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Sustainable brand positioning by container shipping firms: Evidence from social media communications

Ceren Altuntaş Vural [a,*], Sedat Baştuğ [b], Seçil Gülmez [b]

[a] Chalmers University of Technology, Technology Management and Economics, Division: Service Management and Logistics, Gothenburg, Sweden
[b] Iskenderun Technical University, Barbaros Hayrettin Naval Architecture and Maritime Faculty, Iskenderun, Turkey

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ABSTRACT

This study contributes to shipping research by profiling container shipping lines with respect to their sustainability related brand positioning strategies through their social media communications. Longitudinal content analysis is combined with multiple correspondence analysis (MCA) to map branding strategies of selected lines in relation to the triple bottom line (TBL) dimensions and functional versus emotional sustainability benefits. Results indicate that shipping lines position their brands closer to either economic or environmental sustainability where a win-win focus in the messages is highly prevalent. Social sustainability constitutes a market gap and an opportunity for the sustainability positioning of these brands. Furthermore, despite a few that recognize the potential in emotional benefits, majority of the lines use functional sustainability benefits in brand positioning. Emotional sustainability benefits provide wider opportunities with respect to brand differentiation and effective customer engagement in shipping lines' sustainability initiatives.

1. Introduction

In line with growing attention to the climate crisis and the pursuit of global targets towards sustainable development, the shipping industry has accelerated its own decarbonization and sustainability plans (IMO, 2018; ITF, 2018). Considering the multidimensionality of sustainable development, it is important to understand how the change towards sustainability is taking place in shipping industry. Research has mainly focused on the environmental dimension and its reflections in the industry. These studies show how buyer-driven environmental demand and regulatory requirements can facilitate environmental sustainability (Poulsen et al., 2018), identify when and why shipping firms engage in green shipping practices (Lai et al., 2011; Chang and Danao, 2017), and demonstrate the indirect relationship between environmental policies, ship technologies or supplier selection strategies and financial performance mediated via environmental performance (Lirn et al., 2013). To achieve sustainability transitions, Tran et al. (2020) conclude that shipping firms should focus on stakeholder requirements, and invest in monetary resources, tangible infrastructures and technology. However, Yuen and Thai (2017) argue that sustainability promises affect financial performance only if the shipping organization first meets shippers' expectations regarding its core competencies. Despite their important contributions in linking sustainability and performance, these studies fail to address how shipping companies position themselves regarding sustainability. Furthermore, in this mature and fragmented industry (Bergek et al., 2018), different companies probably position themselves using different sustainability initiatives based

* Corresponding author.
E-mail addresses: ceren.altuntasvural@chalmers.se (C. Altuntaş Vural), sedat.bastug@iste.edu.tr (S. Baştuğ), secil.gulmez@iste.edu.tr (S. Gülmez).

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on their internal policies, strategies, or marketing tactics. Understanding this variety in sustainability positioning can unveil the paths that different shipping organizations follow and provide an in-depth understanding of the industry's sustainability transformation pathways.

The purpose of this study is to expand the understanding on shipping firms' brand positioning strategies in relation to sustainability dimensions and their implied benefits. Sustainability dimensions are defined by the triple bottom line (TBL) framework (Elkington, 1997) and sustainability benefits are based on the functional and emotional benefits of market offerings (Hartmann et al., 2005; Matthes et al., 2014). The purpose is motivated by two research questions:

RQ1: How do container shipping firms position their brands with respect to economic, environmental and social sustainability?
RQ2: Which sustainability benefits (functional or emotional) are mostly emphasized by container shipping firms when positioning their brands?

A social media analytics study of Twitter posts from selected container shipping companies is conducted, since, in the Web 2.0 era, social media marketing is an effective tool to manage customer relationships (Heller Baird and Parasnis, 2011). Social media disclosure can provide significant information about brand images (Duriau et al., 2007) in both consumer and business-to-business (B2B) markets. Recent studies indicate its effectiveness for engaging with stakeholders in shipping as well (Denktaş-Şakar and Sürücü, 2020; Surucu-Balci et al., 2020).

Although sustainability in transportation is a well-established research field, research into sustainable maritime transportation is relatively new and growing (Bach et al., 2020). As Parola et al. (2019) note, due to the dominant cost-orientation and operational focus, few such studies adopt a strategic marketing lens. They therefore recommend research based on broader analytical frameworks for marketing shipping services rather than "fragmented contributions focusing on isolated cases" (Parola et al., 2019). Accordingly, our study contributes to the maritime transportation literature in two main ways. First, by adopting two analytical frameworks, namely the TBL and functional-emotional benefits, the study provides significant insights about management of sustainability positioning in container shipping firms. Adopting the TBL framework extends the environmental sustainability focus in sustainable shipping literature to a more holistic perspective. Findings indicate how the dominant economic sustainability positioning in the industry can be differentiated by emphasizing environmental and social sustainability initiatives in a different way. The comparative profiling of the companies points out how emotional and functional benefits can be emphasized together when communicating sustainability related messages instead of focusing only on functional benefits. Second, the analysis method suggests an original approach to researching sustainability initiatives in maritime transportation industry. The analysis allows studying and visualizing secondary data in a comparative way and hence deriving insights about a larger sample instead of focusing on isolated cases.

The remainder of the article is structured as follows. Section 2 reviews the sustainable shipping and branding literatures used to build the coding framework. Section 3 describes the research design and methodology. Section 4 presents the findings which are then discussed in section 5 based on sustainable brand positioning literature. Section 6 concludes with implications for research and practice.

2. Literature review

Sustainable shipping aims to meet present needs without preventing future generations from meeting their own needs (Yuen et al. 2017). Based on regulations developed by IMO, UN, and EU, environmental management practices and enhanced green operations are introduced in the industry (Hassler, 2010; Yang, 2018; Lai, et al., 2013). Similar with the larger logistics and transportation research (Uyar et al., 2020), most sustainable shipping literature focuses on the environmental aspects of sustainability while neglecting social sustainability.

2.1. Sustainable shipping

Environmentally sustainable shipping, broadly defined as performing maritime transportation activities with minimum damage to ecology and health (Wan et al., 2016), provides strategies for achieving energy-efficient transportation and transiting to a low carbon economy (Shi et al. 2018). Green shipping practices, such as "*the handling and distribution of cargoes in an environmentally sustainable way with a view to reducing waste creation and conserving resources in performing shipping activities*" (Lai et al., 2013: 219) are part of a management perspective to prevent environmental damage. Lai et al. (2011) classify these practices based on the institutional forces impacting them: "company policy and procedures" are associated with the company's commitment to a sustainability vision; "shipping documentation" concentrates on resource usage in paper-based shipping activities; "shipping equipment" refers to the eco-design of shipping equipment to meet environmental standards and improve efficiency; "shipper cooperation" refers to eco-design of cargo handling operations performed with shippers; "shipping materials" focus on reducing environmental pollution by reusing, reducing, and recycling shipping materials; "shipping design for compliance" covers practices regarding measurements for energy saving, reusing of shipping equipment, extending recycling, and recovery of waste.

Shipping businesses can implement green strategies through various initiatives at different levels. One of the most urgent required targets is reducing GHG emissions. Psaraftis (2016) divides initiatives towards this target into two main groups: technical and operational. The former includes ship design, propulsion systems, and fuel types (Gilbert et al., 2014; Rehmatulla et al., 2017; Cariou et al., 2019) while the latter includes route design (Tran et al., 2017), voyage and fleet optimization (Cheaitou and Cariou; 2019; Cariou et al., 2019), green vessel scheduling (Dulebenets, 2018), and slow steaming (Chang and Wang, 2014; Psaraftis and Kontovas,

2010; Woo and Moon, 2014). There are also supplementary market-based measures, such as funding, incentives, or charges for reducing shipping-related emissions (Shi, 2016). Besides these widely studied green initiatives, the literature also focuses on the environmental impacts of oil spillages (Rogowska & Namieśnik, 2010), environmentally-friendly ballast water treatment (Karahalios, 2017), reducing environmental impacts through regulations (Sampson et al., 2016; Cogliolo, 2015), assessing the environmental and societal impacts of shipping emissions (Nunes et al., 2019), and ship recycling (Schøyen et al., 2017).

Within the limited literature on social sustainability in shipping, safety is one of the most frequently addressed dimensions (Hetherington et al., 2006; Celik, 2009), given the multiple requirements imposed on shipping companies through regulations like SOLAS. These studies cover employee-related issues like health and working conditions (Reinhold et al., 2019) and social issues in shipping, including community involvement, transparent and accurate disclosure, employee and consumer interests (Lu et al., 2009), charitable donations, employee training and education (Yuen et al., 2018; 2017; Shin and Thai, 2014), and gender equality in shipping (MacNeil and Ghosh, 2017).

Majority of these sustainability initiatives also strengthen the economic TBL pillar of sustainability since energy efficiency measures, slow steaming, route and fleet optimization all improve economic performance by reducing fuel consumption and improving resource use. This win-win relationship between the environmental and economic sustainability pillars is quite widely addressed in the literature (Lam and Lai, 2015; Yang, 2012; Lun et al., 2015). Chang and Danao (2017) show how green shipping practices improve both productivity and environmental performance. Lirn et al. (2013) identify three dimensions of green shipping management, namely greener ships, greener suppliers, and greener policies, of which the first two improve firm performance mediated by environmental performance. Jozef et al. (2019) find that four green shipping dimensions (company policy and procedure, shipping documentation, shipping equipment, and shipping materials) strengthen customer loyalty, which in turn improves performance. Sustainable shipping practices increase both financial and non-financial performance (Lu et al., 2009; Yuen et al., 2017), and customer satisfaction and loyalty (Shin and Thai, 2014) through the mediating role of their perceived value (Yuen et al., 2018). These results indicate that the way shipping firms communicate their sustainability strategies is essential for building customer loyalty and satisfaction, which in turn improves business performance. An important part of this communication that deserves particular attention is brand positioning.

2.2. Brand positioning in business markets

Branding, defined as "*a name, term, sign, symbol, or design or combination of them which is intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors*" (Kotler, 1991, p.442), is a vital element of companies' marketing strategies (Gatignon et al. 1990). A strong brand represents the pledges of value and experience delivered through customers' use of the product (Webster, 2004; Marquardt et al. 2011). To build their brand reputation and shape distinct customer perceptions, firms pursue brand positioning strategies through various marketing tools (Hartmann et al., 2005).

Branding in B2B settings can be challenging (Leek and Christodoulides, 2011) due to fewer but larger customer profiles requiring long-term relationships, and high levels of knowledge and expertise (Cawsey and Rowley, 2016). However, despite its complexity, by creating unique and consistent identity attributes, B2B organizations can differentiate themselves (Cretu and Brodie, 2007), increase their negotiating power (Low and Blois, 2002), raise financial performance (Mudambi, 2002), and boost customers' confidence in their choice (Low and Blois, 2002).

2.2.1. Branding for sustainability

Sustainability has become one of the important criteria driving customer choices and stakeholder attitudes towards brands (Sheth and Sinha, 2015; Vesal et al., 2020; Lin et al., 2017). Similar with business-to-consumer (B2C) markets, sustainability can differentiate brands competing in B2B markets. By integrating sustainability into their corporate practices, communicating these practices to customers, and incorporating them into their brand image, companies can build and maintain relationships with sustainability-oriented customers (Kumar and Christodoulopoulou, 2013). Thus, sustainability branding is an important component of positioning and communication strategy in B2B markets (Wang and Hao, 2018; Kapitan et al., 2019).

Yet, despite its importance, sustainability branding has been neglected particularly in B2B marketing research (Chan et al., 2012). Among the scarce literature, Kapitan et al. (2019) developed a sustainability brand positioning scale for B2B firms while Vesal et al. (2020) reported that sustainability strengthens B2B firms' brand image. Sheth and Sinha (2015) argue that sustainability is critical for building B2B brand reputation also in emerging markets while Kumar and Christodoulopoulou (2013) report a positive relationship between sustainable branding and firm performance.

A significant part of the sustainability branding literature addresses the functional and emotional benefits emphasized by sustainability messages (e.g. Hartmann et al., 2005; Matthes et al., 2014). Functional benefits address the basic service offered and its utilitarian or practical benefits (Sheth et al., 1991) whereas emotional benefits appeal to human senses and evoke customers' emotions (Holbrook and Hirschman, 1982). Expanding on a holistic sustainability perspective (Hartmann et al., 2005), functional benefits position the brand as environmentally or socially sound while performing its value proposition whereas emotional benefits address customers' senses and feelings regarding a brand's environmental and social sustainability. Because decision making for purchasing in B2B markets is based on rational attributes that depend heavily on product or service features, value perceptions in B2B markets are mainly based on functional attributes (Kuhn et al., 2008). Consequently, researchers have neglected the role of emotional benefits in B2B brand positioning (Leek and Christodoulides, 2012; Candi and Kahn, 2016).

2.2.2. Brand positioning in container shipping

Container shipping is a highly competitive and capital-intensive industry (Chao, 2017; Yap and Zahraei, 2018) involving B2B

transactions. The demand for container shipping services depends on the demand for final products (Shneerson, 1977), so the major customers are shippers (or freight forwarders acting on their behalf). Such customers expect high service and relationship quality, which strengthen their loyalty to container carriers (Jang et al., 2013). Considering that branding affects relationship quality (Han and Sung, 2008), perceived product quality, and willingness to pay premium prices, branding in container shipping is critical. While the literature has addressed branding in many industries, few studies have examined branding in container shipping (e.g. Jang et al., 2014; Yang, 2018; Bitiktas and Tuna, 2020; Surucu-Balci et al., 2020).

Within this limited literature, Jang et al. (2014) reported that the most important factor determining brand equity in container shipping firms is cost-related service quality whereas brand association is less important. However, Yang (2018) showed that container shipping companies' sustainable branding appeals to shippers who are becoming increasingly concerned about sustainability throughout their supply chains. Sustainable shipping initiatives satisfy shippers' sustainability requirements (Chang and Danao, 2017), create a reputable image (Jozef et al. 2019), and increase shipping companies' competitiveness (Lam and Lai, 2015).

One strategic tool to create brand engagement and implement brand positioning strategies for container shipping companies is social media (Surucu-Balci et al., 2020). Bitiktas and Tuna (2020) recently analysed message appeals, branding, and informational content of container carriers' Facebook messages. They found that many container shipping firms ignore social media and fail to convey clear messages to stakeholders. Analysing the social media communications of container shipping companies further, by focusing on their sustainability messages, would provide in-depth insights about their sustainability strategies and sustainability transformations in the industry.

3. Methodology

A social media analytics study based on Twitter posts is used in this research. Considering the power of social media in raising awareness on global issues (Strähle & Gräff, 2017) like sustainability and its ability to build brand loyalty (Gomez and Shepherd, 2019), container shipping companies' social media messages are expected to provide significant insights about their sustainability initiatives. Brand meanings are not constructed in isolation but in communication and interaction with stakeholders (Ballantyne and Aitken, 2007), which is powerfully facilitated by social media. Contrary to the opinion on communicating through social media is more suitable for B2C context, social media is commonly adopted by B2B firms as a tool for communication with the customers. Recent studies on social media usage in B2B imply the role of these tools in value creation, building strong brands and strategies, enhancing customer relationship, encouraging sale (Andersson and Wikström, 2017; Agnihotri et al. 2016; Diba et al. 2019).

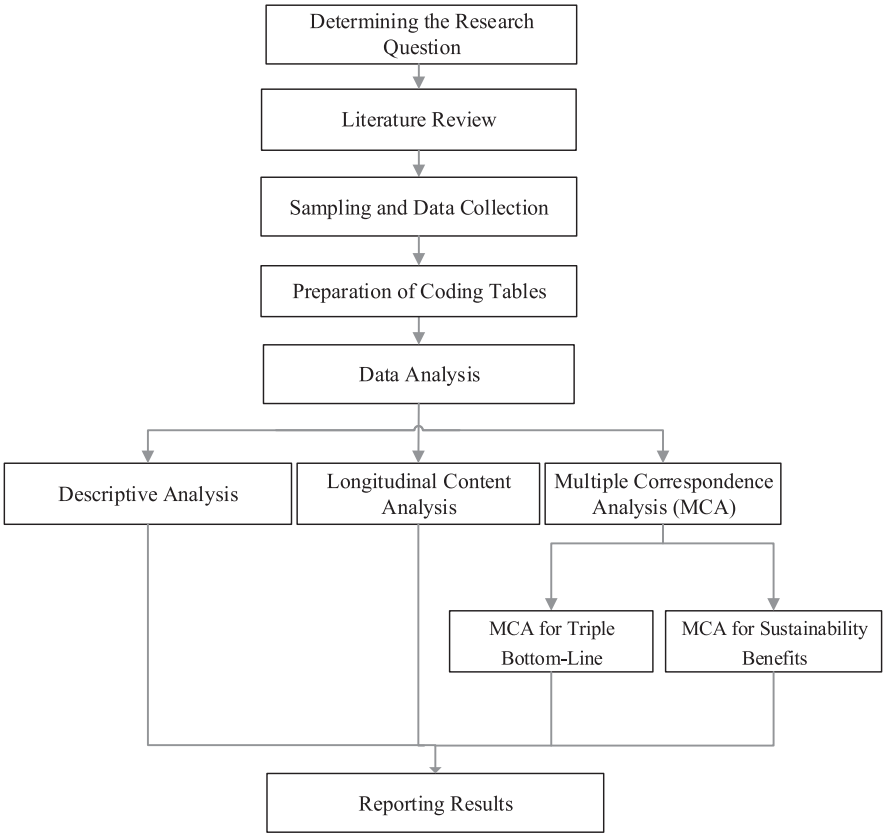

Fig. 1. Research Design.

On the other hand, evaluating and choosing the right channel for transmitting the messages to related interest groups is an important concern for B2B firms. Among the social media platforms, Twitter is the second most popular platform that Fortune 500 companies prefer following LinkedIn (Barnes et al. 2020) and is considered to be an important channel to create their social media strategy (Cawsey and Rowley, 2016). It enables segmenting the communication and supporting direct engagement (Cawsey and Rowley, 2016) together with content dissemination and electronic Word-of-Mouth creation (Jansen et al., 2009) and supports innovativeness of the firms (Wamba and Carter, 2013). The reason for choosing Twitter as the data sources rather than other social media platforms such as LinkedIn, Facebook, Instagram, YouTube or Google My Business is that Twitter provides microblogging services that support spreading information quickly and this creates advantages for businesses in gathering business intelligence (Cripps et al. 2020). With Twitter, the focal point is on content, tweets, and topics whereas on e.g. LinkedIn, it is common to seek for companies and persons with whom to interact and the focus is on formal, professional, and selective facts about thought leadership and insights. As a communication platform for various occupational groups, such as journalists, politicians, and researchers, Twitter enables its users to create new social networks with other users worldwide by sharing messages about feelings, experiences, and thoughts (Sevin, 2013; Jansen et al., 2009). Also, offering limited characters (280) in postings motivates the companies for developing their generic tactics on the innovative use of the content (Juntunen et al. 2020).

Recent advances in computer science, statistics, network analysis, and computational linguistics have provided a variety of tracking, modelling, analysis, and mining techniques to tackle the challenges of social media data (Krippendorff, 2004). In this study, three individual data analysis methods were used sequentially. Fig. 1 outlines the different methods and the research process while each step is explained in depth in its subsections.

3.1. Sampling and data collection

The sample was drawn from Alphaliner's 2020 list of top 100 container shipping companies based on their capacity and fleets, including owned ships, chartered ships, and order books. However, because Alphaliner groups all assets under the brand names of group companies, it excludes individual brands, such as Maersk Line, Hamburg Süd, Safmarine, Sealand Asia, Sealand America, Europe, and Med. Therefore, further analysis was required to retrieve the individual brand names of group companies. Sampling was then based on these individual brands' official Twitter accounts. Only the top ten companies in the list were included as they represent a majority of the market' supply capacity. However, because not all of them have official Twitter accounts the list was refined to eliminate those not using Twitter for marketing communications and adding the next largest brand(s) that are using Twitter.

The data was collected with NVIVO NCapture. Several inclusion and exclusion criteria (Table 1) were considered to refine the dataset. Most importantly, only tweets about sustainability messages were included. Although the spread of Covid-19 pandemic disrupted the industry dramatically, the majority of its effects were still rather local because our data collection ended in mid-March 2020 while WHO declared the pandemic officially on 11 March 2020. Thus, despite traces of Covid-19 responses, especially in Pacific sailings, our dataset did not contain many Covid-19-related messages. Therefore, it was still possible to draw sustainability-related messages using TBL as the main selection framework.

If a company's individual branches had separate Twitter accounts targeting local markets, these were excluded from the sample because they mostly tweet in the local languages. We aimed to balance feasibility with comprehensive scoping by focusing only on English-language tweets. In addition, Asian shipping companies (except for COSCO) use their country's social media platforms rather than Twitter for branding communications due to political restrictions. These were also excluded from the sample. Table 2 presents the sample and Twitter accounts included in the study after refinement by applying the inclusion and exclusion criteria.

Twitter allows its users to delete or retweet posted content. To control for such changes, two different time intervals were selected for data collection (Table 3). Both data collection intervals started on the same date to check if any content had been deleted or retweeted in the tweet database.

3.2. Descriptive data analysis

After the data set was refined by eliminating irrelevant or unreadable data, a descriptive analysis was performed on company information, Twitter account names, number of tweets within the two data collection frames, account engagement rates. Such statistics ensure sample reliability by providing information about the size of the selected companies and the frequency of Twitter-based communication.

Table 1
Inclusion and Exclusion Criteria.

Inclusion Criteria	Exclusion Criteria
Shipping operator Twitter pages	Irrelevant Twitter Messages (such as seafarers' postings)
Tweets, retweets (informational)	Non-English text
English language	Non-textual (Unicode characters)
	Irrelevant advertisements (celebrations, and holidays)
	Other social media platforms

Table 2
Sample data.

No	Shipping companies	Origin of shipping company	TEUs	Share of total capacity (%)	Twitter accounts of group companies
1	APM-Maersk	Denmark	4,138,241	17.0	Maersk, Safmarine, SealandAmericas, SealandAsia
2	MSC	Italy	3,855,928	15.9	MSCCargo
3	Cosco Shipping	China	3,041,955	12.5	Coscoshipping,, Coscoshpglines, Ooclcs
4	CMA-CGM	France	3,020,766	12.4	Cmacgm, APLShipping, ANLShipping, Containerships
5	Hapag-Lloyd	Germany	1,773,128	7.1	HapagLloydAG
6	ONE	Japan	1,594,027	6.6	OceanNetworkExp
7	Hyundai M.M.	South Korea	718,967	3.0	HMMEurope
8	Zim Shipping	Israel	371,001	1.5	ZimShipping, GoldStarLineLtd
9	PIL	Singapore	287,402	1.2	PilSingapore
10	X-Press	Singapore	130,519	0.5	xpress_feeders

Source: Alphaliner (2020)

Table 3
Period Intervals for Data Collection.

Periods	From - To	Number of Tweets
Time 1	10.11.2019–01.01.2020	60,112
Time 2	10.11.2019–16.03.2020	64,924

3.3. Longitudinal content analysis

A longitudinal content analysis with a trend design was carried out to (1) compare tweets at two or more points in time and (2) identify cluster structures among tweets. Content analysis, which is an analytical and systematic approach to discovering specific sets of information within textual data (Berelson, 1952), helps to quantify, objectively analyze, and make legitimate assumptions from such data (Opoku et al., 2006). Content analysis of large data sets can be done automatically with auto-coding tools or manually with a coding framework. Although automated prediction offers advantages in trend design, its reliability remains debated. Therefore, instead of automated prediction, this study adopted a matrix query approach combined with a trend design to match the emerging topics from the content analysis with the coding scheme.

We followed the order suggested by McMillan (2000) and Riffe and Freitag (1997) for this stage of the analysis. The sample was drawn based on the research purpose and according to the approach explained in the previous subsection. We then developed two coding frameworks based on an extensive literature review (Tables 4 & 5). There are two main approaches for coding: inductive and deductive (Krippendorff, 2004; Bernard, 2000; Mayring, 2000). We preferred deductive coding performed in two simultaneous stages. For the first coding framework, open codes from the sustainable shipping literature were matched with the TBL dimensions, which formed our initial categories.

For the second coding framework, open codes were developed by adapting the generic functional and emotional brand positioning strategies of Aaker and Luis (1996) and building on previous sustainability branding research in B2B markets (Hartmann et al., 2005; Matthes et al., 2014). Having a holistic sustainability approach, the functional and emotional benefits from sustainable shipping services address the environmental, social, and economic pillars of society. Table 5 shows the categories supporting the content analysis.

The two authors of this paper performed data coding in parallel. First, they were trained in coding and using the matrix query tool. Then they started coding and stopped to check coding reliability for a tweet set posted on randomly chosen dates (01.01.2020 and 02.02.2020). Intercoder reliability was measured by Rust and Cooil's (1994) proportional reduction in loss index (PRL). The intercoder reliability was calculated as 0.72, which surpassed the acceptable value of 0.70.

3.3.1. Multiple correspondence analysis (MCA)

Following the longitudinal content analysis, we conducted an MCA to study the spatial relationships between carrier brands and sustainability pillars. MCA is a version of correspondence analysis (CA) that examines the relationships of various categorical dependent variables (Abdi and Valentin, 2007), without a priori hypotheses or assumptions but with a graphical illustration (Markos and Sridevi, 2010). It is generally used to decrease the complexity of tabular data and is frequently preferred in marketing and brand positioning studies to show relationships between organizations (Rutter et al. 2018). The method has been applied widely in management research (Furrer et al. 2008; Dabic et al. 2014), including port branding (Rutter et al., 2018; Baştuğ et al., 2020). The major output is a low-dimensional map that locates keywords on two axes. The distances between pairs of keywords represent closeness of association. MCA, which examines a set of observations identified by a set of nominal variables, can include quantitative variables by recoding them as "bins". For example, a score ranging from − 5 to + 5 can be recoded as a three-level nominal variable: less than 0, equal to 0, or more than 0. In this study, scores ranging from −1.5 to + 1.5 were recoded as a nominal variable for the two MCAs (Figs. 3 & 4).

Table 4
Coding Framework for Sustainability Dimensions.

CAT.	Open codes	Authors
Economic	Company performance	Jozef et al. (2019), Gong et al. (2019), Lun et al. (2014)
	Cost of greening	Metzger & Schinas (2019)
	Cost of hazmat disposal	Yang et al., (2013)
	Cost of pollution	Nunes et al. (2019), Tran et al. (2017), Parry et al. (2015), Etchart et al. (2012), Wang (2010), Ng & Song (2010)
	Customer satisfaction	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Earnings per share	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Economic efficiency	Gong et al. (2019)
	Financial performance	Jozef et al. (2019), Nunes et al. (2019), Lun et al. (2015)
	Firm efficiency	Jozef et al. (2019), Gong et al. (2019), Lun et al. (2014)
	Frequency of sailing	Panagakos et al. (2019), Giovannini & Psaraftis (2019), Cariou et al. (2019), Dulebenets (2018), Woo & Moon (2014), Psaraftis & Kontovas (2010)
	Fuel consumption	Yan et al. (2018), Yang (2018), Lun et al. (2015), Yang et al. (2013)
	Fuel cost	Gu et al. (2017), Kosmas & Acciaro (2017), Yang et al. (2013)
	Fuel prices	Gu et al. (2017), Kosmas & Acciaro (2017), Yang et al. (2013)
	Fuel saving	Krozer et al. (2003)
	Life cycle costing	Luttenberger and Luttenberge (2017)
	Market share	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Operational cost	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Operational efficiency	Dulebenets (2018), Hammander et al. (2015)
	Optimum vessel speed	Cheaitou & Cariou (2019), Yan et al. (2018), Gu et al. (2017), Kosmas & Acciaro (2017), Chang and Wang (2014), Yang et al. (2013), Krozer et al. (2003)
	Profit	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Return on investment	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Sales growth	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Service quality	Lu et al 2009; Yuen et al 2016; Yuen and Thai, 2017
	Ship capacity	Cariou et al. (2019), Krozer et al. (2003)
	Taxes	Kosmas & Acciaro (2017), Franc & Sutto (2014)
	Travelling distance	Cariou et al. (2019), Tran et al. (2017)
	Travelling time	Dulebenets (2018), Schröder et al. (2017), Lam & Lai (2015), Burel et al. (2013)
Enviromental	Ballast water	Lam & Lai (2015), Lun et al. (2015), Keller et al. (2011)
	Biodiversity	Collas et al. (2018)
	Black carbon	Schröder et al. (2017), Mjelde et al. (2014), Etchart et al. (2012)
	Carbon Monoxide	Etchart et al. (2012), Fitzgerald et al. (2011)
	Climate change	Fenton (2017), Dalsøren et al. (2013)
	CO2 emissions mitigation	Cheaitou & Cariou (2019), Cariou et al. (2019), Panagakos et al. (2019), Nunes et al. (2019), Dulebenets (2018), Schröder et al. (2017), Fenton (2017), Rehmatulla et al. (2017), Shi (2016), Lun et al. (2015), de la Fuente & Greig (2015), Hammander et al. (2015), Cogliolo (2015), Franc & Sutto (2014), Woo & Moon (2014), Dalsøren et al. (2013), Lun (2013), Lindstad et al. (2012), Lindstad et al. (2011), Fitzgerald et al. (2011)
	CO2 emissions reduction	Cheaitou & Cariou (2019), Cariou et al. (2019), Panagakos et al. (2019), Nunes et al. (2019), Dulebenets (2018), Schröder et al. (2017), Fenton (2017), Rehmatulla et al. (2017), Shi (2016), Lun et al. (2015), de la Fuente & Greig (2015), Hammander et al. (2015), Cogliolo (2015), Franc & Sutto (2014), Woo & Moon (2014), Dalsøren et al. (2013), Lun (2013), Lindstad et al. (2012), Lindstad et al. (2011), Fitzgerald et al. (2011)
	Eco-friendly vessels	Lee & Nam (2017)
	Ecosystem	Collas et al. (2018), Kotta et al. (2016), Merchant et al. (2012)
	Eco-efficiency	Nunes et al. (2019)
	Emission control area	Cheaitou & Cariou (2019), Stalmokaite & Yliskylä-Peuralahti (2019), Dulebenets (2018), Gu et al.(2017), Sampson et al. (2016)
	Energy consumption	Yan et al. (2018), Yang (2018), Lun et al. (2015), Yang et al. (2013)
	Energy efficiency	Jia (2018), Dulebenets (2018), Rehmatulla et al. (2017), Kosmas & Acciaro (2017), Hjelle (2010)
	Environmental accounting	Luttenberger and Luttenberge (2017), Mjelde et al. (2014)
	Envir.-friendly recycling	Lam & Lai (2015), Yang et al. (2013)
	Environmental efficiency	Hjelle (2010)
	Environmental performance	Lam & Lai (2015), Lun et al. (2015), Hjelle (2010)
	Financing greening	Schinas and Metzger (2019)
	Fossil fuels	Stalmokaite & Yliskylä-Peuralahti (2019), Cogliolo (2015)
	Fuel type	Cariou et al. (2019), Rehmatulla et al. (2017), Lam & Lai (2015), Yang et al. (2013)
	Greenhouse gas emissions	Nunes et al. (2019), Gong et al. (2019), Stalmokaite & Yliskylä-Peuralahti (2019), Yan et al. (2018), Poulsen et al. (2018), Jia (2018), Gu et al. (2017), Lee & Nam (2017), Fenton (2017), Shi (2016), Rahim et al. (2016), Sampson et al. (2016), Hammander et al. (2015), Mjelde et al. (2014), Franc & Sutto (2014), Shi (2014), Yang et al. (2013), Giziakis & Christodoulou (2012), Lindstad et al. (2012), Lindstad et al. (2011)
	Habitat diversity	Collas et al. (2018), Kotta et al. (2016), Merchant et al. (2012)
	Heavy fuel oil	Mjelde et al. (2014)
	Hydrocarbons	Cheaitou & Cariou (2019), Hjelle (2010)
	Marine pollution	Lee & Nam (2017), Cogliolo (2015), Lam & Lai (2015), Pietri et al. (2008)

(*continued on next page*)

Table 4 (*continued*)

CAT.	Open codes	Authors
	Noise (in port)	Murphy & King (2014)
	Ship-based noise	Yang et al. (2013)
	NOx	Nunes et al. (2019), Cheaitou & Cariou (2019), Schröder et al. (2017), Fitzgerald et al. (2011), Psaraftis & Kontovas (2010)
	Oil spills	Rogowska & Namieśnik (2010)
	Particulate matter	Nunes et al. (2019), Cheaitou & Cariou (2019), Schröder et al. (2017), Cogliolo (2015), Fitzgerald et al. (2011)
	Particulate organic matter	Etchart et al. (2012)
	Recycling rate	Lun et al. (2015)
	Reduction of sewage waste	Yang et al. (2013), Yang (2018)
	Reduction of garbage	Yang (2018)
	Safe hazmat removal	Schøyen et al.. (2017)
	Slow steaming	Chang and Wang (2014), Woo & Moon (2014), Lindstad et al. (2011), Psaraftis & Kontovas (2010), Krozeret al. (2003)
	SOx	Nunes et al. (2019), Cheaitou & Cariou (2019), Dulebenets (2018), Hermann (2017), Schröder et al.. (2017), Dalsøren et al. (2013), Etchart et al. (2012), Fitzgerald et al. (2011), Psaraftis & Kontovas (2010), Hjelle (2010)
	Speed reduction	Chang and Wang (2014), Woo & Moon (2014), Lindstad et al. (2011), Psaraftis & Kontovas (2010), Krozeret al. (2003)
	Species diversity	Collas et al. (2018), Kotta et al. (2016), Merchant et al.(2012)
	SECA (*)	Stalmokaite & Yliskylä-Peuralahti (2019), Hermann (2017)
	Volatile organic compounds	Nunes et al. (2019), Cogliolo (2015), Etchart et al. (2012)
	Waste reduction	Lun et al. (2015)
Social	Accidents	Reinhold et al. (2019)
	Accountability	Rahim et al. (2016), Deengar (2007)
	Avoiding damage	Celik (2009)
	Gender equality	MacNeil and Ghosh, 2017
	Human health	Cheaitou & Cariou (2019)
	Loss of life	Celik (2009)
	Marine casualties	Celik (2009)
	Organizational culture	Hammander et al. (2015)
	Preventing human injury	Celik (2009)
	Reporting	Panagakos et al. (2019), Jia (2018), Deengar (2007)
	Risk	Reinhold et al. (2019), Celik (2009)
	Risk management	Deengar (2007)
	Safety	Reinhold et al. (2019), Schøyen et al. (2017), Hammander et al. (2015), Celik (2009),
	Seafarers' health	Reinhold et al. (2019), Celik (2009)
	Training	Schøyen et al. (2017)
	Transparency	Deengar (2007)

* SECA: Sulphur Emission Control Area

4. Findings

This section presents the results from the three research stages and is followed by a discussion of them in relation to the relevant literature. There are five key findings of the study. (1) The container shipping firms included in the study align their brand positioning strategies closer to economic and environmental sustainability messages where the former receives a higher emphasis. (2) There is a trend towards positioning closer to the environmental dimension by some of the brands who want to differentiate their sustainability initiatives. However, even these environmental sustainability initiatives are closely positioned to their economic benefits. (3) The least used TBL dimension is social sustainability in brand positioning of container shipping firms which suggests potential avenues for brand differentiation. (4) Container shipping firms use functional benefits when communicating their sustainability initiatives. They form separate clusters where they choose to position themselves closer to either functional benefits of economic sustainability or functional benefits or environmental sustainability. There is less evidence for emphasis on functional benefits of social sustainability. (5) A few firms have discovered the importance of combining emotional benefits with functional benefits in communicating their sustainability initiatives which offers opportunities for brand differentiation.

4.1. Descriptive results

The core business of a majority of the brands is container shipping, with 6 being Middle Eastern or Asian and the remainder European. All have active Twitter accounts and represent 77.70% of global container shipping capacity where 4 out of the top 10 carriers on the list (APM-Maersk, MSC, CoscoShipping, and CMA-CGM) control 57% (13.508.871 TEU) of overall market capacity.

Four indicators were calculated to measure the Twitter accounts' interaction activity: number of tweets, mean engagement/tweet, tweets per day, and mean number of favourites. The Vicinitas.io platform was used to gather engagement rates (collection date: 16.03.2020). Vicinitas keeps track of Twitter content and provides in-depth analytics on user engagement for social media campaigns

Table 5
Coding Framework for Sustainable Shipping Service Benefits.

		Open codes	Description
Functional sustainability benefits	Environmental	Environmental soundness (Hartmann et al., 2005; Matthes et al., 2014)	Emphasizes the relevant environmental advantages of the given shipping service
		Low emissions (Hartmann et al., 2005; Matthes et al., 2014)	Underlines lower emissions than competitors for the given shipping service
		(Reduced) Air pollution (Hartmann et al., 2005; Matthes et al., 2014)	Refers to actions or brand performance reducing air pollution
	Social	Health and safety training	Training provided to reduce damage to human health and improve worker safety
	Economic	Transparent disclosure	Emphasizes transparency and accountability in company disclosure
		Service reliability (German and Nechita, 2015)	Degree to which a shipping business brand performs consistently
		Service durability (German and Nechita, 2015)	Invariability of service attributes that influences the decisions of transportation providers
Emotional sustainability benefits	Environmental	Nature love (Hartmann et al., 2005; Matthes et al., 2014)	Reference to emotional affinity with nature
		Empathy/care for environment	Showing ability to understand or care for the natural environment
		Saving the world (Hartmann et al., 2005; Matthes et al., 2014)	Reference to the brand's role in protecting the common good on Earth
	Env & Soc	Doing good (Hartmann et al., 2005; Matthes et al., 2014)	Reference to corporate citizenship for improving the well-being of the environment and people
	Social	Empathy/care for people	Showing the ability to understand or care for employees, customers, or people generally

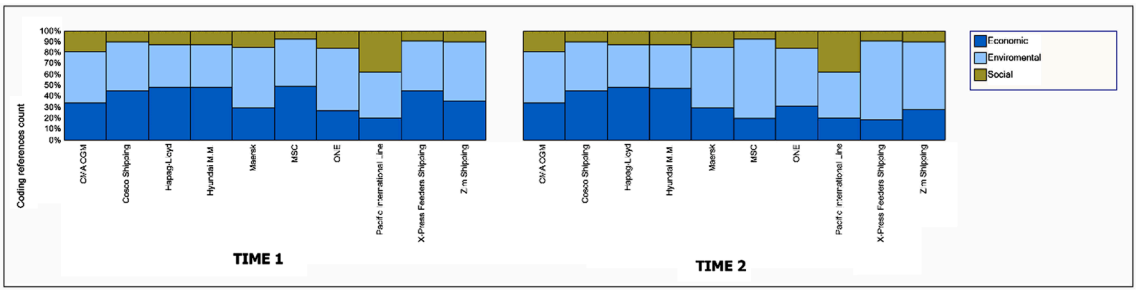

Fig. 2. Brand Positions regarding Sustainability Dimensions (Time 1 and Time 2).

and brands in real-time. The term engagement rate, when used for a collection of posts, describes the cumulative interactions. Vicinitas' calculation of this indicator is based on "public engagement rate" which is a general method used to calculate publicly visible interactions. For Twitter this is the sum of likes, retweets, replies and quotes divided by the number of followers. According to this platform, for every 1000 followers, engagement rate is considered low if it is between 0% and 0.02%, good between 0.02% and 0.09%, high between 0.09% and 0.33%, and very high between 0.33% and 1%.

Table 6 presents the engagement rates for Alpha Liner's top 10 container shipping companies (2019). Almost all companies interacted with people. European based shipping companies had the highest engagement rates, with matching the "Very High" category and four of them matching the "High" category. Most of these carriers account for a majority of global carrying capacity. The lower engagement levels of Middle East and Asia-based carriers may be attributed to their preference for other channels than Twitter and languages other than English. Overall, however, the engagement rates indicated active usage of Twitter and supported the sample's reliability for investigating sustainable brand positioning strategies.

4.2. Longitudinal content analysis results

The open codes for the TBL dimensions were used for the content analysis of the data collected during the selected two periods (Fig. 2). The brands generally focused equally on disseminating economic and environmental messages in their Twitter messages where social sustainability dimension had the lowest share of marketing communications. Comparing the two sampling periods, some companies (MSC, X-Press & Zim Lines) tended to align more towards environmental sustainability messages and away from economic sustainability messages.

While the promotion of green technologies and environmental initiatives in shipping is not new, these results show that the increasing recognition and awareness of environmental issues is reflected in more frequent emphasis on environmental sustainability in brand positioning. This is also visible in the trend analysis of the selected shipping lines' social media messages, perhaps because

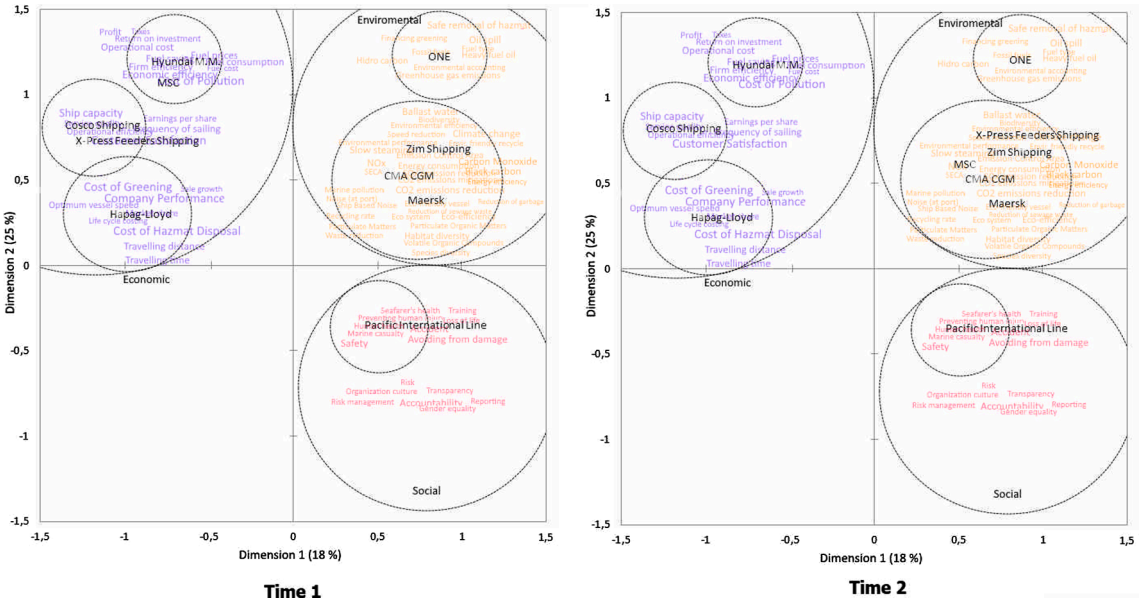

Fig. 3. MCA 1 - Brands and Sustainability Dimensions.

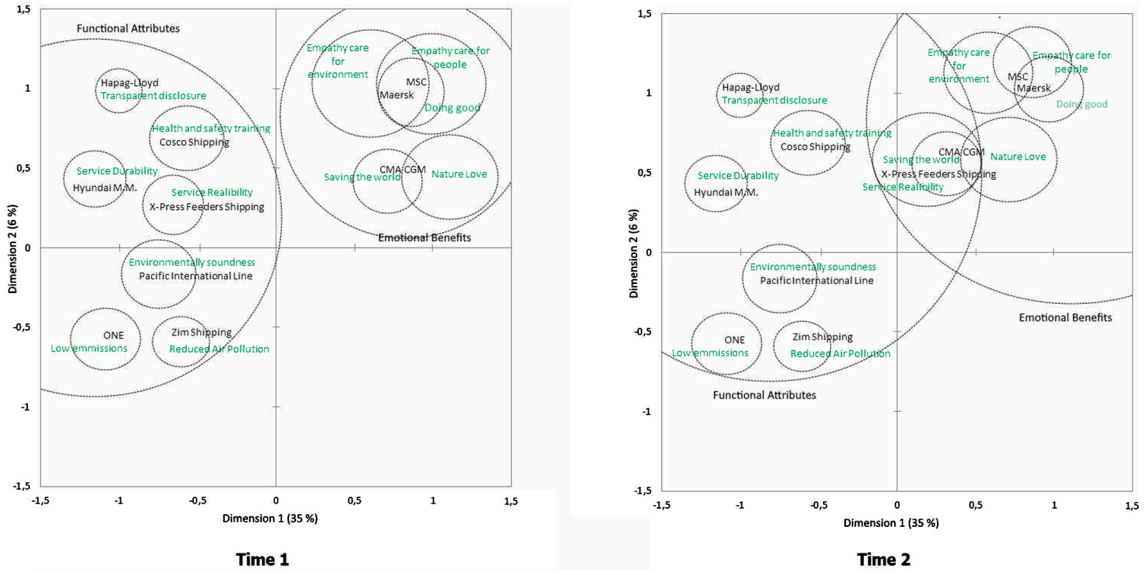

Fig. 4. MCA 2 - Functional Versus Emotional Positioning Strategies.

such brand positioning enables them to differentiate themselves and publicize the environmental gains achieved by their sustainability initiatives rather than economic gains. The results from this stage of the analysis provided the inputs for the first MCA.

4.3. MCA results

MCA builds on social networks that contain categorical explanatory variables. In this analysis, the categories and frequently cited open codes were used as the categorical variables for building the social networks while the two different time periods were used again to detect changes in their structure. Such changes can significantly improve understanding of trends in brand positioning. Scaled row and column principal normalization were used for calculating the distances between network values.

MCA locates all the brands in a Euclidean space. Fig. 3 indicates that Dimension 1 accounts for 18% of the variance in brand data while Dimension 2 accounts for 25% of the variance in TBL dimensions. The total variance explained in both sections (43%) is a good indicator of the explanatory power of the analysis. A commonly used reliability indicator in MCA is confidence circles, with 95%

Table 6
Sample Social Media Statistics.

Shipping Companies	No. of tweets	Mean engagement per Tweet*	Tweets per day	Mean number of favorites*
APM-Maersk	3198	51.4	2.0	1.4
MSC	293	27.1	0.1	0.1
CMA-CGM	3193	18.0	1.3	0.5
Hapag-Lloyd	693	17.0	0.2	0.3
ONE	327	21.6	0.4	0.2
CoscoShipping	580	6.4	0.2	0.1
X-Press	17	2.1	0.1	0.1
Zim Shipping	274	7	0.1	0.0
Hyundai M.M.	236	2.4	0.1	0.0
PIL	53	2.3	0.2	0.0

* Percentage values of tweets

accepted as the threshold value (Lebart Morineau et al., 1984) to interpret the level of distinction of each region. The ratio of confidence circles in this analysis was 96%, which allowed for further interpretation of the results.

The different sets of brands, separated by TBL pillars, show the clear distinction between these pillars and brands' positioning strategies. A longer distance from the origin represents a stronger association with other points on the chart plot. The size of specific codes represents their frequency in the data set. The different clusters indicate brands with similar sustainability brand positioning strategies at Times 1 and 2. There are also smaller clusters within a certain TBL pillar, which show the most frequent codes whereby brands within that cluster position themselves in alignment with that pillar.

During Time 1, five brands adopted brand positioning strategies closer to economic sustainability. Within this pillar, Hyundai MM (HMM) and MSC communicated messages about economic efficiency, firm efficiency, fuel prices and consumption, operational costs, and profit. An example tweet from HMM says: "*At 23964 TEU, the HMM Algeciras is the world's largest container ship and it has been adjusted downwards to achieve an optimal fuel consumption #HMMAlgeciras*". Cosco and X-Press Feeders also focused on operational efficiency, but particularly emphasized ship capacity. Cosco frequently announced the maiden journeys of its newly built ships and the effect of this on its shipping capacity. Hapag Lloyd was located in the third cluster, which focuses on company performance, cost management, and particularly cost of greening. Brands located here refer to their environmental efforts as well as economic sustainability, although the emphasis is rather on the economy of greening: "*Getting ready for* IMO2020 *comes with additional costs. To mitigate fuel price volatility and transitional operational expenses, Hapag-Lloyd will introduce an* IMO2020 *Transition Charge (ITC) for short-term contracts as of 1 December 2019.*"

During Time 1, four brands positioned themselves in two sub-clusters under the environmental pillar. ZIM, CMA CGM, and Maersk used the same environmental sustainability categories with similar frequency, accounting for a majority of the codes for environmental sustainability. For example, Maersk announced: *"A step towards sustainability in shipping, Maersk ECO Delivery uses sustainable biofuel to provide immediate carbon reductions"* while CMA CGM tweeted: "*After one year of trial CMA CGM accelerates the deployment of marine biofuel and selects Shell to supply enough biofuel to travel nearly 1 million kilometres while reducing GHG emissions by 80%.*" Forming its own environmental pillar sub-cluster, ONE used codes like oil spill, fossil fuels, greenhouse gas emissions, and environmental accounting. The two sub-clusters are not entirely separate. Rather, they show how two groups of brands use different keywords for positioning their brands in association with environmental sustainability.

Only one brand, Pacific International Lines (PIL), positioned itself closer to social sustainability, which implies a market gap for this pillar. PIL is addressing a niche by positioning its brand via messages such as: "*Led by the Singapore Business Federation, PIL has made the pledge for sustainable employment to uplift all stakeholders in society. We will be making at least one improvement to our practices every 12 months! #DoBusinessBetter*". Among the important topics under this pillar, PIL referred to accidents, avoiding damage, loss of life, preventing human injury and human health, with tweets such as: "*PIL is proud to share that we have completed a three-month pilot safety training programme with Austin-based Senseye, one of the winners of @lloydsregister Safety Accelerator initiative. The innovative system helps PIL to prevent incidents at sea.*" Other messages emphasized employee health and safety and actions to improving working conditions on company vessels: "*During PIL Healthy weeks, colleagues learnt more about Mental Resilience, Chiropractic, Common Eye Ailments, enjoyed SAVH Neck and Shoulder Massage and sweat it all out at our Bokwa session! We also had a Masterchef competition where PIL chefs whipped up delicious dishes!*" Our results indicate that brands are not yet covering certain social sustainability areas frequently. No company positioned themselves through gender equality, transparency, accountability, and risk management in their social media communications.

Although most of the brands maintained their branding strategies from Time 1 to Time 2, MSC and X-Press Lines changed theirs. These brands initially associated themselves with economic sustainability indicators, such as efficiency or earnings per share: "*X-Press Feeders started our own digital transformation journey a while ago and we are eager to contribute in the digital collaboration with all major ocean carriers. In the journey of digitalizing the supply chain with a strong collaboration spirit, we look forward to the potential of achieving greater operational efficiency in the industry and unlocking greater value in the supply chain.*" Similarly, even when MSC tweeted environmental sustainability messages, it emphasized economic impacts, such as pollution costs. The longitudinal analysis showed that these two brands then followed their competitors by communicating environmental sustainability messages more frequently, which indicates the growing importance of the environment in brand positioning strategies: "*At MSC, we're committed to a low-carbon future! Today, we already operate a modern, green fleet, and we continue to invest heavily in low-carbon technologies and extensive new-build and*

retrofit programmes. This includes propeller retrofit. Read more: https://bit.ly/2OXnqXr"

While environmental sustainability became a popular brand positioning strategy for many of these brands, they still associated such strategies with the economic pillar of sustainability. Thus, many environmental sustainability messages were used together with keywords like "buyer-driven" or "environmental upgrading" to emphasize the market dimension or performance dimension of their environmental efforts. For example, Maersk tweeted: "*imagine a world where batteries are part of improving vessel performance and reliability while reducing CO2 emissions. This might soon become a reality. We ran a trial which is the first of its kind in shipping.*"

In the second MCA, we analysed how the selected shipping lines used functional versus emotional attributes in their sustainable brand positioning strategies. In Fig. 4, Dimension 1 represents the brands and accounts for 35% of the total variance while Dimension 2 represents the benefits and accounts for 6% of the total variance. The analysis explains 41% of the total variance.

MCA 2 showed that seven out of the ten top container shipping companies used functional sustainability benefits to position their brands while three focused on emotional sustainability benefits. At this end of the analysis, cost and price related dimensions are removed from coding based on the definition of functional benefits. These attributes represent practical or utilitarian benefits that the shipping service provides only from a sustainability perspective. For example, Hapag Lloyd's tweets emphasized accountability and transparency whereas Hyundai MM referred to service durability and X-Press Lines used service reliability. These can be classified as functional benefits that address economic sustainability because they represent the viability and quality of the company's shipping service. Thus, these three shipping lines formed a separate group in the market by positioning themselves in terms of economic and functional sustainability benefits.

PIL, Zim Lines, and ONE formed another cluster by using environmental functional benefits more frequently. These companies focused on environmental performance or the environmental soundness of their shipping service, specifically the environmental advantages of their services and the tangible environmental impacts of their efforts to reduce emissions.

Within the functional benefits cluster, Cosco referred to functional sustainability benefits related to the social pillar more frequently than others. Through this strategy, the brand emphasized that safety training has utilitarian benefits related to reduced damage and improved employee health and safety.

Between Time 1 to Time 2, there was little change except for X-Press Lines moving closer to CMA CGM. Within this new cluster, the companies combined both functional and emotional sustainability benefits for brand positioning, which is very common, particularly for the emotional benefits cluster. Although this group of brands focused mostly on emotional benefits of sustainability to evoke customer senses and appeal to their emotions when communicating their messages, they combined these with functional benefits as well. Furthermore, because emotional messages are more difficult to communicate only with words, their emotionally focused tweets sometimes included pictures (Figs. 5 & 6).

In Fig. 5, Maersk combines pictures symbolizing empathy or care for the environment with the functional sustainability benefits of their service: "*Maersk ECO Delivery, our newest innovation in reducing carbon emissions, is a more sustainable way to transport your goods.*"

In Fig. 6, CMA CGM uses text and pictures to introduce an innovative environmental technology to reduce GHG by combining it with multiple emotional benefits (nature love and saving the world): *"Today we are proud to announce that @CMACGM and @Energy_Observer join forces to make #hydrogen one of the energy sources of tomorrow!"*.

5. Discussion

The results of this study provide significant insights about how container shipping brands position themselves in relation to sustainability, not only by differentiating themselves among TBL pillars, but also by communicating the functional and/or emotional benefits of their sustainability initiatives. Thus, the study contributes to the call for strategic marketing studies in shipping that adopt holistic frameworks (Parola et al., 2019). Considering the growing role of sustainability for building B2B brand images (Vesal et al., 2020), the study shows that companies in this highly competitive and capital-intensive industry (Chao, 2017; Yap and Zahraei, 2018) are using sustainability related messages in different ways to position their brand names. The findings are illustrated using MCA which helps the visualization of brand positioning strategies with respect to competitors and also the changes in time.

The majority of the top container shipping companies analyzed here clearly differentiate themselves as closer to either economic or environmental sustainability. This does not prove that a brand using economic sustainability to position itself is not involved in any environmental sustainability initiatives. Rather, it indicates that some brands communicate economic sustainability messages more frequently than environmental sustainability messages. The former group emphasize classical economic indicators, such as economic

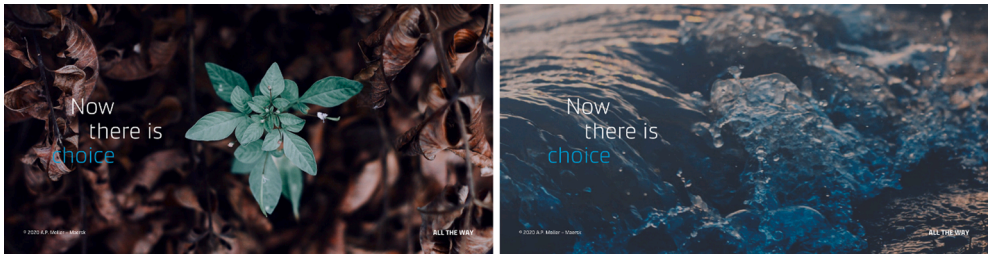

Fig. 5. Emotional Sustainability Positioning (Example 1).

Fig. 6. Emotional Sustainability Positioning (Example 2).

efficiency, earnings per share, ship capacity, sales growth, and return on investment. They also communicate their environmental initiatives by associating them with economic indicators, such pollution costs or greening costs. Although much of the sustainable shipping literature underlines the positive relationship between sustainability and company performance (e.g. Chang and Danao, 2017; Yuen et al., 2017; Lirn et al., 2013), the brand positioning strategy adopted by this first group of shipping lines confirms what Yuen and Thai (2017) argue. That is, these companies primarily position themselves in terms of their ability to perform their core competencies well. Furthermore, they align their environmental initiatives with their cost reduction benefits and ability to contribute to economic sustainability. Through this approach, these shipping lines form a clearly separate group in the market.

In contrast, brands in the second group prioritize environmental sustainability in their social-media communications, particularly their recent environmental shipping initiatives, such as slow steaming, emission and noise reductions, and energy efficiency. While communicating these initiatives, they refer to the new technologies that they are investing in to achieve better environmental sustainability. While most of these initiatives also increase economic sustainability, brands in this group emphasize environmental over economic benefits. Given its widespread adoption by the largest container shipping companies, environmental sustainability branding has become the industry's dominant strategy. This results from new regulations and buyer-driven sustainability requirements that affect not only shipping but the entire transportation industry.

The third cluster included only one brand, PIL, which associated itself closely with the social sustainability dimension, particularly safety on board, human health, and accident prevention, which indicates a niche in the industry. Sustainable shipping research and practice both currently approach sustainability from an environmental perspective while ignoring social sustainability. While all shipping lines must follow IMO regulations, such as Safety of Life at Sea (SOLAS) or the Maritime Labor Convention (MLC), they have mostly failed to adopt a strategy to position their brands in alignment with social sustainability issues. This suggests that shipping lines should increase their communications related to social sustainability to build a brand image that takes a more holistic sustainability position instead of a polarized one.

The results also show the different functional and emotional benefits that shipping lines emphasize in their sustainability messages. Some refer to the functional benefits of providing a sustainable shipping service. These benefits show the environmental, social, or economic soundness of the brand by referring to the tangible and practical implications of using a sustainable shipping service, such as reduced pollution or emissions, transparency or service reliability. In B2B markets with fewer and larger buyers, decision-making is expected to be rational and based solely on product or service features (Kuhn et al., 2008). The shipping lines in this group base their brand positioning strategy on this principle and communicate their service's ability to contribute to reduced emissions, pollution or increased transparency.

While previous research suggests that B2B brand positioning ignores the role of emotional benefits (Leek and Christodoulides, 2012; Candi and Kahn, 2016), our study provides some contradictory results since the container shipping companies analyzed here do refer to emotional benefits while communicating their sustainable shipping services to position their brand names. Functional attributes alone are insufficient to convince potential consumers of a product or service's environmental benefits (Hartmann et al., 2005). By referring to benefits such as loving nature, saving the world, and showing empathy or care for people or the environment, container shipping firms position their brand names by appealing to their customers' senses and feelings. They aim to convince them that their sustainability initiatives go beyond functional benefits, such as reducing emissions, helping to save the world, doing good for the well-being of both the environment and society. Such a strategy creates a brand image with strong sustainability associations.

6. Conclusion and implications

This study explored the top ten container shipping companies' brand positioning strategies from both a TBL and service benefits perspective. The selected companies' social media communications, specifically Twitter accounts, were used to understand these strategies. The results showed that different companies prefer positioning their brands closer to the economic, environmental, or, rarely, social sustainability pillars. While a majority of the companies used functional benefits to build their sustainability image, a second group of market leaders combined emotional and functional benefits to strengthen the brand image of their sustainable shipping services.

This study has several practical and policy implications. Firstly, the results show that aligning the brand with the social pillar of TBL is not yet a widely preferred strategy. This creates a positioning gap. Unsurprisingly, the majority of the companies prefer to emphasize

their economic or environmental sustainability efforts. Economic sustainability is crucial in such a capital-intensive industry while economic sustainability is urgent considering regulations for decarbonization of shipping or reduction of emissions. However, environmental initiatives also have significant societal implications. Shipping lines can seize differentiation opportunities by emphasizing the implications of their environmental sustainability initiatives. Furthermore, none of the brands are yet using gender equality, transparency, accountability, and risk management effectively to position their brands. Using social media messages to communicate company efforts in these areas would bring other differentiation opportunities as well.

It is important how shipping lines position their brands in relation to their sustainability initiatives because this will help them to build and maintain their relationships with sustainability-oriented supply chain members. Considering the wide adoption of sustainability strategies in global supply chains, building a sustainable brand image differentiates companies and creates competitive advantages. Functional benefits are easier to copy. However, combining emotional benefits with the functional benefits of a sustainable shipping service can convince customers that the company goes beyond regulations to undertake initiatives that can cause real change. Creating such customer perceptions can help build stronger brand associations and brand loyalty. Customers using this service will feel that they are participating in the emotional benefit that the service provides because it helps to save the world.

Some of the sampled shipping lines demonstrated an understanding of the importance of emotional benefits in positioning a sustainable brand. Other lines can follow this strategy by combining their current messages with the emotional benefits of sustainability, such as showing empathy or care for the environment or society, saving the world, or doing good. Images are particularly useful here, so a combination of textual and visual messages can enhance such a positioning strategy.

Finally, the results show how the top ten container shipping lines' efforts to build sustainable shipping services are positioned through their social media communications. By providing a snapshot of the industry from the audience's perspective, the study helps to understand how their sustainability positioning strategies are perceived from the outside and points out potential brand differentiation strategies to follow.

The study is not without its limitations though. Because it is based on the publicly available social media communications of the selected container shipping lines, the data is both provider-centric and marketing communications-oriented. Future studies that explore customer perceptions of sustainable brand positioning efforts of shipping lines would provide very valuable insights into this topic. These studies could focus on the larger market as with this study or choose a few cases to explore in depth how lines position their brands and how their customers perceive these brands.

In addition, the dataset is limited to Twitter communications. However, there are many other marketing communication channels both social and traditional. Researchers can combine messages from multiple channels to analyze the sustainable brand positioning strategies of shipping lines further. Repeating the research in different social media channels such as LinkedIn and Facebook could provide important insights about the integrated social media communications of container shipping firms.

Lastly, former research suggests that cost-related service quality is the most effective factor of brand equity for container shipping firms (Jang et al., 2014). We argue, however, that the sustainability efforts of these firms are also an important part of their brand image and consequently brand equity. However, further studies are needed to analyze this relationship to see if sustainability creates a difference in the factors of brand equity.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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