
Original Article

Corporate strategies and profitability of maritime logistics firms

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Abstract The inherent uncertainty, capital intensity and riskiness of investing in ships and port facilities have led to irregular corporate economic and financial performance for maritime logistics organizations. Although the relative impact of corporate strategy on firm profitability is a topic of considerable scientific and managerial interest, insights into contemporary issues in maritime logistics strategy are still limited. This article provides an exploratory contribution in bridging this gap, by measuring the effects of maritime logistics firm's corporate strategy on overall financial performance. Empirical findings show that investments for growth, focalization on the core business, related diversification and vertical integration have a positive impact on corporate profitability, whereas unrelated diversification does not affect firm's performance and international diversification has a negative effect. The outcomes are consistent with and add to the extant theoretical literature while insightful implications for research and practice are discussed.

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Introduction

Historically, the maritime logistics industry has been an unstable and risky industry, due to the volatility of freight rates, the imbalance of cargo flows and the magnitude of investments required. This has led to irregular economic and financial performance for most of maritime logistics firms and particularly for liner shipping firms (Stopford, 2009; Notteboom *et al*, 2010). Intrinsic market characteristics have been exacerbated by recent changes in the industry. The consequences of the financial crisis on traffic volumes and freight rates, the continuous shifts in customer needs and the severe competitive conditions dramatically affected the firms' profitability (Satta *et al*, 2013).

Fierce competition and low profit margins induce maritime logistics companies to adopt complex corporate strategies aiming at improving profitability by cutting costs and increasing revenues (Midoro *et al*, 2005; Lorange, 2009). Notably, major shipping companies have been experiencing a process of vertical integration and diversification into inland transport, terminal operations, warehouses and distribution logistics. Big corporations such as Nippon Yusen Kaisha, APL and AP Moeller have resorted to diversification for balancing their portfolio and reducing their risk exposure (Cariou, 2008; Rodrigue *et al*, 2011). In response to the increased bargaining power of ship owners, port-related firms have undertaken growth strategies and diversified their activities, in order to improve service quality, increase customers' loyalty and reduce the dependence from the core business (Slack *et al*, 2002).

Although the relative impact that corporate strategies have on firm's profitability is a topic of considerable scientific and managerial interest (for example, Rumelt, 1982; Berger and Ofek, 1995; Bhuyan, 2002), insights into contemporary issues in the strategies of maritime logistics firms are still limited (Panayides and Cullinane, 2002; Lorange, 2009). Grounding on strategic management theories (Rumelt, 1991; Zook, 2004; Qian *et al*, 2010; Rugman and Oh, 2010), this article attempts to bridge this gap and investigates the impact of corporate strategies on profitability of 144 listed maritime logistics firms, involved in either the shipping or the port industry within the 2008–2011 timeframe. The methodology adopts OLS regression as the data analysis method, taking as dependent variables the Return on Asset (ROA). As performance implications of competitive strategies may not hold equally for all companies in every industry but vary depending on the industry (Helms *et al*, 1997), an intra-industry approach is suggested in this contribution. By addressing the effects of different corporate strategies on profitability, the article provides a pioneering contribution on a topic that has received, to our knowledge, little attention in the academic maritime and logistics literature.

The manuscript is organized as follows. The next section provides an extensive literature review on corporate strategies in the maritime and port-related



domain, and shapes the theoretical framework underpinning research hypotheses. The section after that brings insights about data and methodology, whereas the penultimate section outlines the main empirical findings. The final section deeply discusses major implications for academics and practitioners, before concluding.

Corporate Strategy and Performance in Maritime Logistics: Theory and Hypotheses

Corporate strategy and profitability

Corporate strategy concerns the way in which a corporation manages a variety of businesses together, that is, the businesses portfolio (Grant, 1995). A number of scholars investigated the role of industry, business and corporate factors in shaping firms profitability (Rumelt, 1991). Although some authors suggested that the corporate effects on profitability are small or rather do not exist (for example, Hoskisson *et al*, 1993), other academics (Penrose, 1959; Ansoff, 1965; Slater, 1989; Pleshko and Souiden, 2003) argued that understanding the association between corporate strategy and profitability unveils *the areas of managerial discretion that have the greatest effect on ROA* (Slater, 1989). The influence of corporate strategy on firm profitability originates from the association of diverse businesses within a single enterprise (Bowman and Helfat, 2001). Consistent with Grant (1995) five main issues related to strategic management at corporate level may be identified: (i) businesses composition; (ii) resource allocation between businesses; (iii) formulation of business units strategies; (iv) control of business unit performance and (v) coordination of business units and definition of the company identity.

On the basis of the above classification, several authors focused on the role of businesses composition, that is, the scope of the firm's activities, in affecting corporate profitability (Kogut, 1988; Prahalad and Hamel, 1990; Bowman and Helfat, 2001; Peng, 2002), also assessing its relatedness to corporate growth strategy (Abell, 1980). In this regard, empirical evidence demonstrated the existence of diverse and viable strategic pathways by which a company may extend its business and activities, and foster corporate profitability (Teece, 1987; Grant, 1991; Shyam Kumar, 2009).

In businesses portfolio selection, previous contributions emphasized, among others, the key role of the core business (that is, the set of products, capabilities, customers, channels and geographies that shapes the natural essence of what the company is or aspires to be) in ensuring corporate economic performance (Zook, 2004). In addition, other strategic options such as related diversification (Rumelt, 1982; Chakrabarti *et al*, 2007), vertical integration (Harrigan, 1984; Williamson,



1985; Stuckey and White, 1993) and internationalization (Capar and Kotabe, 2003; Qian *et al.*, 2010; Wiersema and Bowen, 2011) have been found to influence firm performance.

The effects of corporate strategy on performance are even more relevant for maritime logistics firms, as they are currently faced with a turbulent environment, profound market instability and fierce competitive intensity (Song and Panayides, 2012). Therefore, corporate strategies are required to moderate entrepreneurial risks while ensuring the firms' survival and growth (Lorange, 2001). Nevertheless, the insight into contemporary issues are still rather limited (Panayides and Cullinane, 2002; Lorange, 2009). Although some recent studies dwelled over the sources of competitive advantage in this industry as well as the applicability of the major theoretical constructs to maritime logistics firms, just a few contributions focused on maritime logistics firms and, more specifically, on the impact of strategic options on corporate profitability (Haralambides and Veenstra, 2000; Apergis and Sorros, 2010).

Hypotheses development

Previous studies, in particular, adopted diverse approaches, including: (i) focus on firm's economic and financial performance as well as operational efficiency (Panayides, 2003; Lam *et al.*, 2007; Notteboom *et al.*, 2010) and (ii) attention on the stock performance (Grammenos and Arkoulis, 2001; Syriopoulos and Theotokas, 2007; Apergis and Sorros, 2010). However, the dynamic nature of the industry (Panayides and Cullinane, 2002) and certain methodological limitations (for example, data inconsistency, scarcity of data sources) render the need for further research imperative.

Growth and corporate identity: The primary business

In the maritime logistics industry, several authors recognized the importance of corporate growth, to cater for market demand and to pursue economies of scale and scope, which are necessary in order to stabilize cost and preserve financial margins (Alix *et al.*, 1999; Heaver, 2002; Notteboom, 2004). Indeed, in a dynamic competitive arena, growth strategies are directed toward increasing market share and bargaining power, in an attempt to consolidate their competitive position in the market.

Moreover, empirical investigations suggest a positive relation between growth strategies and profitability in maritime logistics (Lun *et al.*, 2010). As growth strategies are essentially reflected and manifested in the volume of investment, (material and immaterial) in assets and resources devoted to the business, the amount of capital expenditures generated by a firm, in capital



intensive industries, traditionally signals the attitude of a corporation toward the expansion of its activities (Kotha and Nair, 2007). Therefore, we expect that:

Hypothesis 1: A firm's cumulative investments is positively associated with corporate profitability in maritime logistics.

In undertaking corporate growth patterns, maritime logistics firms traditionally build their own success around a solid and well-rooted core business identity (Alix *et al*, 1999). The focalization on the core business, in fact, allows firms to emphasize their distinctive competences, in order to achieve and defend a durable competitive advantage (Lorange, 2009; Lam and Van de Voorde, 2011; Song and Panayides, 2012). Indeed, the asset specificity and the enormous financial outflows required in some major business segments of this industry (for example, liner shipping and port operations), cautionary suggest to primarily rely on core competences developed in the primary business (Frémont, 2009). As recognized in the management literature (Prahalad and Hamel, 1990; Zook, 2004), a dominant position in the core business ensures superior economic performance. Analogously, some authors (Notteboom and Winkelmann, 2001; Frémont, 2009) argue that maritime logistics firms that focus on a solid primary business positioning have higher profitability. Therefore, we expect that:

Hypothesis 2: A strong focalization on the core business is positively associated with corporate profitability in maritime logistics.

Beyond the 'core': Related diversification and vertical integration

Despite the undeniable role played by the primary business at corporate level, the last decades experienced profound environmental and market transformations driving maritime logistics corporations to change their strategic approach, redesigning the scope of their activities across various businesses (Heaver, 2002; Panayides, 2006). In particular, over the last decades the shipping industry has been experiencing a process of related diversification and vertical integration into inland transportation, port operations, logistics and distribution (Panayides and Cullinane, 2002; Midoro *et al*, 2005).

Regarding related diversification strategy, the main rationale consists of the concentric diversification of investments around the core business, in order to exploit the cyclical fluctuations of freight rates in various shipping segments. This choice aims at avoiding the risk that the concentration of all resources in just one business may increase the firm's vulnerability with respect to economic cycles (Morck *et al*, 1988). Exploiting core competencies across related businesses (Prahalad and Hamel, 1990), diversified maritime logistics firms may reach a fairly superior market power and considerable economies of scope, because of the synergistic effects and the partial internalization of transactions



(Lorange, 2009; Stopford, 2009). According to the resource-based view perspective, a firm which diversifies within the scope of its core resources, capabilities and competencies is expected to reach economies of scale both through lower operational costs and higher business efficiency originating from shared fixed assets, that is, common production facilities, distribution channels and brands (Hitt *et al.*, 1997). Some authors, in particular, adopting the above assumptions, demonstrate that logistics companies may leverage on marketing capabilities in order to pursue successful related diversification strategies and obtain superior financial performances (Nath *et al.*, 2010). Given the above, we hypothesize that:

Hypothesis 3: The adoption of related diversification strategies is positively associated with corporate profitability in maritime logistics.

Moreover, the adoption of vertical integration strategies in maritime logistics was basically directed toward improving the profitability generated by sea-related operations, and 'defend' the assets deployed on the major deep-sea services, also gaining in port costs control and door-to-door performance (Midoro *et al.*, 2005; Parola *et al.*, 2006). Some players also chose to integrate other activities of the transport supply chain, even providing door-to-door packages for improving customer retention (Selviaridis and Spring, 2007). The growing focus on value-added services and the strong market orientation lead to positive effects on long-term profitability (Fugate *et al.*, 2009). Among the numerous potential benefits of vertical integration in container shipping, scholars underline some factors that are largely recognized in the managerial literature: (i) cost reduction and increase in efficiency because of economies of scale and scope (Mahoney, 1985); (ii) customer retention and revenue stabilization (Harrigan, 1984); and (iii) survival in the competitive international environment (Archambault, 1989). Therefore, we expect that:

Hypothesis 4: The adoption of vertical integration strategies is positively associated with corporate profitability in maritime logistics.

Unrelated diversification

The extant literature refers to unrelated diversification as the corporate expansion in businesses that reaches beyond the core capabilities, leading firms to operate into new businesses disconnected in terms of products or technological and organizational capabilities (Kock and Guillén, 2001). Maritime logistics firms may decide to pursue conglomerate strategy, aiming to leverage on economies in the securing and allocation of financial resources, that is, the exploitation of capital markets imperfection, as found in other industries (Ramanujam and Varadarajan, 1989).



Some authors, however, question whether unrelated diversification exceeds the range of resource utilization, surpassing management capabilities, raises costs and becomes detrimental to corporate performance (Tallman and Li, 1996; Geringer *et al*, 2000). In addition, firms holding unrelated portfolios appear to be characterized by lower returns and higher degree of risk, as they tend to operate in highly fragmented and underperforming businesses (Christensen and Montgomery, 1981). Conversely, other contributions do not find a strong statistical relation between unrelated diversification and corporate profitability (Datta *et al*, 1991; Miller, 2004). Given the above mixed empirical findings, two hypotheses are formulated:

Hypothesis 5.1: The adoption of unrelated diversification strategies is negatively associated with corporate profitability in maritime logistics.

Hypothesis 5.2: The adoption of unrelated diversification strategies does not affect corporate profitability in maritime logistics.

International diversification

Although previous contributions recognized the importance of international diversification strategies of maritime logistics firms both in liner shipping (Frémont, 2007; Parola and Veenstra, 2008; Panayides and Wiedmer, 2012) and port operations (De Souza *et al*, 2003; Olivier *et al*, 2007; Notteboom and Rodrigue, 2012; Parola *et al*, 2013a, b; Satta *et al*, 2014), little regard was given to the performance implications of international diversification, that is, the expansion across the borders of global regions and countries into different geographic markets (Hitt *et al*, 1997).

The relationship between international diversification and firm performance, in fact, is traditionally considered an important topic for researchers in strategic management and international business (for example, Delios and Beamish, 1999; Geringer *et al*, 2000; Kotabe *et al*, 2002; Qian *et al*, 2010). In general, the consensus in the literature is that international diversification is positively, although not necessarily linearly, related to performance. It has been argued that a high degree of geographic diversification allows firms to moderate environmental and market risk and improve long-term profitability (Tallman and Li, 1996; Hitt *et al*, 1997; Rugman and Oh, 2010). Therefore, grounding on the extant managerial contributions, also in relation to maritime logistics firms, we hypothesize that:

Hypothesis 6: The adoption of international diversification strategies is positively associated with corporate profitability in maritime logistics.

Given the above, Figure 1 shows the conceptual framework and the hypotheses developed.



Method

Sampling frame

The hypotheses developed in the section ‘Corporate strategy and performance in maritime logistics: Theory and hypotheses’ have been tested on cross-sectional data regarding maritime logistics firms, that is, companies whose primary interest is either the shipping and/or port sector, which are publicly listed on a Stock Exchange. This manuscript investigates the implications of corporate strategies on firm overall profitability within the 2008–2011 timeframe, also verifying the sustainability of enterprise growth pattern to coincide with the financial crisis.

Data have been gathered from the S&P Capital I-Q database, an innovative provider of the most accurate and timely financial information, which has been extensively utilized by analogous studies (see Aguilera-Caracuel *et al.*, 2012).

The sampling process followed a two-stage selection procedure. First, all the listed firms whose primary business is either the shipping or the port industry have been selected (Stage I). As a result, three Capital I-Q codes have been included in the analysis: ‘Marine transportation of freight’ (SIC: 4412, 4424, 4449), ‘Marine cargo services’ (SIC: 4491) and ‘Marine ports and services’ (SIC: 4499). Corporate data have been extrapolated also collecting a number of firm-specific information and performance indicators. Afterwards, data were cross-checked through reliable sources such as firm’s annual reports and financial statements, corporate Websites and specialized press (Stage II). These sources also allowed to partially fill up some missing values. Finally, firms still reporting incomplete data have been eliminated from the sample. This approach ensures a high degree of completeness and consistency for all the observations.

The final data set encompasses demographic, strategic and financial information of about 144 maritime logistics firms coming from 44 countries worldwide. Unsurprisingly, many enterprises are headquartered in countries with a

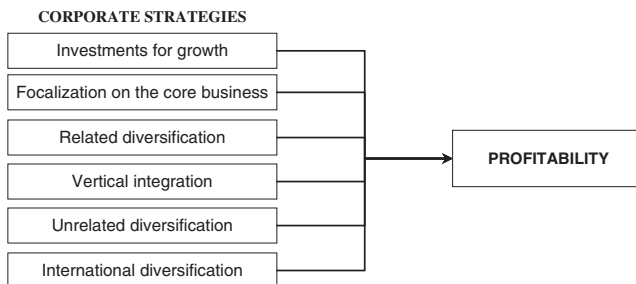


Figure 1: Theoretical framework.

Source: Authors’ own elaboration.



well-rooted and recognized maritime and logistics tradition, for example, Greece, Japan, People's Republic of China, Hong Kong (SAR) and India.

Variables and measures

The manuscript investigates the impact of corporate strategies on firm profitability, focusing on six key strategic dimensions, that is, growth strategy (additional investments), focalization on the core business, related diversification, vertical integration, unrelated diversification and international diversification.

Firm profitability is the dependent variable and measured using the proxy measure of the 'average ROA' in the sample period. The measure is widely accepted and applied in analogous studies.

The main dimensions of corporate strategy are defined as independent variables, grounding on the mainstream academic contributions on management studies and international business (Ansoff, 1965; Christensen and Montgomery, 1981; Hitt *et al*, 1997; Capar and Kotabe, 2003).

In particular, the variable 'investments for growth' (INVE), which reflects the willingness to perform growth and innovation strategies, is measured as the cumulative additional investment (that is, capital expenditure) undertaken in the years preceding the selected period of analysis. The 'focalization on the core business' (CORE) is measured as a dichotomist dummy variable (0/1), assuming value 1 if the average revenue share originating from the firm's core business is above the average value characterizing the sample (80.79 per cent), or 0 otherwise. In addition, the strategic decisions concerning related (RELD) and unrelated (UNRE) diversification as well as vertical integration (VINT) are operationalized as dummy variables (0/1), relying on the business information available in our data set. In this regard, a comparison of SIC codes classification is applied for unveiling cross-sectorial similarities and inter-dependencies. Finally, 'international diversification' (INTE) reflects the degree of corporate international diversification, measured as the number of geographic regions in which the firm holds at least one subsidiary in the sampled timeframe (Ohmae, 1985; Hitt *et al*, 1997).

In line with prior studies investigating the determinants of firms profitability, we introduce a number of control variables (7), which allow to assess the relevance of firm-specific characteristics, country of origin and performance stability. Consistent with Rumelt (1991), arguing that firm performance strongly depends from industry characteristics, we consider the core business of the firm, by defining the control variable 'primary industry' (PRIME). This allows to take into account the performance instability and the lower corporate profitability that traditionally characterize the shipping industry.

Notably, listed firms may access conspicuous financial resources in order to support their corporate strategy and the management is oriented to maximize



profit in the short term to gain reputation and additional economic benefits (Coughlan and Schmidt, 1985). As a result, listed firms are expected to achieve superior financial performances. Therefore, we define the control variable 'listing status' (LIST). It takes into account the larger availability of financial resources for corporate growth strategies, which notably characterizes Anglo-Saxon Stock Exchanges (Syriopoulos and Theotokas, 2007).

As firm size is commonly considered a predictor of profitability (Majumdar, 1997), both the variables 'employees' (EMPO) and 'revenues' (REVE) are tested in the models. Ease of doing business (ESBU) and the Logistics Performance Index (LPI), related to the country of origin, are operationalized using the indicators provided by the World Bank. These variables show if favorable environmental conditions in the home country boost corporate performance.

Finally, the stability of corporate performance over time is included in the analyses to verify how performance volatility affects performance. Indeed the variable is measured as the standard deviation of the ROA annual growth rate in the 2008–2011 timeframe.

Table 1 reports a list of all the variables and explains their operationalization and measurement.

Empirical Findings

OLS regression analysis

Before performing the OLS regression analysis the correlations between dependent, independent and control variables were estimated. Table 2, shows the main descriptive statistics and the correlation matrix, and unveils substantial variability in the variables; a few variables are correlated with others. Further diagnostic tests demonstrate that multi-collinearity does not constitute a threat to our OLS results, as the tolerance and the variance inflation factors (VIF) are largely within the accepted range (Hair *et al.*, 1995), that is, there were no variables with VIFs > 10 and tolerance levels < 0.1. Descriptive statistics show that, on average, ROA is 4.26 per cent, with a standard deviation of 6.32 per cent, while cumulative investments are equal to US\$424 millions.

With regard to corporate strategy, related diversification (carried out by 53.47 per cent of firms) is largely preferred to unrelated (25.69 per cent). Despite vertical integration becoming a common strategic objective for most maritime logistics groups (56.25 per cent), many firms still emphasize the role of the primary business within their portfolio (66.67 per cent).

The study investigates the effect of corporate strategy dimensions on the profitability of maritime logistics firms. The empirical models developed are

**Table 1:** Description and operationalization of dependent, independent and control variables

Code	Variable	Definition and operationalization	Hypotheses	Predicted sign
<i>Dependent variable</i>				
ROA	ROAs	Reflects firm's profitability in relation to assets. Measured as the average ROA value in the 2008–2011 period (Source: S&P Capital I-Q)		
<i>Independent variables</i>				
1. INVE	Investments for growth	Reflects the investment of firms aiming to pursuing growth and innovation strategies. Measured as the firm's cumulative new investments (that is, capital expenditures) in the pre-crisis period (2005–2007). Data are expressed in USD millions (Source: S&P Capital I-Q)	Hypothesis 1	+
2. CORE	Focalization on the core business	Reflects firm's focalization on its core business in the 2008–2011 period (Source: S&P Capital I-Q). Consistent with Christensen and Montgomery (1981), average revenues share (in percentage) originating from the core business has been assumed as proxy. The variable takes value 1 if the average revenue share originating from the firm's core business is above the average value characterizing the sample (80.79 per cent), 0 otherwise	Hypothesis 2	+
3. RELD	Related diversification	Reflects corporate diversification strategies in businesses related to core business, leveraging on core competences (2008–2011 period). The variable takes value 1 if the firms has interests in related businesses, 0 otherwise (Source: authors' own elaborations from S&P Capital I-Q, corporate disclosure documents and Websites)	Hypothesis 3	+
4. VINT	Vertical integration	Reflects corporate vertical integration strategies (either downstream and upstream) in the 2008–2011 period. The variable takes value 1 if the firms pursues vertical strategies, 0 otherwise (Source: authors' own elaborations from S&P Capital I-Q, corporate disclosure documents and Websites)	Hypothesis 4	+
5. UNRE	Unrelated diversification	Reflects corporate diversification strategies in businesses unrelated respect to core business (2008–2011 period). The variable takes value 1 if the firms has interests in unrelated businesses, 0 otherwise (Source: authors' own elaborations from S&P Capital I-Q, corporate disclosure documents and Websites)	Hypothesis 5.1 Hypothesis 5.2	- /
6. INTE	International diversification	Reflect the degree of international diversification reached by the firm at corporate level (2008–2011 period). Measured as the number of geographic regions in which the firm holds at least one subsidiary	Hypothesis 6	+

Control variables

7.1. PRIME	Primary industry	Reflects the firm's primary industry. The variable takes value 1 if the shipping industry represents the core business, 0 otherwise (based on SIC codes, <i>Source</i> : S&P Capital I-Q)	—	—
7.2. LIST	Listing status	Reflects the firm's listing status and its ease of accessing to financial resources. It takes value 1 if the firm is primarily listed on a Stock Exchange located in an Anglo-Saxon country, 0 otherwise (<i>Source</i> : authors' own elaboration from the Gupta <i>et al</i> (2002) cultural clusters and S&P Capital I-Q)	—	—
7.3. EMPO	Employees	Measured as average number of employees in the 2008–2011 period (<i>Source</i> : S&P Capital I-Q). Consistent with Tomczyk <i>et al</i> (2013) employees data have been transformed into a more usable form by using the natural logarithm of employees data	—	—
7.4. REVE	Revenues	Measured as average corporate revenues in the 2008–2011 period (<i>Source</i> : S&P Capital I-Q). Consistent with Kang and Kim (2012) revenues data have been transformed into a more usable form by using the natural logarithm of revenues data	—	—
7.5. ESBU	Ease of doing business	The variable reflects the ease of doing business in firm's country of origin. This index is elaborated from the 'ease of doing business' rank of World Bank (average 2008–2011). A high score means that the regulatory and institutional environment is conducive to business operation	—	—
7.6. LPI	Logistics Performance Index	The variable reflects the LPI in firm's country of origin. LPI is the weighted average of the country scores on the six key dimensions: efficiency of the clearance process by border control agencies; quality of trade and transport-related infrastructure; ease of arranging competitively priced shipments; competence and quality of logistics services; ability to track and trace consignments; timeliness of shipments in reaching destination within the scheduled or expected delivery time. Scale from 1 to 5 relevant to the possible comparison groups – all countries (World), region and income groups (<i>Source</i> : World Bank)	—	—
7.7. STDE	ROA standard deviation	Reflects the stability of corporate performance in the 2008–2011 period. Measured as standard deviation of the ROA annual growth rate (<i>Source</i> : S&P Capital I-Q).	—	—

Sources: Authors' own elaboration from S&P Capital I-Q (2005–2011), World Bank (2008–2011) and corporate disclosure documents and Websites.



Table 2: Descriptive statistics, correlation matrix and multi-collinearity tests

	Mean	Standard deviation	Minimum	Maximum	ROA	INVE	CORE	RELD	VINT	UNER
ROA	0.04	0.06	-0.24	0.25	1					
INVE	424.19	1504.19	0.00	16849.40	0.0828	1				
CORE	0.67	0.47	0.00	1.00	-0.1703	-0.1898	1			
RELD	0.53	0.50	0.00	1.00	0.5293**	0.1094	-0.3347**	1		
VINT	0.56	0.50	0.00	1.00	0.1523	0.0962	-0.3265**	0.1596	1	
UNER	0.26	0.44	0.00	1.00	-0.0556	0.2432*	-0.2585*	-0.0250	0.0060	1
INTE	1.94	1.51	1.00	6.00	-0.2201*	0.3980**	-0.0847	-0.0436	0.1439	0.2219*
PRIME	0.66	0.48	0.00	1.00	-0.2469*	0.1009	0.3006**	-0.1116	-0.2197*	0.0533
LIST	0.20	0.40	0.00	1.00	0.1583	-0.0171	0.1714	0.0171	-0.3600**	-0.2160**
EMPO	6.38	1.96	0.00	11.64	-0.0113	0.3244**	-0.3177**	0.1552	0.2649*	0.1815
REVE	5.23	1.92	0.43	10.61	0.0230	0.4361**	-0.2904**	0.1804	0.1972	0.1862
ESBU	52.53	46.24	1.00	136.00	0.1298	-0.1497	0.0108	0.0075	-0.1444	-0.0762
LPI	3.44	0.48	2.00	4.11	0.0151	0.1463	-0.1772	0.0308	0.2391*	0.1199
STDE	0.03	0.03	0.00	0.24	-0.2623**	0.0932	0.1493	-0.0559	0.1796	-0.0491

	INTE	PRIME	LIST	EMPO	REVE	ESBU	LPI	STDE	Tolerance	VIF
ROA										
INVE									0.7374	1.3562
CORE									0.6337	1.5781
RELD									0.8334	1.2000
VINT									0.6906	1.4480
UNER									0.7896	1.2665
INTE	1								0.5538	1.8056
PRIME	0.1873	1							0.6746	1.4823
LIST	-0.0963	0.2510*	1						0.6967	1.4354
EMPO	0.3634**	-0.2167*	-0.2855*	1					0.4519	2.2131
REVE	0.5817**	0.0448	-0.0930	0.6538**	1				0.3371	2.9662
ESBU	-0.2193*	-0.1272	0.0923	-0.0927	-0.2967**	1			0.4546	2.2000
LPI	0.2380*	0.0259	-0.1983	0.1721	0.3932**	-0.7219**	1		0.3924	2.5486
STDE	0.2974	0.3049	-0.1155	-0.0014	0.1407	0.0145	-0.0841	1	0.6998	1.4291

*P-value < 0.01; **P-value < 0.001.

Source: Authors' own elaboration.



composed of six independent variables and seven control variables as outlined above. Overall six models were developed to test empirically the research hypotheses. Regression analysis outputs are given in Table 3. The models bring further insights and unveil the robustness of the findings. All models were found to be highly significant (P -value <0.001), with a R^2 ranging from 0.1786 (Model 1) to 0.4245 (Model 6). The first model is given by the control variables only and demonstrates the appropriateness of the control variables selection. The majority of control variables exert a significant relationship to corporate performance (ROA), even without the inclusion of any independent variable. Models (2) to (5) show empirical findings of regression analysis between the dependent variable (ROA), all the control variables and specific groups of variables. Finally, Model (6) reports the results of the regression between all independent and control variables with the dependent variable. Model 2 only includes control variables and independent variables related to growth and corporate identity (INVE and CORE) whose coefficients are not statistically significant (P -value >0.1). Model 3 refers to variables beyond the 'core' (RELD and VINT), whose coefficients are both correctly signed and statistically significant (P -value <0.05). Model 4 focuses on unrelated diversification (UNRE), whose coefficient is not statistically significant. Model 5 addresses international diversification (INTE), whose coefficient is statistically significant but wrongly signed respect to Hypothesis 6.

The findings of Model (6) provide evidence of the importance of diverse corporate strategies in affecting the overall performance (ROA). The empirical outcomes bring us to accept five out of the seven research hypotheses. The results of Model 6 have been further tested to verify their robustness and consistency. In particular, Breusch–Pagan test unveiled the absence of heteroscedasticity ($\chi^2 = 0.22$, $P = 0.6364$). On the contrary, some concerns emerged in relation to standard errors distribution, as demonstrated through Jarque–Bera test. Nevertheless, given the dummy nature (0/1) of some variables included in the study, the results appear sufficiently robust.

The independent variables 'investments for growth', 'focalization on the core business', 'related diversification' and 'vertical integration' show positive coefficients. This confirms a positive association with the dependent variable (ROA), bringing support to Hypothesis 1 (investments for growth is a predictor of corporate performance), Hypothesis 2 (focalization on the core business is a predictor of corporate performance), Hypothesis 3 (related diversification is a predictor of corporate performance) and Hypothesis 4 (vertical integration is a predictor of corporate performance).

Moreover, the coefficient of the variable 'unrelated diversification' is not significant, supporting Hypothesis 5.2. No evidence was found, in fact, on the association between unrelated diversification and profitability. The profound specificity of human resources and organizational skills and competencies

**Table 3:** OLS regression models

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Intercept	-0.0374 <i>0.0636</i>	-0.0167 <i>0.0661</i>	-0.0498 <i>0.0533</i>	-0.0374 <i>0.0638</i>	-0.0451 <i>0.0626</i>	-0.0797 <i>0.0549</i>
<i>Independent variables</i>						
INVE		5.42E-06 <i>3.68E-06</i>				6.06E-06* <i>3.10E-06</i>
CORE		-9.16E-03 <i>0.0118</i>				0.0198* <i>0.0106</i>
RELD			6.00E-02*** <i>8.53E-03</i>			0.0608*** <i>8.70E-03</i>
VINT			2.21E-02** <i>0.0096</i>			0.0266*** <i>0.0096</i>
UNRE				-0.0031 <i>0.0119</i>		0.0064 <i>0.0103</i>
INTE					-0.0097** <i>0.0041</i>	-0.0077** <i>0.0035</i>
<i>Control variables</i>						
PRIM	-0.0330*** <i>0.0118</i>	-0.0326*** <i>0.0122</i>	-0.0210** <i>0.0101</i>	-0.0325*** <i>0.0120</i>	-0.0293** <i>0.0117</i>	-0.0241** <i>0.0103</i>
LIST	0.0305** <i>0.0138</i>	0.0307** <i>0.0138</i>	0.0315*** <i>0.0118</i>	0.0296** <i>0.0143</i>	0.0289** <i>0.0136</i>	0.0311** <i>0.0119</i>
EMPO	-0.0039 <i>0.0036</i>	-0.0046 <i>0.0037</i>	-0.0051* <i>0.0031</i>	-0.0039 <i>0.0037</i>	-0.0036 <i>0.0036</i>	-0.0052* <i>0.0030</i>
REVE	0.0003** <i>0.0001</i>	0.0032 <i>0.0041</i>	0.0022 <i>0.0033</i>	0.0053 <i>0.0039</i>	0.0090** <i>0.0042</i>	0.0044 <i>0.0036</i>
ESBU	3.00E-04** <i>0.0328</i>	3.42E-04** <i>0.0002</i>	3.18E-04** <i>0.0001</i>	3.47E-04** <i>1.56E-04</i>	3.32E-04** <i>1.53E-04</i>	3.54E-04*** <i>1.29E-04</i>
LPI	0.0247 <i>0.0160</i>	0.0241 <i>0.0162</i>	0.0204* <i>0.0136</i>	0.0247 <i>0.0161</i>	0.0248 <i>0.0158</i>	0.0242* <i>0.0134</i>
VAR	-0.3235** <i>0.1604</i>	-0.3130* <i>0.1608</i>	-0.3632*** <i>0.1386</i>	-0.3295** <i>0.1626</i>	-0.2431 <i>0.1615</i>	-0.3357*** <i>0.1406</i>
Number of observations	144	144	144	144	144	144
Multiple R ²	0.4226	0.4439	0.6603	0.4231	0.4595	0.6905
R ²	0.1786	0.1971	0.4360	0.1791	0.2111	0.4768
Adjusted R ²	0.1364	0.1432	0.3981	0.1304	0.1644	0.4245
F-statistic	4.2256***	3.6556***	11.5116***	3.6807***	4.5176***	9.1146***
P-value	3.01E-04	4.10E-04	3.00E-13	6.49E-04	6.92E-05	4.08E-13

Notes: Standard errors are in italics.

* $P < 0.10$; ** $P < 0.05$; *** $P < 0.01$.

Source: Authors' own elaboration.

developed by maritime logistics firms in their core business and in the (horizontally and vertically) related industries make the entry in conglomerate sectors rather critical and uncertain in terms of economic-financial returns (Frémont, 2009; Lorange, 2009; Song and Panayides, 2012). Despite the emergence of successful cases of unrelated diversification (for example, A.P. Moeller Maersk, Kawasaki Kinkai Kisen Kaisha Ltd., Tamai Steamship Co. Ltd.



and so on), indeed, this strategic option still appears risky, and could compromise a firm's survival. Consequently Hypothesis 5.1 is rejected.

Finally, the coefficient of the variable 'international diversification' is significant but negatively signed, thus Hypothesis 6 is not supported. This means that the lower the degree of international diversification, the higher corporate profitability.

Robustness checks

A number of robustness checks have been carried out in order to validate the empirical results and to disclose their consistency as reported in Table 4. Basically, we proceeded into four directions.

First, we ironed out any bias arising from sectorial differences characterizing the sample firms, as the shipping industry traditionally experiences lower and unstable corporate profitability. Therefore, we reran the regression analysis on two narrowed sub-samples of firms (Models 7a and 7b). In particular, Model 7a includes all firms whose primary business is the shipping industry (95). Model 7a is highly significant (F -statistics = 7.6782; P -value < 0.001) and confirms all the outcomes of Model 6, except for the variable CORE. Conversely, Model 7b considers firms coming from other businesses. The model is still significant (F -statistics = 2.8657; P -value < 0.01), but most independent variables lose their statistical significance. Nevertheless, both RELD and VINT remain significant and correctly signed, suggesting these companies to go beyond the core. In this regard, the outcomes suggest investigating further the subsectors 'adjacent' to the core, in order to appreciate the impact of each corporate strategy of firms' performance in other business environments.

Second, given that the control variable EMPO (number of employees) was significant in Model 6 but showed mixed results in Models 1–5, we tested again this control variable (which relates to firm's size), by adopting a two population approach. Therefore, we have constructed two separate sub-samples, taking the median number of employees (equal to 594) as threshold, with Model 8a focused on large firms and Model 8b on small firms. For both the sub-samples, OLS regression models have been found highly significant (Model 8a: F -statistics = 4.8019, P -value < 0.001; Model 8b: F -statistics = 4.7712, P -value < 0.001).

The model concerning large firms (Model 8a) confirms the explanatory power of all estimators provided in Model 6, except for the coefficients of the independent variables CORE and INTE, which become both statistically insignificant. The results, suggest that larger maritime logistics firms cannot limit themselves neither to the core business nor to the domestic market for achieving and defend a durable competitive advantage.

Table 4: Robustness checks and alternative specifications

	<i>Shipping firms versus others</i>		<i>Large versus small firms</i>		<i>Developed versus Developing countries</i>		<i>Low- versus high-levered firms</i>	
	<i>Model 7a</i>	<i>Model 7b</i>	<i>Model 8a</i>	<i>Model 8b</i>	<i>Model 9a</i>	<i>Model 9b</i>	<i>Model 10a</i>	<i>Model 10b</i>
Intercept	-0.1520** 0.0708	0.0541 0.1010	0.0350 0.0931	-0.1827** 0.0724	-0.0623 0.0607	-0.0826 0.1286	-0.0420 0.0819	-0.1149 0.0797
<i>Independent variables</i>								
INVE	6.75E-06** 3.20E-06	-2.70E-05 2.34E-05	7.29E-06** 3.37E-06	-9.59E-06 2.37E-05	6.33E-06** 3.14E-06	-4.02E-06 2.44E-05	7.24E-06* 3.68E-06	3.25E-06 9.41E-06
CORE	0.0148 0.0149	0.0166 0.0156	0.0173 0.0148	0.0210 0.0179	0.0182* 0.0113	0.0417* 0.0241	0.0114 0.0166	0.0230* 0.0145
RELD	0.0578*** 1.09E-02	0.0531*** 1.58E-02	0.0524*** 1.41E-02	0.0606*** 1.33E-02	0.0580*** 1.00E-02	0.0361** 1.67E-02	0.0492*** 1.47E-02	0.0556*** 1.16E-02
VINT	0.0243** 0.0122	0.0248** 0.0119	0.0214* 0.0148	0.0233* 0.0147	0.0246** 0.0103	0.0351 0.0252	0.0194* 0.0149	0.0278** 0.0134
UNRE	0.0044 0.0133	0.0127 0.0190	0.0005 0.0153	0.0067 0.0169	0.0054 0.0107	0.0123 0.0284	0.0023 0.0165	0.0042 0.0131
INTE	-0.0089** 0.0043	-0.0004** 0.0067	-0.0059 0.0049	-0.0080 0.0061	-0.0088** 0.0042	-0.0014 0.0064	-0.0097* 0.0068	-0.0051 0.0042
<i>Control variables</i>								
PRIM			-0.0253* 0.0145	-0.0097 0.0173	-0.0212** 0.0107	-0.0031 0.0322	-0.0310* 0.0161	-0.0225* 0.0136
LIST	0.0352*** 0.0135	-0.0048 0.0301	0.0129 0.0226	0.0446*** 0.0168	0.2036*** 0.0492	0.0423* 0.0280	0.0367* 0.0232	0.0377*** 0.0140

EMPO	-0.0068* <i>0.0035</i>	0.0006 <i>0.0062</i>			-0.0056 <i>0.0042</i>	-0.0030 <i>0.0047</i>	-0.0094* <i>0.0057</i>	-0.0012 <i>0.0036</i>
REVE	0.0050 <i>0.0041</i>	0.0088* <i>0.0077</i>	-0.0021 <i>0.0063</i>	0.0044 <i>0.0056</i>	0.0072* <i>0.0043</i>	0.0151* <i>0.0089</i>	0.0110** <i>0.0055</i>	-0.0019 <i>0.0050</i>
ESBU	4.00E-04** <i>2.00E-04</i>	2.00E-04 <i>2.00E-04</i>	1.96E-04* <i>1.32E-04</i>	4.00E-04** <i>1.89E-04</i>	3.38E-04** <i>1.37E-04</i>	1.26E-04 <i>3.06E-04</i>	3.85E-04** <i>1.79E-04</i>	3.40E-04* <i>1.90E-04</i>
LPI	0.0420** <i>0.0165</i>	0.0328* <i>0.0161</i>	-2.38E-04* <i>2.49E-02</i>	0.0396** <i>0.0175</i>	0.0189 <i>0.0146</i>	0.0114 <i>0.0289</i>	0.0197 <i>0.0201</i>	0.0286* <i>0.0185</i>
VAR	-0.3743*** <i>0.1486</i>	0.5136 <i>0.5493</i>	-0.4710** <i>0.2293</i>	-0.1514 <i>0.2130</i>	-0.5215*** <i>0.1528</i>	1.0405*** <i>0.3890</i>	-0.5402*** <i>0.1874</i>	0.4955 <i>0.3911</i>
Number of observations	95	49	72	72	114	30	72	72
Multiple R ²	0.7274	0.6990	0.7029	0.7018	0.7521	0.8062	0.7546	0.7061
R ²	0.5291	0.4886	0.4941	0.4925	0.5656	0.6500	0.5694	0.4986
Adjusted R ²	0.4602	0.3181	0.3912	0.3893	0.5092	0.3656	0.4728	0.3862
F-statistics	7.6782***	2.8657***	4.8019***	4.7712***	10.0172***	2.2858**	5.8986***	4.4369***
P-value	2.46E-09	7.20E-03	1.97E-05	2.13E-05	4.01E-13	0.0467	8.74E-07	3.646E-05

Notes: Standard errors are in italics.

* $P < 0.10$; ** $P < 0.05$; *** $P < 0.01$.

Source: Authors' own elaboration.





As concern small maritime logistics firms, Model 8b shows that only the independent variables RELD and VINT positively affect firm's profitability. Moreover, as the coefficients of control variables ESBU and LPI are positively signed and statistically significant (P -value <0.05), the empirical findings unveil the influential role of domestic institutional and business conditions in explaining firm performance.

Third, we also verified the impact of firm's country of origin on maritime logistics firms' strategies and performances. In particular, the overall population has been divided into two sub-samples, including firms born in developed and developing countries, respectively. As a result, Model 9a, which includes 114 maritime logistics firms from developed countries as defined by OECD, is strongly significant (F -statistics = 10.0172, P -value <0.001) and corroborates the outcomes of Model 6. Conversely, Model 9b, which focuses on 30 firms originating from developing nations, is slightly significant (F -statistics = 2.2858, P -value <0.05). In particular, in Model 9b only the independent variables CORE and RELD are significant and correctly signed. Overall, the outcomes suggest the analytical lens developed in the present contribution better fit in maritime logistics firms from traditional developed countries.

Finally, we scrutinized how the debt level influences the relationship between corporate strategies and performance. In particular, we have constructed two separate sub-samples, taking the median of the debt/equity ratio (equal to 0.7646) as threshold. Model 10a, includes all maritime logistics firms characterized by a low level of debt, is strongly significant (F -statistics = 5.8986, P -value <0.001) and corroborates the results of Model 6, except for the coefficient related to variable CORE. Model 10b, instead, addressed firms with a high debt level. The model is statistically significant (F -statistics = 4.4369, P -value <0.001) and further confirms Model 6, even though the coefficients of variables INNO and CORE lose their significance.

Discussion and Implications

The study has found that maritime logistics firms with higher investments (capital expenditures) are more likely to experience higher firm profitability in relation to the assets possessed. Hence, pursuance of growth and innovation has a payoff in maritime logistics.

On this basis maritime logistics firm managers should be aware of the positive association between capital expenditure and growth potential for the firms. They must be mindful of course of the general prospects of the industry on one hand and the potential of the specific project on the other. These preliminary outcomes partially confirm previous studies investigating the relationship



between the amount of resources invested in assets and firm profitability, measured by ROA (Satta *et al.*, 2013).

Future research may also qualify potential differences between investment in maritime logistics firms and performance arising from the type of investment made by it in research and development, assets or other types of investment.

The study finds that if the average revenue share emanating from a maritime logistics business is concentrated on its core business then this is related to positive corporate performance. The implications of this finding are that core competency and development of core business resources are fundamental in achieving higher performance in maritime logistics. It follows that a maritime logistics company manager should aim at enhancing the core competencies and capabilities that are fundamental to the focal business in order to achieve higher corporate value supporting Persson and Virum's (2001) arguments on the growth strategies of logistics providers.

Related diversification has been found to be associated positively to corporate performance in maritime logistics. Related diversification may confer certain advantages to maritime logistics firms. Firms, maritime logistics firms may raise barriers to entry by other potentially competing firms in the industry thus enhancing their market power and ultimately improving corporate performance (Nath *et al.*, 2010). Related diversification may also enable maritime logistics firms to improve the utilization of their excess resources and attain economies of scope. Economies of scope will result in positive corporate performance implications. On the other hand, unrelated diversification is not beneficial in the sense that it increases exponentially the risk that maritime logistics firms may be exposed to. Maritime logistics is a specialized service and industry, and competencies in this specialization are bound to influence positively applications to related businesses. The relatedness of resources is fundamental to improving the performance of businesses in maritime logistics. However, moving outside the core business such competencies may have limited added value hence the findings of this study. Future research may also examine whether the conferred diversification performance advantages decline after the achievement of a certain level of diversification. For instance the general literature suggests that the diversification performance relationship abides to an inverted U-shape relation (Markides and Williamson, 1994).

Vertical integration enables firms to control their assets and provide goods, services or intermediate inputs and outputs in-house with positive performance implications arising as a result. The findings for this study suggest that vertical integration of maritime logistics firms can enhance performance through the coordination mechanisms associated with internalization and reduction in transaction costs associated with market exchanges. Maritime logistics firms can coordinate more effectively the physical and managerial aspects of intermodal

operations. As a result vertical integration leads to an enhancement of corporate performance and corporate value. The findings of the study are consistent with prior literature (Hennart, 1988; Novak and Stern, 2008). What is extremely important is for future research to identify the type of vertical integration that contributes to higher performance in maritime logistics. For instance, is it vertical integration effected by a shipping line acquiring ports and terminals, acquiring logistics companies or acquiring inland transportation companies or even a combination of the above. It may also be backward vertical integration in the supply chain whereby a shipping company acquires ports, terminals or inland distributors at the source of the raw materials rather than at the destination end of the supply chain (forward versus backward vertical integration) (Midoro *et al*, 2005). Maritime logistics and intermodal transportation in particular is characterized by high transaction costs (Panayides, 2002), therefore vertical integration is bound to reduce transaction costs and thus improve corporate performance. In addition, through vertical integration maritime logistics firms can attain specialized assets that are difficult to obtain in other ways and by doing so increase barriers to entry for potential competitors and improve the efficiency of their supply chain operations. There is also considerable uncertainty regarding prices and costs particularly after the abolition of the conference system in liner shipping that incentivizes vertical integration as a means of controlling prices and costs of through transport.

International diversification was found to be significant but negatively signed, thus not providing support to Hypothesis 6. The result, which implies that the lower the degree of international diversification the higher the corporate profitability is in contrast to extant literature in the management discipline (Capar and Kotabe, 2003; Qian *et al*, 2010; Wiersema and Bowen, 2011). The finding may be ascribable to the selected time interval, that is, 2008–2011, which could have provoked some bias because of the specific impact of the crisis in some geographic regions. This unexpected empirical evidence, indeed, may depend on the proxy adopted for addressing international (geographic) diversification, as it does not take into account the different impact that related and unrelated geographic diversification produce on firms' performance (Vachani, 1991; Hitt *et al*, 1997). Moreover, the results suggest that a suitable combination of strategic decisions related to the firm's diversification (focalization, related, vertical and so on) across various businesses may counterbalance the effects of the worldwide economic recession with respect to the diversification strategies spread out over a geographic space. Therefore, further studies on this strategic approach are required in order to face the doubts that emerged in this analysis. It will also be interesting to examine in conjunction the effect of related diversification and international diversification on performance of maritime logistics firms, that is, what is the impact of related diversification on performance when diversification is effected internationally.



In general, empirical findings appear consistent with prior academic contributions and confirm the theoretical assumptions. The control variables are significant in most regression models. Analogously, the significance and signs of the coefficients of the independent variables bring further evidence on the robustness of the findings and support the research hypotheses.

With regard to the control variables, the following considerations have to be provided. The negative coefficient of the control variable 'primary industry' indicates (and confirms) that shipping is an unstable industry, characterized by low profit margins that coincide with the downturn of global trade and vessel overcapacity (Notteboom, 2004).

The negative coefficient of the variable 'employees' can be explained with reference to dramatic impact that personnel cost traditionally has on the overall cost structure of liner shipping and logistics firms. A large amount of employees, in fact, may easily result to organizational over fitting, generating financial and economic troubles that are difficult to manage in the short term.

Finally, the negative coefficient of the variable STDE probably derives from the high market instability and volatility characterizing the maritime logistics industry in the selected timeframe. In other terms, only firms capable of minimizing the destabilizing effects of the crisis, that is, able to keep relatively stable financial returns over time, attain superior profitability.

Limitations and Conclusion

The study provides an attempt to explore the relation between various fundamental corporate strategies that may be pursued in a maritime logistics firm context and the consequent performance implications. The study finds that strategies such as corporate investment, related diversification, focalization on core business and vertical integration in maritime logistics are positively and significantly related to corporate performance. No relation is found between unrelated diversification and performance whereas a negative relation is shown in the association between international diversification and corporate performance. The motivation from this study has arisen from the fact that maritime logistics firm managers have at their disposal an array of corporate strategies to pursue with varying performance implications that have not been empirically tested.

Despite the study provides insightful outcomes in order to develop an overarching framework for assessing the impact of corporate strategies on maritime firms performance, it still suffers some inherent limitations. First, the necessity to investigate a number of diverse strategic options jointly hinders a more sophisticated and in-depth analysis of each specific strategic behavior. Second, the contribution only investigates ROA as dependent variable, whereas



several other indicators and measures are suitable for assessing firms' profitability, for example, Return on Investments, Earnings Before Interests and Taxes and so on. Nevertheless, ROA has been selected as proxy of firm performance, because it also allows to consider the financial structure of the firm, and provides relevant insights on its capability to create value for shareholders. Finally, the outcomes may be partially biased by the operationalization of some independent variables, which have been measured as dichotomous dummies. Further studies, therefore are invited to validate the results by focusing on single strategies and constructing more complex indicators, such as concentration and entropy measures.

For instance, future research may attempt to focus on particular strategies and examine them in relation to other moderating or influencing variables. It is recommended that corporate strategies are treated in isolation in future research in order to identify not merely the performance effect in relation to other alternative strategies but also the antecedents and moderating factors from the adoption of such strategies. There is also scope to extend the range of performance measures and use financial as well as market-based measures of corporate performance. Such an approach will lead to a better understanding of which strategies drive particular performance results in maritime logistics.

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