was also brought to bear by the San Pedro Bay Ports, which is an inlet on the Pacific Ocean coast of Southern California, USA, where this technology was already in place (Hall et al., 2013) and was considered to be a competitor to the Port of Vancouver. In 2009, the new shore power facility at the Canada Place cruise ship terminal at the Port of Vancouver became the first in Canada and third in the world to offer shore power for cruise ships.

Shore power enables ships to plug into land-based electrical power grid and shut down their diesel generators while docked. It reduces fuel consumption of ships while at berth, thereby reducing air emissions in the port area. It also reduces noise associated with auxiliary engines of ships at berth (Port of Vancouver, 2018). Ports can adopt other CS strategies to incentivize the use of shore power, for example, through subsidizing the electricity price or offering a discount rate on port dues. For instance, the Port of Gothenburg in Sweden currently charges no fee for the shore power provided. Also, vessels connected to an onshore power supply are given a higher score in the indexes on which the environmentally discounted port charge is based (Bergqvist and Monios, 2019).

4.6.2.4. Organizational Perspective

This perspective includes port responses to economic-related factors linked mainly to competitive advantage, through cost reduction, and business growth. An example of competitive advantage being realized through cost reduction is the application of the circular economy (CE) concept in the Port of Gävle in Sweden. The Port of Gävle utilized contaminated dredged materials to create new land, fulfilling two purposes: port expansion, and the encapsulation of polluted materials that would otherwise be too costly to manage or treat (Carpenter et al., 2018). The costs associated with *ex-situ* management of dredged sediments, such as extensive trucking requirements and related GHG emissions, permitting requirements, and monitoring of the disposal site, would be considerably higher than that for *in-situ* management. Instead, the Port of Gävle utilized dredged sediments as a resource to create new land areas by using several approaches of the CE. For instance, sediments contaminated with heavy metals were converted to non-hazardous form by blending with by-products from energy and local steel productions (fly ash and Merit) through a

stabilization/solidification method. Therefore, dredged contaminated sediments (that would normally require further actions for handling, storage, transport, and disposal) and waste from energy and steel production companies (some of which would require landfill disposal) were effectively reused (Carpenter et al., 2018). Applying CE concepts in this manner can create value for ports through restoration, regeneration, and reuse of natural capital as efficiently as possible, enabling them to deliver revenue-generating, cost saving and improved CS performance.

Not all CS innovations reduce costs, but instead may improve performance of the sector and drive growth. For instance, continuous improvement in operational efficiency of ports, such as improvements of berth productivity (faster loading and discharge capability) or simplification of the administration process might not reduce cost for ports *per se*, but it improves cost effectiveness of the port for other industry stakeholders and hence indirectly contributes to its business growth (Kontovas and Psaraftis, 2011). For example, researchers have found that quicker turnaround time in ports resulting from improved port operations contributes to reduced operating costs and reduced CO_2 emissions for visiting ships (Moon and Woo, 2014). On a related note, less time spent in ports enables ships to travel at lower speed; speed reduction can subsequently lower air emissions, fuel consumption and costs (Chang and Wang, 2012). Ports can thus positively affect both the financial and the two other social and environmental bottom lines of marine and land-based transportation companies by enhancing their own operational efficiency. One example is Pronto at the Port of Rotterdam, which utilizes a digital application accessible to shipping companies, agents, terminal operators and other service providers to optimally plan, execute and monitor all activities during a port call based on standardized data exchange (IAMSP,

2018). An example to improve effectiveness and efficiency of port operations that has resulted in improved road haulage is the vehicle booking system (VBS), implemented by the Port of Auckland in 2007. The VBS, a web-based booking system requiring trucks to book slots in advance, was designed to streamline the supply chain. It has led to reduced truck queues and a subsequent reduction in fuel costs and air emissions (Aregall et al., 2018). Improving port operational efficiency affects the efficiency along the entire value chain (Poulsen et al., 2018), and can therefore be a major factor in customer recruiting and retention and influence longer-term capture of greater market share and business growth.

The organizational perspective also includes port responses to governance-related factors such as value creation through cooperation (e.g., collaboration, coopetition) and ethics (including top management awareness and commitment to environmental and social responsibility), as well as maintenance of long-term relationships with various stakeholders. Cooperation enables ports and stakeholders to pool resources for mutual benefits in jointly addressing common CS-related problems (Barnes-Dabban et al., 2018). An example of cooperation is 'coopetition' which convenes a pattern of competition and collaboration between ports. Coopetition, a type of strategic alliance, can help ports to enhance their market power and maintain a viable and successful business in the ever-increasing competitive and globalized environment (Song, 2003; Denktas-Sakar and Karatas-Cetin, 2012). An example of this is the Pacific Northwest (PNW) Seaport Alliance; formulated in 2015 between Port of Seattle and Port of Tacoma which had been in fierce competition for decades. The PNW Seaport Alliance is a 10-year agreement with equal partnership from the two ports that permits a unified front for the purpose of capital investment in either of the ports (Yoshitani, 2018). While the main motivation appears to

be improved joint competitive advantage through enhancing customer service and therefore increasing overall growth, the two ports can improve efficacy of research and development through collective efforts and resource pooling. This could contribute to promoting CS performance in environmental and social areas as well. The PNW Seaport Alliance has improved CS performance with various initiatives, such as the Northwest Ports Clean Air Strategy (adopted in collaboration with the Port of Vancouver in 2007) to reduce diesel PM and GHG emissions; a stormwater management program; wetland and habitat restoration projects; and renewable energy and recycling plans (The Pacific Northwest Seaport Alliance, 2017). Other elements of mutual benefits in regard to CS-related cooperation include sharing of management practices, environmental and safety issues, and education on maritime best practices (Lam et al., 2013). It is important for ports to identify value creation opportunities through the establishment and maintenance of different forms of stakeholder cooperation strategies to improve their CS performance.

The initiatives taken by Flinders Ports, which manages seven of South Australia's ports (i.e., Port Adelaide, Port Lincoln, Port Pirie, Klein Point, Port Giles, Thevenard, and Wallaro), are good examples of proactive ethical commitments that go beyond regulations and strengthen CS performance. For example, Flinders Ports through partnership arrangements co-invested with the state government to improve a passenger terminal for cruise ships in the port of Outer Harbor in 2009, and with the DP World to establish a $12.5 million crane at the Outer Harbor terminal in 2010. In addition to such collaborative efforts, which appear to have the broader objective of enhancing efficiency and productivity of transport networks (economic focus), Flinders Ports has also partnered with SMEs in order to contribute directly towards enhancing the well-being of society (environmental and

social focus). For instance, in Port Pirie, Flinders Ports has collaborated with aquaculture businesses, and the mining sector to cleanup weed along the coast; with Techport, and local yacht clubs to address noise and environmental impacts from shipping activity; and with small community businesses to conduct regular tree planting activities (Nursey-Bray, 2016).

4.7. Managerial Implications

High-level sustainability leadership is mainly demonstrated when there exists a deep understanding and awareness of environmental and social implications of business operations in addition to securing financial viability. Proactive management with recommendations on sustainability implications of ports' strategic choices of operations is critical to business success. A complement to this approach is to identify drivers influencing CS implementation as an integral part of the business strategy. This study provides a valuable platform for port managers and operators to explore CS drivers in their operating environment based on the dynamic multi-stakeholder perspective developed in the study. It is important to note that port responses to a single driver, regardless of the motivating root, need not be in direct conflict with business strategies and operational goals that consider other factors. On the other hand, emphasis should be placed on those strategies that can enhance all three dimensions of sustainability simultaneously. For instance, incentives such as those associated with ship speed-reduction programs generate benefits for several port stakeholders. Speed reduction helps decrease costs for ship owners and operators, but at the same time can also reduce the incidence of whale ship strikes, and cut GHG emissions and air pollution, which results in lower health-related impacts on local communities. It also enhances port reputation and legitimacy, and ultimately supports a

port's growth trajectory. Moreover, it is important to note that each CS driver plays an individual role, but may also combine or conflict with other drivers. So, the attempt to attribute every port's adopted CS strategy or practice to individual drivers may not be useful. There are many complex interrelations among drivers, and often an adopted CS strategy emerges from multiple forces. Findings of this study on examples of port responses to CS drivers intend to provide insights into how different CS drivers have impacted ports' practices and how ports (reactively or proactively) responded to different drivers and implemented specific CS initiatives. They could be considered as lessons to be learned.

4.8. Conclusion

The role of CS in ports has increasingly broad implications for port business strategy and operations, but actual implementation has been stymied by a lack of clarity and understanding of the specific drivers. This study provides a review of drivers of CS implementation in ports, as well as port responses to these drivers. Using the lens of stakeholder theory, drivers of CS in ports are identified and discussed, supporting a multi-stakeholder perspective. Identification of CS drivers for ports can aid in the development of a comprehensive implementation plan to reach the organization's objectives efficiently. Port responses to these drivers are then highlighted vis-à-vis each stakeholder's perspective which provide explanations of feasible policies and actions that ports have taken towards sustainable development in response to a diverse range of forces from internal and external stakeholders. This study contributes to the CS literature in the maritime industry, and ports in particular, by providing insights about drivers influencing ports' sustainability activities, and actual responses by ports to those CS drivers.

4.9. Future Studies

Port responses reviewed in this study were collected from the existing literature; individual port reports and websites were only used to corroborate and supplement the findings. Future studies could expand the port responses to CS drivers through collecting and analyzing CS strategies and practices of individual ports, in different geographic regions, either through empirical data collection or by evaluating actual corporate reports and websites. Also, understanding of the interrelations between the future direction of CS and business development priorities in ports can support a solution that attends the interconnectedness of the UN SDGs and their trade-offs. Therefore, this line of inquiry should be continued in future studies.

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CHAPTER 5

CORPORATE SUSTAINABILITY IN CANADIAN AND US MARITIME PORTS

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5.1. Abstract

Despite the rising popularity of the corporate sustainability discourse in recent years, its role in the maritime industry, and in ports in particular, has been limited. Through an online survey, this study assessed the current state of corporate sustainability in ports in Canada and the US. The study ascertained the perception of port executives towards sustainability, analyzed port sustainability strategies and practices, and identified the main factors (motivations/driving factors and key challenges/barriers) influencing future adoption and implementation of corporate sustainability in ports. Results show that the majority of ports perceive sustainability as important and have adopted a number of sustainability strategies and practices, such as sustainability awareness and training programs, sustainability reporting, and sustainability initiatives and standards (e.g., Green Marine and ISO 14001 certification). Results also show that sustainability strategies have resulted in improved stakeholder relations in ports mainly with government/policy makers, customers, local communities, and industry associations. Yet, findings indicate that although corporate

sustainability is regarded as important in the majority of ports, it is not fully integrated in strategic decision-making processes and operations in most ports. This study also investigated influencing factors for adoption of corporate sustainability in ports. Motivations/driving factors identified are growth, return on investment, risk management, and corporate citizenship, while main key challenges/barriers include costs associated with sustainability actions, lack of sustainability competences within the organization, limited customer interest for more sustainability services, and difficulty in implementing sustainability practices. Findings reveal that although many of the identified influencing factors for adoption and implementation of corporate sustainability in ports are similar to those identified in other studies, some are more sector specific which has allowed this study to contribute to advancing knowledge of corporate sustainability in the context of ports with novel insights.

Keywords: Corporate sustainability; Ports; Motivations/driving factors; Key challenges/barriers; North America

5.2. Introduction

Corporate sustainability (CS) is most widely used to refer to an organization's approach to creating value in social, environmental, and economic spheres in a long-term perspective; supporting greater responsibility (Ashrafi et al., 2018). CS is increasingly acknowledged as an essential component of business strategies of any organization, and ports (that are port managing companies and authorities), as a result of deregulation efforts in recent decades, are not excluded (Kim and Chiang, 2014; Langenus and Dooms, 2018). Notwithstanding the competitive pressure for port managers and operators to maintain or improve port economic performance, external effects associated with port activities have

been increasingly the subject of media scrutiny and public debates, which favour adoption of measures to mitigate port social and environmental impacts (Hiranandani, 2014; Lam and Notteboom, 2014; Acciaro, 2015; Carpenter et al., 2018). International pressure, by means of industry collaborative initiatives and global sustainability targets and ambitions, is also challenging ports to find ways to operate and manage activities efficiently, effectively and in a sustainable manner (Roh et al., 2016). 'The 2030 Agenda for Sustainable Development' that emphasizes the need for all economic sectors, including the maritime transport industry, to monitor and measure performance and report on the progress towards meeting social, environmental and economic goals is further evidence of the growing importance of CS (UNCTAD, 2016). This trend will likely continue in the future and sustainability will acquire a more important role in the definition of port strategies as ports increasingly operate as global multinationals whose customers extend far beyond administrative boundaries of ports (Oh et al., 2018). The extension of benefits of port activities to regions far away from ports vis-à-vis more localized negative impacts necessitates that ports constantly justify their activities in face of local opposition and identify opportunities to develop, implement, and improve their CS strategies.

Despite a rapid increase in studies focusing on the importance of sustainability in ports (Dinwoodie et al., 2012; Acciaro et al., 2014; Hiranandani, 2014; Kim and Chiang, 2014; Acciaro, 2015; Roh et al., 2016; Sislian et al., 2016; Kang and Kim, 2017; Langenus and Dooms, 2018; Oh et al., 2018), the extent to which such importance is translated into port investment in CS strategy is yet under-investigated (Santos et al., 2016). There is also a call for further research in the area of CS within ports, through single and multiple case studies, as well as port practitioner surveys, particularly on how ports perceive

sustainability, and on the complexity and diversity of sustainability approaches adopted by ports (Acciaro, 2015). In response, this study assessed the current state of CS in ports through surveying port managing companies and authorities in Canada and the US. This research aims to advance knowledge of CS in the context of ports by pursuing the following objectives: (1) to investigate how port executives perceive sustainability and what CS strategies and practices ports have adopted in their business plan; and (2) to identify influencing factors (motivations/driving factors and key challenges/barriers) that might affect adoption and implementation of CS strategies and practices in ports in the future.

5.2.1. CS Importance in Ports

The concept of CS is rooted in systems thinking in which three domains of society, environment, and economy are integrated in the long-term (Bansal and DesJardine, 2014). CS strategies aim at strengthening links between social, natural, and financial capitals through improving water use and energy efficiency, reducing greenhouse gas (GHG) emissions, reducing waste or zero-waste, increasing resilience to climate change, minimizing impacts to biodiversity and natural resources, enhancing human capital and capability, and achieving greater social inclusion. Embedding CS into an organization's core business processes not only contributes to organizational success through enhancing both efficiency and profitability, as well as adding to business competitive advantage (Laszlo and Zhexembayeva, 2011), but also creates shared value (i.e., shareholder's value and stakeholder's value) (Dyllick and Muff, 2016). A survey of 3,203 executives representing the full range of regions, industries, tenures, company sizes, and functional specialties, conducted by McKinsey & Company in 2011, found that very large shares of

executives believe that CS makes a positive contribution to their companies' short- and long-term value (Bonini and Görner, 2011).

The importance of CS in ports is reflected in performance assessments that consider regional and local economic prosperity and growth, environmental protection, and promotion of thriving communities with higher living standards, through collaboration and collective accountability. Ports, as an essential part of the maritime transport chain, facilitate trade and industries and contribute to economic development through employment opportunities, contribution to Gross Domestic Product (GDP), and other multiplier effects (Lam et al., 2013; Sakalayen et al., 2017; Hou and Geerlings, 2016).

While having numerous positive external effects, ports are also responsible for a wider set of negative environmental and social impacts deriving from activities at sea and on land, such as dredging, anchoring, cargo handling, marine fuel bunkering, waste management, and cargo operations (e.g., loading and unloading on ships or cargo movement to and from the port) (Dinwoodie et al., 2012; Klopott, 2013; Walker et al., 2019). Nevertheless, ports, taking advantage of their nodal positions, can actively contribute to sustainability of the maritime transport by taking a greater role and responsibility towards society and the environment (Klopott, 2013). Ports can promote CS through cleaner production initiatives and other proactive approaches, such as resource efficiency, sustainable building construction in a port/hinterland, optimization of logistical networks, enhancing safety and security in a port, improving relationships with key stakeholders, providing incentives to port users and tenants for green practices, employee productivity improvement, and creating good social and working environment (Kim and Chiang, 2014).

As local communities, governments, and port customers are increasingly becoming more aware of negative external effects of ports, several ports have made efforts to reduce their reputational risk by improving their sustainability performance. However, their economic viability and their sustainability actions are not on the same level of priority for port managers - or at least they have not been for many years (Poulsen et al., 2018). For ports to be able to create value for society and the environment whilst balancing profitability and growth, CS should be fully embedded in ports' business planning and processes. Other studies also advocated the benefit of CS to ports through shaping success of the sector in the competitive economy while being the centre of environmentally and socially responsible transport systems (Kang and Kim, 2017).

5.2.2. CS-Influencing Factors in Ports

CS implementation is influenced by a number of factors, which may hinder or promote CS adoption by prospective organizations (Evangelista et al., 2017). Understanding influencing factors for CS adoption is essential as it assists in predicting CS-related behaviour of organizations and exposing mechanisms that foster organizations with CS embedded in their core value. This allows researchers and practitioners to identify the efficacy of regulations and policies, as well as market and voluntary measures and approaches (Bansal and Roth, 2000). Previous studies have identified several influencing factors that compel organizations to employ CS strategies and practices, such as regulatory compliance, economic opportunities, reputation, risk management, ethical considerations, and competitive advantage (Bansal and Roth, 2000; Hart and Milstein, 2003; Schrettle et al., 2014; Lozano, 2015; Engert et al., 2016; Brockhaus et al., 2017).

In line with stakeholder theory on businesses' obligations towards multiple stakeholders, influencing factors of CS adoption are also affected by various stakeholders (Schrettle et al., 2014). In general, stakeholder pressure is a relevant influencing factor for CS adoption and implementation (Andiç et al., 2012; Govindan and Bouzon, 2018). In the context of ports, the role of stakeholders is significant as support from ports' stakeholders leads to more successful strategy implementation (Becker and Caldwell, 2015; Notteboom et al., 2015).

Ports are intermodal transport nodes that often act as a gateway for international trade involving a wide array of national, regional, and international stakeholders, as well as those from public and private sector (Hiranandani, 2014). This delineates port interaction with diverse groups of stakeholders forming a multi-directional relationship that influences ports' capabilities of responding proactively to market driven demands and local communities' needs, including those of an environmental and socio-economic nature (Song and Parola, 2015). There is a diverse range of stakeholders interested in or concerned with port operation and development (Wagner, 2017) whose pressure derives from and at the same time influences strategic and operational choices of port managers (Dooms et al., 2013). Therefore, it is imperative to identify influencing factors (motivations/driving factors and key challenges/barriers) for CS adoption and implementation in ports to understand underlying factors that might affect integration of CS in ports in the future.

5.3. Methods

An online questionnaire was used to survey the state of CS in ports in Canada and the US.

5.3.1. Survey Design and Implementation

The survey included 18 questions which were reviewed and approved by the Research Ethics Board at Dalhousie University, and were formulated to ensure clarity and reduce response time (to be completed in 10-15 minutes). Survey participation was voluntary, and research results are anonymous to avoid identifying participating organizations. A pilot survey test was performed with a panel of academics and experts in the field of green logistics and sustainable business before the full sample survey. Moreover, representatives from the Green Marine organization (which promotes Green Marine, a voluntary environmental certification program for the North American maritime industry) reviewed and pretested the survey tool. In all cases, participants were required to complete a consent form prior to completing the survey.

The survey was structured into two parts: Part I collected general information about location, ownership, and size at each port while Part II covered five sections:

1. *Units responsible for implementing sustainability in ports* contained questions about individual and/or departmental involvement in terms of their core responsibility for decision-making, coordinating, and reporting sustainability-related matters.
2. *Importance of sustainability to ports* explored the importance of sustainability for ports; whether sustainability strategies within ports go beyond those required under legislation; whether ports review their sustainability strategies; whether ports have sustainability awareness and training programs for their staff; whether ports have sustainability report; and how sustainability aligns with the priorities of ports' executive level.

3. *Adoption of sustainability initiatives in ports* asked questions about sustainability voluntary initiatives and standards in use in ports to take sustainability aspects into consideration.
4. *Ports' perspective on sustainability as a value driver* asked questions about whether sustainability strategies caused ports to increase their collaboration with stakeholders, such as government, local communities, customers, or competitors; pursuing sustainability-related strategies are necessary to be competitive; sustainability-related decisions/actions have affected their organization profitability.
5. *Motivations/driving factors and key challenges/barriers to implement sustainability in ports* explored the influencing factors responsible for integrating an increased focus on sustainability within ports' business strategies and operations.

The survey involved only ports in Canada and the US associated with the Association of Canadian Port Authorities (ACPA) and the American Association of Port Authorities (AAPA). Together, the ACPA and AAPA memberships represent 96 ports from Canada and the US which are some of the largest and most important ports in terms of global maritime commerce. The survey was distributed to port executives in November 2017 through Opinio, a web-based software product designed for conducting surveys through the Internet. It was open for six months (from November 1, 2017 to April 30, 2018) and multiple reminders were sent to increase the number of respondents. Of the 96 recipients, a total of 24 responded (25%), 14 of which were usable (15%). There was a distinction between total returned surveys *vs*. usable surveys in that only completed surveys were

analyzed. Non-response was identified as an issue, although response rate was reasonable given the nature of the web survey (Couper et al., 1999; Sheehan and Hoy, 1999; Pan, 2010), as well as the business-to-business (B2B) sector (Larson and Gammelgaard, 2001; Rahman, 2011).

It was believed that the response rate could be improved by obtaining endorsements of the ACPA, AAPA and Green Marine organizations and having invitations to participate distributed via these networks. With the assistance of the Green Marine organization, the survey was distributed among the Green Marine members via its newsletter, published on February 26, 2018 (Green Marine, 2018b). The original response rate, however, did not increase. While a more robust response rate was intended for validation, the sample was representative of the full ACPA and AAPA membership (e.g., range of organization location, size, and ownership). Non-responses can be attributed to port executives' busy agendas or their lack of perception of sustainability as an area of concern. Also, they may be unwilling to share their sustainability strategies or may not find any direct benefits from participating in academic studies.

5.3.2. Data Analysis

The survey included both quantitative and qualitative data to permit a more complete and synergistic utilization of data than do separate quantitative and qualitative data collection and analysis. SPSS software was used to analyze data from the close-ended questions and for graphical presentation. For open-ended questions, thematic coding was used to capture themes from responses using Microsoft Excel. Influential factors were classified into two clusters of motivations/driving factors and key challenges/barriers. For each cluster, identified factors were grouped based on their similarities and meaning. Four themes

emerged inductively from responses in each cluster, and as inspired by identified categories in the literature.

5.3.3. Assessment of Empirical Validity

Construct validity was ensured by clearly operationalizing the purpose of the survey and in consultation with multiple informants and by seeking feedback and insights from them (Yin, 2003). External validity was ensured by setting suitable sampling criteria (i.e., selecting ports associated with ACPA and AAPA from the population of ports in Canada and the US), which allowed building a coherent and diverse sample (Yin, 2003). Such sampling may be prone to a degree of bias as one can assume that those associated with ACPA and AAPA have a certain affinity for sustainability issues, regardless of their own sustainability commitments, compared to non-member ports. However, and as noted by Throne et al. (2009), "(findings) when articulated in a manner that is authentic and credible to the reader, they can reflect valid descriptions of sufficient richness and depth that their products warrant a degree of generalizability in relation to a field of understanding" (p.1385). Reliability of the research was ensured on the rigor of the documented procedures which allows for replicability of the study.

5.3.4. Overview of Responses and Port Characteristics

This study sought views of port executives only. Although it was expected that port executives would answer the survey personally, responses were accepted from any staff member deemed appropriate by executives.

Fourteen port directors and managers responded to the survey study offering a broad picture of the current state of CS in ports in Canada and the US. More than half of

respondents had 5 to 10 years of experience in the maritime industry and sustainability training or academic qualifications. Ports themselves were binned into a variety of categories based on location, ownership and size (based on the annual tonnage of commodities handled). More than half of ports responded were from the US (64%) while the rest were from Canada (36%); and as how ports were owned and operated, 57% reported as public entities and 43% as quasi-public bodies. Small and very large ports are the main contributors to the survey (accounting for two-thirds of the participation), followed by medium and large ports having a similar percentage (14%).

5.4. Results and Discussion

5.4.1. Units Responsible for Implementing Sustainability in Ports

Table 5.1 summarizes findings of individuals and/or departmental involvement based on their responsibility for sustainability decision-making, coordination, and reporting. For confidentiality reasons and to ensure sharing this information did not influence responding ports to any degree, port names were not disclosed, and each port was referred to using the acronym 'P' followed by a sequential number. Results show that port executives have primary responsibility for decision-making at the strategic level to integrate CS into their organizations. This is in line with other studies who found that although there may be others at ports with a deeper understanding or different perspective, ultimately port executives make the final decision on long-term strategic plans (Becker et al., 2012; Dinwoodie et al., 2012).

It is believed that after strategy-level decisions to integrate CS are made, it is the CS change agents who coordinate the integration process and who choose the tools that support

integration of CS into business activities (Witjes et al., 2017). The CS change agents in the sample ports are directors and managers. Other studies also stated the potential role of top management and senior executives to act as change agents responsible for improving business performance of organization while taking into consideration all three aspects of CS (Ha, 2014). Results show that coordinating the integration of sustainability into planning processes is mainly the responsibility of directors. However, various directors are involved in this responsibility, such as directors of environment, engineering and real estate, communication and CSR, enterprise analysis, operations, and sustainable development. Moreover, both directors and managers (e.g., general/environmental/economic and development/planning) are responsible to collect and prepare information on sustainability to report on the process.

Results indicate that port executives play a fundamental role in supporting sustainability decision-making, coordination, and reporting. Research has discussed the top-down leadership in sustainability and clearly shown that effective implementation of sustainability strategies requires the support and commitment of the top management (Epstein et al., 2014). Therefore, the successful implementation of sustainability in ports also necessitates that the commitment of the board and management should become a key part of the corporate DNA.

Table 5.1 Units responsible for implementing sustainability in ports.

Units responsible	***Decision-making***	***Coordinating***	***Reporting***
Chief Executive Officer (CEO)	P4, P6, P8, P10, P14		
Vice President	P1, P3, P11, P12	P3	
Director	P2, P5, P7	P1, P2, P4, P5, P6, P7, P8, P10, P11, P12, P14	P4, P7, P10, P11, P12
Manager			P1, P2, P3, P5, P6, P8, P14
Chief Innovation Officer (CINO)	P9	P9	P9
Chief Sustainability Officer (CSO)	P13	P13	P13

5.4.2. Importance of Sustainability in Ports

To assess the importance of sustainability, respondents were directly asked how important the role is that sustainability plays for their organizations (Figure 5.1). Most respondents stated that sustainability is important to their organizations and scored it as very high and high (both having a similar percentage of 43%). To further evaluate how the importance of sustainability for ports reflect their actual performance, other questions were asked (Figure 5.2). When respondents were asked if the sustainability strategies within their organization go beyond those required under legislation, about 79% answered positively. As for reviewing sustainability strategies, more than 90% of respondents stated that they do review their sustainability strategies routinely. Moreover, about one-third of respondents reported that they have sustainability awareness and training programs for their staff,

including managers, employees, and union members. These ports exercise training systems to educate and guide their human resources at all organizational levels for supporting and developing awareness and attitudes towards sustainability. Many researchers have noted that sustainability training for all staff, including top management, is both a time- and cost-effective measure for enforcing and encouraging ports to implement sustainability (Jabbour, 2013; Ha, 2014; Pavlic et al., 2014; Puig et al., 2017; Di Vaio and Varriale, 2018).

Given the perceived importance of stakeholders in port management, the survey also included questions related to sustainability reporting. Only 29% of respondents indicated that they disclose their sustainability performance through a formal stand-alone sustainability report. Results are similar to that of the ESPO study conducted in 2016 in which it emerged that only about 36% of the European ports report on their CS performance through measurable objectives (ESPO, 2016). Results also show that among remaining respondents, 80% stated they use other channels for communication and disclosing their sustainability information: 50% through their annual report and 30% through their newsletter on their websites. Previous studies revealed that while many companies worldwide have adopted CS reporting practices, the current CS reporting methods are neither universal nor standardized (Escrig-Olmedo et al., 2010; Christofi et al., 2012). This was found to be true for the practice of CS reporting in ports as well (Dooms, 2019). Moreover, studies pointed out that the national context in which the port operates, that is the institutional context and institutional pressure exerted by society and by the cities where

the ports are located, lies at the root of inconsistent CS reporting methods among ports (Santos et al., 2016).

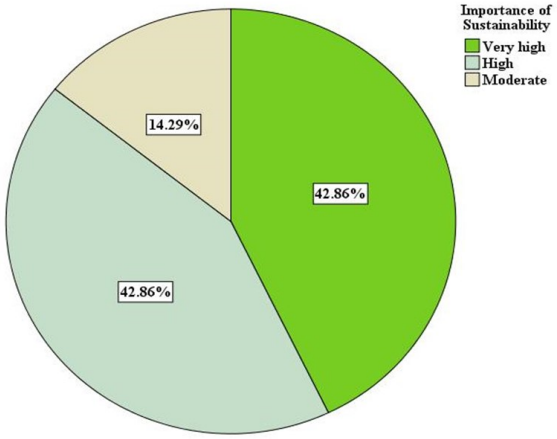

Figure 5.1 Importance of sustainability in ports

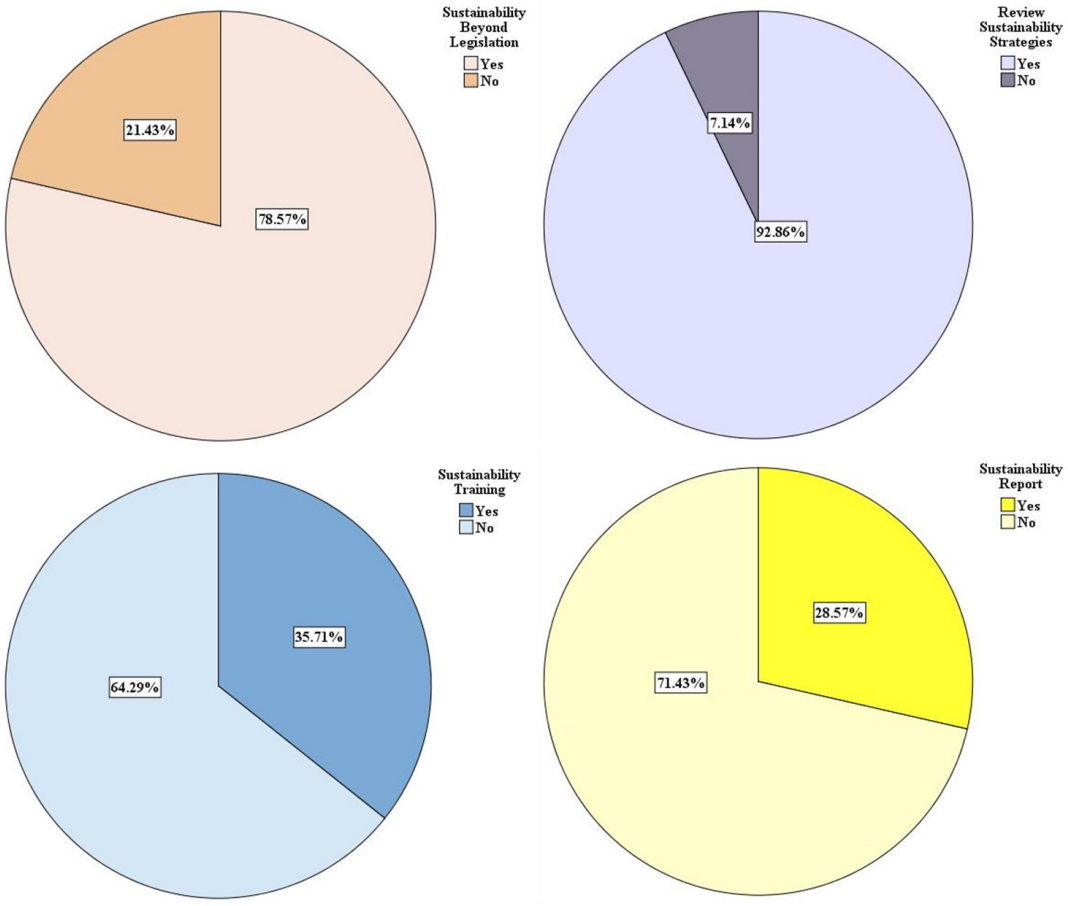

Figure 5.2 Sustainability strategies and practices in ports

To better understand how port executives' perception of sustainability as a core value in their strategic plan influences their sustainability practices, a number of comparisons are illustrated in Fig. 3. Results show that ports which have sustainability awareness and training programs for their staff have fully integrated sustainability as a core value into their strategic plan. Tactics to develop CS awareness, training and career development for human resources within the port sector include training for internal stakeholders, such as encouraging personnel to join trade associations, attend conferences, or visit other ports to share best practice, as well as training for external stakeholders, such as educating and training the waterway users to be aware of their impact on the environment through engaging specialist training providers (Dinwoodie et al., 2012).

Figure 5.3 also shows that those ports publishing sustainability reports have fully embedded sustainability in their strategic plan as a core value. This is consistent with other studies which found that those organizations that consider sustainability as their core value are more likely to make references to sustainability in their strategic documents (Eccles et al., 2014; Baral and Pokharel, 2017). There are several reasons that motivate organizations to disclose information on their CS performances, such as transparency with stakeholders, competitive advantage, risk management, stakeholder pressure, company culture, and brand reputation (Boston College Center for Corporate Citizenship and Ernst & Young LLP, 2016).

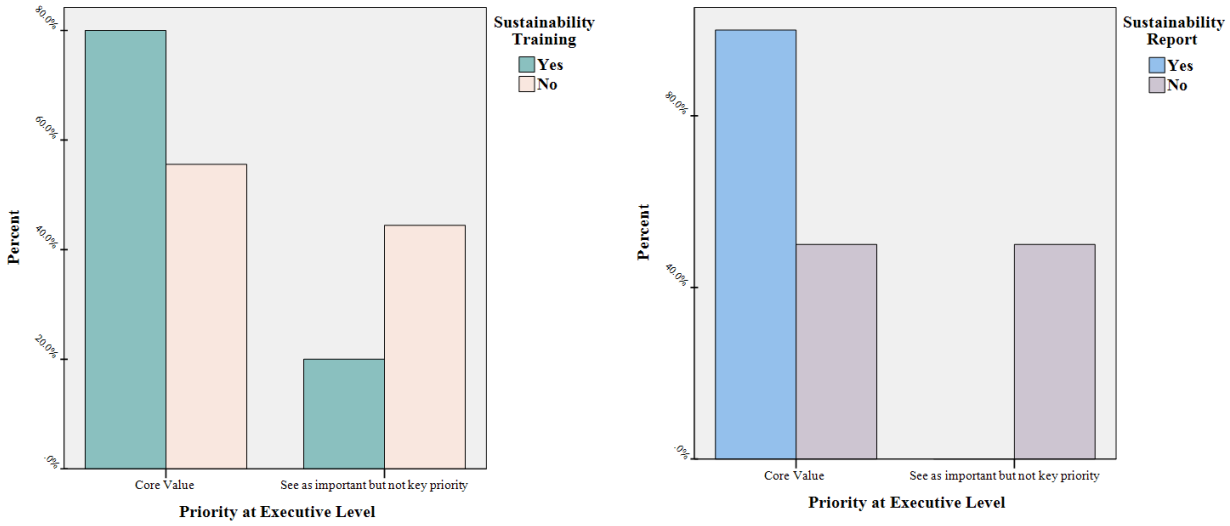

Figure 5.3 Relationship between port executives' perception of sustainability as a core value in port strategic plan and sustainability practices

5.4.3. Adoption of Sustainability Initiatives and Standards in Ports

Table 5.2 and Table 5.3 summarize findings on sustainability voluntary initiatives and standards implemented by each port. About 65% of ports have adopted some form of sustainability initiatives. The most adopted initiative was Green Marine. All Canadian ports and one-third of the US ports that participated in the survey have adopted this initiative on a voluntary basis. The Green Marine Environmental Program was established in 2007 for North American maritime companies and it addresses key environmental issues through 12 performance indicators (Green Marine, 2018a). To receive certification, applicants must benchmark their environmental performance by completing Green Marine's detailed annual self-evaluation. Participants must demonstrate annual improvements of any environmental performance indicators (e.g., reductions in GHG emissions and cargo residues) in measurable ways to maintain their certification. Reports are independently verified every two years to ensure rigor and integrity of the program (Walker, 2016). Other

sustainability initiatives adopted by ports, regardless of the location, are GHG Protocol Initiatives, Global Reporting Initiatives (GRI) Guidelines, the United Nations Sustainable Development Goals (UN SDGs), and the World Ports Climate Initiatives (WPCI). The adoption of other initiatives by ports indicates the positive attitude to engage in CS practices in ports.

Table 5.2 Sustainability voluntary initiatives adopted by ports

Sustainability Initiatives	***P1***	***P2***	***P3***	***P4***	***P5***	***P6***	***P7***	***P8***	***P9***	***P10***	***P11***	***P12***	***P13***	***P14***
Green Marine[1]			x	x		x		x		x	x		x	x
GHG Protocol[2]		x	x											
GRI Guidelines[3]				x									x	
UN SDGs[4]						x								
WPCI[5]													x	x

1 *Green Marine*: Green Marine Initiatives

2 *GHG Protocol*: Greenhouse Gas Protocol Initiatives

3 *GRI Guidelines*: Global Reporting Initiatives Guidelines

4 *UNSD Goals*: The United Nations Sustainable Development Goals

5 *WPCI*: The World Ports Climate Initiatives

Port respondents were also asked about the standards used in their organization to account for sustainability (Table 5.3.). Results show that 50%, of which more than 85% are small and medium-sized ports, did not adopt any sustainability standard. This could be explained by the fact that most small and medium-sized enterprises (SMEs) view sustainability measures as expensive to undertake and therefore tend to be highly resistant to voluntarily improving their environmental and social performance (Revell and Blackburn, 2007). Other studies also mentioned the absence of an environmental

management system (EMS) in small and medium-sized ports due to lack of knowledge and resources (Puente-Rodríguez et al., 2016). On that note, Kuznetsov et al. (2015) pointed out that the costs associated with implementing EMS practices, such as ISO 14001, for many small ports present a prohibitive burden on their net profit. A plausible way forward for small ports is to work collectively with neighbouring ports to acquire experts' consultation, establish contacts and management systems, benefit from co-representation, and engage proactively with funding initiatives to promote environmental awareness (Dinwoodie et al., 2012).

Results also show that of those ports having sustainability standards in place in their organization, most adopted ISO 14001 (environmental management). Previous studies also confirmed the use of ISO 14001 certification as the most common standard adopted by ports (Dinwoodie et al., 2012). ISO 14001 was published in 1996 and provides the basic framework for the establishment of an EMS. The standard aims to achieve a full integration of environmental and business management and enable companies and their supply chains to take a more proactive approach to measuring and managing sustainable systems. To become ISO 14001 registered, an entity can either self-declare or undergo a third-party audit (Curkovic and Sroufe, 2011). Other standards, including ISO 9001 (quality management), ISO 14031 (environmental performance evaluation), and ISO 26000 (social responsibility) have been adopted by ports as well. While these management tools and process standards do not tell ports what CS performance they must achieve, acting as internal management tools, they describe a system that will help ports to identify CS aspects of their operations, define CS objectives and targets, implement programs to attain

CS goals, monitor and measure effectiveness, correct deficiencies and problems, and review their management systems to promote continuous improvement.

Table 5.3 Sustainability standards adopted by ports

Sustainability Standards	***P1***	***P2***	***P3***	***P4***	***P5***	***P6***	***P7***	***P8***	***P9***	***P10***	***P11***	***P12***	***P13***	***P14***
ISO* 9001									x					
ISO* 14001			x	x				x	x				x	
ISO* 14031										x				
ISO* 26000						x								

***** *International Organization for Standardization*

5.4.4. Ports' Perspective on Sustainability as a Value Driver

An open-ended question asked respondents to list the stakeholders with whom ports had improved relationships as a result of implementing sustainability strategies. Figure 5.4 represents the number of times a particular stakeholder group was listed by the ports. Government/policy makers and customers were the chief stakeholders among respondents and were listed by 86% of the respondents. Local communities and industry associations (listed by 71% of respondents) were also among the stakeholders with whom ports have improved transparency and collaboration substantially through implementing sustainability. Additionally, sustainability strategies implemented in ports have reinforced the relationships of ports with other stakeholders including contractors (64%), competitors (57%), suppliers (50%), internal business units (50%), and NGOs (36%). Results confirm that CS implemented in ports strategies and operations could help improving ports' relationships with its diversified stakeholders. Previous studies also emphasized the role of sustainability in enhancing and attracting several stakeholders (Golds, 2011; Denktas-

Sakar and Karatas-Cetin, 2012; Jabbour, 2013). As for internal stakeholder relations, some studies indicated that those organizations that invest in sustainability attract better human capital to organizations and are generally listed among the "best places to work" (Golds, 2011; Jabbour, 2013). As for external stakeholder relations, according to Denktas-Sakar and Karatas-Cetin (2012), the higher the level of coordination and integration among port stakeholders within the supply chains, the higher is the sustainability of the entire supply chain and of the ports. Ports should develop a strong and efficient stakeholder relations management in which the perspectives of their multiple stakeholders are captured on an ongoing basis and translated into relevant recommendations for actions to be incorporated effectively in ports' internal functional domains and reflected in ports' CS reporting (Dooms, 2019).

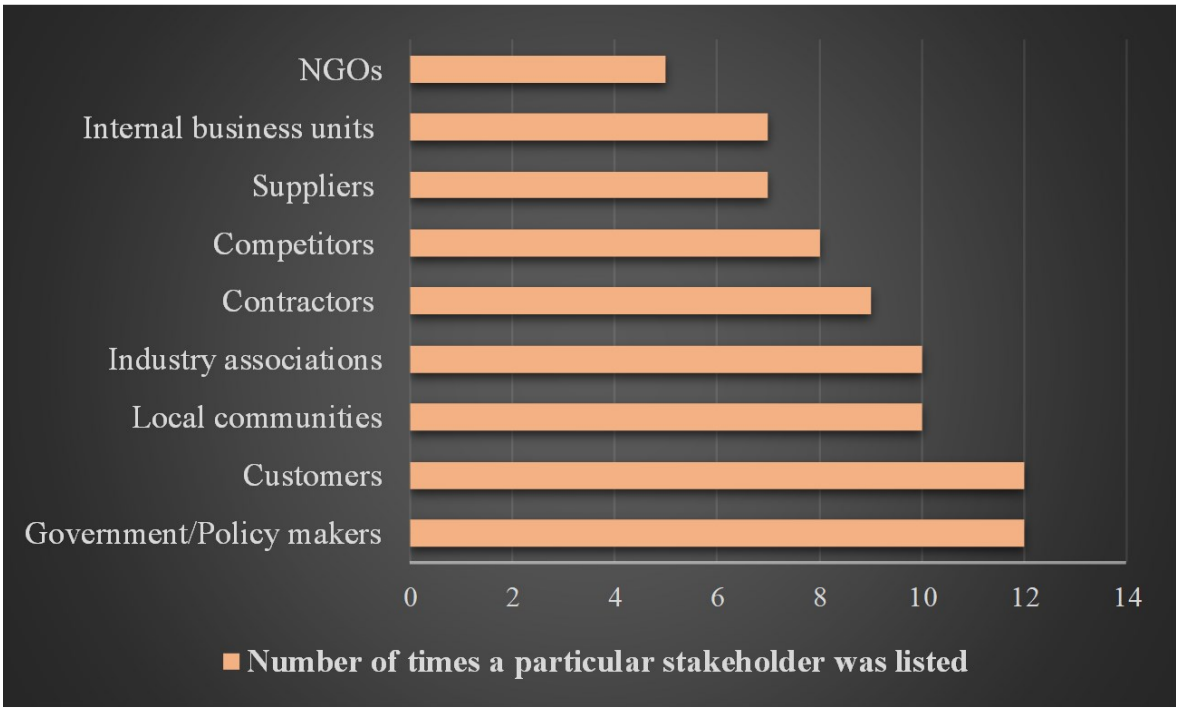

Figure 5.4 List of various stakeholders that sustainability strategies caused ports to reinforce their collaboration with them

The survey also asked questions about the perception of port executives toward the effect of CS implementation on their competitiveness and profitability (Figure 5.5). When respondents were asked if they believed pursuing sustainability-related strategies is necessary to be competitive, the majority (71%) answered positively. However, Figure 5.5 suggests that very large ports (in terms of the annual tonnage of commodities handled) have given the highest positive response to this question. This can be explained by the fact that very large organizations have access to more resources compared to small organizations, and therefore have the potential to undertake more sustainability actions (Puig et al., 2015). Previous studies also found that large organizations tend to have higher levels of sustainability communication, and they appear to be influenced more than small organizations by expectations of transparency with stakeholders and competitive differentiation (Santos et al., 2016; Wagner, 2017).

Moreover, when respondents were asked whether sustainability-related decisions/actions have affected their profitability, 36% responded that it has added to the profit; 29% responded that it has neither added nor subtracted from the profit; and 21% responded that it has subtracted from the profit. Interestingly, very large ports stated that they believe sustainability-related decisions/actions have added to their profits (Fig 5.5). On the other hand, the majority of small and medium-sized ports believe that sustainability actions have reduced their profits or at best yielded no gains. This is in line with other studies which found that many SMEs, regardless of the sector, perceive CS practices leading to higher costs in their business (Revell and Blackburn, 2007; Bradford and Fraser, 2008). Previous studies also identified the various factors influencing disengagement of SMEs in CS practices which include a shortage of resources (e.g., both monetarily and

timewise, and a lack of skills and knowledge), a lack of awareness of benefits, resistance to change within the company culture, and little external pressure from stakeholders (Revell and Rutherfoord, 2003; Revell and Blackburn, 2007). Small and medium-sized ports, as discussed by Feng and Notteboom (2013), could find their specific competitive advantage through focusing on hinterland connections in competition with bigger ports, looking for a cost advantage in specific niche markets, and securing growth by serving dominant ports in the multi-port gateway region. The latter emphasizes the potential of small and medium-sized ports to bring synergy effects to the region by acting as nodes and connecting relevant stakeholders.

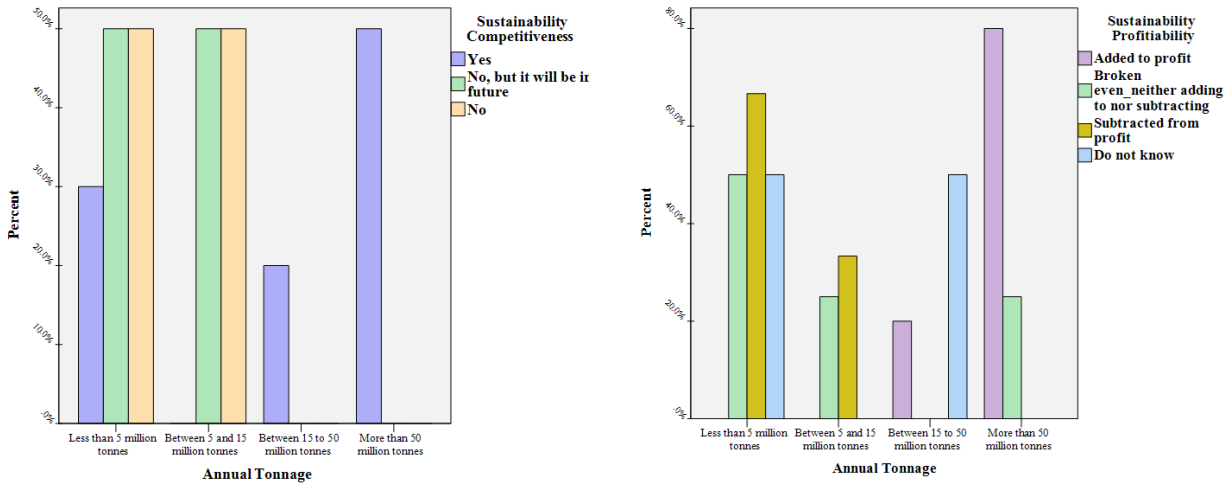

Figure 5.5 Port executives' perception toward the effect of sustainability on port competitiveness and profitability

5.4.5. Motivations/Driving Factors and Key Challenges/Barriers to Integrate Sustainability in Ports

Through open-ended questions and using thematic coding, motivations/driving factors, as well as key challenges/barriers influencing integration of sustainability in ports were

identified (Figure 5.6). Motivations/driving factors are categorized into four value-creating groups: growth, return on investment, risk management, and corporate citizenship. In addition to motivations/driving factors, there are several other influencing factors that hinder ports in adopting sustainability. The most significant key challenges/barriers to adopting sustainability strategies and operational practices identified are grouped into four categories: cost associated with CS actions, lack of CS competences within the organization, limited customer interest for more CS services, and difficulty in implementing CS practices. Other key challenges/barriers, such as competing priorities, lack of financial incentives for considering sustainability practices, and lack of communication, were also mentioned by respondents as factors hindering ports to implement sustainability and provide capital required to make long-term organizational change.

Figure 5.6 Motivations/driving factors and key challenges/barriers for ports to implement sustainability strategies and practices

5.4.5.1. CS Motivations/Driving Factors in Ports

1. Growth

Ports indicated growth through organizational culture development and stakeholder relations management as one of the main motivating/driving factors that influence adoption of CS strategies and practices. Various composition of organizational culture was mentioned by ports as influencing factors for adopting CS strategies, such as top management values and leadership in advancing environmental and social commitments (e.g., exploring the benefits of capturing trends in sustainability). The leadership and commitment from top management has been recognized as an essential element towards the success of effective CS development and implementation (Epstein et al., 2014).

Stakeholder relations management was also stated by ports as a motivation/driving factor to invest in CS practices. Relationships with several stakeholders including customers, suppliers, government, and local communities were identified to be the main contributors to integrate CS in ports for a greater effectiveness. Previous studies also acknowledged the need for stakeholder relations management approaches to be adopted by ports as an effective way to strengthen management capabilities and awareness of sustainability issues, which highlights the importance of continuous stakeholder inclusion for the success of ports (Dooms, 2019). Ports concurred that embedding CS into organizational culture and stakeholder relations management aids ports to sustain value-creating growth in their organization and to garner a significant share of market.

2. Return on Investment

Most ports indicated improved return on investment by reducing costs and increasing efficiency through sustainable operations and value chain as the pivotal motivation/driving factor for integrating CS into their strategic plan. Ports specified the positive effects of sustainable operations such as reducing emissions, water and energy conservation, and waste management as examples of the ways to cut their operating costs. Achieving a sustainable value chain through partnership and collaboration was also mentioned by ports as a motivating vehicle for continued sustainability performance improvement and maximizing return over a longer period of time.

A study on the capital-market performance of 264 listed transportation and logistics companies from around the world over a period of ten years, conducted by McKinsey & Company in 2015, found that the sector's return on invested capital was lower than in most other sectors (Hausmann et al., 2015). On the other hand, while it is difficult to measure financial return of sustainability investments, it is believed that sustainability practices may reflect progress toward a goal of achieving cost reduction and profit maximization (DeLong and Mehalik, 2013). This may explain why ports find it an opportune moment to formulate CS strategies that will not only increase return on investment for their organization, but also meet or even outperform market expectations, supporting a port's competitive success and long-term positioning.

3. Risk Management

Risk management is an ongoing process that begins with identifying and assessing risks in business in order to take protective measures, followed by analyzing, treating and

monitoring those risks (Giannakis and Papadopoulos, 2016). Three risk management strategies of regulatory, reputation, and operational-risk management were identified as motivations/driving factors for ports to integrate CS in their management and operations. Previous studies also identified regulatory compliance, societal pressures, and operational issues as potential types of motivation in port operations to implement sustainability practices (Kang and Kim, 2017). Ports concurred that, through embedding CS into the earliest stages of their business development, they can detect the key risks leading to operational disruptions, such as from compliance losses, community issues and concerns, and climate change and extreme weather events. This, in turn, enables ports to adopt business strategies that entail the development of robust risk mitigation approaches and the pursuit and capture of opportunities in the market.

4. Corporate Citizenship

Ports indicated corporate citizenship (defined as managing and meeting the needs of current and future generations through improving the quality of the environment and society's life) as a motivation/driving factor in implementing CS strategies. It is believed that institutional reform of ports around the world (i.e., the trend towards the progressive transition of port management entities from public agencies towards corporations) has affected ports' accountability for their decision towards society and the environment (Brooks et al., 2017). This may help to explain why ports view corporate citizenship as a motivation/driving factor for adopting CS strategies and practices. They seek to practice good corporate citizenship to not only fulfil their own desire of perceiving sustainability practices as being a right thing to do, but to meet or exceed stakeholder expectations and obtain social license to operate. Corporate citizenship can indeed strengthen the

relationships between a port and its stakeholders, which leads to improving the public image and competitive position of ports (Acciaro, 2015).

5.4.5.2. CS Key Challenges/Barriers in Ports

1. Cost Associated with CS Actions

Cost is indicated among ports as the most dominant key challenge/barrier for ports to implement CS practices. Previous studies also found costs as one of the main challenges influencing ports in implementing environmental management (ESPO, 2010; Hiranandani, 2014; Puig et al., 2015). However, while initial costs of implementing some of CS practices might be high, business will save money in the long run and therefore will have a greater chance of long-term success (Ameer and Othman, 2012; Ha, 2014). Several tools, such as life-cycle costing, activity-based costing, and full social and environmental cost accounting, have been recommended to help managers to assess current and future sustainability costs and make informed decisions (Epstein et al., 2014).

2. Lack of CS Competences within the Organization

Ports reported lack of CS competences within the organization as one of the key challenges/barriers in implementing CS in port operations. They pointed out issues related to lack of CS competences including lack of specialized human resources with specialty concerning sustainability, as well as lack of education and awareness programs and staff training on a more regular and ongoing basis as key factors impeding ports to successfully implement sustainability measures. These findings corroborate assertions made by others who found lack of knowledge in implementing good environmental practices as a barrier for ports to adopt CS within their organizations (ESPO, 2010; Puig et al., 2015).

3. Limited Customer Interest for More CS Services

Limited customer interest for more CS services was identified as a key challenge/barrier hindering ports to implement CS practices. It includes lack of cooperation/interest from ports' current business partners to integrate sustainability improvements, and difficulties associated with convincing new customers, both port users and tenants (e.g., terminal operators, logistics service providers) of benefits to be gained by adopting sustainability principles. Previous studies, however, argued that although port users, such as logistics service providers and shippers, might not demand the introduction of CS practices, they are unlikely to resist its introduction as it contributes to their organizational identity, positioning themselves as sustainability leaders (Bergqvist and Egels-Zandén, 2012). The CS implementation by ports and their users brings them legitimacy and helps in developing international networks and in improving status in global rankings.

4. Difficulty in Implementing CS Practices

Implementing changes is a complex and continuous process in every organization. One of the reasons put forward by ports to justify the difficulty in implementing CS practices as a key challenge/barrier in CS implementation is that they find it difficult to make the necessary changes to their organization, processes and values. It is true that many sustainability strategies and ongoing operations can be in conflict which makes it more challenging for ports to align CS strategies with their business priorities. However, it is important for every organization including ports to embrace dynamic learning processes and being able to think 'outside the box'. This helps organizations to adapt to specific challenges and opportunities depending on the needs and circumstances of the environment. It is necessary for organizations to build and develop the ability and capacity

to adopt changes (in both internal and external environment) to remain competitive and maintain or improve market share (Ha, 2014).

5.5. Conclusion

In line with the growing interest of ports in sustainability, this paper assessed the current state of CS in ports. The study specifically investigates the state of CS in ports in Canada and the US by analyzing the perception of port executives towards sustainability, ports' sustainability strategies and practices, and influencing factors to implement CS in ports in the future. Results show that most ports have adopted a number of CS strategies and practices, such as sustainability awareness and staff training programs, sustainability reporting, and improved stakeholder relations. Also, most ports currently have some CS initiatives and standards in place (e.g., Green Marine and ISO 14001). However, this research indicates that while CS is regarded as important in the majority of ports, it is not fully integrated into strategic decision-making processes and operations in most of the ports that appear to be lagging behind on adoption of clear and ambitious sustainability strategies and implementation plans. This study also highlights a set of influencing factors in ports to adopt CS strategies in the future. Several motivations/driving factors were identified, such as growth (through organizational culture development and improved stakeholder relations management); return on investment (through sustainable operations and value chain); risk management (regulatory, reputation, and operational-risk management); and corporate citizenship. Other factors such as cost associated with CS actions, lack of CS competences within the organization, limited customer interest for more CS services, and difficulty in implementing CS practices were also identified by ports as the most significant key challenges/barriers to implement CS.

5.5.1. Implications for Managerial Practice

This study enriches the existing body of knowledge on CS in the context of ports with novel insights. It has broad relevance at both national and international levels for government officials and managers in the maritime industry looking to establish CS policies and improve CS performance in ports. This research suggests that setting clear and well-defined CS-focused goals in corporate's vision and mission allows ports to embed CS into their core business processes in parallel to relatively short-term financial goals. Embedding CS into all aspects of business practices requires ports to develop and prioritize CS strategies, align CS strategies with overall business strategies, integrate CS strategies into business operations, and leverage the knowledge and skills across broad networks of maritime actors for CS implementation. Moreover, this study suggests that port-stakeholder relationships are strengthened through CS strategies, and thus, effective stakeholder relations management and successful CS development and implementation are intertwined. Identified motivations/driving factors and key challenges/barriers also offer valuable insights into the actual complexity of factors influencing ports, which helps in guiding ports to create and implement CS-focused policies and actions. Individual ports planning to embed CS into their business strategies and operations effectively should yet include contextual identification of influencing factors for their organizations as motivations/driving factors and key challenges/barriers might differ somewhat among ports based on their geographical location, as well as social and political determinants.

5.5.2. Research Limitations and Future Directions

As with any research, this study is not without limitations. One limitation of the study was the small number of ports who participated in the survey. Increasing the number of

participants in future studies will provide more precise information. With a view to promote the quality of the generalization of the results to a larger sample of ports, future studies should endeavor to address the role of sustainability across a broader representative sample of North American ports including ports not associated with ACPA and AAPA. Furthermore, future studies could incorporate similar research objectives in other geographical areas which helps to provide a more complete picture of the state of CS in ports worldwide. The linkage between CS-influencing factors specific to the port context and the establishment of innovation development and adoption processes that foster CS implementation could be explored in future studies. Finally, it is important to conduct more research on how ports can improve their CS performance through port-stakeholder collaborative relationships.

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CHAPTER 6

COOPERATION IN MARITIME TRANSPORT AND LOGISTICS: STRATEGIC ACTION TO STRENGTHEN SUSTAINABILITY

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6.1. Abstract

This study investigates how cooperation can strengthen sustainability (economic, environmental, social). The study focused the analysis on the Port of Vancouver, a Canadian maritime port that has embedded a sustainability perspective in its corporate vision (i.e., *to become the world's most sustainable port*), and key organizations involved in trade and transportation in the Vancouver region of Canada's West Coast. The study employed a qualitative method, including informational and discussion meetings, document reviews, and semi-structured interviews with professionals from the port and its multi-stakeholders. The study discusses how multi-stakeholder cooperation can help strengthening sustainability of the port and, to a great extent, the industry. Strategies for building partnership capacity were also identified. From this Canadian case study, a higher-level guiding model was developed to illustrate how cooperation can act as the transmission belt to assist actors to strengthen sustainability of their organization and the sector, and further contribute to sustainability of a nation and achieving global Sustainable Development Goals. The model provides a blueprint for the transition needed to take place

at micro- and meso-levels to enable the move towards sustainable development (macro-level).

Keywords: Sustainability; Maritime Ports; Multi-stakeholders; Cooperation; Canadian Case Study; Sustainable Development Goals (SDGs).

6.2. Introduction

With over 80% of world merchandise trade by volume handled by global ports, the importance of maritime ports for economic development cannot be overemphasized (UNCTAD, 2018). While ports are vital to the economic development of a region, their economic importance should be balanced against environmental stewardship and social responsibility in long-term, the core foundations of corporate sustainability (CS) (Ashrafi et al., 2019). This means taking a holistic approach and striking the right balance among economic objectives (e.g., trade competitiveness, connectivity, reliability, infrastructure investment), environmental objectives (e.g., pollution reduction, preventing resource depletion, biodiversity conservation, climate impacts mitigation and adaptation), and social objectives (e.g., safety, security, employment, cultural preservation, public health and well-being) (Benamara et al., 2019).

The increasing role of CS in businesses has major implications for port management and policy. Successful implementation of CS will improve competitive advantage for ports, for example, through identifying inefficiencies and business opportunities that otherwise might remain unknown, paving the way for better stakeholder relations, and a higher possibility of staving off regulation (Acciaro, 2015). Sustainability is, however, not just propelled by self-interest in improving corporate performance and competitiveness, but

greatly fostered by cooperative efforts among various industry stakeholders (Cheon and Deakin, 2010; MacDonald et al., 2019). Cooperation is indeed critical for improving sustainability of not only ports, but the entire maritime transport and logistics as benefits extend to all supply chain actors (Acciaro, 2015). This is also in line with Goal 17 of the United Nations Sustainable Development Goals (UN SDGs), that squarely puts cooperation at the heart of achieving the ambitious targets of the 2030 Agenda for Sustainable Development (UNGA, 2015). While challenging, cooperation and coordination among different stakeholder groups could be optimized through a multi-faceted approach (Colaner et al., 2019). Such a potential approach has been found important to demonstrate how cooperative arrangements among various stakeholder groups in maritime transport and logistics can be developed to strengthen CS in ports, as well as sustainability across the sector (Langenus and Dooms, 2018). However, the role, mechanism, and application of cooperation in supporting sustainability in maritime ports and other maritime transport and logistics actors has yet to be investigated.

The purpose of this study is to address this gap by gathering and deepening empirical evidence on cooperation in maritime transport and logistics to strengthen sustainability of maritime ports, as well as the sector. To do this, and in line with other studies of the strategic management discipline (Salvato et al., 2017), cooperation was investigated at the organizational level. The study focused the analysis on the Port of Vancouver, Canada's largest maritime port located on the West Coast of British Columbia (BC) with a sustainability perspective embedded in its corporate vision, and different key organizations involved in trade and transportation in the Vancouver region. The reason is twofold: 1) Landlord ports are the dominant management model in larger and medium-sized ports

where infrastructure (e.g., terminals) is leased to private operating companies with the port authority retaining ownership of the land. These ports wear different hats to successfully perform their many roles, which are not only to achieve business purposes and operational performance, but to enhance positive environmental and social outcomes. Managing such complex organizations is further influenced by bureaucratic decisions and the external political environment (Cheon and Deakin, 2010). Academics recognize port authorities as 'linchpins or even lead institutions' at the heart of maritime transport and logistics that must be responsive to opportunities for cooperative actions both within their proximate geographic region and beyond (Haezendonck and Verbeke, 2018: p. 2); 2) On the business side, Deloitte (2017), in their report on Global Trends to 2030, highlights the role of port authorities to become stronger in integrating supply chains through taking the lead in the cooperative agenda as one of the trends that will shape the future of the industry, driven by sustainability and other macro-level factors (Deloitte, 2017).

The study employed a qualitative method, including informational and discussion meetings, document reviews, and semi-structured interviews. Moreover, in 2019, the lead author participated in and monitored a series of expert discussions and professional conferences on sustainability and collaboration in maritime transport and logistics. An example is the 2019 Spring Forum of the Western Transportation Advisory Council (WESTAC)[1] where senior executives and other transportation leaders in Canada participated in round table discussions on collaboration in maritime supply chains. Given

[1] WESTAC is an organization that has been navigating the challenges of promoting system-wide, strategic advancement of transportation and goods movement in Western Canada for over forty years.

the global sustainability agenda, it would be prudent to prepare for big changes critical to aid maritime transport and logistics transitioning to a sustainable sector. This Canadian study will generate a greater understanding of opportunities for the maritime ports and the sector to strengthen sustainability performance through cooperation. It could potentially contribute to a model for a global center of excellence for the advancement of sustainability in maritime transport and logistics.

6.3. Conceptual and Theoretical Foundations

6.3.1. Corporate sustainability

The notion of CS arose decades after the necessity of corporate social responsibility (CSR) was widely recognized. While CSR can be more than an ethical force for good and ensuring responsible corporate governance, it does not yet carry the same shades of scientific and technical rigor as CS (Bansal and Song, 2017). Benefits of CS implementation, including cost saving, improving efficiencies, and improved stakeholder relations have encouraged corporations to proactively invest in sustainability (Dyllick and Muff, 2016). Global sustainable investment topped US$30 trillion at the start of 2018—up 68% since 2014 (GSIR, 2018). The acceleration has been driven by heightened legislation and public pressure in part, but also increased awareness among executives on how sustainability can bring value for their corporations (Henisz et al., 2019). The importance of integrating CS into strategic business planning as an essential piece for success of corporations has therefore become more entrenched than ever. CS is now widely seen as a management strategy to be embedded in a corporation's core values, promoting integration and balance of the three pillars of economic, environmental, and social aspects while considering the long-term temporal dynamics of corporate strategies (Ashrafi et al., 2018).

Given the complex nature of CS as it crosses traditional boundaries and that the three pillars of sustainability are intertwined, it is important to understand how individual actors in maritime transport and logistics can successfully and efficiently implement sustainability in their business model. The nature of maritime transport and logistics also requires sustainability to be hardwired across the entire supply chain of organizations (Tijan et al., 2019). The interdependence characteristic of the industry enables any sustainability action of individual actors to contribute to wider sustainability goals of the industry and further extend to achieving sustainability goals of a nation. This is also reflected in the Paris Agreement, requiring individual organizations to plan, implement, communicate, and maintain successive nationally determined contributions that it intends to achieve (Benamara et al., 2019).

Ports, as the key nodes in global transport chains, play a critical role in the system and can substantially influence the sustainability performance of other industry actors (Langenus and Dooms, 2018). Several drivers have been identified as the impetus for influencing CS implementation in global maritime ports, including economic, governance, social, policy, and market related factors (Ashrafi et al., 2020). Port efforts towards achieving the SDGs require the institutionalization of sustainability as a cross-cutting and long-term strategy. This is not of course without additional challenges. In Canadian and the US maritime ports particularly, challenges and barriers extend to cost associated with sustainability actions, lack of sustainability competences within the organization, limited customer interest for more sustainability services, and difficulty in implementing sustainability practices (Ashrafi et al., 2019). One way to overcome some of the challenges and barriers associated with CS implementation could be through cooperation with

different stakeholder groups. Cooperation will enable forward thinking organizations to harness synergies to forge multi-disciplinary practices and further promote sustainability of the system in which they operate (Colaner et al., 2019).

6.3.2. Cooperation

Cooperation and collaboration are two of the many ways by which an organization can increase its competitiveness in a global economy (Polenske, 2004). In this study, cooperation is defined as inter-organizational coordinated activities "to produce superior mutual outcomes or singular outcomes that are mutually expected over time" (Mentzer et al., 2001: p. 9). Collaboration is similar to cooperation but 'suggests a higher-order level of collective action', as a great range of more efforts are critical to the success of collaboration (Thomson and Perry, 2006: p. 23). Moving from cooperation to collaboration is possible and the continuum is based on the degree of participation, interaction, responsibilities, involvement, commitment, communication, implementation, evaluation, and last but not least, parity in power and leadership (Thomson and Perry, 2006). The actions include mind-to-mind interactions, identifying mutual interests, establishing common goals, knowledge sharing, information exchange, mutually sharing risks and rewards, and bridging communication differences. In fact, "collaboration is not possible without cooperation, but the inverse is not true" (Hord, 1981: p. 4). Both types of joint efforts could be formal and/or informal, involving cross-sectional organizations within the entire supply chain.

Cooperation is not a new concept in maritime transport and logistics academic literature. Previous studies have explored cooperation among ports in order to identify, for example, the current cooperation-based initiatives among Atlantic Canada's ports (Brooks,

2010), the national and provincial government-based cooperation schemes of Chinese ports (Huo et al., 2018), and the optimal capacity sharing solutions through cooperation in ports, based on the Chilean ports case study (Trujillo et al., 2018). Other studies have explored maritime industry-level cooperation to examine, for example, the role of the net broker (acting as a facilitator) in the context of European ports industry cooperation to transition to sustainable development (Langenus and Dooms, 2018), and the implications of National Single Windows for strengthening sustainability through cooperation in maritime transport and logistics (Tijan et al., 2019).

The literature recognizes that organizations are receptive to cooperation when extra organizational forces demand (Schermerhorn, 1975). This could be attributed to the fact that environmental and social challenges the world is facing are complex and far beyond the scope of any single organization (Clarke and Fuller, 2010). Effective solutions will therefore depend on cooperation among leading organizations in a sector (McLaughlin and McMillon, 2015). Stakeholder cooperation is indeed necessary for long-term economic prosperity, as well as environmental and social sustainability (Strand and Freeman, 2015). Maritime transport and logistics involve a complex web of stakeholders and players which calls for a multi-stakeholder approach, including governments, transport industry, associations and other relevant partners, to enhance sustainability of the sector (Benamara et al., 2019). This is in line with the stakeholder capitalism view, which requires cooperation among different stakeholders around important values, of which sustainability is ‘maybe even the most important’ (Hörisch et al., 2014: p. 336). Stakeholder capitalism is a system in which individual organizations voluntarily work together to create long-lasting relationships in the pursuit of value creation for larger groups of stakeholders

(Freeman and Liedtka, 1997). The notion of value creation for larger groups of stakeholders than corporations alone, so-called 'creating shared value', calls for more heightened forms of cooperation to enhance the competitiveness of a corporation while simultaneously strengthening society's greatest sustainability challenges (Porter and Kramer, 2011).

6.4. Methodology

6.4.1. Research Method and Design

The qualitative approach of case study was used in this research. The case study has been a common research method in business, economics, political science, sociology and other fields for studies that aim to retain the holistic and meaningful characteristics of a contemporary phenomenon within its real-life context (Yin, 2009). To address the research objective (i.e., how cooperation can strengthen sustainability of maritime transport and logistics), a single case study of the Port of Vancouver was investigated—describing a contemporary phenomenon. The Port of Vancouver is Canada's largest port in terms of annual tonnes of cargo (147 million tonnes in 2018). In 2016, the Port of Vancouver set a bold and aspirational corporate vision: *to become the world's most sustainable port*. These 'unique' characteristics of the Port of Vancouver makes it an appropriate case study in a single-case design (Yin, 2009: p. 39). Case studies should rely on multiple sources of evidence (Yin, 2009). This study used multiple methods, such as a series of informational and discussion meetings, document reviews, and semi-structured interviews with the Port of Vancouver's key informants. Moreover, while the study examined the strategic action at the port interface, cooperation for supporting sustainability of maritime transport and logistics was studied at the industry level. The case study was thus supplemented with in-depth, semi-structured interviews with those from a broader set of organizations involved

in trade and transportation in the Vancouver region as well to address the research objective.

6.4.2. Data Collection and Procedure

The data collection steps included: i) a series of informational and discussion meetings to learn more about different programs of the Port of Vancouver in each of the economic, environmental, and social contexts in which cooperation was achieved; ii) document examinations to investigate sustainability programs and cooperative arrangements of the Port of Vancouver with its multi-stakeholders; iii) purposeful selection of interview participants to conduct in-depth interviews. Purposeful sampling strategy is a non-random method of sampling in which 'information-rich' cases are selected for the study (Patton, 2002: p. 273). Data collection was also supplemented with observational information gained by attending several industry and academic forums and workshops in Canada on themes such as sustainability and collaboration in maritime transport and logistics. The procedure for collecting data is explained in detail in the following.

6.4.2.1. Informational and Discussion Meetings

Several informational and discussion meetings were held with representatives from the Port of Vancouver to understand the development, implementation, and management of the sustainability programs of the port in which cooperation with different stakeholders was evident. This approach helped to avoid potential problems associated with single-informant bias (Kumar et al., 1993). Three programs in which cooperation was a central practice were chosen to be investigated in more depth to provide insights into how cooperation is achieved, and how it functions at the operational level in maritime transport

and logistics to translate sustainability goals into actions. Through this phase of the research, key organizations involved in these cooperative endeavors were identified, and classified into five groups: government entity, terminal operator, railway, industry association, and research institute. The key informant from each of the organizations was identified and selected through snowball sampling, whereby the Port of Vancouver's representatives recommended key informants from among the port and other stakeholders who are directly involved in the sustainability programs. This process enabled assessment and verification of the competency of the key informants, a major issue to be overcome in inter-organizational relationship studies (Kumar et al., 1993). Key informants were then contacted by the researchers to invite them to participate in the interview study. Moreover, individuals were asked during interviews to confirm the involvement of other key stakeholders in each of the three sustainability programs. This was to ensure that identified key informants most accurately represent cooperation aspect of the programs.

6.4.2.2. Document Reviews

Extensive document reviews were conducted through examining relevant scholarly literature (focusing on CS and cooperation in maritime transport and logistics, particularly in maritime ports), as well as industry reports and publications (both publicly published and internal documents), websites, and press releases.

6.4.2.3. In-depth Interviews

Interview participants were reached through email. In-depth, semi-structured interviews were conducted in person where feasible, or by phone if not. A pilot interview was carried out with an industry expert (excluded from the research report) in order to both establish

the approximate interview length and ensure the clarity of questions. Ethical approval was obtained prior to the commencement of the interviews from the Dalhousie University Research Ethics Board. A total of 11 in-depth interviews were done with executives and senior leaders[2]: three from the Port of Vancouver (one for each of the economic, environmental, and social pillars of the sustainability programs under investigation), and eight from the following organizations involved in trade and transportation in the region:

1) Transport Canada (a Canadian federal government entity),
2) Alliance Grain Terminal Ltd. (the operator of Alliance Grain Terminal),
3) Viterra Terminal (the operator of Cascadia and Pacific Terminals),
4) Canada National Railway (a Canadian Class I freight railway),
5) Chamber of Shipping of BC (an association representing vessel owners, operators and shipping agencies engaged in international trade on the West Coast of Canada),
6) Shipping Federation of Canada (an association that represents the owners, operators and agents of foreign-flagged, deep sea ships trading at ports across Canada, from the Atlantic to the St. Lawrence and Great Lakes to the Arctic and West Coast),
7) Pacific Pilotage Authority (an Authority with the mandate of establishing, operating, maintaining, and administering a safe, efficient and cost-effective pilotage service on the West Coast of Canada),

[2] The research findings are drawn from this pool of business leaders, experts, academic, and decision makers. All individuals interviewed have had a leadership role in and significantly enriched the process of cooperation in the sustainability programs examined for this study.

8) British Columbia Institute of Technology (BCIT) and Simon Fraser University (SFU) (both research institutions of higher education).

6.4.3. Data Analysis

With the exception of one interview, all interviews were recorded and transcribed. For confidentiality purpose and given the research objective, results are reported in aggregated forms. To analyze the interview data, the study followed the steps prescribed by Gioia et al. (2012). First a myriad of informant terms was coded through open-coding; the 1st-order analysis. Then, codes were sorted into categories. Once categories emerged, they were put together based on similarities and meanings and were labelled to generate themes; the 2nd-order analysis. Steps for both the 1st-order codes and the 2nd-order themes were repeated until theoretical saturation was reached, meaning that no new codes or themes were produced and all emergent concepts were well-developed. Themes were further distilled into overarching dimensions, contributing to the discussion (Table 6.1).

Table 6.1 Examples of coding process for challenges to cooperation

1st Order Analysis	***2nd Order Analysis***	***Overarching Dimensions***
▪ Certain stakeholders might have different mandates. ▪ Each stakeholder entity has their own sort of goals and objectives. ▪ Different interests. ▪ Different mandates. ▪ Some stakeholders have competing interests.	➢ Different goals and objectives. ➢ Variation in the interests and motivations.	❖ Different mandates or interests

1st Order Analysis	*2nd Order Analysis*	*Overarching Dimensions*
▪ A difference of opinion about the overall goal. ▪ Differences of opinion about what things of value are uncompromisable. ▪ Constrained by different views of different stakeholders involved. ▪ Create a space to feel safe to openly communicate. ▪ Listen to what they are saying and do what is required in order to address the goal of the project. ▪ Different organizations have different agendas.	➢ Differences in opinions about uncompromisable values, priorities, and overall goals. ➢ Different perspectives should be given a platform to be voiced.	❖ Different points-of-view
▪ Keeping everybody engaged. ▪ Getting commitment and support from everybody. ▪ Requires regular, frequent dialogue, and transparency. ▪ Need to have dedication and readjust accordingly. ▪ Things are not always right the first time around and need to adapt and learn from your mistakes. ▪ Repetitive requests and questions, always providing the same information (stakeholder fatigue).	➢ Active engagement of partners throughout the course of a program. ➢ Lack of commitment and dedication to the process. ➢ Stakeholder fatigue.	❖ Difficulty in maintaining high engagement level

1st Order Analysis	*2nd Order Analysis*	*Overarching Dimensions*
▪ Fear of giving away competitive advantages. ▪ Part of it is just competition, there is more competition locally and nationally. ▪ Inherent lack of trust of competitors exists. ▪ Losing trust because of over-regulation. ▪ Potential exposure to additional cost for cooperating in a program impacts the competitiveness. ▪ Incomplete information. ▪ Lots of times they are very reluctant to share the information. ▪ Regulations often have an impact in the discussion. ▪ Regulator is putting parallel pressure.	➢ Reluctant of sharing information due to inherent lack of trust. ➢ Competitive forces among actors. ➢ Potential exposure to additional costs. ➢ Losing trust in government for over-regulation.	❖ Fear of giving away competitive advantage
▪ Differences in organization's systems. ▪ Different systems of budgeting or freeing up money or sharing data or who can approve what types of activities. ▪ Different organizations have different expectations and requirements.	➢ Different organizational governances. ➢ Different organizational systems.	❖ Different organizational and governance structures

1st Order Analysis	*2nd Order Analysis*	*Overarching Dimensions*
▪ Stakeholders may agree when they are around the table to an action but do not stay accountable. ▪ Should have full scope of accountability, having two out of five parties cooperate doesn't get you anywhere. ▪ It really does take a lot of time to have desired results. ▪ Ensure that stakeholders provide enough time and resources. ▪ United efforts and perseverance of individuals to tackle the issues. Need readiness on each party to commit to reciprocal accountability.	➢ Accountability. ➢ Considerable time to yield desired results. ➢ Personal perseverance and endurance.	❖ Sporadic accountability

6.4.4. Data Evaluation and Verification

Lincoln and Guba's model for trustworthiness was used to enhance the validity and reliability of the study (Lincoln and Guba, 1986). Credibility of data collection and data analysis was ensured through 'methodological triangulation' using multiple methods of data collection, including a series of informational and discussion meetings, document reviews, and semi-structured interviews. Moreover, the lead author has spent a prolonged time in the field (about a year) learning the industry culture and social setting to develop an in-depth understanding of the phenomenon under study, to assess possible sources of

distortion, and to establish relationships and rapport with industry members through building trust to enhance credibility.

Transferability of this study, while it could be limited to the context in which the study was performed, was substantially promoted by setting suitable sampling criteria driven by the research objective. This included selecting a comprehensive set of sustainability programs (i.e., those programs that focus on economic, environmental, and social goals in which cooperation was a central practice), as well as key stakeholders involved in the cooperation activities under study (i.e., government entity, terminal operator, railway, industry association, and research institute). An external audit was performed by the Port of Vancouver for fact checking and by an external researcher. This helped to attest to the dependability and confirmability of both the process and the product of the research for consistency through establishing an audit trail of the study, involving transparent and meticulous documentation of the research process and outcomes.

6.5. Results and Discussion

6.5.1. Case Study: Port of Vancouver

6.5.1.1. Overview

Positioned on the southwest coast of BC, the Port of Vancouver is home to 27 major marine cargo terminals and three Class 1 railroads; it also offers a full range of facilities and services to the Canadian and international shipping community. The Port of Vancouver is overseen and managed by Vancouver Fraser Port Authority (VFPA). The VFPA's role is to responsibly facilitate Canada's trade objectives through the Port of Vancouver. As a non-shareholder corporation established by the Government of Canada in January 2008,

pursuant to the *Canada Marine Act*, VFPA is accountable to the federal Minister of Transport. Acting in the public interest, Canadian port authorities are agents of the Crown for certain prescribed purposes and operate at arm's length from the government. Like all Canadian port authorities, VFPA is financially self-sufficient, collecting rental income from terminals and other tenants, as well as various commercial fees.

In 2010, VFPA embarked on its Port 2050 Initiative—a long-term strategic scenario planning process, describing what the world and Vancouver gateway environments might look like in 2050—with over 100 individuals and organizations with a stake in the future of the port. The process identified four plausible scenarios for the future, including the one adopted by the port: 'The Great Transition'. This scenario represents a shift to a low-carbon economy with a specific focus on achieving a better balance between economic, environmental, and social imperatives, characteristics of a sustainable port.

6.5.1.2. Sustainability Programs

VFPA has set a remarkably forward-looking and distinctive vision for itself: '*to become the world's most sustainable port*'. To translate its vision into reality, the port engages and collaborates with a wide group of stakeholders, including terminal operators, railways, vessel operators, beneficial cargo owners, industry associations, communities, municipalities, government agencies, and Indigenous groups. The sustainability vision of VFPA emphasizes delivering economic prosperity through trade, maintaining a healthy environment, and enabling thriving communities. It includes 10 areas of focus and 22 statements, which together describe the attributes of a sustainable port from VFPA's perspective.

VFPA has undertaken several projects and programs in economic, environmental, and social areas through cooperative efforts with the port's multi-stakeholders as part of its sustainability journey. The following sections shed light on three important and intriguing sustainability endeavors of VFPA in which cooperation was a central practice, namely the Supply Chain Visibility Program (the Visibility Program), the Enhancing Cetacean Habitat and Observation Program (the ECHO Program), and the Habitat Enhancement Program (HEP)'s Collaborative Work with Post-Graduate Educational Institutions (the Educational component of the HEP Program).

1. The Visibility Program: Economic Sustainability

VFPA has led a number of projects to advance its economic sustainability through cooperation with key organizations responsible for trade and transportation in the Vancouver region. The Visibility Program, which is a cooperative endeavor with supply chain partners and government agencies, aims to build future capacity through increased efficiency. It has three phases and involves the development of a series of operational planning and optimization tools for industry stakeholders to aid in improving the fluidity, resiliency, and better utilization of supply chain capacity across western Canada.

The first phase of the program—the Supply Chain Visibility Pilot Project—was launched in 2017 and received CAD$500,000 in funding from the federal government of Canada to measure and assess end-to-end supply chain performance for all bulk cargo commodities (coal, grain, and fertilizers such as potash) moving to and from the Port of Vancouver through a near-real-time dashboard. The Pilot Project involved collecting information about travel times and congestion points for cargo to provide visibility into current supply chain performance, better identify rail and road bottlenecks, support the

prioritization of infrastructure projects, and optimize existing operations. As part of this cooperative endeavor, VFPA has developed a governance model to operationalize the Pilot Project on a self-sustaining basis. Representatives from VFPA and participating stakeholders formed a Steering Committee and Working Groups. The Steering Committee meets regularly to drive resolution of impediments for the project, such as low level of stakeholder engagement, data procurement delays, and decisions on contentious Key Performance Indicator (KPI) definitions. While the Steering Committee guides and influences the project's scope, schedule, and budget, the Working Groups play a key role in development of the KPIs to be reported through the dashboard, as well as resolving technical or procedural matters that the project team cannot resolve alone. The other two phases of the Visibility Program will involve a broader set of stakeholder groups including container terminal operators and other ports (both maritime and inland ports).

2. The ECHO Program: Environmental Sustainability

The ECHO Program is the VFPA's collaborative initiative aimed at better understanding and managing the cumulative effects of shipping activities on at-risk whales, including acoustic and physical disturbance and environmental contaminants, throughout the southern coast of BC. The program was established by the port in 2014 with government agencies, First Nations individuals, marine industry users, environmental and conservation organizations, and scientific experts to better understand and develop voluntary measures that will lead to a quantifiable reduction in potential threats to whales as a result of shipping activities. Threat reduction measures may include incentives for the use of quiet vessel technology and changes to operational activities of ocean-going vessels. On this basis, the

program has collaborated on and supported a series of individual short-term projects, including:

- Scientific studies (e.g., Southern Resident Killer Whales Behavioural Response to Vessel Noise Study; Vessel Quieting Design, Technology and Maintenance Options Study)
- Education (e.g., Mariner's Guide to Whales, Dolphins and Porpoises of Western Canada; Whales in Our Waters Tutorial - an example of educational outreach to local mariners)
- Regional initiatives (e.g., Voluntary Vessel Slowdown Initiative; Inshore Lateral Displacement Trial; WhaleReport Alert System (WRAS) Project).

Similar to the Visibility Program, VFPA has developed a governance model for the ECHO Program, to be guided by the advice and input of an Advisory Working Group and two Technical Committees (Vessel Operators Committee and Acoustic Technical Committee). The Advisory Working Group helps to establish the overall direction of the program and the concept and parameters of individual projects. The Vessel Operators Committee, on the other hand, assists to refine the specifics of projects with a vessel operation component and to ensure adequate engagement of the shipping community. The Acoustic Technical Committee, likewise, provides guidance and recommendations on the technical direction of acoustic projects that aim to mitigate and reduce threats to the Pacific ocean's ecosystem and marine biodiversity. In addition to these formal arrangements, there have been contributions and commitments by other stakeholders, either by way of direct financial support or in-kind contribution of equipment, resources, and staffing at either the program level or specific projects.

3. The Educational component of the HEP Program: Social Sustainability

VFPA has a number of social support programs through which it dedicates efforts and capacities for serving the society in which it operates. The HEP is the VFPA's initiative focused on creating, restoring and enhancing fish and wildlife habitat. It is a proactive measure intended to provide a balance between a healthy environment and future development projects that may be required for port operations. The Glenrose Tidal Marsh Project, which was undertaken by the port to improve the overall fisheries productivity of the Fraser River by providing high quality habitat for juvenile salmon rearing, is an example of the educational and training component of the HEP. The project was undertaken, in part, in response to requests from Indigenous groups to protect archeological values as the site location had been subject to degradation from erosion and the illegal collection of artifacts and archeological material. This social responsibility act indicates the port's commitments to the indigenous people on whose traditional territories, on the south arm of the Fraser River, some of the port's activities occur. This proportionally contributed to the port's social sustainability goals through the port's Educational component of the HEP Program.

Following completion of the project's construction in 2014, which included the successful physical creation of three marsh benches, the port collaborated for the next four years with BCIT and SFU to complete annual supplemental planting and restoration activities at the site. Each year, BCIT/SFU joint Ecological Restoration graduate degree students had an opportunity to learn about the project in a classroom setting (instructed by the port management), prepare formal proposals to conduct additional restoration work onsite, and finally, actually conduct spring fieldwork in support of the project's success.

Although the HEP is a formal capital infrastructure program that has in place a governance structure and capital budget, its Educational component currently has a limited governance model for cooperation. This example of an industry-academia cooperative project yet manifests how the port can meet its social sustainability goals through leadership, resources, and coaching input provided in such educational and training activities. This certainly goes beyond compliance with regulations and other requirements for garnering public support for development activities through stakeholder engagement. It reflects a fine example of authentic commitment of the port to drive real value for the society in which it operates.

6.5.2. Lessons from the Port of Vancouver and other Maritime Transport and Logistics Stakeholders in the Vancouver Region

Lessons learned from the case study of Port of Vancouver and other key stakeholders in maritime transport and logistics in the Vancouver region have informed the discussion. Understanding current perspectives of maritime transports and logistics actors on the underlying rational for cooperation is the starting point for understanding how cooperation can strengthen sustainability of the port as well as the sector. The discussion is further divided into sections on attributes of cooperation, challenges to cooperation, mechanisms to enhance cooperation, and key success factors for effective cooperation in maritime transport and logistics. The discussion is then extended through a more specific focus on multi-stakeholder cooperation to strengthen sustainability based on the lessons learned from this Canadian case study. The discussion ends with a guiding model which is further elaborated in the managerial implications, demonstrating the role of cooperation as the transmission belt to achieve the SDGs.

6.5.2.1. Rational for Cooperation

There are several reasons for maritime transport and logistics actors to cooperate in different economic, environmental, and social activities, which are discussed herein (Figure 6.1).

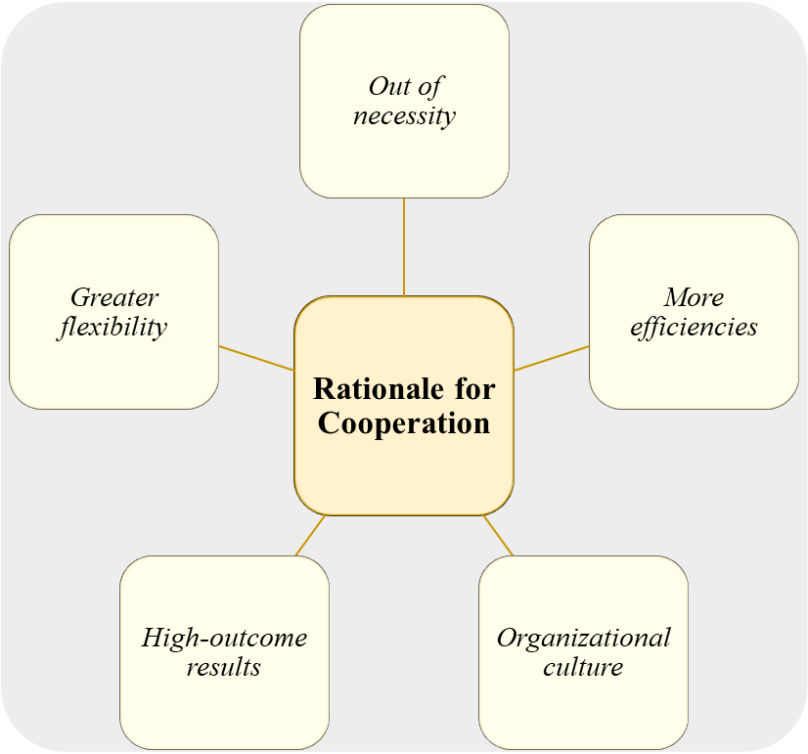


Figure 6.1 Rational for cooperation in maritime transport and logistics

1. Out of Necessity

A continuing thread within the international agenda has steered maritime transport and logistics towards addressing some issues, including improving environmentally friendly performance, increasing safety and security, and promoting gender equality and the empowerment of women. This indicates that the industry is expected to be well-prepared to address the coming challenges. Maritime transport and logistics actors are coming to realize that if they do not change what they are doing now, they will experience some

significant challenges in the future. Cooperation, either because of stakeholders' self-interest in order to solve problems that cannot be addressed in isolation and/or the fact that some of the stakeholders are visible and have a mandate to cooperate, is considered necessary and desirable.

2. More Efficiencies

Maritime transport and logistics actors are tightly related to each other. Interconnections and interdependencies create a number of circumstances where disruptions could potentially spread elsewhere in the process across the supply chain, such that (in)efficiencies in one segment can substantially affect efficiencies well beyond their original source. There is a shared sense among maritime transport and logistics actors of new opportunities for cooperation to bring about consistent progress that meet the industry's expectations in efficiency and reliability.

3. Organizational Culture

While cooperation is not firmly anchored in the corporate culture of all individual maritime transport and logistics actors, there is still a common perception that their organizational mission and culture encourage cooperation in order to meet operational and other challenges facing the industry. This is mainly to better serve the interests of the industry and its customers, as well as the community at large.

4. High-Outcome Results

When maritime transport and logistics actors work together, they can achieve more and better results. The more integrated results they gain cumulatively by exchanging information over time foster further cooperation. Diverse positions, inputs and perspectives shared through cooperation also serve as a wider frame to meet challenges more creatively

and effectively. Projects can benefit from cooperation among maritime transport and logistics actors, including faster and smoother project delivery and higher overall outcomes.

5. Greater Flexibility

The nature and spectrum of uncertainties associated with activities in maritime transport and logistics require flexibility to be built into regulatory initiatives to ensure their effectiveness. Cooperation can provide greater flexibility to businesses in meeting regulatory requirements or setting the industry's own standards (self-regulation). This flexibility is reflected in two ways: a) a coherent strategy for engaging with government which encourages voluntary compliance through cooperation to support a network of organizations working collectively, rather than enforcement actions; b) instilling the notion of '*solutions are better achieved from the inside than imposed on you*' which favors cooperation between and across industry actors. Underlying this notion is the inclination to push back against rigid and cumbersome regulations and instead, self-regulating to thrive.

6.5.2.2. Attributes of Cooperation

While the basic attribute of cooperation is that two or more organizations work collectively towards common objectives through complementary contributions, the specific attributes of cooperation in maritime transport and logistics is multifaceted. There are, in particular, five attributes of cooperation identified as it applies to maritime transport and logistics (Figure 6.2).

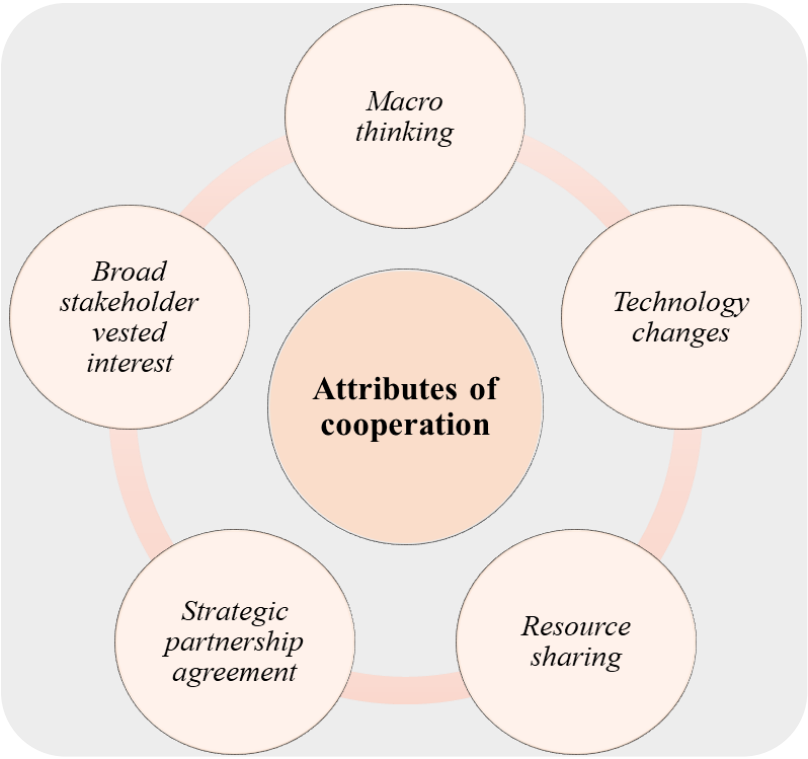


Figure 6.2 Attributes of cooperation in maritime transport and logistics

1. Macro Thinking

This attribute of cooperation in maritime transport and logistics promotes focusing on the big picture in order for maritime transport and logistics actors to build and strengthen relationships, generate creative ideas, collectively design effective solutions, and mobilize stakeholders into action.

2. Technology Changes

This attribute of cooperation in maritime transport and logistics emphasizes the importance of adaptation to changes, such that maritime transport and logistics actors need to actively manage inevitable changes in technology at regular intervals.

3. Resource Sharing

This attribute of cooperation in maritime transport and logistics underlines sharing resources, such as knowledge, time, data, equipment, and infrastructures, among maritime transport and logistics actors to help in reducing costs and risks and maximizing supply chain efficiencies.

4. Strategic Partnership Agreement

This attribute of cooperation in maritime transport and logistics points out that there are usually negotiations involved between maritime transport and logistics actors to arrive at a mutually acceptable agreement that outlines roles and responsibilities.

5. Broad Stakeholder Vested Interest

This attribute of cooperation in maritime transport and logistics highlights the importance of framing the scope of the stakeholders that are impacted by maritime transport and logistics activities. The impacts may extend to arm's length stakeholders who may not realize the full extent of the impacts and therefore not take a timely proactive role in dealing with them. This creates further uncertainties that can affect the performance of the entire supply chain.

6.5.2.3. Challenges to Cooperation

A number of factors may create hurdles to cooperation in maritime transport and logistics. Some challenges are related mainly to individuals engaged in cooperation, whereas others are inherent in the strategy and business model of partner organizations involved in cooperation (Figure 6.3).

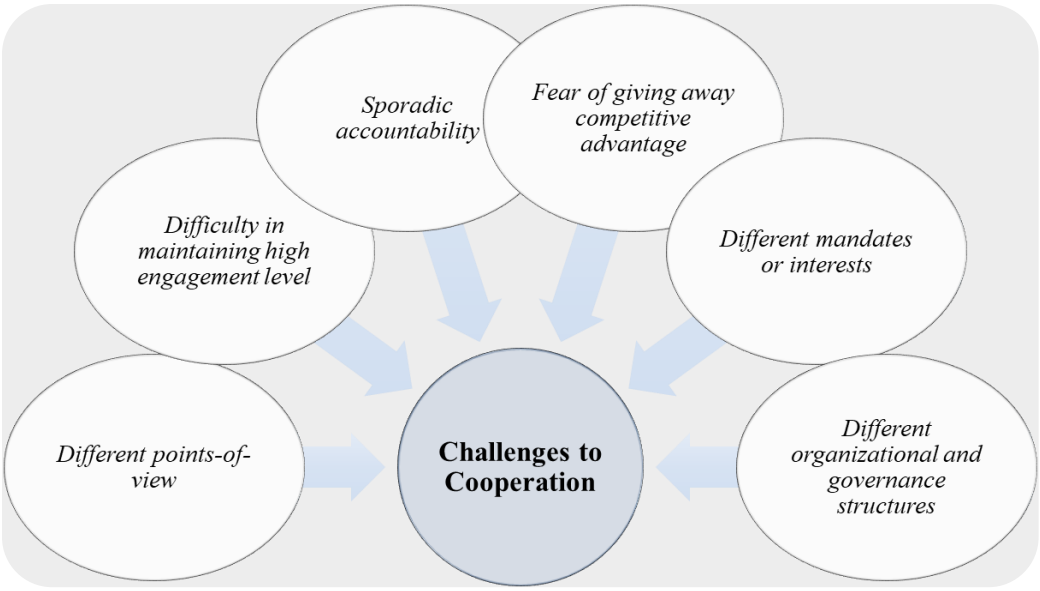


Figure 6.3 Challenges to cooperation in maritime transport and logistics

1. Different Points-of-View

Understanding and recognizing that there are differences in opinions is vital in cooperation. These differences, by their nature, could become a source of challenge in cooperation at various stages or as circumstances change (e.g., process and governance model, (un)compromisable values, priorities, and overall goals). Maritime transport and logistics actors acknowledge the complexity associated with different points-of-view in cooperation as a key challenge. They corroborate, however, that not only different perspectives are important and should be given a platform to be voiced, respected and tolerated, but are critical in formulating a desirable plan.

2. Difficulty in Maintaining High Engagement Level

A major challenge in cooperation is ensuring active engagement of partners throughout the course of a project or program. Lack of commitment and dedication to the process is one of the reasons for lack of engagement. While there are many reasons for lack of commitment by individuals, maritime transport and logistics actors perceive ‘stakeholder

fatigue' as a factor that may result in limited engagement. Stakeholder fatigue is defined as a situation when many previously initiated stakeholder engagements have not produced tangible outcomes, resulting in over-consultation with the same stakeholders.

3. Sporadic Accountability

Although it is necessary for partners involved in cooperation to agree on making tangible contributions towards shared ambitions, it is even more essential to be accountable for all associated responsibilities. Accountability is an imperative part of any smoothly run cooperation. Maritime transport and logistics actors assert that it takes time for cooperation to yield desired results, which makes maintaining effective accountability often tricky to sustain throughout a project or program. They believe demonstrating personal perseverance and endurance to overcome problems or situations that require new ways of seeing and doing are critical to enabling mutual support and accountability in cooperation.

4. Fear of Giving Away Competitive Advantage

Maritime transport and logistics actors are generally reluctant to share information. Incomplete information is a challenge for effective cooperation, especially when the industry actors are interdependent. Forecasting the information sharing issues could be improved with enhanced trust among stakeholders; however, there is an inherent lack of trust in maritime transport and logistics. This is due, in part, to competitive forces among many of the industry stakeholders, particularly businesses within the same segments. Businesses may also lose their trust in government organizations when riddled with hierarchy and over-regulation, further complicating their competitive pathways. Moreover, the potential exposure to additional costs incurred through cooperation could impact competitiveness in the marketplace (at least in short-term).

5. Different Mandates or Interests

Individual maritime transport and logistics actors have different goals and objectives that guide their decisions. For some stakeholders, fulfilling the full scope of their mandate naturally leads them to needing some form of cooperation. For other stakeholders, cooperation is centered on divergent interests (e.g., pure business interests, personal and professional relationships). Having much variation in the interests and motivations makes it difficult to succeed in achieving those overarching goals of cooperation. As well, there are sometimes competing interests which require efforts that are more co-mingled and united to harmonize stakeholder interests.

6. Different Organizational and Governance Structures

Organizational and governance structures vary among maritime transport and logistics actors, influencing the type and degree of their contributions to cooperation. This ranges from allocating assets, expertise, time, and funds to what information can be shared, who can approve what types of activities to cooperate in, who should participate in meetings, and how and with whom outcomes will be disseminated. There are also specific conditions and requirements that make cooperation across different organizational systems a real challenge.

6.5.2.4. Mechanisms to Enhance Cooperation

Maritime transport and logistics actors premised that any mechanisms to enhance cooperation needed to include the principles of incentives, collective agreements, and effective and sustainable communication (Figure 6.4).

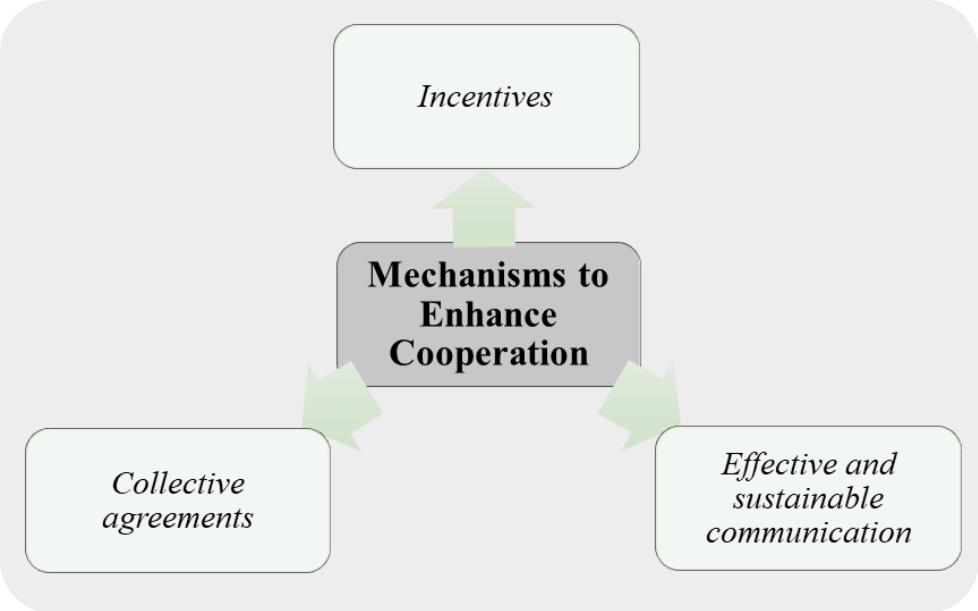


Figure 6.4 Mechanisms to enhance cooperation in maritime transport and logistics

1. Incentives

The voluntary nature of cooperation, instead of regulation by government, acts as an incentive to enhance cooperation in maritime transport and logistics. Another incentive is information about how the cost can be mitigated by the benefits, such that value added for all stakeholders could be ensured. Reporting results, through weekly reports for example, to inform partners where they are on the project spectrum is demonstrated to be an incentive to promote cooperation. Moreover, funding arrangements and buy-in from provincial and federal governments stimulate cooperation in maritime transport and logistics.

2. Collective Agreements

Maritime transport and logistics actors point out that the establishment of a collective agreement can be invaluable to enhance cooperation. By providing mutually agreed higher-level terms of reference that outline team structure (e.g., how partners would speak either on behalf of the project/program or for their own organization), a long-term plan with a

clearly defined set of targeted goals, and time expectation for specific actions, the collective agreement can greatly assist in enhancing cooperation.

3. Effective and Sustainable Communication

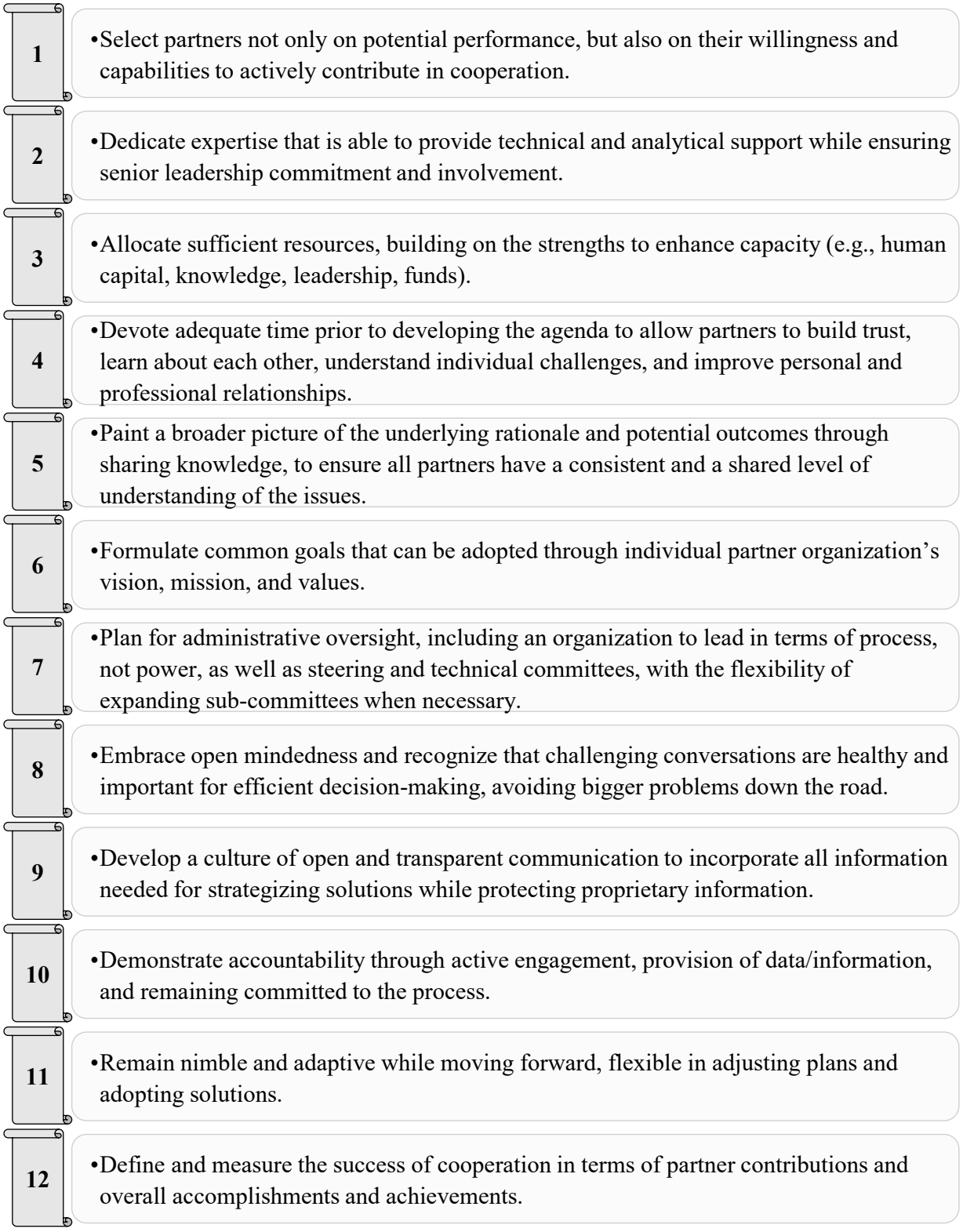
Effective and sustainable communication, such as regular meetings (e.g., committee meetings) play a central role in enhancing cooperation. It also requires fully informed partners, so continuous education and awareness are indispensable in empowering individuals with the capacity to participate in cooperation. Maritime transport and logistics actors also emphasize the importance of creating a space for discussion where everyone feels welcome to speak freely around the table, and taking the pulse of the individuals to ensure all still feel heard and valued.

6.5.2.5. Key Success Factors for Effective Cooperation

Maritime transport and logistics actors recognized several factors as key determinants for effective cooperation, which is perceived to lead to achievement of the higher-level goals of the industry and ultimately delivering improvements over the long-term. The key success factors[3] for effective cooperation are summarized as a 12-step guide in Figure 6.5.

[3] The key steps are not meant to be exhaustive or followed in a prescribed order.

Figure 6.5 The 12-step key success factors for effective cooperation



6.5.3. Multi-Stakeholder Cooperation to Strengthen Sustainability

The lessons learned from this Canadian case study help to cast light on the role of multi-stakeholder cooperation to strengthen sustainability (Figure 6.6). Three sustainability programs of the Port of Vancouver (i.e., the Visibility Program, the ECHO Program, and the Educational component of the HEP Program) in which cooperation with other stakeholders was a central practice were investigated. Several reasons for cooperation were identified, including *out of necessity*, *more efficiencies*, *organizational culture*, *high-outcome results*, and *greater flexibility*. Cooperation among maritime transport and logistics actors in the Vancouver region, regardless of the individual organizational mission and dynamics, indicates the morale of the actors to overcome different economic, environmental, and social issues collectively as they believe there is a significantly greater strength in collective actions. A major strength of the cooperative approach to address sustainability issues is indeed the capacity to allow for 'crafting of fit-for-purpose' (Butcher et al, 2019: p. 81) solutions that addresses local economic, environmental, and social concerns (MacDonald et al., 2019). The willingness of the industry to cooperate in economic, environmental, and social activities indicates their shared veneration for sustainability stewardship. This may further reflect the desire of maritime transport and logistics actors for cooperation in order to create long-term values for both the industry and the society, through, for example, a maritime center of excellence in the region.

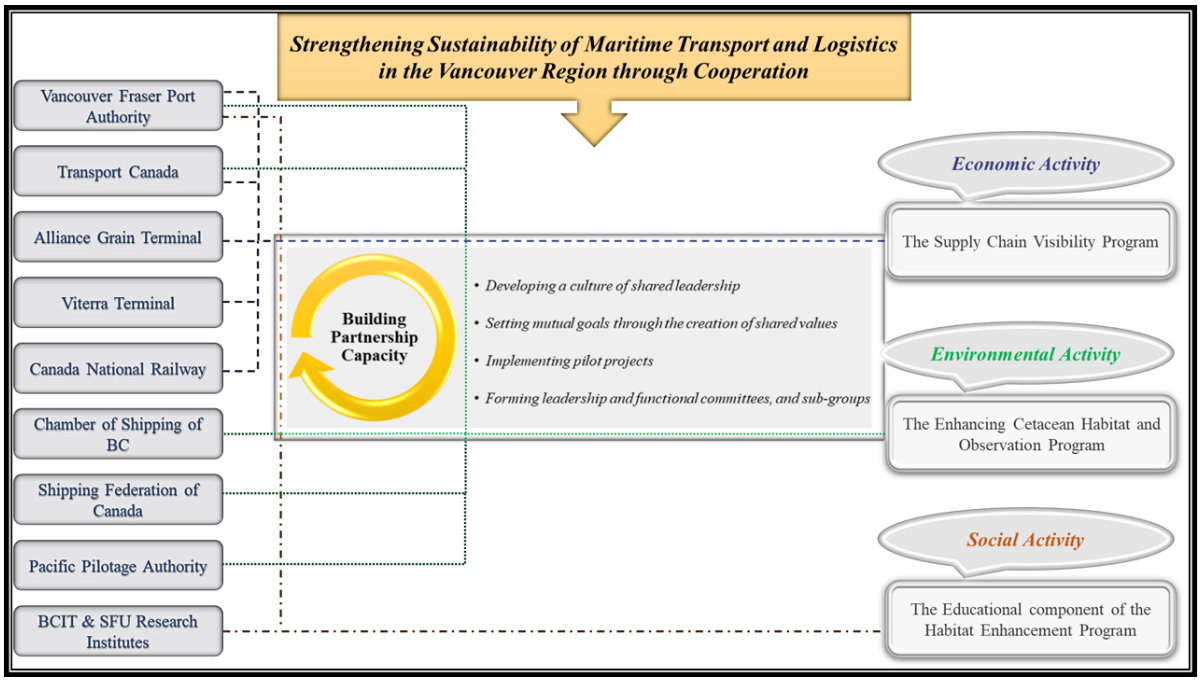


Figure 6.6 Cooperation of maritime transport and logistics actors in the Vancouver region in sustainability activities

VFPA (as the authority and managing body of the Port of Vancouver, the hub of Canada's trans-Pacific trade) has embedded a sustainability vision in its business model. Achieving such a vision may, however, not be possible in silos. This is mainly because of the complex nature of sustainability which makes it difficult for any single actor to fully address sustainability challenges in a timely and effective manner, suggesting the implications for cooperation in the strategic management (Strand, 2017). VFPA has cooperated with a number of key stakeholders in the region and beyond to address economic, environmental, and social challenges facing the industry. These cooperative acts are mainly rooted in the organizational culture of VFPA that embodies cooperation as an essential element in moving towards a sustainable port. VFPA has thus taken on a leadership role by bringing interested groups together to plan what they can do to improve sustainability of maritime transport and logistics in the region and beyond. Indeed, to have

effective cooperation between actors, intergroup leadership is required. Neutrality in the eyes of all partners may, however, be difficult to achieve especially when the leader is a partner in the group. This further requires the leader to position itself as a role model to be perceived as representing the intergroup collaborative relationship through upholding sub-group differences in values, priorities, and skills while also promoting a sense of shared direction, alignment, and commitment (Hogg et al., 2012).

Prior relationships or existing networks are important aspects to cooperation by indicating the trustworthiness of the partners (Bryson et al., 2006), serving as bonding capital for creating and maintaining reciprocity during cooperation (Schreiner et al., 2009). Creating long-lasting collaborative relationships facilitates timely, effective cooperation which can further lead to a more effective corporate management within even highly competitive markets (Freeman et al., 2007). VFPA had built and nurtured a relationship with their partner organizations prior to cooperation. Many key staff members in both organizations were familiar with one another and therefore, the initial trust for developing cooperation initiatives was clearly articulated from the beginning. Trust, which operates as a self-enforcing contract, promotes commitment to joint action and improves inter-organizational cooperative behaviour (Poppo & Zenger, 2002). For VFPA, it started with individual phone calls to talk about what the port's interests were and how the port had identified a sustainability challenge that needs to be solved collectively. This is recognized as the first stage of the collaborative strategic plan where a lead organization invites the initial partners to join together to combat the challenges (Clarke and Fuller, 2010). Having individual conversations with different stakeholders, mapping out who those potential interested parties might be, having one-on-one conversations, and then meetings and

further follow up with stakeholder groups were the critical steps taken by VFPA to facilitate cooperation for the sustainability programs.

Although VFPA took the leadership role to initiate cooperation with other maritime transport and logistics stakeholders, equal and valued partnership have remained with the partners. This 'boundary-spanning leadership' helped to strengthen the impact of VFPA's attempts to enhance the effectiveness of cooperation (Hogg et al., 2012: p. 243). Certain members from each of partner organizations involved in cooperation were designated to share information and coordinate other activities. These 'boundary spanners' have strong links and significant interactions with outgroup members, and thus are potentially able to facilitate smooth intergroup interactions (Hogg et al., 2012: p. 242). This enabled a decentralized (collaborative) decision-making approach in cooperation (MacDonald et al., 2019), which further promoted a sense of shared leadership among maritime transport and logistics actors in the Vancouver region. Moreover, while the lead organization may serve the role of facilitator in cooperation, there is sometimes a need to involve an external third-party (for instance, in the case of the ECHO Program). A "net broker [who] manages the network and serves the functions of facilitator, coordinator and moderator among the stakeholders of a collaborative network" can help to intensify cooperation (Langenus and Dooms, 2018: p. 951).

> **Proposition 1:** Partnership capacity in multi-stakeholder cooperation is more likely when there is a culture of shared leadership.

Despite initial trust-building exercises and shared understanding of the issues, not everything went as expected in cooperation among maritime transport and logistics actors in the Vancouver region. This could be partially attributed to a number of challenges

identified, including *different points-of-view*, *difficulty in maintaining high engagement level*, *sporadic accountability*, *fear of giving away competitive advantage*, *different mandates or interests*, and *different organizational and governance structures*. These challenges, on the other hand, reinforced the need for clear expectations and concrete mutual goals. Setting mutual goals requires actors to explore opportunities for installing positive links between stakeholder interests, through negotiating around values, in order to create mutual interests (Hörisch et al., 2014). However, as interests and stances may shift over time, as can partners' degree of participation (Salvato et al., 2017), delving into 'more deeply ingrained values' is critical to promote cooperation among partners (Koschmann et al., 2012: p. 340). Such a strategy creates a path for building common goals around shared values, which can further enhance the potential of cooperation to develop capacity for value creation (Mirvis and Worley, 2014).

> **Proposition 2:** Partnership capacity in multi-stakeholder cooperation is more likely when overarching mutual goals are achieved through the creation of shared values.

In addition to the pursuit of common values and establishing mutual goals, the successful implementation of a pilot or trial project was found to be important. This is to uncover information about the intentions, expectations, reliability, and commitment of partners to see whether further investment of resources might hold promise for more significant projects. Moreover, designing a sequence of interactions, through, for example, pilot projects defined within a longer time-frame program, enables partners to realize the importance of cooperation through developing an understanding of the advantages and disadvantages associated with cooperation and non-cooperation (defection), promoting the

shift from short-term thinking to long-term thinking (Zeng and Chen, 2003). It also provides opportunities for implementation of both deliberately intended strategies, as well as strategies that are emergent in response to feedback from partners during the pilot or trial cooperative effort. The leverage of agreeing to invest in an initial small-scale project, the 'collective real option', could enhance trust among partners and subsequently foster cooperation by decreasing perceived vulnerability among partners (McCarter et a., 2012: p. 624). Inter-organizational trust is perceived to generally provoke partners to be inclined to contribute in cooperation, especially when actors have high interdependence and there is lack of formal legal mechanisms (Fulmer and Gelfand, 2012).

> **Proposition 3:** Partnership capacity in multi-stakeholder cooperation is more likely when pilot projects are first initiated and then refined for the scaled-up version.

The practice of forming groups (e.g., steering committees, advisory groups, working groups, and technical committees) was also found to be central to the success of cooperation. The governance model of the Visibility Program, which includes a Steering Committee and Working Groups, provides substantial support to this cooperative effort to ensure alignment among stakeholders, viability of the formulated strategies, and ultimately the long-term success of the program. The governance model for the ECHO Program, which includes an Advisory Working Group and Two Technical Committees, provides a platform to build and enhance mutual understanding of interests, identify knowledge gaps and promote resource allocation and pooling to fill those gaps, and ultimately create opportunities for further cooperative arrangements. Although the governance model for the Educational component of the HEP Program is not structured in the same fashion as the

Visibility Program and the ECHO Program, it is expected to see a similar governance model once the collaboration platform for learning and capacity building with educational institutes becomes formalized. Forming groups is recognized to be apt for effective cooperation (Tjosvold and Tsao, 1989) in order to resolve problems, through, for example, providing input, facilitating discussion, supporting implementation, and ensuring progress and success. Leadership committees in the form of steering committees, in particular, have a critical role in providing oversight to the cooperation. They often have equal representation from the partners which means "partners can rely on authority-based administrative controls derived from means other than ownership" (Salvato et al., 2017: p. 982). The role of functional committees and sub-groups in providing continuous technical advice and reporting to steering committees is essential to cooperation as well. This requires a team-based cooperative system among partners in which group versus individual accomplishments are centered to reflect the collective success of cooperation (Milton and Westphal, 2005).

> **Proposition 4:** Partnership capacity in multi-stakeholder cooperation is more likely when leadership committees formed to oversee and steer the process and functional committees (with sub-groups) formed to provide technical advice and input into implementation of specific initiatives.

Although possibly for safeguarding its own stake, VFPA is seeking to care for the good of the whole maritime transport and logistics network in the region and thus reinvented its performance management to deliver greater sustainability-based values. These greater values are reinforced through cooperation with different stakeholders in economic, environmental, and social areas. While it might be too early to predict the full success of

cooperation in meeting the goals of the port's sustainability programs, one can attest the role of cooperation in delivering profound improvements in sustainability performance of the port and, to a great extent, the entire sector based on evidence of mobilizing partners into actions as well as preliminary outcomes of the projects[4]. So, is embedding CS into a maritime port's business model alone sufficient to support sustainability of the whole sector in a region? The answer is "no". But, is cooperation worthwhile to consider in order to strengthen CS in maritime ports, as well as sustainability of the sector, a nation, and the world? The answer has to be an emphatic "yes!"

6.6. Managerial Implications

Based on this Canadian case study, a guiding model was developed to illustrate how cooperation can act as the transmission belt to assist actors to strengthen sustainability of their organization and the sector, and further contribute to sustainability of a nation and the UN SDGs (Figure 6.7). The model provides a blueprint for the transition needed to take place at micro- and meso-levels to enable the move towards sustainable development (macro-level).

[4] For example, findings from the 2018 voluntary vessel slowdown trial of the ECHO Program indicate a high participation rate (87% of vessel transits reported as having participated in the slowdown), an estimated 29% median reduction in underwater sound intensity levels during the slowdown, and a 15.3% reduction in affected foraging time on an average vessel traffic day (based on a behavioural response modelling), thereby lessening the amount of time southern resident killer whale behaviour and foraging is affected by underwater noise from vessels.
Available online: https://www.portvancouver.com/wp-content/uploads/2019/07/2019-06-Fact-sheet-ECHO-Program-2018-voluntary-vessel-slowdown-results.pdf.

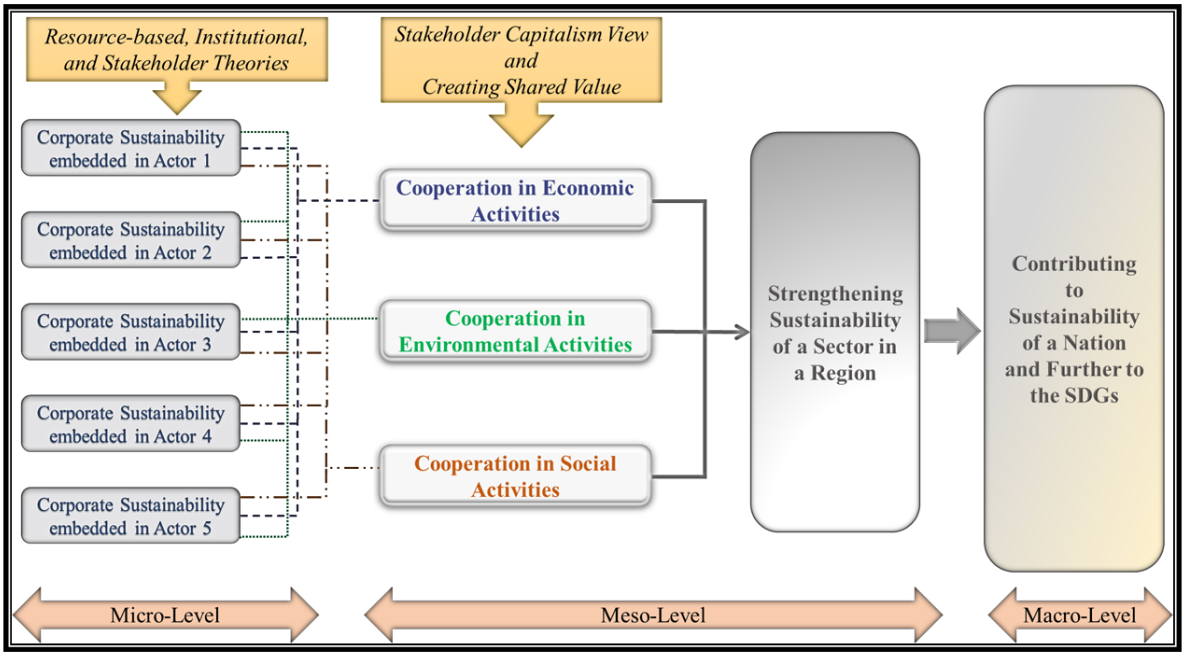


Figure 6.7 Cooperation acting as the transmission belt to achieve the SDGs

The first phase of the model (i.e., sustainability at micro-level) highlights the importance of embedding sustainability at the corporate level. This reiterates the importance of CS in management strategy (Ashrafi et al., 2018). Different theories of the firm have provided explanations for driving CS adoption and implementation to understand whether, and under which conditions, superior CS performance will lead to superior financial performance, competitive advantage, and societal values. For example, according to resource-based theory, corporations adopt CS policies and actions contingent on corporate power and control over their distinctive internal resources and capabilities (e.g., reputation, in-house knowledge of technology, employment of skilled personnel, trade contacts, equipment, efficient procedures, and capital) to sustain their competitive advantage (Wernerfelt, 1984). Based on institutional theory, on the other hand, corporate adoption of CS strategies might not be driven by profit-making interest nor be entirely economically justified; instead, such actions are largely induced by preconscious

acceptance of institutionalized values and practices (Oliver, 1991). Also, based on stakeholder theory, corporations adopt CS strategies for both normative, including moral and philosophical principles (e.g., fairness, environmentalism), and instrumental, including connections between stakeholder approaches and corporate desired objectives (e.g., profitability), values of consideration of multi-stakeholders' interests and establishment of good relations with different stakeholder groups (Freeman, 1984).

This phase of the model also emphasizes CS adoption and implementation through a transformative approach: a 'visionary leadership' in embedding CS into the individual organization's business model and a 'quantum leap' in implementing CS strategies throughout strategic planning and day-to-day operations. This underlines the importance of being up-and-coming, fast-moving, and strategically savvy organizations to advance along the sustainability spectrum to ensure that adaptation is fast enough to cope with the current scale of the sustainability challenges. The goal of sustainability at the micro-level ought to include integrating and striking the right balance among the three pillars of sustainability in the individual organization's business model while capturing both short- and long-term aspects of values creation, which should further be linked to the 17 SDGs to demonstrate strong and on-going commitments towards achieving the 2030 Agenda for Sustainable Development.

The second phase of the model (i.e., sustainability at meso-level) highlights the role of cooperation to strengthen sustainability at the industry level. This is in support of Freeman and Liedtka's notion of 'stakeholder capitalism' (1997) that assumes that "value is created only from joint interests, and that joint interests are most profitable, when developed in cooperative postures" (p. 9). This also echoes Porter and Kramer's notion of 'creating

shared value' (2011) that argues for "a more sophisticated form of capitalism" to create shared value, "which involves creating economic value in a way that also creates value for society by addressing its needs and challenges" (p. 64) through "new and heightened forms of collaboration" (p. 76). Although such values are generally more likely to converge when there are fewer and more homogeneous stakeholders than diverse multi-participant partnerships, they likewise often emerge when leaders of organizations come to realize that amelioration of global issues, such as sustainability, comes from joint actions (Selsky and Parker, 2005). This requires going beyond the outdated approach of internalizing the externalities, and is, rather, a major transformation of business thinking where individual organizations take on various efforts to reconceive values-creation for both businesses and society (Porter and Kramer, 2011).

Assuming that transmission could take place on the basis of cooperation in the three dimensions of economic, environmental, and social areas, organizations are urged to find where the overlaps are to cooperate with different stakeholder groups. Leveraging their leadership while demonstrating unwavering commitment, they should work collectively to address complex sustainability challenges through a 'collaborative strategy' (Tencati and Zsolnai, 2009: p. 367). The sustainability-based value-creating processes through cooperation require charting a path towards anchoring sustainability in the mindset of all stakeholders, creating mutual sustainability interests based on the particular challenges facing the industry (Hörisch et al., 2014), and nurturing agile adoption of cooperation-based initiatives when appropriate and feasible (Porter and Kramer, 2011).

The last phase of the model highlights sustainability at the macro-level, where commitments of nations to the UN SDGs is the ultimate goal. Each nation should

authenticate its contributions to achieving the SDGs across different sectors. This enables the authorities and businesses to notably identify where sustainability improvements could be achieved and where limitations persist. Such limitations may potentially be overcome through further planning and enabling appropriate change initiatives. This also emphasizes the importance of regional and national strategies for promoting effective multi-stakeholder cooperation to address the concerns related to unsustainable and irresponsible business practices. The deadline for achieving the first targets of the 2030 Agenda for Sustainable Development is fast approaching, and thus establishment of commitments and ambition at the regional and national levels, while ensuring the inclusion of diverse stakeholder groups in the process, is critical.

6.7. Conclusion

The study investigated a case study of the Port of Vancouver, that has a sustainability vision of becoming the world's most sustainable port, and its multi-stakeholders in the West Coast of Canada, building upon a series of informational and discussion meetings and a review of relevant documents, complemented with in-depth interviews. The study explored how maritime ports and other maritime transport and logistics actors can contribute to addressing the economic, environmental, and social concerns through cooperation. The study discussed that the success of businesses in turning sustainability goals into actions is tied with unparalleled cooperation between different stakeholder groups to work collaboratively and collectively towards complementary objectives in each of the economic, environmental, and social contexts. Different rationale for cooperation, attributes of cooperation, challenges for effective cooperation, and mechanisms to enhance

cooperation among maritime transport and logistics actors were identified. A 12-step key success factor guide for effective multi-stakeholder cooperation was also presented.

The study further discussed that industry leadership is needed to prioritize sustainability objectives and take ownership of outcomes through multi-stakeholder cooperation. This first requires individual actors to develop a sustainability vision, set goals, and identify strategies to achieve those goals. There is further a need to make plans on how to cooperate with different stakeholders through aligning agendas, mobilizing resources, and ensuring shared accountability. The latter could be done through enhanced partnership capacity, derived from cooperation, which enables individual corporation and to a large extent the whole industry to improve their sustainability performance. The study provided four propositions for building such partnership capacity, including developing a culture of shared leadership, setting mutual goals through the creation of shared values, implementing pilot projects, and forming leadership and functional committees and sub-groups. The sustainability performance of the industry could, therefore, be promoted through industry-level cooperation. The study concludes that actors within an industry must be welded to a business thinking of creating sustainability-based values through multi-stakeholder cooperation to meet sustainability targets in a timely and effective way.

6.7.1. Study Limitations and Directions for Future Research

One limitation is using a single case study in which generalization is not essentially the main goal. While it should be acknowledged that precise replication is impractical - if necessary at all, the study contends that by setting suitable sampling criteria as explained in the research method, this limitation could be overcome to some degree. Findings from this study can therefore be used to understand another ‘similar’ situation through both

explicit comparisons between the two cases and tacit knowledge of the cases. The other limitation of this study is that no distinction between the actors based on their organizational size was made. Organizational size is a determining factor in investing in both sustainability and cooperation-related strategies. As well, the board of director diversity (e.g., female or male executives) of organizations involved in sustainability-based cooperation was not taken into account, which could act as an influencing factor in the type of strategies, as well as degree of their implementation. Also, while the study focused the analysis on five stakeholder groups in maritime transport and logistics in addition to the port authority, the study suggests that similar studies could benefit more when a broader group of stakeholders is involved in a multi-stakeholder cooperation analysis. Last, it is important to re-emphasize that the idiosyncratic nature of the Port of Vancouver's vision (i.e., *to become the world's most sustainable port*) has greatly fostered long-term cooperation with multi-stakeholders. This might not be typically considered common for other organizations, even those with a sustainability focus.

In addition to these limitations, the study suggests some other directions for future studies. First, future studies could explore more sustainability-based cooperation activities at the industry level in other regions in North America, given that the literature on sustainability-based cooperation is more reflective of European and Asian case studies. Second, future studies could investigate through comparative studies the intersection of cooperation and proactive sustainability strategies in organizations with and without a sustainability vision.

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CHAPTER 7

CONCLUSIONS

This doctoral dissertation first examined the fields of CSR and CS to investigate what should be the ultimate goal for a corporation. Various interpretations of the complex relationships between CSR and CS, as well as the key features of CS were highlighted; suggesting CS to be the most sophisticated approach to transform corporations in a way that they can contribute to sustainable development. CS is defined as a management strategy to be embedded in a corporation's core values, promoting integration and balance of the three pillars of economic, environmental, and social aspects while considering the long-term temporal dynamics of corporate strategies. A relationship model on how CSR can be integrated into CS was also proposed. The model discusses that CS should be the ultimate goal for any corporation, and further provides examples on how CSR, based on its contemporary definition, can act as either a transitional or ultimate goal for a corporation.

The dissertation continued the discussion on CSR and CS by following the developmental and evolutionary sequences in business responsibility and sustainability while contemplating the connections between CSR and CS through the lens of the dominant theoretical perspectives underpinning the concepts. An integrative theoretical framework was presented in which the three theories, resource-based, institutional, and stakeholder, provide explanations for CSR and CS integration into a corporate business model to enable corporations to successfully manage competing issues, and to effectively

take the lead in their sector by devising and implementing sustainability and responsibility initiatives. According to resource-based theory, corporations adopt CSR and CS policies and actions contingent on corporate power and control over their distinctive internal resources and capabilities to sustain their competitive advantage. Institutional theory, on the other hand, explains corporate adoption of CSR and CS strategies not to be driven by profit-making interest nor be entirely economically justified; instead, such actions are largely induced by preconscious acceptance of institutionalized values and practices. The inclusion of stakeholder theory, which implies the importance of creating value for all stakeholders, both internal and external, as well as primary and secondary stakeholders, has provided greater foundation for shaping CSR- and CS-driven policies and actions. According to this perspective, corporations adopt CSR and CS strategies for both normative, including moral and philosophical principles (e.g., fairness, environmentalism), and instrumental, including connections between stakeholder approaches and corporate desired objectives (e.g., profitability), values of consideration of multi-stakeholders' interests and establishment of good relations with different stakeholder groups.

The dissertation also contributed to the CS literature in maritime transport and logistics, and ports in particular, by providing insights regarding CS drivers influencing port activities, actual responses by ports to CS drivers, the perception of port executives towards CS, ports' CS strategies and practices in place, influencing factors to implement CS in ports in the future, and the role of cooperation to strengthen CS in ports as well as sustainability of the sector. The increasing role of CS has indeed major implications for port business strategy and operations, but actual implementation has been stymied by a lack of clarity and understanding of the specific drivers. The dissertation identified and discussed CS

drivers in ports using the lens of stakeholder theory, unfolded into a comprehensive multi-stakeholder perspective: governmental, societal, market, and organizational. Port responses were then highlighted vis-à-vis each stakeholder's perspective to provide explanations for feasible policies and actions that ports have taken towards sustainable development in response to a diverse range of forces from internal and external stakeholders. This was sought through exploring CS activities of global port case examples, including Port of Rotterdam, Port of Los Angeles, Port of Long Beach, Port of Vancouver, Port of Gävle, Port of Auckland, Port of Seattle, Port of Tacoma, and Flinders Port.

The dissertation continued to examine CS in maritime ports through investigating the state of CS in ports in Canada and the US. Most Canadian and the US ports have adopted a number of CS strategies and practices, and currently have some CS initiatives and standards in place (e.g., Green Marine, ISO 14001). However, while CS is regarded as important in the majority of ports, it is not fully integrated into strategic decision-making processes and operations in most of the ports, which appear to be lagging behind on adoption of clear and ambitious CS strategies and implementation plans. Also, several motivations/driving factors and key challenges/barriers for the institutionalization of CS as a cross-cutting and long-term strategy in Canadian and the US ports were identified. Motivations and driving factors include growth, return on investment, risk management, and corporate citizenship, while challenges and barriers extend to cost associated with sustainability actions, lack of sustainability competences within the organization, limited customer interest for more sustainability services, and difficulty in implementing sustainability practices.

The dissertation further examined the role of cooperation among various stakeholder groups in maritime transport and logistics to strengthen CS in ports, as well as sustainability across the sector. A Canadian maritime port (Port of Vancouver), together with its multi-stakeholders, was investigated to find how a maritime port and other maritime transport and logistics actors can contribute to addressing the economic, environmental, and social concerns through multi-stakeholder cooperation. Several reasons for cooperation among maritime transport and logistics were identified. These included: out of necessity; more efficiencies; organizational culture; high-outcome results; and greater flexibility. A number of challenges, including different points-of-view, difficulty in maintaining high engagement level, sporadic accountability, fear of giving away competitive advantage, different mandates or interests, and different organizational and governance structures were also identified as impeding cooperation among the industry actors. Moreover, mechanisms to cooperation were found to include incentives, collective agreements, and effective and sustainable communication. As well, a 12-step key success factor guide for effective multi-stakeholder cooperation was developed through the research.

It was further highlighted that developing a CS vision, setting goals, and identifying strategies to achieve those goals are critical in the viability of maritime ports. There is also a need to make plans on how to cooperate with different stakeholders through aligning agendas, mobilizing resources, and ensuring shared accountability. The latter could be attained through enhanced partnership capacity, derived from cooperation, enabling individual corporations and to a large extent the whole industry to improve their sustainability performance. Building such partnership capacity requires developing a culture of shared leadership, setting mutual goals through the creation of shared values,

implementing pilot projects first and then scaled-up versions, and forming leadership and functional committees and sub-groups.

In conclusion, this dissertation suggests setting clear and well-defined CS-focused goals in a corporation's vision and mission to allow pragmatic and holistic integration of CS into its core strategic decisions and operation processes. Embedding CS into all aspects of business practices requires corporations to develop and prioritize CS strategies, align CS strategies with overall business strategies, integrate CS strategies into business operations, and leverage the knowledge and skills across broad networks of stakeholders for CS implementation. Moreover, the dissertation suggests that corporate-stakeholder relationships are strengthened through CS strategies, and thus, effective stakeholder relations management and successful CS development and implementation are intertwined.

Finally, it is suggested that creating sustainability-based values through multi-stakeholder cooperation can help corporations to meet CS targets in a timely and effective way. This requires taking a proactive management approach through charting a path towards anchoring sustainability in the mindset of all stakeholders, creating mutual sustainability interests based the particular challenges facing the industry, and nurturing agile adoption of cooperation-based initiatives when appropriate and feasible.

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Appendix A: Online Questionnaire for the Survey Study

PART A

1. Demographic questions:

    a) Where are you located?

        - Canada
        - USA

    b) Is your organization publicly or privately owned?

        - Public
        - Quasi-Public
        - Private

    c) How many people are employed within your organization?

        - Below 100
        - 100 to 500
        - Above 500

    d) What was the annual revenue last year (in 2016)?

        - Less than 5 million tonnes
        - Between 2 and 15 million tonnes
        - Between 15 to 50 million tonnes
        - More than 50 million tonnes

    e) What is your title/position?

    f) How long have you been in your current position?

        - Less than 5 years

- 5 to 10 years
- More than 10 years

g) What level of education have you completed?

- High school graduate, diploma or the equivalent
- Bachelor's degree
- Master's degree
- Doctorate degree

h) Have you undertaken any training/courses/academic qualifications related to sustainability?

- Yes
- No

PART B

2. Please name the person(s) (only the title) or department/sections responsible for the following;
    i. decision making at the strategic level to integrate CS:
    ii. coordinating the integration of CS:
    iii. choose the tools that should support CS integration:
3. How important is the role of sustainability for your organization?
    - Very high
    - High
    - Low

- Very low

4. Do the sustainability strategies within your organization go beyond those required under legislation?
   - Yes (what are the primary drivers for this decision?):
   - No (what are the reasons?):
5. Do you review your sustainability strategies?
   - Yes (how often?):
   - No (why?):
6. Does your organization have a sustainability awareness and training program for its staff?
   - Yes (please describe them):
   - No (why?):
7. Does your organization publish a 'sustainability report'?
   - Yes (how often?):
   - No (what other reporting strategies are used to communicate environmental and social performance? how often?):
8. What term is used in your organization to disclose its non-financial performances?
   - Corporate sustainability (CS)
   - Corporate social responsibility (CSR)
   - Corporate responsibility (CR)
   - Corporate citizenship (CC)
   - Other (Please specify):

9. Which of these do best indicate Corporate Sustainability (CS) and Corporate Social Responsibility (CSR) concepts in your corporate business model?

    - CS is as an alternative to CSR and therefore, they are used interchangeably.
    - CS is the ultimate goal for a company, with CSR as an intermediate stage where companies try to balance the Triple Bottom Line (people, planet, profits).
    - CSR is an umbrella term under which sustainability is one aspect.
    - CSR is the social strand of CS which is mainly built on a sound stakeholder approach

10. Corporate Sustainability (CS) means:

    - Integrating and balancing social, environmental, and economic dimensions in a long-term aspect.
    - Achieving long-term shareholders' economic success while improving social and environmental dimensions.
    - Integrating shareholders and stakeholders' interests in three dimensions of social, environmental, and economic aspects.
    - Improving environmental performance while economically profitable in short-, or long-term.

11. What is the temporal orientation of sustainability strategies in your organization (in terms of month/year/etc.)? (e.g., short term less than a year, long term more than x years.)

12. Have sustainability strategies led your organization to increase its collaboration with any of the following?

- NGOs
- Governments/Policy makers
- Industry associations
- Competitors
- Customers
- Internal business units
- Suppliers
- Contractors
- Local communities
- None of the above
- Other:

13. Is pursuing sustainability-related strategies necessary to be competitive?

- Yes
- No, but will be in future
- No
- Do not know

14. In general, how do you believe your organization sustainability-related decisions/actions have affected its profitability?

- Added to profit
- Broken even; neither adding to nor subtracting
- Subtracted from profit
- Do not know

15. What standards are in use in your organization to take sustainability aspects into account?

- ISO 9001
- ISO 14001
- ISO 14064
- ISO 31000
- ISO26000
- AA1000
- Social Accountability (SA) 8000
- Eco-Management and Audit Scheme (EMAS)
- Environmental Management Handbook (EMH)
- Occupational Health and Safety Assessment Specification (OHSAS) 18001
- Port Environmental Review System (PERS)
- Other (Please specify):

16. What sustainability voluntary initiatives has your organization adopted?

- The United Nations Global Compact (UNGC) principles
- Global Reporting Initiative (GRI) guidelines
- Organization for Economic Cooperation and Development (OECD) guidelines for multinational enterprises
- Carbon Disclosure Project (CDP)
- Greenhouse Gas Protocol (GHG Protocol) Corporate Accounting and Reporting Standard

- World Business Council for Sustainable Development (WBCSD) frameworks
- Other (Please specify):

17. What are the motivations/driving factors for investing in sustainability strategies? (Please name the top 5 driving factors)

    (1)

    (2)

    (3)

    (4)

    (5)

18. What are the key challenges/barriers to integrating an increased focus on sustainability within your corporate business model? (Please name the top 5 challenges)

    (1)

    (2)

    (3)

    (4)

    (5)

Appendix B: Invitation to Participant for the Interview

Dear …,

As part of my PhD research, I am conducting interviews with stakeholders in Canada's maritime transport and logistics sector to gain a greater understanding of potential opportunities to strengthen sustainability (economic, environmental, social) performance through cooperation.

As an industry stakeholder in maritime transport and logistics, you are one of the best resources to assist me with insights and valuable first-hand information. I would like to capture your thoughts and views on how cooperation in maritime transport and logistics can support and strengthen sustainability of the sector in Canada's west coast region. A brief background information of the project and the interview questions are attached to this email for your review.

The interview takes around 45-60 minutes. It will take place in a mutually convenient, safe location. With your consent, interviews will be audio-recorded and transcribed. There is no compensation for participating in this study. However, your participation will be a valuable addition to my research, and findings could ultimately lead to advancing knowledge and understanding towards sustainability of maritime transport and logistics and to developing mechanisms for effective cooperation and working collaboratively to improve sustainability of the sector.

Your participation is of course voluntary. The results of my study will be reported in my PhD dissertation mainly in aggregated forms, and disseminated for research purposes. Your

name will not be revealed, and a pseudonym will be used when quoting directly from the interview transcripts.

Your participation in my research would be most helpful and greatly appreciated. If you are able to accommodate this request, could you suggest some convenient dates and times that suit you. Please don't hesitate to ask if you have any questions or require additional information.

Thank you very much for your time and consideration. I am most eager to hear from you.

Best regards,

Mehrnaz Ashrafi

B.Eng., M.Tech., Ph.D. Candidate

Tel: +1 (778) 952 5898

E-mail: mehrnaz.ashrafi@dal.ca

Appendix C: Study Background Information for the Interview

Introduction

Hello. I am Mehrnaz Ashrafi. I am conducting interviews to get your valuable perspective on cooperation in maritime transport and logistics to support and strengthen sustainability of the sector in Western Canada. I am conducting this as part of my PhD research (Interdisciplinary Program) at Dalhousie University. I am working under the direction of Dr. Michelle Adams and Dr. Tony Walker from Faculty of Management, Dalhousie University, and Professor Gregory Magnan from Albers Business School, Seattle University.

I am based in Vancouver, BC, and can be reached at +1 (778) 952-5898 or mehrnaz.ashrafi@dal.ca if you have concerns or questions about your rights as a participant or about the study in general.

Study Background

A growing number of actors throughout the maritime industry and supply chain across the world are seeking to improve their sustainability (economic, environmental, social) performance. Sustainability is a complex phenomenon, due to its paradoxical nature in which oppositional elements co-exist. It requires unparalleled cooperation between different stakeholder groups, which results in nurturing long-term relationships with multi-stakeholders and supporting the long-term viability of corporations. Cooperation is, indeed, one of the keys for unlocking the complexity of sustainability by working together towards complementary objectives. It can, consequently, contribute to the improved sustainability

performance of both individual maritime transport and logistics stakeholders and the maritime network as a whole.

Given the global sustainability agenda, it would be prudent to expect and to prepare for big changes that are critical to aid maritime transport and logistics to transition towards being a sustainable sector. This Canadian study will generate a greater understanding of opportunities for the sector to strengthen sustainability performance through cooperation. It could ultimately contribute to providing a potential model for a global centre of excellence for the advancement of sustainability in maritime transport and logistics.

This study has been reviewed and approved by the Dalhousie Research Ethics Board. If you have concerns or questions about your rights as a participant or about the way the study is conducted, you may contact:

Dalhousie Research Ethics Office of Research Services

Tel: +1 (902) 494 3423

E-mail: ethics@dal.ca

Address: P.O Box 15000, Halifax, NS, B3H 4R2, Canada

Appendix D: Consent Form for the Interview

Research Project Title: Cooperation as a Promising Solution to Support and Strengthen Sustainability in Maritime Transport and Logistics: A Canadian Perspective

Research Investigator: Mehrnaz Ashrafi

Research Participant's Position at their Organizations:

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research undertaken from Canadian institutions require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used.

This signed consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the following and then indicate that you approve and give consent by signing and returning this form:

- your participation in this study is voluntary
- you can withdraw from the study at any time during the interview and there will be no consequences to you. Also, you have one week to withdraw from the date on which the interview takes place
- the interview will take about 45-60 minutes
- the interview will be recorded, and a transcript will be produced. In the interview transcript, your real name will not be revealed, and we will use a pseudonym like Participant 1 instead. We will also use a pseudonym when quoting directly from the interview transcripts

- audio recording will be sent for transcription; however, a non-disclosure agreement will be made with the transcriber to ensure the integrity and confidentiality of this process
- the actual recording will be deleted once a transcript is produced. The transcripts will be kept for five years on password protected computers
- the interview transcript will be analyzed by Mehrnaz Ashrafi as principal research investigator
- access to the transcription will be limited to Mehrnaz Ashrafi and her PhD supervisory committee members (Dr. Michelle Adams, Dr. Tony Walker, and Professor Gregory Magnan).
- analysis of results may include involvement of other academic colleagues and research collaborators. However, care will be taken to ensure that all identifying information is disguised
- any summary interview content disseminated through academic publications or other academic outlets will include a list of people interviewed by position and organization. This may make you identifiable. However, we will not explicitly use your name, and the information you provide will not be directly linked to you personally
- a copy of the final research paper will be shared with you upon request. Please contact Mehrnaz Ashrafi to request a copy of the final research paper (the contact information is provided at the bottom of this Consent Form).

Signature of Research Participant

I have read and understand the Consent Form and agree to participate in this research project conducted by Mehrnaz Ashrafi.

---------- Printed name

---------- ----------

Signature of participant Date

Signature of Researcher

I believe the participant is giving informed consent to participate in this study.

---------- ----------

Signature of researcher Date

Contact Information

This research has been reviewed and approved by the Dalhousie University Research Ethics Board. If you have any further questions or concerns about this study, please contact:

Name of researcher: Mehrnaz Ashrafi

Address: 600 Drake Street, Vancouver, BC V6B 5W7

Tel: +1 (778) 952 5898

E-mail: mehrnaz.ashrafi@dal.ca

You can also contact Mehrnaz Ashrafi's primary supervisor at Dalhousie University:

Name of supervisor: Dr. Michelle Adams

Address: PO Box 15000, Halifax, NS B3H 4R2

Tel: +1 (902) 494 4588

E-mail: adamsm@dal.ca

What if I have concerns about this research?

If you have concerns about this research, or how it is being conducted, you can contact the Dalhousie Research Ethics Office of Research Services:

Address: P.O Box 15000, Halifax, NS, B3H 4R2

Tel: +1 (902) 494 3423

E-mail: ethics@dal.ca

Appendix E: Interview Questions

Part A

1. What does cooperation mean to your organization?

2. What are the attributes/characterizations of cooperation in maritime transport and logistics?

3. Why do you cooperate with your stakeholders?

4. What are the prerequisites to maintain good cooperation with different stakeholders?

5. What are the challenges/impediments to cooperation in maritime transport and logistics?

Part B

6. Do you think (i) that one of the stakeholders should take the lead to initiate and coordinate cooperation, (ii) that there should be an independent third-party organization to oversee and coordinate cooperation strategies and practices, or (iii) that cooperation needs to be stimulated and supported from infancy within individual stakeholders?

7. What resources can you contribute in cooperation?

8. How do you measure the success of cooperation strategies already in place?

9. What are the critical factors of success for effective cooperation?

10. What are the mechanisms to enhance cooperation in the industry?

Part C

11. What kind of support and from whom do you believe is needed to improve cooperation in the maritime transport and logistics in Western Canada?

12. What are the potential cooperation strategies that might be endorsed in the future in Western Canada?

Part D

13. What key stakeholders do you cooperate with?

14. Over what activities can you cooperate?

Appendix F: Student Contribution to Manuscripts in Dissertation

MANUSCRIPT 1:

MANUSCRIPT AUTHORS: **Mehrnaz Ashrafi**, Michelle Adams, Tony R. Walker, Gregory M. Magnan
MANUSCRIPT TITLE: How Corporate Social Responsibility can be Integrated into Corporate Sustainability: A Theoretical Review of Their Relationships
JOURNAL: *International Journal of Sustainable Development & World Ecology*
STUDENT CONTRIBUTION: The student has been the lead and corresponding author.

https://doi.org/10.1080/13504509.2018.1471628

MANUSCRIPT 2:

MANUSCRIPT AUTHORS: **Mehrnaz Ashrafi**, Gregory M. Magnan, Michelle Adams, Tony R. Walker
MANUSCRIPT TITLE: Understanding the Conceptual Evolutionary Path and Theoretical Underpinnings of Corporate Social Responsibility and Corporate Sustainability
JOURNAL: *Sustainability*
STUDENT CONTRIBUTION: The student has been the lead and corresponding author.

https://doi.org/10.3390/su12030760

MANUSCRIPT 3:

MANUSCRIPT AUTHORS: **Mehrnaz Ashrafi**, Tony R. Walker, Gregory M. Magnan, Michelle Adams, Michele Acciaro
MANUSCRIPT TITLE: A Review of Corporate Sustainability Drivers in Maritime Ports: A Multi-Stakeholder Perspective
JOURNAL: *Maritime Policy & Management*
STUDENT CONTRIBUTION: The student has been the lead and corresponding author.

https://doi.org/10.1080/03088839.2020.1736354

MANUSCRIPT 4:

MANUSCRIPT AUTHORS: **Mehrnaz Ashrafi**, Michele Acciaro, Tony R. Walker, Gregory M. Magnan, Michelle Adams
MANUSCRIPT TITLE: Corporate Sustainability in Canadian and US Maritime Ports
JOURNAL: *Journal of Cleaner Production*
STUDENT CONTRIBUTION: The student has been the lead and corresponding author.

https://doi.org/10.1016/j.jclepro.2019.02.098

MANUSCRIPT 5:

MANUSCRIPT AUTHORS: **Mehrnaz Ashrafi**, Tony R. Walker, Gregory M. Magnan, Michelle Adams
MANUSCRIPT TITLE: Cooperation in Maritime Transport and Logistics: Strategic Action to Strengthen Sustainability
JOURNAL: *Journal of Business Ethics*
STUDENT CONTRIBUTION: The student has been the lead and corresponding author.

Appendix G: NOTICE OF PERMISSIONS TO USE THE STUDENT'S OWN PUBLICATIONS

This dissertation is manuscript based, four manuscripts have been already published and one will be submitted to a scholarly journal later on. The form for student's contribution to the five manuscripts is signed and submitted to the Faculty of Graduate Studies office, Dalhousie University. Moreover, the statements from the publishers on the use of the author's work in their own dissertation can be found on the journal's Right and Permission page, the key features of which are highlighted below.

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