CrossMark

Barriers to the Implementation of Strategic Corporate Social Responsibility in Shipping

Kum Fai YUEN[a], Jun Ming LIM[b]

[a] PhD Candidate, Nanyang Technological University, Singapore, E-mail: yuen0016@e.ntu.edu.sg (First and Corresponding Author)
[b] Assistant Director, Ministry of Transport, Singapore, E-mail:limj0109@e.ntu.edu.sg

ARTICLE INFO

ABSTRACT

Strategic corporate social responsibility (CSR) involves the voluntary practice of social and environment activities to satisfy firms' stakeholders, with the intention of generating profits. Companies, especially those within the shipping industry, often face challenges when implementing strategic CSR. The paper therefore, seeks to identify, rank, and discuss the barriers to the implementation of strategic CSR in shipping. A list of barriers was first identified from reviewing the literature. Subsequently, a survey was administered to 600 shipping companies in Singapore and the collected data were analysed using structural equation modelling. The results showed that factors relating to lack of resources, lack of strategic vision, lack of measurement system, high regulatory standards, and low willingness to pay for CSR are significant barriers to implementing strategic CSR in shipping. The findings imply that the practice of strategic CSR is contingent on both the firm's macro-environment and micro-environment, albeit to a lesser extent. Understanding these potential barriers can help companies avoid or overcome these barriers and improve their chances of successfully implementing strategic CSR.

1. Introduction

Corporate Social Responsibility (CSR) is an integral component of managing businesses and has received much attention in the recent literature on shipping (Shin and Thai, 2014; Skovgaard, 2014). In this study, CSR has been defined as a concept whereby firms integrate social and environmental concerns in their business operations, and in their interaction with stakeholders on a voluntary basis (Commission of the European Communities, 2014). Similar to the concept of sustainability, CSR considers both social and environmental issues while accounting for the long-term financial success of a firm.

In the past, CSR was regarded as a trade-off to a firm's financial performance since it involves a private provision of a public good that serves solely to minimise negative externalities (Bagnoli and Watts, 2003).

It was also perceived by firms as an opportunity cost as investments on CSR could have been used to strengthen firms' existing competitive advantage (Friedman, 2007). However, in recent times, there is growing empirical evidence indicating that firms which partake in CSR activities can also be financially successful in their businesses (Margolis, Elfenbein and Walsh, 2009). Recent literature suggests that CSR contributes to a firm's financial performance indirectly. The relationship between CSR and financial performance has been suggested to be mediated by leading performance indicators such as customer satisfaction, job satisfaction, and corporate image (Galbreath and Shum, 2012).

In the context of shipping, CSR has been reported to provide added advantage for firms to differentiate their services, ward off or pre-empt port state interventions, offer license to operate in environmental sensitive areas, and improve the retention of crew and shore-based talents (Progoulaki and Roe, 2011). In some cases, CSR may also contribute indirectly to a firm's cost advantage due to improved environmental performances (Lun et al., 2015). For example, investing in energy-efficient ships reduces fuel consumption and therefore, their operating cost.

While there are extant literature focusing on CSR, these literature focuses mainly on discussing the benefits of CSR. There is very limited literature that focuses on identifying and examining the barriers that impede the implementation of CSR. The following gaps in the literature are noted. Firstly, a comprehensive study on the barriers to CSR implementation is presently lacking; relevant studies are noted to be fragmented. For instance, Du, Bhattacharya and Sen (2011) have limited their analysis on barriers relating to trust. In another study, DeTienne and Lewis (2005) have narrowly discussed issues on pragmatic and ethical barriers to CSR disclosure. Secondly, there is an absence of such study on shipping companies. Each industry presents a unique set of social and technical challenges to implementing CSR and thus, requires individualised attention from researchers. This probably explains why despite availability of information on implementation of CSR, many shipping companies still experience difficulties doing so (Coady et al., 2013).

In fact, a survey by Fafaliou, Lekakou, and Theotokas (2006) revealed that only six out of ten shipping companies have implemented CSR initiatives. Similarly, from reviewing the annual reports of container shipping companies, Pawlik et al. (2012) found that CSR is only practised by several leading companies. In addition, an archival analysis of shipping companies in the Scandinavian region reveals that only 53 per cent have published CSR materials on their internet pages (Arat, 2011). These findings provide further justification for conducting an empirical analysis on the barriers to successful CSR implementation in shipping.

Based on the above discussion, this paper aims to analyse the barriers to the implementation of CSR in shipping companies. In the sections that follow, literature concerning definition of CSR and barriers to its successful implementation is reviewed. Next, the methodology and findings will be presented. The last section draws the conclusions.

2. Literature Review

2.1 *A Definition for CSR*

Since CSR is a subjective construct and its interpretation varies with individuals and organisations, it is important to provide an operational definition for CSR. Numerous models such as 'spheres' or 'layers' of responsibility were proposed to define the scope of CSR (Wood, 2010). In spite of the numerous definitions found in literature, CSR has consistently been referred to five dimensions, namely environment, social, economic, stakeholder, and voluntariness (Dahlsrud, 2008). With reference to the dimension of voluntariness, CSR connotes greater participation than mere compliance with rules and regulations (Turker, 2009). In other words, compliance with environmental or social regulations does not qualify as the practicing of CSR.

It has been observed that the CSR dimensions practised by shipping companies do not differ considerably from the five generic dimensions (Lu, Lin and Tu, 2009). It was also noted that shipping companies place greater emphasis on issues pertaining to the environment over social concerns (Lun et al., 2014). For example, ISO 14000 which relates to the voluntary practice of environment management has received more attention by shipping companies as compared to ISO 26000 which deals with social responsibility (Matthews, 2010). Nevertheless, this study adopts the five CSR dimensions to define the premises of CSR.

Another key issue that requires clarification relates to the objective of CSR, which can be altruistic or strategic (McWilliams and Siegel, 2011). The implementation of CSR is altruistic, or socially-motivated, when the objective of a firm is to serve the society with the intention of minimising negative externalities, and at the cost of profits. In contrast, the implementation of CSR is strategic, or privately-motivated, when the objective of practising CSR is to serve a firm's bottom line. In this case, CSR can be used as a marketing tool to promote firms' services and image. This study limits its discussion to strategic CSR as it most logically relates to the concept of business continuity (i.e. going-concern). Furthermore, in most cases, shipping companies expect financial returns from their expenditures for exceeding regulatory requirements on environmental and social performances (Kunnaala, Rasi and Storgård, 2013).

2.2 *Barriers to CSR Implementation*

Five main barriers to the implementation of CSR in shipping were identified from reviewing and synthesising the existing literature on barriers to CSR implementation as well as CSR in shipping. These barriers may be further divided into firm-specific and industry-specific barriers.

Firm-specific barriers are micro factors that are heterogeneous and their impact on CSR implementation could vary among individual firms. To some extent, these barriers can be influenced, controlled, and managed by a firm through change management and transformation of organisational culture and leadership. On the other hand, industry-specific barriers are macro and homogeneous factors that are experienced invariantly by all firms in the same industry, which in this case, refers to the shipping industry. These barriers are largely shaped by external forces such as the competitive and political landscape.

2.2.1 *Firm-specific Barriers*

2.2.1.1 *Lack of Resources*

The lack of resources, including finances, human capital, knowledge, and expertise, has been reported to be a common barrier to CSR implementation. In fact, Lam and Lim (2016) found that for effective implementation of CSR in shipping, large amount of resources is required. However, budgets for implementing CSR are often inadequate and outcompeted by other projects which guarantee higher return on investments (Faisal, 2010). In addition, most shipping companies do not

have a dedicated department that manages CSR. In many cases, the responsibility to manage CSR is assigned to other departments whose performances are appraised based on their original scope of duties.

Finally, a profession on CSR is relatively new in the shipping industry and requires its practitioners to be multi-disciplinary (Alemagi, Oben, and Ertel, 2006). The shortage of qualified candidates with the relevant knowledge and experience adds to the problem of implementing CSR in shipping (Dixon et al., 2008).

2.2.1.2 Lack of Strategic Vision

The lack of strategic vision is often attributed to the lack of top management commitment. Werther Jr and Chandler (2005) argued that CSR must be led, formalised, and introduced from the top of the organisation chart. One way to express commitment towards CSR is by incorporating it into a company's mission, vision, objectives, and goals (Husted, 2003). However, this has not been widely observed in shipping companies. It has also been found that shipping companies are only addressing CSR at the operational level and have not integrated them in their vision and strategic objectives (Pawlik et al., 2012).

Another cause for the lack of strategic vision in firms is their orientation towards short-term goals and profits (Skouloudis, Evangelinos and Nikolaou, 2011). Unfortunately, CSR often entails short-term costs and only pays-off in the long-run. As a result, CSR may be ignored by myopic top management whose goal is to maximise short-term profits.

Another reason that causes the lack of strategic vision is the weak empirical support for the relationship between CSR and financial performance (Drobetz et al., 2014). Hong, Kubik and Scheinkman (2012) showed that CSR expenditures in the US equate to hundreds of millions of dollars which could possibly outweigh any tangible benefits attributed to CSR. Therefore, it could be interpreted by some top executives that CSR has little relevance to business success.

2.2.1.3 Lack of Measurement Systems

Measurement systems are required to quantify the benefits for implementing CSR. Subsequently, they serve as a useful tool for the evaluation and control of CSR performances, and as a basis for rewards. However, CSR is a fuzzy terminology and is understood to contain different meaning by managers (Murillo and Lozano, 2006). It is often used interchangeably with concepts relating to sustainability, corporate governance, business ethics, and corporate citizenship. Consequently, different views on CSR may pose challenges for managers to derive concrete management actions on implementing CSR (Pawlik et al., 2012).

At present, there are limited social and environmental indicators that are universally accepted or endorsed by business organisations (Jenkins and Yakovleva, 2006). Although ISO 26000 which provides directions for the voluntary practice of CSR has been introduced, it has not been well-received by shipping companies and no real measurement or benchmarking techniques have been introduced (Coady et al., 2013). Furthermore, the indicators which are disclosed in the financial reports of firms often lack standardisation and offer little comparability (Brammall, 2012). Moreover, while there is available information on benchmarking standards on business practices relating to quality management and supply chain management, benchmarking standards for CSR in shipping are still at its infancy stage and therefore, offer little contribution to the development of a suitable measurement system.

2.2.2 Industry-*specific Barriers*

2.2.2.1 Low Willingness to Pay for CSR

Despite recent reports claiming that customers are increasingly assessing the value proposition of shipping companies based on their involvement in CSR (Shin and Thai, 2014), shipping companies are still not being appropriately and adequately rewarded for their CSR efforts. Forbes (2011) argued that customers are not willing to compromise when it comes to paying a premium for CSR. They may, however, be more than willing to punish when CSR is lacking.

Pruzan-Jorgensen and Farrag (2010) concluded that in the context of shipping, CSR only serves as a qualifier when all else such as price and logistics performance are equal. Their finding concurs with Fafaliou et al. (2006) who stated that shippers are primarily concerned with transportation cost; service quality which encompasses CSR is of secondary concern. Arat (2011) argued that the maritime transportation sector is facing increasing pressure from manufacturers to be cost-efficient as it has been viewed as the cheapest mode of transport. Since the implementation and maintenance of CSR entail costs (Barnett and Salomon, 2012), implementing CSR may erode shipping companies' cost-competitiveness. A recent report published by Boston Consultant Group (2011) indicated that there is a lack of direct relationship between service quality and profits in container shipping. Although their result is not consistent with the arguments of other research (Yuen and Thai, 2015a; Yuen and Thai, 2015b), it implies that service attributes that are peripheral or not essential to the completion of a shipping service, which include CSR, may possess little business value to shippers.

Another explanation for shippers' low willingness to pay for CSR is that shipping is a business-to-business (B2B) industry. According to Haddock and Fraser (2008), B2B industries are positioned further from their final consumers in the value chain. Consequently, they are less scrutinised for their involvement in CSR and have fewer incentives to implement CSR due to low stakeholders' pressures.

2.2.2.2 High Regulatory Standards

The shipping industry is one of the highly-regulated industry which implies that most stakeholders' concerns on the environment, safety, and employees' well-being have been adequately addressed. Moreover, environmental and safety performances are constantly raised by additions and/or amendments to the regulations, thereby forcing the industry to cope with these new standards (Acciaro, 2014; Tzannatos and Stournaras, 2014).

While complying with these standards offers preventive benefits such as avoidance of port state detention which massively affects ships' earning capacity (Knapp and Franses, 2007), exceeding these standards, which connotes practising CSR, only confers limited market benefits. This conjecture is fairly consistent with the findings of Brammall (2012). He found that a majority of the shipping companies are still working towards full compliance to environmental regulations to avoid punitive consequences. On the other hand, only a small group of shipping companies has genuinely exceeded the regulatory requirements.

According to Burke and Logsdon (1996), specificity is central to explaining how much financial benefits a firm can obtain from CSR. It refers to a firm's ability to capture or internalise the benefits of CSR rather than simply creating collective goods which can be shared by others in the industry, community, or society at large. For instance, externalities or public goods are by definition non-specific.

Since regulations are institutionalised and ratified by authorities with the intention of reducing negative externalities, the current paper argues that firms operating in highly-regulated industries, such as shipping, possess a large amount of non-specific resources. These resources add to the financial burden of shipping companies which restrict their autonomy in implementing social or environment programmes that maximise business value or profits (Lin and Wong, 2013).

3. Methodology

3.1 *Targeted Sample Group*

The survey sample comprises ship-operating companies registered in Singapore. Singapore has been chosen as it is the world's leading international maritime centre with more than 130 international shipping groups and 5,000 maritime establishments. Its ship registry also ranks among the top five largest registries in the world, with more than 4,700 registered vessels (Maritime Port Authority of Singapore, 2015). This means that sample obtained among Singapore registered ship-operating companies is a good reflection of the shipping industry as a whole.

3.2 *Measurement Items*

From reviewing the extant literature on CSR, 27 measurement items were developed to operationalise the identified barriers and CSR implementation. The measurement items and their sources are presented in Table 1.

Strategic CSR implementation was operationalised by five measurement items. They represent a shipping firm's CSR activities which are targeted at its shareholders, non-governmental organisations, local communities, employees, and the environment.

Table 1
Measurement items

Constructs	Measurement Items	Sources
Lack of resources (LOR)	X1. We do not have sufficient financial resources for CSR implementation X2. We do not have enough knowledge about CSR implementation X3. We do not have the relevant expertise for CSR implementation X4. We do not have adequate training for CSR implementation X5. We feel that CSR implementation is too time-consuming and costly	Laudal (2011) Arevalo and Aravind (2011) Faisal (2010) Alemagi et al. (2006) Skouloudis et al. (2011)
Lack of strategic vision (LOS)	X6. Our top management does not support CSR implementation X7. We feel that there are no significant benefits for our company to implement CSR X8. We associate CSR with unavoidable expenses X9. We have more important priorities for the company rather than implementing CSR X10. CSR is not incorporated into our company's vision and/or mission statement	Arevalo and Aravind (2011) Faisal (2010) Skouloudis et al. (2011)
Lack of measurement systems (LOM)	X11. We are lacking metrics to quantify CSR benefits X12. We are lacking internal controls to monitor and enforce CSR X13. We are lacking benchmarking standards to compare our CSR performances X14. We are lacking knowledge and monitoring capacity on the market environment	Arevalo and Aravind (2011) Laudal (2011) Faisal (2010) Coady et al. (2013) Hargett and Williams (2009)
Low willingness to pay for CSR (LWP)	X15. We feel that shippers are primarily concerned with logistics performance such as cost and service level X16. We feel that shippers are not willing to pay for green or socially responsible services X17. We feel that shippers are not actively involved in CSR activities	Faisal (2010) Pruzan-Jorgensen and Farrag (2010) Fafaliou et al. (2006)
High regulation standards (HRS)	X18. We feel that the standards set by existing regulations are high as compared to other industries X19. We are experiencing problems coping and complying with the regulations X20. We feel that existing regulations in shipping have adequately address issues pertaining to the public and the environment X21. We feel that existing regulations in shipping have adequately address issues on safety and security X22. We feel that existing regulations in shipping have adequately address concerns about employees	Skouloudis et al. (2011) Fafaliou et al. (2006) Skovgaard (2012)
CSR implementation	Y1. My top management has long term plans to ensure financial sustainability of the company Y2. My company donates to charitable organisations Y3. My company provides full transparency of its activities, structure, financial situation, and performance to the public Y4. My company financially supports training and education for employees Y5. My company practises eco-friendly activities such as green ship designs, cleaner engine fuel, optimal vessel speed, electronic documentation, and environmental-friendly materials and equipment.	Shin and Thai (2014) Schreck (2009) Lai et al. (2013)

3.3 *Survey Design, Sampling Method and Data collection*

The survey consists of three sections. Section one defines strategic CSR and provides background information pertaining to CSR implementation in shipping and the objective of the research. Section two comprises the 27 measurement items shown in Table 1. The respondents were requested to rate the items on a seven-point Likert scale (Vagias, 2006), with '1' being 'Neither agree nor disagree', '3' being 'somewhat agree', '5' being 'agree', and '7' being 'strongly agree'. Lastly, section three consists of demographic questions relating to the scope of the shipping business, companies' name, and respondents' job title and years of experience working for their company.

The World Shipping Directory was used as the sampling frame for ship-operating companies in Singapore. There are a total of 4277 ship-operating companies registered to the directory and a sample of 600 was randomly selected from the population for survey administration.

A web-based survey was administered in year 2014 to collect data from the selected companies. An invitation was first sent via email to request participation from managers involved in CSR or strategic planning. After three monthly reminders, a total of 132 responses were received, representing a response rate of 22 per cent. The sectors where these companies operate in are: Tanker and Offshore 38%, Bulk and Project cargo 27%, Container 23%, and Others 12%.

4. Empirical Analysis

4.1 *Measurement Model*

This study adopts the methodology proposed by Anderson and Gerbing (1988) to perform structural equation modelling. They

recommend analysing the measurement model followed by the structural model. All analyses were conducted using the statistical software, LISREL 8.80.

Table 2 shows the results of the measurement model generated by confirmatory factor analysis (CFA). The standardised factor loading (λ), composite reliability (CR), and average variance extracted (AVE) for each measurement item or construct are presented. According to Hair et al. (2010), a factor loading represents the correlation between a variable and its construct. Construct reliability is a measure of reliability and internal consistency of the measured variables representing a construct. Average variance extracted is a measure of convergence among a set of items representing a latent construct. It is the average percentage of variation explained by the items of a construct.

As shown at the bottom of Table 2, the chi-square of the measurement model is 649.70. Its associated p-value is less than 0.05 which indicates significant difference between the implied and observed data. However, it was reported that chi-square values can be inflated by sample size and degrees of freedom, causing tests to be significant (Diamantopoulos and Siguaw, 2000). This may be the case for this study since the measurement model has 309 degrees of freedom which is considerably large. Therefore, other indices were also used to assess model fit. Model fit refers to goodness-of-fit. It measures how well a specified model reproduces the covariance matrix among the manifest variables.

Based on the recommendation by Hu and Bentler (1999), root mean square error of approximation (RMSEA), standardised root mean square residual (SRMR), and Tucker-Lewis index (TLI) were used to evaluate the fit of the measurement model. Accordingly, their values are 0.022 (90% confidence interval from 0.010 to 0.035), 0.040, and 0.91. These indices are within the recommended threshold which indicate adequate model fit. As a result, the measurement model was accepted.

Table 2
Results of confirmatory factor analysis

Construct	Variables	λ	CR	AVE
LOR	X1	0.90	0.93	0.89
	X2	0.86		
	X3	0.78		
	X4	0.93		
	X5	0.78		
LOS	X6	0.71	0.88	0.77
	X7	0.80		
	X8	0.83		
	X9	0.76		
	X10	0.73		
LOM	X11	0.74	0.77	0.72
	X12	0.79		
	X13	0.78		
	X14	0.70		
LWP	X15	0.68	0.89	0.70
	X16	0.78		
	X17	0.72		
HRS	X18	0.77	0.89	0.81
	X19	0.81		
	X20	0.87		
	X21	0.78		
	X22	0.75		
CSR	Y1	0.73	0.85	0.71
	Y2	0.73		
	Y3	0.75		
	Y4	0.71		
	Y5	0.72		

Note: Model fit statistics: χ^2=649.70, df=309, χ^2/df=2.10, p<0.05; TLI=0.91, SRMR=0.04, RMSEA=0.02

Construct validity is the extent to which a set of measurement items accurately reflects a latent construct or factor (Hair et al., 2010). In this study, construct validity was evaluated based on three components; face validity, convergent validity (or reliability), and discriminant validity. Table 3 presents all the necessary statistics for the evaluation of convergent and discriminant validity.

Firstly, there are indications of face validity since the measurement items were derived from the existing literature. These measurement items were either used in past measurement studies or discussed in the literature.

Second, there is convergent validity since the average variance extracted (AVE) value for each factor is greater than 0.50. Construct reliability which is another measure of convergent validity is above 0.70, which indicates high internal consistency.

Lastly, there is also good evidence of discriminant validity since the AVE values for any of the two constructs are greater than the square of their correlation estimates. As a result, each measurement item is uni-dimensional and only represents its loaded construct.

Table 3
Convergent and discriminant validity analysis

Construct	Mean	SD	LOR	LOS	LOM	LWP	HRS	CSR
LOR	3.26	2.12	**0.89**					
LOS	3.58	2.06	0.04	**0.77**				
LOM	3.96	2.32	0.02	0.14	**0.72**			
LWP	4.10	2.00	0.04	0.12	0.06	**0.70**		
HRS	4.56	2.06	0.05	0.10	0.05	0.05	**0.81**	
CSR	3.17	1.88	0.14	0.29	0.23	0.23	0.37	**0.71**

Note: Values in main diagonal are average variance extracted; Values in off diagonal are squared correlations

4.2 Structural Model

The measurement model was converted into a structural model by specifying the bi-directional paths between each barrier and CSR implementation into uni-directional paths. The constructed structural model is presented in Figure 1. All estimates were standardised in the model to aid interpretation.

The R^2 of the model is 77 per cent which indicates that the five barriers collectively accounted for a majority of the variances in CSR implementation in shipping. The structural paths that emanate from the barriers to CSR implementation are all significant ($p < 0.05$) and negative. In descending order of their effects on CSR implementation, the barriers are high regulatory standards (HRS), low willingness to pay for CSR (LWP), lack of measurement systems (LOM), lack of strategic vision (LOS), and lack of resources (LOR). Their standardised estimates are -0.47, -0.42, -0.19, -0.15, and -0.11 respectively.
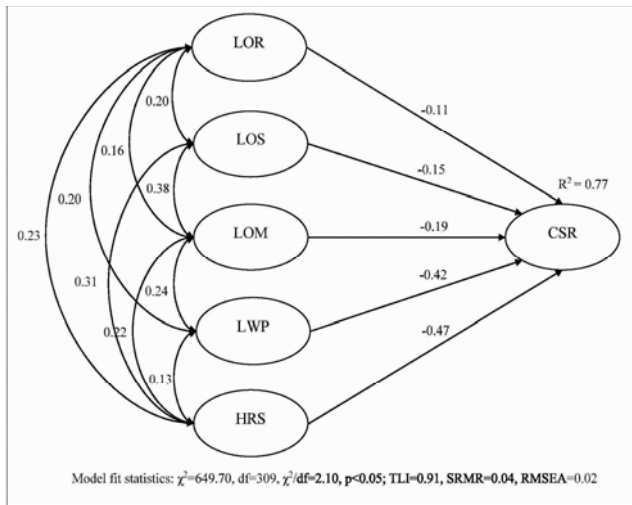
Fig. 1. The Effects of CSR Barriers on CSR Implementation in Shipping

5. Discussion

HRS is perceived to be the greatest barrier to strategic CSR implementation. From the survey, shipping companies felt that the standards set by existing regulations were high and had adequately addressed issues pertaining to the environment and social aspect of their businesses. It was also found that shipping companies were generally trying to cope with the high regulatory standards rather than exceeding them. Since most of these concerns had already been addressed by existing regulations, there was less impetus for practising CSR. This finding corresponds to that of Campbell (2007) and Skovgaard (2014) who found that the presence of an international regulatory framework on shipping discourages the implementation of CSR. HRS contributes to the financial burden of shipping companies and restricts their ability to voluntarily pursue or implement social or environmental programmes that complement or synergise with their business strategies.

LWP is the second major barrier to strategic CSR implementation. In general, the survey respondents felt that their effort to partake in strategic CSR was not adequately rewarded by shippers who tend to evaluate logistics performance based on cost. Although this finding is consistent with Pruzan-Jorgensen and Farrag (2010), it is not consistent with Shin and Thai (2014) who found strong correlation between CSR and customer satisfaction. Perhaps the latter study has not included important covariates or control variables such as logistics performance in the evaluation of the relationship between CSR and customer satisfaction. Consequently, the relationship could be overestimated. Another reason that discourages strategic CSR implementation is because shipping, with the exception of cruise shipping, is a B2B industry. According to Haddock and Fraser (2008), B2B industries are positioned further from their final consumers in the value chain. They are less scrutinised for their involvement in strategic CSR and subjected to the media's attention. Therefore, there are fewer incentives for shipping companies to implement strategic CSR.

LOM is ranked third in terms of its effects on strategic CSR implementation. From the survey, shipping companies attributed their inability to measure, control, and compare their social and environmental performances as obstacles to implementing CSR. As discussed earlier, these factors could be caused by the lack of CSR metrics in shipping (Coady et al., 2013). In addition, the inability to quantify the benefits of CSR which was evident from the weak correlation found between CSR and financial performance could have discouraged the implementation of CSR (Margolis et al., 2009). The inability to quantify the benefits of CSR in existing research could have also affected management perception of the value of CSR and in their subsequent allocation of resources to implement CSR.

LOS is the fourth barrier to strategic CSR implementation. The survey respondents felt that they have not received adequate support from the top management to implement CSR. There was also a lack of acceptance that CSR could yield sufficient rewards and hence, it has been classified as an unnecessary cost to shipping companies. LOS could be caused by LOM (Jenkins, 2006) and hence, explains for the relatively high correlation between both factors.

LOR is ranked last in terms of its effect on strategic CSR implementation. From the survey, there was a consensus that shipping companies are lacking in financial support, knowledge, and expertise to implement CSR. Arevalo and Aravind (2011) suggested that LOR could also be caused by LOS and LOM, which were discussed in the preceding paragraphs. As a result, less resources have been allocated for CSR implementation. The fact that LOR is ranked last suggests that resource constraint is due to strategic and measurement issues such as LOS and LOM, rather than genuinely shortage of resources.

From comparing the rankings of the barriers, it can be concluded that industry-specific factors are strong determinants of successful CSR implementation. As shown in this research, industry-specific factors such as the presence of an international regulatory framework, high regulatory standards, and low willingness to pay for CSR due to B2B transactions, deter shipping companies from implementing CSR. To a large extent, these factors are inherent in the shipping industry. Comparing with industries that have less regulations and are operating in a business-to-consumer environment, such as retail markets, where their customers are more aware of and receptive to CSR, there is greater capacity and market motivation for service providers to implement CSR (Gonzalez-Benito and Gonzalez-Benito, 2006). It can therefore, be inferred that the implementation of CSR is contingent on its environment.

Implementing CSR could also be contingent on firm-specific factors. For instance, it was found that larger firms possess more slack resources and tend to experience less issues relating to LOR when implementing CSR (Fu and Jia, 2012). In addition, they tend to be under greater scrutiny by the public for their involvement in CSR. It is also sensible for large and diversified firms to implement CSR since they can spread their CSR costs over a wider range of products and services to leverage on economies of scale (Williamson, Lynch-Wood and Ramsay, 2006).

In general, the proposition that CSR implementation is contingent on a firm's micro- and macro-environment provides a more consistent view on the business phenomenon today where a wide variation in the degree of CSR implementation can be observed across firms and industries. For instance, within the context of shipping, it was observed that CSR is only implemented by companies which are generally larger in size and have more resources to implement CSR (Pawlik et al., 2012). The practice of CSR is also more widely observed in cruise and crude oil shipping which are subjected to greater scrutiny by consumers or the public (Arat, 2011). The paper's proposition is also aligned with the findings of Skovgaard (2014). From his study, he concluded that the choice to implement CSR should be dependent upon the risks and opportunities perceived by shipping companies. In some cases, CSR makes perfect business sense while in some cases, it does not.

6. Conclusion

In this study, barriers to the implementation of strategic CSR in shipping have been identified, ranked, and discussed. From reviewing existing literature, five barriers, which could be further categorised into firm-specific and industry-specific factors, were identified. Firm-specific barriers consist of LOR, LOS, and LOM whereas industry-specific barriers consist of LWP and HRS. The survey administered to 600 shipping companies in Singapore confirms that all five barriers are significant barriers to CSR implementation in shipping companies. It was also found that industry-specific barriers are the key determinants that prevent or impede the implementation of CSR in shipping.

This study is significant in several ways. Firstly, it contributed to the lack of antecedent studies on CSR implementation. Most notably, this is one of the few studies that assesses barriers facing CSR implementation in the context of shipping companies. The findings of this research also contribute to the theory that implementing CSR should be viewed as a contingency strategy. Secondly, the paper identified and analysed the various barriers to implementation of CSR. By understanding these barriers, managers of shipping companies can avoid or overcome them by taking appropriate actions. Policy makers can, on the other hand, formulate policies and provide assistance to shipping companies' efforts in implementing CSR.

There are, however, some limitations to this study. First, the applicability of the results may be limited to the context of Singapore. Additionally, the sample size was only adequate for analysis of aggregated data, but insufficient for detailed subgroup analysis. As a result, differences in the responses from various shipping sectors were not analysed. Lastly, since this paper is primarily concerned with the strategic implications of the identified barriers, the solutions to overcome the barriers were not discussed. Therefore, future research should focus on proposing solutions to overcome the barriers to CSR implementation. Additional research on identifying the determinants of CSR implementation in shipping is also recommended.

References

ACCIARO, M. (2014), "A real option application to investment in low-sulphur maritime transport", *International Journal of Shipping and Transport Logistics, Vol.6, No.*2, pp.189-212.

ALEMAGI, D., OBEN, P.M., and ERTEL, J. (2006), "Implementing environmental management systems in industries along the Atlantic coast of Cameroon: drivers, benefits and barriers." Corporate Social Responsibility and Environmental Management, Vol.13, No.4, pp.221-232.

ANDERSON, J.C., and GERBING, D.W. (1988), "Structural equation modeling in practice: A review and recommended two-step approach", Psychological Bulletin, Vol.103, No.3, pp.411.

ARAT, L. (2011). "Corporate social responsibility in shipping companies in the Baltic Sea". The CAFE Project. University of Turkuu, Centre for Maritime Studies.

AREVALO, J.A., and ARAVIND, D. (2011), "Corporate social responsibility practices in India: approach, drivers, and barriers", *Corporate Governance*, Vol.11, No.4, pp.399-414.

BAGNOLI, M., and WATTS, S.G. (2003), "Selling to socially responsible consumers: competition and the private provision of public goods", *Journal of Economics & Management Strategy*, Vol.12, No.3, pp.419-445.

BARNETT, M.L., and SALOMON, R.M. (2012), "Does it pay to be really good? Addressing the shape of the relationship between social and financial performance", *Strategic management journal*, Vol.33, No.11, pp.1304-1320.

BOSTON CONSULTANT GROUP. (2011), "Charting a new course: restoring profitability to container shipping", BCG Perspectives.

BRAMMALL, R. (2012). "How green are shipping companies?", Southampton Solent.

BURKE, L., and LOGSDON, J.M. (1996), "How corporate social responsibility pays off", *Long Range Planning*, Vol.29, No.4, pp.495-502.

CAMPBELL, J.L. (2007). "Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility", *Academy of Management Review*, Vol.32, No.3, pp.946-967.

COADY, L., LISTER, J., STRANDBERG, C., and OTA, Y. (2013), "The role of corporate social responsibility (CSR) in the international shipping sector", Standberg Consulting.

COMMISSION OF THE EUROPEAN COMMUNITIES. (2014), "Green paper: promoting a European framework for corporate social responsibility", Office for Official Publications of the European Communities.

DAHLSRUD, A. (2008). "How corporate social responsibility is defined: an analysis of 37 definitions", *Corporate Social Responsibility and Environmental Management*, Vol.15, No.1, pp.1-13.

DETIENNE, K. B., and LEWIS, L.W. (2005), "The pragmatic and ethical barriers to corporate social responsibility disclosure: The Nike case." *Journal of Business Ethics*, Vol.60, No.4, pp.359-376.

DIAMANTOPOULOS, A., and SIGUAW, J. A. (2000), "Introducing LISREL: a guide for the uninitiated", SAGE Publications Limited.

DIXON, T., COLANTONIO, A., SHIERS, D., REED, R., WILKINSON, S., and GALLIMORE, P. (2008). "A green profession? A global survey of RICS members and their engagement with the sustainability agenda", *Journal of Property Investment & Finance*, Vol.26, No.6, pp.460-481.

DROBETZ, W., MERIKAS, A., MERIKA, A., and TSIONAS, M.G. (2014), "Corporate social responsibility disclosure: The case of international shipping", *Transportation Research Part E: Logistics and Transportation Review*, Vol.71, pp.18-44.

DU, S., BHATTACHARYA, C., and SEN, S. (2011), "Corporate social responsibility and competitive advantage: Overcoming the trust barrier", *Management Science*, Vol.57, No.9, pp.1528-1545.

FAFALIOU, I., LEKAKOU, M., and THEOTOKAS, I. (2006). "Is the European shipping industry aware of corporate social responsibility? The case of the Greek-owned short sea shipping companies", *Marine Policy*, Vol.30,

No.4, pp.412-419.

FAISAL, M.N. (2010), "Analysing the barriers to corporate social responsibility in supply chains: an interpretive structural modelling approach", *International Journal of Logistics: Research and Applications*, Vol.13, No.3, pp.179-195.

Forbes. (2011), "No, Consumers will Not pay more for green", The Forbes CSR Retrieved 18-Jan-2016, from http://www.forbes.com/sites/csr/2011/07/28/no-consumers-will-not-pay-more-for-green/#2715e4857a0b1ac0ba2b7584

FRIEDMAN, M. (2007), The social responsibility of business is to increase its profits. Corporate Ethics and Coporate Governance. Springer.

FU, G., and JIA, M. (2012), "On the Reasons for the Vexing CSP-CFP Relationship: Methodology, Control Variables, Stakeholder Groups, and Measures. The Review of 63 Studies from 1990s", *International Journal of Business and Management*, Vol.7, No.12, pp.130.

GALBREATH, J., and SHUM, P. (2012), "Do customer satisfaction and reputation mediate the CSR–FP link? Evidence from *Australia", Australian Journal of Management*, Vol.37, No.2, pp.211-229.

GONZALEZ-BENITO, J., and GONZALEZ-BENITO, Ó. (2006), "A review of determinant factors of environmental proactivity", *Business Strategy and the Environment*, 15(2), pp.87-102.

HADDOCK, J.F., and FRASER, I. (2008), "Assessing corporate environmental reporting motivations: differences between 'close to market' and 'business -to-business' companies", *Corporate Social Responsibility and Environmental Management*, Vol.15, No.3, pp.140-155

HAIR, J.F., BLACK, W.C., BABIN, B.J., ANDERSON, R.E., and TATHAM, R.L. (2010), Multivariate Data Analysis (Vol. 7). Prentice Hall Upper Saddle River, NJ.

HARGETT, T.R., and WILLIAMS, M.F. (2009), "Wilh. Wilhelmsen shipping company: moving from CSR tradition to CSR leadership. Corporate Governance", *Corporate Governance: The International Journal of Business in Society*, Vol.9, No.1, pp.73-82.

HONG, H., KUBIK, J.D., and SCHEINKMAN, J.A. (2012), Financial constraints on corporate goodness. National Bureau of Economic Research.

HU, L.T., and BENTLER, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives", *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), pp.1-55.

HUSTED, B.W. (2003), "Governance choices for corporate social responsibility: to contribute, collaborate or internalize?", *Long Range Planning*, Vol.36, No.5, pp.481-498.

JENKINS, H. (2006), "Small business champions for corporate social responsibility", Journal of Business Ethics, Vol.67, No.3, pp.241-256.

JENKINS, H., and YAKOVLEVA, N. (2006), "Corporate social responsibility in the mining industry: Exploring trends in social and

environmental disclosure", *Journal of Cleaner Production*, Vol.14, No.3, pp.271-284.

KNAPP, S., and FRANSES, P.H. (2007). "A global view on port state control: econometric analysis of the differences across port state control regimes", *Maritime Policy & Management*, Vol.34, No.5, pp.453-482.

KUNNAALA, V., RASI, M., and STORGÅRD, J. (2013). Corporate Social Responsibility and Shipping: views of Baltic Sea Shipping Companies on the benefits of responsibility. Publication of the Centre for Maritime Studies.

LAI, K.H., LUN, Y.V., WONG, C.W., and CHENG, T. (2013), "Measures for evaluating green shipping practices implementation", *International Journal of Shipping and Transport Logistics*, Vol.5, No.2, pp.217-235.

LAM, J.S.L. and LIM, J.M. (2016), "Incorporating corporate social responsibility in strategic planning: case of ship-operating companies", *International Journal of Shipping and Transport Logistics*, Vol.8, No.3, pp.273-293.

LAUDAL, T. (2011), "Drivers and barriers of CSR and the size and internationalization of firms", *Social Responsibility Journal*, Vol7, No.2, pp.234-256.

LIN, S., and WONG, Y.D. (2013), "Greenhouse gas mitigation strategies for container shipping industry", *American Journal of Engineering and Applied Sciences*, Vol.5, No.4, pp.310-217.

LU, C.S., LIN, C.C., and TU, C.J. (2009). "Corporate social responsibility and organisational performance in container shipping", *International Journal of Logistics: Research and Applications*, Vol.12, No.2, pp.119-132.

LUN, Y.V., LAI, K.H., WONG, C.W., and CHENG, T. (2014). "Green shipping practices and firm performance", *Maritime Policy & Management*, Vol.41, No.2, pp.134-148.

LUN, Y.V., LAI, K.H., WONG, C.W., and CHENG, T. (2015). "Environmental governance mechanisms in shipping firms and their environmental performance", *Transportation Research Part E: Logistics and Transportation Review*.

MARITIME PORT AUTHORITY OF SINGAPORE (2015), Singapore Registry of Ships. Port Statistics.

MARGOLIS, J.D., ELFENBEIN, H.A., and WALSH, J.P. (2009), "Does it pay to be goodand does it matter? A meta-analysis of the relationship between corporate social and financial performance".

MATTHEWS, S. (2010), Shipping sees the broader benefits of acting responsibly. Lloydslist.com.

MCWILLIAMS, A., and SIEGEL, D.S. (2011), "Creating and capturing value strategic corporate social responsibility, resource-based theory, and sustainable competitive advantage", *Journal of Management*, Vol.37, No.5, pp.1480-1495.

MURILLO, D., and LOZANO, J.M. (2006), "SMEs and CSR: An approach to CSR in their own words", *Journal of Business Ethics*, 67(3), 227-240.

PAWLIK, T., GAFFRON, P., DEWES, P., SONG, D., and PANAYIDES, P. (2012), "Corporate social responsibility in maritime logistics", *Maritime Logistics: Contemporary Issues*, pp.205-226.

PROGOULAKI, M., and ROE, M. (2011), "Dealing with multicultural human resources in a socially responsible manner: a focus on the maritime industry", WMU Journal of Maritime Affairs, Vol.10, No.1, pp.7-23.

PRUZAN-JORGENSEN, P.M., and FARRAG, A. (2010), Sustainability trends in the container shipping industry: A future trends research summary. Business for Social Responsibility.

SCHRECK, P. (2009), The business case for corporate social responsibility: Understanding and Measuring Economic Impacts of Corporate Social Performance. Springer.

SHIN, Y., and THAI, V.V. (2014), "The impact of Corporate Social Responsibility on Customer Satisfaction, Relationship Maintenance and Loyalty in the Shipping Industry", *Corporate Social Responsibility and Environmental Management*.

SKOULOUDIS, A., EVANGELINOS, K., and NIKOLAOU, I. (2011), "An overview of corporate social responsibility in Greece: perceptions, developments and barriers to overcome", *Business Ethics: A European Review*, Vol.20, No.2, pp.205-226.

SKOVGAARD, J. (2012), "Corporate social responsibility in the Danish shipping industry", *The DRUID Academy Conference 2012*.

SKOVGAARD, J. (2014), "European Union's policy on corporate social responsibility and opportunities for the maritime industry", *International Journal of Shipping and Transport Logistics*, Vol.6, No.5, pp.513-530.

TZANNATOS, E., and STOURNARAS, L. (2014), "EEDI analysis of Ro-Pax and passenger ships in Greece", *Maritime Policy & Management*, pp.1-12.

VAGIAS, W.M. (2006). Likert-type scale response anchors. *Clemson International Institute for Tourism and Research Development*, pp.1.

WERTHER JR, W.B., and CHANDLER, D. (2005), "Strategic corporate social responsibility as global brand insurance", *Business Horizons*, Vol.48, No.4, pp.317-324.

WILLIAMSON, D., LYNCH-WOOD, G., and RAMSAY, J. (2006), "Drivers of environmental behaviour in manufacturing SMEs and the implications for CSR", *Journal of Business Ethics*, Vol.67, No.3, pp.317-330.

WOOD, D.J. (2010), "Measuring corporate social performance: a review", *International Journal of Management Reviews*, Vol.12, No.1, pp.50-84.

YUEN, K.F., and THAI, V. (2015a), "Service quality appraisal: a study of interactions", *Total Quality Management & Business Excellence*, pp.1-16. doi: 10.1080/14783363.2015.1114881

YUEN, K.F., and THAI, V.V. (2015b), "Service quality and customer satisfaction in liner shipping", *International Journal of Quality and Service Sciences*, Vol.7, No.2/3, pp.170-183.