Analysing sustainability change management in government owned companies: experiences from European ports

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Abstract

Purpose – *Government-owned companies (GOCs), such as ports, have engaged in efforts to become more sustainable. Most of such efforts have been technological and policy ones and mainly focusing on the environment, with limited research on organisational change management. This paper aims to provide insights into how ports have been addressing sustainability change forces and pressures.*

Design/methodology/approach – *Twelve semi-structured interviews were conducted with top-level directors and sustainability managers, representing ports across Europe's maritime regions and a range of port types and sizes. The interviews were analysed using grounded theory's constant comparative analysis.*

Findings – *The findings highlighted that the ports' success in their process to become more sustainable depends on how they take advantage of the thrust forces and reduce the drag ones. The findings serve to develop the ''ports' sustainability change management framework'', with five stages: reactive, proactive, transactive, interactive, and sustainable port.*

Practical implications – *Ports, and other GOCs, should capitalise on their private–public nature in their contribution to making societies more sustainable by adopting a holistic perspective and interactive changes.*

Originality/value – *This paper provides a dynamic perspective on corporate sustainability efforts, particularly on GOCs, through organisational change management complementing technocentric and managerial approaches.*

Keywords *Corporate sustainability, Government-owned companies, Ports, Change management, Sustainability change*

Paper type *Research paper*

1. Introduction

During the past three decades, corporations have engaged in efforts to better contribute to sustainability (Curtó-Pagès *et al.*, 2021; Dunphy *et al.*, 2003; European Commission, 1998; Fergus and Rowney, 2005). Sustainability efforts in a corporation must encompass resource-efficient technologies, sustainability reporting and the provision of sustainable products, services, and product-service combinations (Siebenhüner and Arnold, 2007), as well as stakeholder engagement (Dooms, 2018).

Corporate sustainability (CS) has been proposed as a concept to help explain how corporations embed sustainability into their systems and contribute to making societies more sustainable (Dunphy *et al.*, 2003; Dyllick and Hockerts, 2002). CS was first defined as "Meeting the needs of a firms direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities, etc.), without compromising its ability to meet the needs of future stakeholders as well" (Dyllick and Hockerts, 2002). A more recent

definition defines CS as: "Corporate activities that proactively seek to contribute to sustainability equilibria, including the economic, environmental, and social dimensions of today, as well as their inter-relations within and throughout the time dimension whilst also addressing the company's system (including Operations and production, Management and strategy, Organisational systems, Procurement and marketing, Governance, and Assessment and communication); and its stakeholders" (Lozano, 2018).

CS is considered to be the desirable path for organisations (Dunphy et al., 2003; Weymes, 2004) and a framework to address the full array of sustainability challenges and issues (Bartelmus, 1999; Dyllick and Hockerts, 2002). CS necessitates a holistic perspective (Linnenluecke et al., 2009; Lozano, 2013) that encompasses the four dimensions of sustainability (economic, environmental, social and time) and their interactions (Lozano, 2018). In general, CS efforts have been based on techno-centric solutions and managerial ploys (Lozano, 2015).

Most research on CS has focused on private companies (Ehnert et al., 2016; Eweje, 2011; Hörisch et al., 2015). There has been limited research on government-owned companies (GOCs) (Córdoba-Pachón et al., 2014; Garde Sánchez et al., 2017; Roper and Schoenberger-Orgad, 2011). GOCs [1] are a particular type of company that is owned (wholly or partially) by the government or state (centrally, regionally or municipally) (Argento et al., 2019; Córdoba-Pachón et al., 2014; OECD, 2015; Rahman and Bhatt, 2011; Roper and Schoenberger-Orgad, 2011). GOCs appear and behave like private companies but report to the state (Cazurra et al., 2014; Roper and Schoenberger-Orgad, 2011).

GOCs are an important part of many countries' economies (Córdoba-Pachón et al., 2014; OECD, 2015; Rahman and Bhatt, 2011). GOCs focus on accomplishing public policy objectives (services to society) and are not necessarily focussed on generating profits (Córdoba-Pachón et al., 2014). GOCs help with regional development and supply industries (OECD, 2015). In many cases, GOCs are utility companies (including telecommunications, transport, water or electricity providers) (Roper and Schoenberger-Orgad, 2011). GOCs are affected by societal and economic transformations (Christensen and Lægreid, 2003) and have undergone massive changes because of market reforms (Cazurra et al., 2014).

There is limited literature focusing on GOCs and sustainability (Córdoba-Pachón et al., 2014). Some key exceptions include: sustainability disclosure and reporting (Argento et al., 2019; Garde Sánchez et al., 2017), accountability and legitimacy (Roper and Schoenberger-Orgad, 2011), and employees and public management (Córdoba-Pachón et al., 2014).

A particular type of GOCs are ports (Fernández-Izquierdo et al., 2020). Ports are part of a wider intermodal supply chain network, connecting the shipping and seaports to the hinterland (Notteboom, 2008). That supply chain network includes onward transport of containers and goods via road, rail, inland waterways (rivers and canals) and air connections, which allow goods to be transported long distances inland (Dwarakish and Salim, 2015). Ports in European Union (EU) Member States play a vital role in the movement of goods and passengers both within the EU and globally, with more than 90% of goods imported into the EU entering through such ports (Saxe and Larsen, 2004).

Ports are under increasing pressure to become more environmentally friendly (Dinwoodie et al., 2012; Hall, 2007; Wooldridge et al., 1999) and ensure safe and successful commercial operations (Wooldridge et al., 1999). Ports are affected by a wide range of environmental issues (releases to water, air and soil, waste production, noise and dredging) (Carpenter and Macgill, 2001; Dinwoodie et al., 2012) and social issues (de Langen et al., 2020; Notteboom et al., 2015; Wooldridge et al., 1999). Many ports have committed to becoming more sustainable and have adopted "green port strategies", which help improve their sustainability performance (Lam and Van de Voorde, 2012) and improve their business models (Adams et al., 2009). Most port sustainability efforts have focussed on technological and policy approaches, mainly in response to environmental issues, and there has been limited research on organisational change

management, with some exceptions such as Lozano *et al.* (2019) and Lozano, Carpenter and Sammalisto (2020), who discussed drivers for and barriers to sustainability in seaports.

This paper is aimed at providing insights into how ports, as GOCs, have been addressing sustainability changes. The rest of the paper is organised into the following sections: Section 2 presents a discussion on organisational change management for sustainability; Section 3 describes the methods used; Section 4 presents the findings; Section 5 provides the discussions; and Section 6 offers the conclusions.

2. Discussion on organisational change management for sustainability

Change management for sustainability focuses on the process by which organisations move from their present state to one that is more sustainability oriented (Lozano, 2012). This process is affected by stakeholders (Denktas-Sakar and Karatas-Cetin, 2012), who can be internal (shareholders, employees, and management) and external (such as shipping companies, tenants, customers and government) (Notteboom and Winkelmans, 2002; Lozano *et al.*, 2020). Each one of the stakeholders has its own interest and objectives (Wagner, 2016). Stakeholder engagement is seen as a crucial step for developing common strategies and achieve a balanced vision to respond to such pressures (Merck, 2011). Some external stakeholders are perceived as sustainability promoters (investors and media/public) while others are seen as inhibitors (suppliers and trade unions) (Kiesnere and Baumgartner, 2019a).

Stakeholder pressure results in two types of change (according to Freeman, 1984):

1. external change, which happens on the outskirts of the company's sphere of influence and, in general, results in reactive changes; and

2. internal change, which is based on constantly reassessing objectives and policies that affect or are affected by internal stakeholders and, in general, results in proactive changes.

Organisations have less control over changes generated from the actions of external stakeholders, i.e. reactive change, than those prompted by internal stakeholders, i.e. proactive change (DeSimone and Popoff, 2000; Freeman, 1984; Lozano, 2012, 2013).

Companies, such as ports, have limited ability to overcome external barriers to change (Álvarez Jaramillo *et al.*, 2019), as evidenced by the reaction to external events, the COVID-19 outbreak (Lozano and Barreiro-Gen, 2021), pressure from competitors and stakeholders (Ashrafi *et al.*, 2020; de Langen *et al.*, 2020), the need to adapt to regulation and legislation (DeSimone and Popoff, 2000) and lack of interest from consumers or investors (Commission of the European Communities and C.E.C., 2002).

Internal changes are:

- as a result of managerial measurement and control (Henriques and Richardson, 2005); and

- arise from stressing the importance of internal change and innovation (Doppelt, 2003; Henriques and Richardson, 2005).

Managerial measurement and control rely on strategic changes, whilst internal change and innovation relies on participative cultural changes, which are more proactive (Lozano, 2013). Most of the efforts found in the literature follow the managerial control route (DeSimone and Popoff, 2000; Henriques and Richardson, 2005; Holliday *et al.*, 2002). Only a few deal with internal change and innovation (Doppelt, 2003; Dunphy *et al.*, 2003; Linnenluecke and Griffiths, 2010; Lozano *et al.*, 2019, 2020).

In ports, organisational change for sustainability is a fairly new research topic, with a particular focus on driving forces, including:

- the main drivers for port investments in sustainability (focusing only on environmental performance), such as regulatory compliance, response to societal pressures and to gain competitive advantage (Adams *et al.*, 2009);

- the key driving factors for incorporating sustainability in Canadian and US ports, which included growth (improved stakeholder relations management), return on investment (through sustainable operations and value chain), risk management (regulatory, reputation and operational-risk management) and corporate citizenship (Ashrafi *et al.*, 2019); and

- the thirty drivers of corporate sustainability in ports, divided into five groups (governmental, societal, market, organisational and managerial) (Ashrafi *et al.*, 2020).

A study at the at the Port of Gävle, Sweden (Lozano *et al.*, 2019, 2020) analysed the drivers for and barriers to, sustainability, where it was found that:

- there was a fair balance between the internal and external drivers mentioned by the interviewed stakeholders, such as government (external) and business case (internal); and

- there was a higher presence of internal barriers to change, with the most mentioned being short-term and discounting perspectives focussing on economic aspects.

3. Methods

Twelve semi-structured interviews were conducted with CEOs and sustainability managers from seaports in Europe to provide insights into how ports have been addressing sustainability changes. Top level directors have a "helicopter-view" of sustainability efforts within their organisation, a port, being the most reliable source of knowledge (Lozano, 2015; Walker, 1997).

Table 1 shows that the interviewees represented ports across Europe's maritime regions and a range of port types and sizes. The interviews were conducted from October 2019 to June 2020 to answer the following questions:

Q1. What has been driving sustainability in your port?

Q2. What are the main sustainability challenges that your port is facing? and

Q3. How do you plan to overcome these challenges?

Table 1	Details of the interviewees and port's characteristics				
Interviewee position	Code	Ocean/sea	Country	Type of business (cargo, passenger, mixed, etc)	Size
Sustainability Manager	Atlantic1	Atlantic Ocean	Spain	Fisheries and cargo	Medium
Sustainability Manager	Atlantic2	Atlantic Ocean	Spain	Fisheries and cargo	Medium
Traffic Manager	Baltic1	Baltic Sea	Finland	Mixed	Small
Sustainability Manager	Baltic2	Baltic Sea	Finland	Passenger and some cargo	Medium
Environmental Manager	Mediterranean1	Mediterranean Sea	Spain	Goods	Large
Director	Mediterranean2	Mediterranean Sea	Spain	Cargo and some passengers	Medium
Managing Director	North&Baltic1	North/Baltic Seas	Sweden	Mixed	Medium
Sustainability Manager	North&Baltic2	North/Baltic Seas	Sweden	Mixed	Medium
Director	North&Baltic3	North/Baltic Seas	Denmark	Cargo	Small
Environmental Manager	North1	North Sea	Norway	Mixed	Medium
Director	North2	North Sea	Denmark	Fishing and cargo	Small
CSR Manager	North3	North Sea	Belgium	Cargo and some passengers	Large

The interviews were conducted digitally, by phone or Skype (each being from 30 to 90 min in duration) and in English or Spanish [2] depending on the port location. They were recorded and transcribed. After translating the interviews into English, they were codified using NVivo 12 software (QSR, 2018). A code was assigned to each of the interviewees to identify them and to ensure their anonymity. Each code is formed by the ocean or sea where their port is located, followed by a number (Table 1), "North3", as done in Barreiro-Gen *et al* (2021).

The responses from interviewees were analysed using Grounded Theory's constant comparative analysis, which has four stages (Glaser and Strauss, 1999), following the approach used in Barreiro-Gen *et al.* (2021):

■ comparing incidents applicable to each category, as developed from the literature review (types of change, driving forces, sustainability challenges and strategies to overcome the challenges);

■ integrating categories and their properties;

■ recognising relationships; and

■ writing the New or modified theory, which can then be used to develop the new framework presented in the discussion section (Glaser and Strauss, 1999; Strauss and Corbin, 1998).

Interviews are affected by threats to validity and reliability (Jupp, 2006; Saunders *et al.*, 2007). In this research, a major threat was extremely limited access to the potential interviewees (i.e. environmental or sustainability managers, or CEOs at seaports). Several strategies were used to reach the potential interviewees, such as email, direct phone calls and going through the ports' switchboards. In addition to access, setting up an interview date was also challenging, given the interviewees busy agendas. In some cases, the date had to be pushed up to two months after the initial contact. It should be noted that it was more difficult to contact interviewees in Southern Europe than in Northern Europe.

For this research reliability might also have been affected by, for instance, the limited time available for the interviews. The shared concern of the interviewees for sustainability may be a cause for this bias, and the answers from the top-level managers could be affected by bias towards top-down over bottom up.

4. Findings

The interviewee responses were categorised into:

■ thrust (or driving) forces;

■ drag (or challenges) forces; and

■ type of change, i.e. proactive or reactive, which may affect the forces, as indicated by stage 1 of GT's constant comparative analysis.

4.1 Sustainability thrust forces

The interviewees highlighted external pressures, internal stimuli and a combination of these to foster sustainability at their ports.

At the external level, as pointed by some of the interviewees, the pressures can be from the increasing general knowledge about environmental information and facts (Baltic1), from society as a whole (North&Baltic3) and to align with the sustainability guidelines in the country, as evidenced by North2, who noted that "we are driven of course by the popular public agenda in [a Nordic country] about the sustainable development and green transition". As pointed by Mediterranean1, "this commitment it is even a "requirement"

because you must'earn' social acceptance". Some of the interviewees mentioned that pressures can come from the sector (shipping industry, maritime sector [...]) or stakeholders (clients), as evidenced by as North&Baltic3 who noted that "I would say that the driver comes from the outside world [...] our clients want us to be as green as possible".

On an internal basis, some of the interviewees, such as North&Baltic3, highlighted that sustainability is driven by people, such as employees and noted that: "We also see it from every employee that comes to work every day, comes with a green agenda. So that is the driver, we have to take into account that our clients want us to be as green as possible, but also our employees are very much environmentally concerned". Along the same lines, Atlantic2 mentioned that "I think that now, everyone (employees), everyone wants it. I believe that yes, they collaborate in general, there is a lot of collaboration to achieve a more sustainable port, we are not having problems". North1 highlighted the role of the directors as an internal stimulus: "there's expectations from all around but I see that my colleagues are proud of the port and the way we work with sustainability and also our directors are engaged at the top level also because it's driving them personally but also politically". Mediterranean1 highlighted that "It is important to have a good and highly motivated team and a good leadership, both direction and presidency", and also that "good leadership towards this path implies commitment and time". These statements show that sustainability is driven internally in different directions: from the employees to the top-level, from the top-level to the employees ("leader influence"), and in both directions at the same time.

A key internal driving force was the integration of sustainability into the port strategy, as Atlantic1 highlighted "It is not a person, but rather an integrated strategy within the port authority. It is really being the engine of change in this port and the one that is playing a relevant role at the level of sustainability, at the European level, and at the global level. I think it is a bit, because it is within the strategy of the port, of the port authority. We say that this is not [...] it is never a person but rather a strategy that was born from the dialogue of consensus with all stakeholders.

An example of a combination of internal and external thrust forces is: the municipality where the port is located, as Baltic2 noted: "If the owner of a company wants you to focus on something then you do it, and if they don't want you to focus on it then you don't. It almost becomes a philosophical question, you know, what is a company? And what does a company do? And what should a company do? Because at the moment, to my understanding, a company is supposed to follow the will of the owner, and then that's what we're doing, in this case. So, our owner wants us to be leaders in the field and then we try to be." This was corroborated by North&Baltic2 who mentioned that "it's nice to work with sustainability in our port because we really have good back up and we have strong support from our ownership". This shows that owners can be a thrust force to foster sustainability in ports and maintain sustainability initiatives.

Some of the interviewees highlighted that it is important for them to show to the society that sustainability is a priority on their Agenda, as North3 mentioned: "We believe, as a Port Authority, it is our role not only to create economic added value, but it's also our goal to really take the lead in sustainable development [...] we believe, as a port authority, that have to be the leader in driving this on your agenda [...] That's where we see our role, we really see our role in giving an example."

4.2 Sustainability drag forces

The port's interviewees identified external and internal drag forces that hinder them in addressing sustainability. Some of the sustainability challenges mentioned by the interviewees are related to environmental issues include reducing air emissions, consolidate carbon neutrality and integrating circular economy in their activities. North&Baltic2, for example, mentioned that "air emissions is our largest concern". Atlantic1 highlighted that: "one of the

major challenges is the introduction of clean fuels". North3 noted that "another very important issue is the step to circular economy and then we focus a lot on plastics. We have a lot of plastic-producing industry. So, the question is how can we close the circle? How can we use plastic waste as a source and produce new plastics? Instead of using oil or gas to do this".

Most of the interviewees highlighted that there are problems not related to their decision-making process that hinder their progress towards sustainability. They emphasised, for example, that they do not have direct control over external pressures, such as over more than 90% of the air emissions where most of those emissions are related to vessels and trucks (Atlantic1, North3, North&Baltic1, North&Baltic2 and North&Baltic3).

According to some interviewees, some of the external drag forces include lack of interest (e.g. from customers) and lack of support from stakeholders. North&Baltic1 highlighted that "When it comes to our customers, we don't see that much interest in this issue […] We actually got new restrictions in our environmental permit. Within the next seven years we have to establish shore electricity to all of the vessels […] when it comes to the container vessels we are working, in general with older vessels, so it's difficult to get the shipping lines to commit to shore supply and actively working with us to solve this issue."

One of the main external drag forces mentioned was the bad perception of ports within their local communities, as North3 noted: "We meet with people living around the port and then we ask them about the perception of the port. We see that the perception, mainly of the young people, is very negative. Despite all of the efforts that we have undertaken the last couple of years, we see that it's tough to improve. It's even becoming more negative, instead of positive, and that's a huge challenge." This was also mentioned by Mediterranean2 who indicated that "many times the population of [the closest city to the port] is not aware of what the port entails, and many times news such as the emission of particles from the port is above the ratio come out that may distort a little. If we are able to make the population understand what is the importance of the port and all the measures that the port is implementing, there will be a peaceful coexistence and generate a synergy between the port and the population".

Some of the interviewees, such as North3 and Mediterranean2, highlighted social and timing challenges, including attracting well-trained talent for employment and creating awareness of the importance of the port to its surroundings. North3 mentioned the relation between air emissions and society's health, noting that they need to think about "how we can minimise the effect of the air quality on the health of the people. That is an issue". North&Baltic1 highlighted the challenge to focus on realistic targets, in the short-term, mentioning that "to focus on our operation because that's what ports can do different today, instead of trying to change something in the long future". The main internal drag forces stated by the interviewees were:

- Resistance to change. For example, Mediterranean2 mentioned that "I believe that society is increasingly aware. It is true that sometimes you have a way of doing things […] and you have to break a bit that tendency to always do things the same way";

- Lack of strategy implementation and tangible results from the ambitious plans defined. Baltic2 highlighted that "the problem might be, of course, the implementation. And how do you go from the goals to very concrete actions?";

- Lack of staff or capacity (e.g. small organisation) to integrate sustainability (North2, Atlantic2); and

- Lack of investment. Baltic1 mentioned that: "mostly it is about money and, well, if we think about, for example, cranes. They are so expensive and usually the time you use one crane is pretty long so if you buy a new diesel crane, you don't buy a new one in 5 years".

4.3 Overcoming the challenges and drag forces

According to the interviewees, there are five ways to best overcome the previously identified challenges. These are:

Firstly, to collaborate with different stakeholders (e.g. customers, truck drivers or vessel operators and municipalities) inside and outside the port, to overcome their challenges (e.g. help customers to limit their emissions) (North&Baltic2, Mediterranean2, North1). A number of interviewees mentioned the benefits of this collaboration based on experiences like workshops or in the development of an action plan (North1, North3, North&Baltic1). The main problem in enabling them to overcome their main challenge, improving air quality, as highlighted by the interviewees, is that most of the air emissions do not come from the port itself, but rather than from port users. Atlantic1 noted that "75% of the port's carbon footprint is produced by vessels, 5% by the port authority, and 15% by companies, and 5% by land transport [...] Not everything is in our direct hand, that is the great challenge". North&Baltic2, for example, explained that: "what we see if we look at air emissions, which is our largest concern, there is a very small part coming from the actual port' operations and there is a very large share coming from the vessels. So our main problem and challenge is that we need to help the customers, meaning the ship owners, to limit their emissions". Along the same lines, North&Baltic3 noted that "I don't think the ports, isolated, have great issues, because we don't use much energy. But we have a very huge obligation is assisting our customers to run an environmental transport chain. We're part of that".

Secondly, to adapt the ports by introducing of clean fuels, LNG and electrification (Atlantic1, Baltic1).

Thirdly, to use other sources of energy such as tackling onshore power possibilities from vessels (Baltic2, North&Baltic1), using hydrogen (Mediterranean1) and developing land power (Baltic1)

Fourthly, to electrify. For example, Baltic1 noted that one key point to overcome their challenges is to "electrify the cranes and electrify the lorries and trucks" while Mediterranean1 mentioned that to "decarbonize means renewables and means electrify to a maximum".

Fifthly, to invest in new technologies. North3 mentioned that "A lot of technologies are already developed and of course research is also needed to develop new technologies. I think at this moment there is an urgency really to act, and that really needs to be the scale up of the technologies that are helping us to improve in reducing the environmental impact".

5. Discussion

As indicated by the interviewees, European ports are under pressures from different directions in their process to become more sustainable (which concurs with Notteboom et al., 2015). The findings highlight that their success in this process depends on how ports take advantage of the thrust forces and reduce the drag ones.

This findings of this study show that there is a balance between internal and external sustainability thrust forces (concurring with Lozano et al., 2019). Internal stakeholders (such as employees and the managers) and external ones (such as society) play an important role for ports to better contribute to sustainability; however, some stakeholders are perceived to be sustainability inhibitors (e.g. shipping companies) (in agreement with Kiesnere and Baumgartner, 2019b).

The responses show that external challenges tend to be higher than internal ones (contrary to the findings by Lozano et al., 2019). The ports in this research have been working proactively towards becoming more sustainable, which may be a reason that more external challenges than internal were highlighted. The interviewees highlighted that they did not

have influence over uncontrollable phenomena (such as vessels emissions) which affect considerably their contribution to sustainability.

The findings highlighted that some factors may be a thrust (driving) force and a drag (anchoring) force, depending on which way they pull, such as the implementation of sustainability in the port strategy.

The responses show that one of the best ways to overcome challenges is collaborating with stakeholders. Such collaboration helps adopting sustainability strategies (concurring with Ashrafi *et al.*, 2020), taking advantage of feedback and synergies and reducing conflicts between forces pulling in different directions.

The findings were integrated to develop a "Ports' sustainability change management framework" shown in Figure 1. The framework proposes five stages over time:

1. Reactive port, which reacts only to external thrust and drag forces and has more challenges than drivers;

2. Proactive port, where changes are prompted by and affected by internal forces and there are more drivers than challenges;

3. Transactive port, where changes are prompted by internal and external forces and there are more drivers than challenges;

4. Interactive port, where changes are prompted by internal and external forces and, at the same time the synergies are fostered while the conflicts between forces minimised, in this case and there are more drivers than challenges; and

5. More sustainable ports, where the internal and external thrust forces are combined stronger than the combined drag forces and the drivers actions are stronger than the challenges ones.

The thrust forces (in green font) help advance from one stage to the next, whereas the drag forces (in red font) move the efforts backwards. The arrows show the rate of change and its direction. The arrow size indicates the magnitude of the change. For example, challenges are high in the first stage (reactive port) and they are decreasing in the following ones, meanwhile raising anchors is easier in the last stages than in the first ones.

Figure 1 Ports' sustainability change management framework
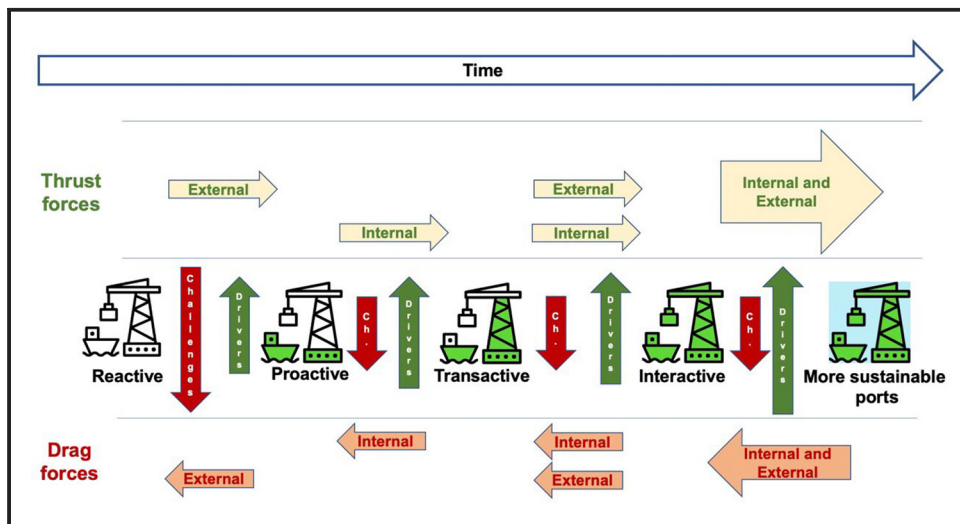
The findings contribute to CS discourses, particularly focussing on organisational change management in GOCs, which complements the works on: sustainability disclosure and reporting (see Argento *et al.*, and 2019; Garde Sánchez *et al.*, 2017), accountability and legitimacy (c.f. Roper and Schoenberger-Orgad, 2011) and employees and public management (Córdoba-Pachón *et al.*, 2014). Improving the sustainability contributions of GOCs can improve regional development and in particular supply industries, such as ports (concurring with OECD, 2015).

6. Conclusions

During the last three decades, corporations have engaged in efforts to better contribute to sustainability. CS has been proposed as a concept to help explain how corporations embed sustainability into their systems and contribute to making societies more sustainable. Most research on CS has focused on private companies. There has been limited research on GOCs. A particular case of GOCs are ports. Many ports have committed to becoming more sustainable, with most port sustainability efforts have focussed on technological and policy approaches. There has been limited research on organisational change management.

Twelve interviews with top managers of European ports were carried out to analyse what has been driving and hindering sustainability in ports, their main challenges and how ports have plan to overcome these challenges. The interviews provided insights into European ports' sustainability change processes (thrust forces, drag forces, challenges and how to overcome the challenges).

The findings serve to develop the "Ports' sustainability change management framework", which offers a broader and deeper perspective on how ports can collaborate with their stakeholders, capitalise on external and internal forces, foster drivers and address challenges to make countries' economies more sustainable.

The paper provides a dynamic perspective on corporate sustainability efforts, particularly on GOCs, through organisational change management focussing on stakeholders, internal and external forces, drivers and challenges, complementing technocentric and managerial approaches.

Ports must address sustainability through a holistic perspective rather than focussing only on environmental issues, particularly electrification and waste reduction. Ports and other GOCs, should capitalise on their private–public nature in their contribution to sustainability by adopting a holistic perspective and interactive changes. This entails addressing organisational change management issues through collaborating with owners, tenants, clients, communities, and the cities where they are located to improve their reputation, fostering internal leadership, setting up realistic targets regarding air quality and community health, introducing clean fuels and green technology and communicating their sustainability efforts.

This paper postulates that sustainability in ports should be discussed as a part of CS in GOCs, with apologies to Oscar Wilde: "The importance of being a GOC".

Further research should be carried out quantitatively to validate the findings of this paper. A comparative analysis between different types of GOCs could be carried out. In addition, the collaboration between GOCs and their stakeholders should be investigated, as should the role of the port and other transport GOCs, within a wider transport and supply chain network (e.g. within a region or within local networks of transport hubs).

Notes

1. GOCs can also be referred to as state-owned enterprises (SOEs), government business enterprises (GBEs), state-owned companies (SOCs), or government-linked companies (GLC) (Christensen and Lægreid, 2003; Roper and Schoenberger-Orgad, 2011).

2. Three of the paper's authors are fluent in both languages and the responses were double checked by the authors to limit any misinterpretations.

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