Patterns of Internationalization

Assessing Network Structures within Container Shipping Industry

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ABSTRACT

Purpose - Container shipping, due to its boundary crossing nature, is generally seen as an international business. A first look into the physical networks of the industry has shown that container-shipping companies operate however rather differently, with different motives for internationalization, and infact show different patterns to their international development. However, there are other important transactional and market-oriented considerations, and overall dynamics that need to be examined before concluding on the internationalization levels of container shipping companies, and the industry. The purpose of this paper is to further investigate the patterns of internationalisation by the examination of the more demand-oriented considerations.

Design/methodology/approach - In order to answer the research question, the paper focusses on the examination of the front-end activities and structures like sales office networks and the overall extent of market presence. For this the fundamental sales networks of the companies were considered as a key indicator, and the port networks of the 20 largest container-shipping companies in the world (by TEU capacity) were analyzed.

Findings - The resulting data set allows an examination on each company's overall network at various geographic levels, and a direct comparison of the networks of the companies. It shows that not all shipping companies are highly international. It also shows that market share and total capacity are not necessarily a good indicator for the worldwide presence of a company.

Research limitations/implications (if applicable) - The paper adds yet another piece to the interesting puzzle on internationalization patterns of container shipping companies. However, for a complete picture on the internationalization process further work will be required that is based e.g. on the development pattern of single companies and that may also take more the dynamic aspects and comparisons into account.

Practical implications - Preceeding work provides insights that are directed towards the port networks and thus toward the more back office oriented resource architecture and the more geographical aspect of physical coverage. By reorganising the focus on the sales network of the single container shipping companies, this paper presents findings that are also applicable to the front end, towards the customer, The comparison of both views is promising interesting insights such as ownership structures and entry modes along with the specific location commitment as a basis for strategic considerations.

Originality/value – In the academic literature there is not much to find on the internationalization process and the dominating internationalisation patterns related to container shipping. The paper makes an important contribution in this regard by considering the different aspects of the international shipping networks and by bringing these closer to extant frameworks on internationalization.

Keywords: Internationalization, Container Shipping, Sales offices, Agents

1 INTRODUCTION

Heaver (2002) discussed the evolving role of shipping in international logistics and concludes that shipping lines are under pressure to further develop and expand the geographical reach of their services. Branch (2008) compares the development of the eight editions of his book and detects a 450 % increase of world seaborne trade from the first edition in 1965. When measured in volume, more than 90 % of world trade today is conveyed by sea. Levinson (2006) illustrates how the "shipping container made the world smaller and the world economy bigger", and Donovan (2006) writes about a "box that changed the world". Today, Asia is not only one of the main sources for products that are consumed in Europe and the Americas; but also Asian countries and companies are among the major players within the global maritime sector (Branch, 2008). Summarizing all this, there is apparently no more doubt about the role and meaning of deep-sea shipping, and in particular container shipping, with respect to the issue of internationalization. Due to its boundary crossing nature, it is therefore generally seen as an international business, leading to claims on its role in globalization, and images of successful companies full of international business experience and exposure. Questioning whether companies in this business are truly international can appear to be artificial in the first instance.

While this generalization of container shipping as a global business remains true at the industry level, there is however reason to doubt whether it is also entirely true at the level of individual firms. The question is whether the companies in the industry have developed the same way, or whether different companies in the business in fact demonstrate more individual patterns and strategies when it comes to their international development. Recent work on the network structures in the industry that provides a preliminary inference on the the question, in fact provides reasons for the idea that container shipping companies may indeed operate based on different strategies toward internationalization. In consequence Gadhia et al. (2011), or Ducruet and Notteboom (2012), only speak about less than a handful companies that appear to be "truly global".

Following the basic premise of internationalisation scholars (Dunning and Lundan, 2008), there can be different measures to assess internationalisation within container shipping. Examples include the number of countries that a shipping company operates in, the degree of internationalisation of its owners, management etc. How well a container shipping company performs in each of these individual measures, and in totality, should then provide a picture of the overall interantionalisation performance of the company. While the earlier approaches primarily focus on the physical port and network structures, and therefore only the country presence in terms of port calls as an indicator for internationalization patterns, it is the purpose of this paper to further investigate some of the more market-oriented considerations. The aim of this paper is to make an examination of the front-end activities toward the customer base of the shipping companies and structures such as expressed by the presence of sales offices and the overall extent of market presence. The central research question is:

What is the pattern of internationalization within container shipping when indicated by the number of sales offices and sales agents in different countries and world regions?

This research question was investigated from the viewpoint of the single carriers, which are the 20 largest companies in the field, based on the data from Alphaliner in 2012 (table 1).

Table 1: Top 20 Container Carrier (Alphaliner, 2012)

Rank	Carrier	Capacity in TEU	Market share in %
1	APM-Maersk	2.544.760	15,8%
2	Mediterranean Shipping Company	2.222.497	13,8%
3	CMA CGM Group	1.322.443	8,2%
4	COSCO Container Lines	664.693	4,1%
5	Hapag-Lloyd	632.556	3,9%
6	Evergreen Line	612.007	3,8%
7	APL - American President Lines	603.514	3,7%
8	CSCL - China Shipping Container Lines	550.492	3,4%
9	Hanjin Shipping	483.541	3,0%
10	MOL - Mitsui O.S.K. Lines	460.702	2,9%
11	NYK Line - Nippon Yusen Kaisha	409.457	2,5%
12	OOCL - Orient Overseas Container Lines	403.510	2,5%
13	Hamburg Süd Group	401.607	2,5%
14	K Line	346.042	2,1%
15	Yang Ming Marine Transport Corp.	334.480	2,1%
16	H.M.M. - Hyundai Merchant Marine Co.	329.231	2,0%
17	Z IM Israel Navigation Company	322.943	2,0%
18	CSAV Group	310.237	1,9%
19	PIL - Pacific International Lines	268.984	1,7%
20	UASC - United Arab Shipping Company	240.190	1,5%

The remainder of this paper is organized as follows. The next chapter (2) presents a discussion on the different approaches towards the operationalization of the internationalization process. Here a reflection on the existing work about the degree of internationalization in the field of container shipping will also be made. Chapter 3 then presents the basic results of the analysis on the 20 leading container carrying companies, both with respect to their international network of sales offices, as well the ratio of own offices compared to such offices that are operated by external agents. It is on this basis that the composite measures are built, and finally a brief interpretation of the internationalization pattern of the single companies is provided in chapter 4.

2 INTERNATIONALIZATION OF COMPANIES

2.1 What makes a company international?

Internationalization of companies is basically understood as a process of increasing involvement in cross-border operations. It is explained by the degree or the commitment for a specific market, the selection of particular markets or both commitment and selection (Welch and Luostarinen, 1988; Hotho, 2009; Kotler, 2006). The related discussion about the degree of internationalization in contrast to a potential regionalization of companies is not new at all.

For multinational enterprises, Rugman (2000, 2005) has put the question whether "some global companies" are in fact regional in nature. There also exist observations of such companies, which have opted for more regional marketing strategies and thus balance between globalization and localization (Khan, 2010). Regionalization in that context refers to accepting, that there are significant differences between countries and regions. Internationalization and globalization then does not only mean to be present in different countries but also to reflect and handle such differences (Dörrenbacher, 2000). In other words this also adds to the more general question wheter regional strategies, are only a temporary stage before a domestic firm becomes truly global or whether global firms break down into regional strategies (Khan, 2010). A better understanding of the *regionalization vs. globalization* dynamics is of vital importance for the analysis and construction of related strategic approaches in multinational enterprises. An essential contribution to such a better understanding is seen in the operationalization and measurement of the degree of internationalization.

Literature, and in particular the academic international business literature, entails plentiful approaches for empirically capturing the degree of internationalization of a corporation's business activities (Gerpott and Jakopin, 2005). For instance, Dunning and Lundan (2008) suggest to measure the internationalization of companies based on seven different criteria: (1) Number and size of foreign companies and joint ventures controlled by a company, (2) Number of countries in which the company is active; (3) The global sales volume and number of employees worldwide, (4) The degree of internationalization of the owners or the management of the company; (5) The degree of internationalized capital intense business areas such as R&D; (6) Systemic advantages within the company based on foreign activities of the total company, (7) The number of foreign activities that affect the strategic decisions of the company.

Based on a broad review, Gerpott and Jakopin (2005) conclude on an agreement in the literature that no single indicator of business internationalization out-performs the other measures in terms of validity. In consequence they propose for their work on internationalization of telecommunication markets not a single operationalization but a total of different measures that reflect and combine different dimensions (Sullivan, 1994; Ietto-Gillies, 1998). According to Dörenbacher (2000; see also Gerpott and Jakopin, 2005; Lin, 2012) the dimensions maybe grouped into into three categories:

1. There are structural variables relating on the one hand to foreign activities such as the number of countries where the company is active, the proportion of foreign affiliates, foreign assets etc. and on the other hand relating to governance structures such as number of stock markets, shares owned by foreing investors, number of non-nationals in the boards.
2. There are outcome variables reflecting foreign sales and operating income abroad, and thus market-related results of international business
3. There are attitudinal variables reflecting soft and hard indicators such as geocentric management style, or international experience (measured in years) of top managers which capture cross-country facets of corporate or business unit behaviors of internationalized firms

Additionally, while individual internationalization indicators basically measure the selection in terms of a dichotomized approach of *home vs. foreign* (Dörrenbacher, 2000), and more or less in absolute numbers, there also exist approaches which put the degree of internationalization more into the context of regional diversification. Such approaches put the proportions and ratios of internationalization into the forefront and thus more the differences

in commitment to certain markets. Perriard (1995) for instance measures regional concentration based on indexes that relates to Gini coefficients and the Herfindahl-Index. Sullivan (1994) refers more to geographical and cultural distances. And Ietto-Gillies (1998) defines a Network-Extension index.

When the measurement refers less to the description of a defined level of internationalization but more to the process of internationalization, then the Internationalization Process Theory is of special relevance. This theory puts the development pattern, the "when", "where" and "how" (Hotho, 2009) to the forefront. According to internationalization process theorists (e.g., Wiedersheim-Paul, 1972; Johanson and Wiedersheim-Paul, 1975), the commitment of resources to a foregin market is restricted by the local-market knowledge. With increasing experience, by gaining more local-market knowledge, the involvement is supposed to increase with regard to the mode of operation and the commitment of resources (Johanson and Vahlne, 1977, 1990).

The theory combines structural measures such as market size and market potential with attitudinal measures such as differences in language, culture, and political systems for company's foreign market selection. Countries where companies experience less uncertainty and disturbance in the flow of communication have higher psychological closeness to the home market (Johanson and Wiedersheim-Paul, 1975; Johanson and Vahlne, 1977), and are thus more likely to be entered prior to the more distant and less similar markets (Johanson and Vahlne, 1990). In consequence this results in a development process of gradual 'learning through experience' which is labelled as an 'establishment chain' (Johanson and Wiedersheim-Paul, 1975).

The related stage models of internationalization thus focus attention on the developed number of offshore markets, and the depth of a firm's direct exposure to these markets (Chetty & Campbell-Hunt, 2003; Gadhia et al. 2011; Kotler, 2006). One of the most frequently used models, which reflects the basic logic of international process theory, is the "Uppsala" or "Nordic" model. It highlights four stages in an international development process: no regular export activities, export via independent agents, creation of an offshore sales subsidiary and finally overseas production facilities. International process theory is therefore still the dominant theory for explaining the processes by which firms internationalize. The related basic model remains virtually unchanged, and this to some extent is also a testimony to the relative robustness of the model, and to the appeal of understanding internationalization as a process (Hotho, 2009).

2.2 Internationalization of Container Shipping Companies

While the preceding section dealt with the internationalization of companies in general, this section will briefly focus on the related work within the narrower field of container shipping. Taking into account that the container carriers are per se seen as international (Gadhia et al. 2011) companies, it is not really surprising that there is not too much work so far dealing with the question on the degree of internationalisation of these firms.

Slack and Fremont (2005; see also more recent work of Notteboom and Rodrigue, 2012) invesigate the transformation of port terminal operations: "from the local to the global". In this work that basically refers to the structural indicator of governance and ownership they come to the conclusion that the terminal industry is transformed by the penetration of transnational operators such as Hutchinson Port Holdings (HPH) and PSA International (Port of Singapore Authority). However, they also draw attention to the fact that the transformation process has been rather uneven, and that there are important regional differences. Their work is especially interesting in light of the fact that the transformation towards global management

is additionally driven by carriers that vertically integrate into terminal operations worldwide. Such involvement may fundamentally be driven by a search for levers for providing economies of scale and scope, and the required control on terminals and Hinterland operations as a key towards worldwide door-to-door services. However it might also be an interesting indicator on the commitment of the carriers in certain areas of the world.

Ducruet and Notteboom (2012) draw conclusions about the development of the shipping network structure, in particular regarding the relative position of ports in those networks, by analyzing the global container shipping networks in the years 1996 and 2006. Their major object of analysis thus refers to the hieararchical structure of the port network as a whole, emerging regional patterns and the dynamics that are influencing it. The basis for their analysis is the daily vessel movement observed over 365 days of the two respective years. By analyzing the "topological properties of the global maritime network", and for instance the connectivity and centrality of ports in the network, their work aims on examining the patterns and indicators on hierarchy and concentration in the physical network of ports. It is thus somewhat similar in its basic approach to that of Fremont (2007). But while Fremont (2007) is based on the analysis of the network of one single company i.e. Mærsk, Ducruet and Notteboom (2012) are broader and analyse the patterns for the whole container industry.

They conlude, that despite flows between hubs and gateways may slightly shift among nodes, the topological properties remain rather stable as a whole. There might be some bottom-up adjustments due to congestion issues at the port-urban interfaces. Top-down adjustments happen because of the competition among shipping lines, as a number of shipping lines show approaches toward differentiation, seeking competive advantages by fully or partially controlling (semi-) dedicated terminal facilities. This however happens parallel to the increasing size and complexity of the network (Ducruet and Notteboom, 2012). The analysis, so the authors, thus confirms the strong influence of geography and distance on the distribution of maritime traffic. This implies that Ducruet and Notteboon (2012) identify a rather stable context of physical flows, expressed in port architecture and flow patterns between ports. However the positioning of the single players and the development patterns of the single actors within this total context may vary.

Gadhia et al. (2011) reflect on the individual port networks of the single players and apply in particular an approach that in its core is based upon a combination of the Uppsala model (Johanssen & Vahlne, 1977), and the stage model of internationalisation as presented by Chetty & Camphell-Hunt (2003). They follow a proposal for zone-differentiation (Degerlund, 2006) for their analysis of the port calls of the 19 largest container shipping companies, and group the global container market into regions, sub-regions and by country. Table 2, which has been adopted from Gadhia et al. (2011), then allows for a comparison of the ports with their neighbouring container ports, and the observation of the regional structure and characteristics, which is also reflected in table 2. The grey shading in the table indicates where a regional network is dominated by a company, where it services more container seaports than other companies. Whereas black indicates the absence of a company in a region. The numbers indicate how many container seaports in a region are serviced by any given company. Furthermore, their results show that only three of the nineteen surveyed companies service the major and minor ports distributed across the globe, and can thus be considered to be truly 'International'. The port networks of the other companies in the survey share common characteristics whilst having individualised features. In fact some companies apparently act rather regional whilst others exhibit truly worldwide behavior. Based on these patterns, four different levels of container shipping company port network are identified Gadhia et al. (2011).

Table 2: Gadhia et al., 2011

Zone	Sub-Region	01-AP Moller	02-MSC	03-Evergreen	04-CMA CGM	05-Hapag-Llo	06-APL	07-CSCL	08-COSCO	09-NYK	10-Hanjin	11-MOL	12-OOCL	13-CSAV	14-K Line	15-Zim	16-Yang Ming	17-Hamburg	18-HMM	19-PIL
1 - Asia	China	8	9	11	12	9	9	10	21	9	10	8	17	5	8	8	9	4	9	9
	Japan	9	5	12	9	7	10	3	8	20	5	8	13	1	5	5	10	2	7	8
	Malaysia	2	3	6	2	1	2	2	3	2	2	2	3		1	2	3		1	12
	India	2	3	3	2	4	7	1	1	2	2	1	4			3	2	2	1	9
	Taiwan	2	1	3	2	2	1	2	2	2	2	2	3	1	2	2	3	2	2	2
	Korea	3	1	2	2	2	2	1	2	2	4	2	2	1	2	1	3	1	4	2
	Others	12	8	14	10	6	21	4	13	11	11	11	14	1	2	2	11	6	8	24
1 - Asia Total		38	30	51	39	31	52	23	50	48	36	34	56	9	20	23	41	17	32	66
2 - North America	East	10	11	11	8	9	9	7	7	6	7	7	7	8	7	7	7	9	5	
	Gulf	1	2	1	1	2	2	1	2	1		1	2	2	2		2	1	1	
	West	6	2	4	5	6	5	6	6	5	7	6	5	4	7	4	6	5	6	2
2 - North America Total		17	15	16	14	17	16	14	15	12	14	14	14	14	16	11	15	15	12	2
3 - South America	Caribbean	11	4	4	23	5	2	1		1		4		8		1		5		
	East	31	19	17	32	22	22	10	4	14	7	20	2	25	3	6	4	29	2	6
	West	15	10	6	13	11	11	9		10	2	10		20		1		17	1	
3 - South America Total		57	33	27	68	38	35	20	4	25	9	34	2	53	3	8	4	51	3	6
4 - North Europe	Mainland	15	16	14	21	14	11	10	6	10	7	11	12	7	5	4	7	10	9	3
	Scan/Bal	2	14	1	4	1							8					8		
4 - North Europe Total		17	30	15	25	15	11	10	6	10	7	11	20	7	5	4	7	18	9	3
5 - Mediterranean	East	3	18	13	23	6		5	6	3				2		4	6	4		
	West	13	18	13	14	13	8	8	7	8	7	9	4	8	7	6	7	8	4	
5 - Mediterranean Total		16	36	26	37	19	8	13	13	11	7	9	4	10	7	10	13	12	4	
6 - Middle East	East	2	10	3	9	4	10	2	3	1	3	3	2	1			3	1	3	3
	North	1	4	1	3	1		2	2				1	2		1	2	4		
	South	1	1	1	2	2	2		1	1		1	1						1	2
	West	1	3	2	3	2	3	1	2	1	1	1	1				1	1	1	3
6 - Middle East Total		5	18	7	17	9	15	5	8	3	4	5	5	3		1	6	6	5	8
7 - Africa	North	7	15	8	20	4	3	2	2	3	2	3	1			3	3	5	2	1
	East	7	12		6		1					4								9
	West	20	12		11	1		5	3			10		1						5
	South	4	3	3	2	4		1	2	1		4		2		1		2		3
7 - Africa Total		38	42	11	39	9	4	8	7	4	2	21	1	3		4	3	7	2	18
8 - Australasia	Aust & NZ	14	13	3	21	11	5	5	11	13	3	13	11					11	6	11
	Pacific	6	1		2	4			5	18								6		
8 - Australasia Total		20	14	3	23	15	5	5	16	31	3	13	11					17	6	11
Grand Total		208	218	156	262	153	146	98	119	144	82	141	113	99	51	61	89	143	73	114

2.3 Adding the front-end to the back-end

Consequently, the first look into the container shipping industry has shown that container-shipping companies may operate rather differently, with different motives for internationalization. In particular the work of Gadhia et al. (2011) reflects on different patterns of the individual companies, measured in the physical port network. Though this work appears relevant, useful and interesting it also has some potential deficits.

For instance, additionally to the number of port calls in a region they also develop the *average ship size* as an indictor to differentiate the commitment of the company towards certain zones. As most companies also charter different shares from and to other carriers on the basis of slot-sharing agreements, ship size and also *total capacity* measured in TEU are somehow difficult to measure for the single companies. Similar problems may also arise in the measurement of *port calls*, as this does not necessarily take the practice of alliance agreements into account. Single companies may augment their network by relying on alliances with other partners (Ryoo and Thanopoulou, 1999). If one follows Ducruet and Notteboom (2012) then the context of the routings and flows between ports is rather stable. The development of single actors is thus also a matter of replacement and mergers within the competition. These may take time and thus patterns are maybe not always recognizable in the short run.

To this extent the internationalization differences of container shipping companies are explained only in part by existing research which had a look into the physical network properties such as port calls and the overall port network structure of the largest shipping providers. Additionally to this back-end of the service architecture there are also aspects on the front-end side towards the customer that reflect patterns of internationalization of container shipping companies.

It is here that this paper seeks to contribute by adding an additional facette to the existing work, and focuses on the worldwide network of sales offices as a complementing indicator for internationalization. The number of world wide sales offices for the top 20 Container-Carriers are investigated based on the company publication and information from websites and company databases. Next, composite measures of the total number of sales offices, in combination with additional indicators are created. Each company's presence of sales offices on the eight international zones is then measured as a simple first indicator. This measure follows the ideas from section 2.1 and deals with the issue of homogeneity respectively heterogeneity of the international presence. Further on a distinction is made based upon whether the sales offices are own offices or whether the carriers employ the support of external agents. This measure reflects the ideas of a network spread index and as well refers to the stage model of Chetty & Camphell-Hunt (2003).

3 DISCUSSION OF KEY RESULTS

Analysing the total network of sales offices around the world identified a total of around 5,000 offices. This means an average of about 258 offices for the average shipping company.

3.1 Internationalization patterns of sales offices

A comparison of the offices to the market shares was not able to provide any definite correlation between the market share of the company and the number of sales offices. Though it was possible to identify some first interesting patterns.

Table 3 provides an overview on the selected carriers and their sales offices around the world. It is noticeable that even though Maersk line holds the largest capacity, it does not also own the most number of sales offices. Instead, with only about half the capacity of Maersk Line, the French CMA CGM Group operates about 20% more sales offices worldwide. Conversely, the Mediterranean Shipping Company has over 100 sales offices worldwide less than the Danish market leader Maersk at approximately 87% capacity. The NYK Line has 330 sales offices around the world, although it has only 2.5% of world capacity. OOCL, which also serves 2.5 % of world capacity, is not even represented on two continents: Africa and South America. The Japanese shipping company K Line has in contrast to its closest competitors of equal size just 97 sales offices around the world. Yang Ming has almost similar capacity with over 194 sales offices. The patterns then become yet more distinct when focussing on the single regional zones.

The zone 1: Asia

When looking at the individual regions it is striking to see that the second largest container shipping company (In TEU) in the world - the Mediterranean Shipping Company MSC - only has 62 sales offices in Asia. This is significantly less than the average of 93 sales offices in this important area of the world. In contrast, the Chinese shipping company COSCO operates 249 sales offices, of which 191 alone are in China. In all other regions COSCO is below average. The Japanese K Line has only 25 sales offices in the region, which is, however, still

a quarter of its total sales outlets. For the 20 shipping companies studied here 36% or 1,860 of the 5,151 sales offices around the world are located in Asia. Asia thus shows by far the most sales offices among the different regions.

Table: 3 – Carriers and their sales offices around the world

Rank – in TEU capacity	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**		**Avg.**
Carriers	Maersk	MSC	CMA CGM	COSCO	Hapag Lloyd	Ever-green	APL	CSCL	Hanjin	MOL		
Market share (TEU capacity)	15,8%	13,8 %	8,2 %	4,1 %	3,9 %	3,8 %	3,7 %	3,4%	3,0 %	2,9 %		
Asia	120	62	138	**249**	95	90	124	141	53	72		93
North America	17	22	19	16	43	23	23	14	25	21		19
South America	61	50	**87**	12	41	45	15	23	5	28		30
Northern Europe	45	51	**67**	27	44	41	38	29	32	21		37
Mediterra-nean	47	56	**62**	26	31	50	26	32	28	11		32
Middle East	**29**	18	37	17	18	22	24	23	9	3		18
Africa	**78**	34	59	14	14	11	4	14	5	30		19
Australasia	13	10	16	6	12	3	5	3	3	8		9
Total	410	303	**485**	367	298	285	259	279	160	194		258
Zones above average	7	6	7	1	5	5	4	2	1	2		3
Rank (sales offices)	2	6	**1**	3	7	8	11	9	19	12		

Rank – in TEU capacity	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**Avg.**
Carriers	NYK Line	OOCL	Hamburg Süd	K Line	Yang Ming	HMM	ZIM	CSAV	PIL	UASC	
Market share (TEU capacity)	2,5 %	2,5 %	2,5 %	2,1 %	2,1 %	2,0 %	2,0 %	1,9 %	1,7 %	1,5 %	
Asia	129	81	62	25	76	68	67	55	100	53	93
North America	15	11	23	1	25	24	**46**	7	4	8	19
South America	27	0	54	1	4	13	61	43	15	6	30
Northern Europe	42	31	37	33	34	42	48	26	14	33	37
Mediterra-nean	44	15	29	21	33	22	47	24	2	44	32
Middle East	22	17	22	10	17	14	12	19	6	24	18
Africa	13	0	12	1	2	2	47	10	29	9	19
Australasia	**38**	7	22	5	3	5	4	0	13	1	9
Total	330	162	261	97	194	190	332	184	183	178	258
Zones above average	5	0	5	0	2	2	5	2	3	2	3
Rank (sales offices)	5	18	10	20	12	14	4	15	16	17	

The zone 2: North America

In North America, consisting of the US, Canada and Mexico are on average 19 sales offices per shipping company, although the area has only three countries. A prominent characteristic of the region is seen from the fact that both, CMA CGM and Hapag Lloyd have offices above the average number here, particularly in the US. K Line operates the least number of offices, just one, in North America – in one of the economically more important parts of the world.

The zone 3: South America

Overall, the 20 container shipping companies have 591 sales offices across the continent of South America. In this region, the shipping company OOCL operates no offices at all while the shipping company K Line has just one location. The shipping company Yang Ming has only four sales offices on the continent, which are only one-fiftieth of all outlets of Yang Ming. Other operators - especially CMA CGM and Hamburg Sud - have a very large number of sales offices in South America. The Chilean shipping company Compania Sud Americana de Vapores operates 43 sales offices in South America, of which is only one is in their home country, but 10 units in Brazil.

The zone 4: Northern Europe

The Northern Europe region shows a rather homogeneous distribution. With an average of more than 30 sales offices per company in the region, Northern Europe is next most populated after Asia, in terms of its sales offices. All the investigated container shipping companies have offices in Europe. Pacific International Lines has the smallest number - 14, which however has only 1.7% of global shipping capacity. With its origin and head office in France, the highest number of sales offices is maintained by the shipping line CMA CGM Group. Besides the CMA CGM Group, the Mediterranean Shipping Company (MSC), Maersk Line, Hapag Lloyd and Hamburg Süd, all have their headquarters in this region. This means that 44.2% of the global container shipping capacity is located in Northern Europe.

The zone 5: Mediterranean

All of the 20 surveyed carriers are represented by sales offices in the Mediterranean region. On average, the container lines maintain 33 outlets in the region. However, it is striking that Pacific International Lines (PIL) has only one sales office in Turkey and Italy, while the United Arab Shipping Company, which is smallest shipping line investigated, operates 44 sales outlets in the region.

The zone 6: The Middle East

The Middle East region shows no specific irregularities. All shipping companies operate sales offices in the region. In Afghanistan only the CMA CGM Group holds a sales office. Afghanistan is just seen as an example to show that there are some countries in this region which have only a very small number of sales offices, or none at all.

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The zone 7: Africa

Africa without the Mediterranean countries has over 50 countries, and a great deal more different peoples and languages. However the 20 largest container shipping lines have an average of just over 19 sales offices. Israelean ZIM lines, Maersk Line, MSC, MOL (Mitsui O.S.K. Lines) and PIL must be considered as the five largest container shipping companies in the region. Almost two-thirds of African sales offices operate in the service of these companies. Also, market leader Maersk Line operates by far the most number of sales offices in the region. With around 160 outlets worldwide, Orient Overseas Container Lines (OOCL) does not even have a single sales office in the region.

The zone 8: Australasia, (Australia, New Zealand and Oceania)

In the region of Australia, New Zealand and Oceania the average number of sales office is only nine, and the most (5) are on average located in Australia. While shipping companies such as Hyundai Merchant Marine do not even maintain a single sales office in the region, NYK (Nippon Yusen Kaisha) has 38 offices. However, as the next section shows, 78 % of these 38 offices are operated by agents.

3.2 Ownership ratio: sales agents vs. own offices

So far an investigation of the number of sales offices was conducted, and a measure on the homogeinity with regards to the geographical coverage across the single regions was also provided. Additionally it may be also interesting to research on the degree of ownership with respect to the sales offices. For this, to get a figure on the ownership structure, the number of sales agents that operated with a different company name than the carrier were considered. For other agents that act as distinct company but with related name to the carrier, legal or taxation reasons for this independence were assumed. On this basis, Table 4 below provides the ratio of sales offices that are run by agents instead as own sales offices for each container shipping company and for the single regions.

Table 4: Ratio of Agents in comparison to own sales offices

	Maersk	MSC	CMA CGM	COSCO	Hapag-L.	Ever-green	APL	CSCL	Hanjin	MOL	NYK Line
Asia	11,7%	38,7%	18,1%	16,5%	61,1%	51,1%	8,1%	22,0%	32,1%	11,1%	45,7%
North America	0,0%	13,6%	15,8%	18,8%	2,3%	30,4%	73,9%	7,1%	0,0%	19,0%	20,0%
South America	26,2%	14,0%	42,6%	33,3%	68,3%	100,0%	46,7%	87,0%	80,0%	75,0%	81,5%
North. Europe	0,0%	2,0%	10,4%	29,6%	34,1%	39,0%	21,1%	58,6%	53,1%	42,9%	52,4%
Mediterranean	21,2%	28,6%	37,1%	34,6%	48,4%	82,0%	34,6%	34,4%	85,7%	90,9%	95,5%
Middle East	34,5%	22,2%	54,1%	94,1%	94,4%	81,8%	70,8%	78,3%	88,9%	33,3%	95,5%
Africa	29,5%	23,5%	55,9%	92,9%	78,6%	72,7%	100,0%	100,0%	100,0%	66,7%	100,0%
Australasia	53,8%	0,0%	43,8%	66,7%	25,0%	0,0%	0,0%	0,0%	0,0%	12,5%	78,9%
Average	19,5%	20,8%	31,2%	26,7%	49,7%	63,5%	27,8%	40,1%	46,9%	38,1%	64,2%

Table 4 continued:

	OOCL	Hamburg Süd	K Line	Yang Ming	Hyundai	Z IM	CSAV	PIL	UASC	Avg.
Asia	4,9%	71,0%	24,0%	50,0%	45,6%	32,8%	45,5%	78,0%	39,6%	35,4%
North America	18,2%	26,1%	100,0%	4,0%	91,7%	65,2%	0,0%	75,0%	0,0%	29,1%
South America	X	59,3%	100,0%	100,0%	100,0%	88,5%	55,8%	100,0%	100,0%	71,5%
North. Europe	29,0%	64,9%	33,3%	79,4%	28,6%	43,8%	61,5%	78,6%	39,4%	40,1%
Mediterranean	66,7%	65,5%	85,7%	63,6%	77,3%	83,0%	54,2%	100,0%	68,2%	62,9%
Middle East	82,4%	100,0%	90,0%	94,1%	100,0%	75,0%	94,7%	100,0%	54,2%	76,9%
Africa	X	66,7%	100,0%	100,0%	100,0%	91,5%	70,0%	51,7%	77,8%	77,8%
Australasia	100%	59,1%	0,0%	100,0%	0,0%	100,0%	X	53,8%	100,0%	41,8%
Average	24,1%	64,4%	46,4%	57,7%	58,4%	66,9%	56,0%	74,9%	51,1%	

For all 20 companies the ratio adds up to 46% of sales offices that are operated as agencies. Involving agents has the advantage of using their local knowledge for a faster and easier entry into markets without taking the related risk and investment. Following Chetty & Campbell-Hunt (2003), the tendency to move from employing an agent toward the establishment of an own office is thus a potential indicator for a progressing internationalization. At the same time, there is however also a possible linkage to the resource potential of the respective company. In contrast to the number of offices, the degree of ownership indeed shows a relationship to the rankings based on marketshare, except for some outliers such as APL, MOL, and OOCL. The market leaders Maersk and MSC just have a fifth of their offices represented by agencies.

4 CONCLUSION, POTENTIAL IMPLICATIONS AND FUTURE RESEARCH

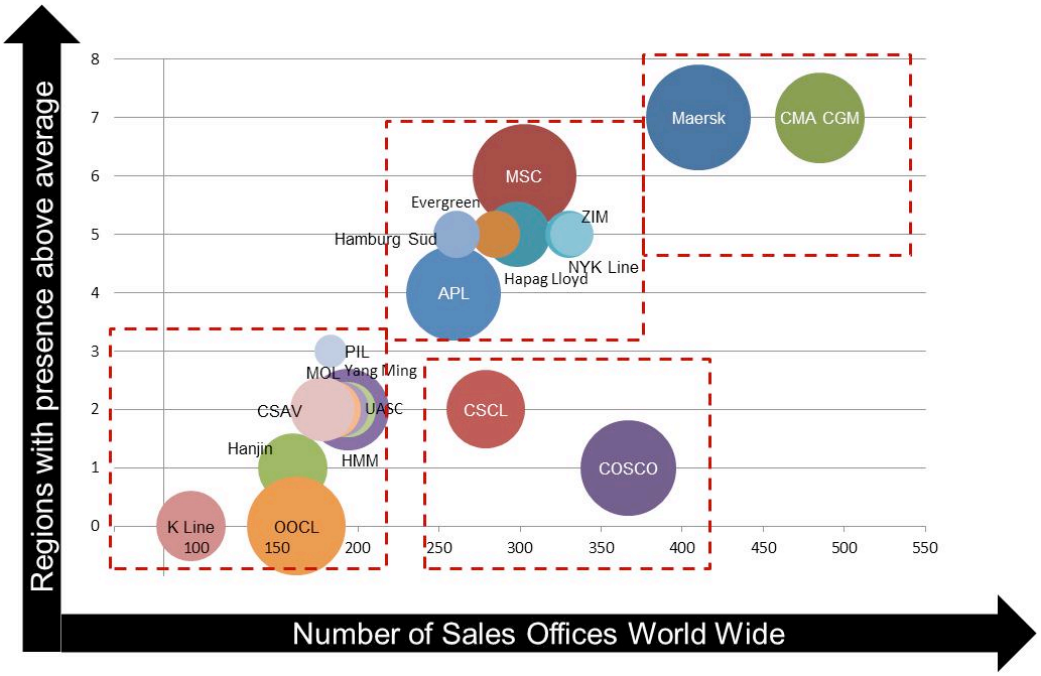
Putting the pieces together, it is now possible to apply a kind of composite measure to describe the degree of internationalization of container shipping companies, when measured in sales offices. Figure 1 illustrates the positioning of the single companies according to sales offices (x-axis), the homogeneity of the geographical coverage (y-axis) and the ownership of the offices (bubble size). From this viewpoint four different groups could be identified.

The first group built of only two companies: Mærsk and CMA CGM, reflects a “truly global” pattern with respect to sales offices. It is then noteworthy that the the largest company does not have the largest number of sales offices and that a company with almost half the market share of the largest player, has 20 % more sales offices around the world. This pattern is in line with the findings of Gadhia et al. (2011) who found three companies as truly international when based on their port call structure. It is however also to mention that CMA CGM shows less ownership of offices than Maersk. This may make room for further interpretation on whether such an internationalisation endeavor can be really realized without significant market share. Recent problems that have been published about the economic situation of CMA CGM and their engagement in alliances to ensure service frequency on certain routes may give additional room for such interpretations.

On the opposite end of the spectrum is a group of nine companies K-Line, OOCL, Hanjin, CSAV, MOL, HMM, UASC, Yang Ming and PIL whose number of offices, as well the

coverage of the regions, is by far lower. Also this group is very much in line with the results from Gadhia et al. (2011) who sort these firms based on network of port calls into the internationalization stage of "home/legacy". In the present analysis, a high ratio of own offices compared to agencies for companies of some of the firms such as OOCL or HMM, also indicates a stronger commitment to these home markets. Gadhia et al. (2011) found for those companies OOCL or HMM in particular a higher average ship size. This led them to the similar conclusions that these companies are not global but operating with regional focus.

Figure 1: Degree of Internationalization of Shipping Companies



A more specific group is the one clustering CSCL and COSCO that show a similar pattern of low coverage across regions, just like the companies in the previous group. The two companies have however a rather high number of offices worldwide. For example, COSCO with its 367 offices ranks as number three when measuring in number of sales offices, in front of companies such as MSC. The fact that only about three out of four offices are operated by the company, and that 68% are located in the region of Asia, also indicates a clear local commitment. The same pattern holds for CSCL.

Finally, somewhere in between lies a group of seven companies: APL, Hamburg Süd, Hapag Lloyd, NYK, ZIM, Evergreen and MSC, which apparently show a tendency towards being global, while at the same time falling behind the two market leaders. A similar group pattern has been identified by Gadhia et al. (2011) who call a similar group as "The bunch of others: Going what direction?" However, the positioning of MSC is somewhat different, which in terms of its port calls is more globally positioned, than is Mærsk. Wheeras, in terms of its sales offices the company is not. This might be due to the peculiar company history of MSC in comparison to most of the other rather traditional companies.

In conclusion, the present study confirms some of the results from the former studies on the topic, in particular that of Gadhia et al. (2011). But this work has now also added an additional facette to the question about the internationalization of container shipping companies. First, a correlation between size (market share) and structure (number of sales offices) was not found, yet again. The largest company, Maersk Line, does not have the largest number of sales offices, and so therefore not so international from this perspective. This means that it needs to be reconsidered whether such correlation is indeed important to

emphasise when thinking about internationalization in the container shipping industry. While at the same time it has been interesting to note that the Asian region contributes to most of the sales offices in the world. This could definitely imply that market-specific internationalisation is happening, that sales office do matter, that companies are following more specific modes of entry and expansion in some markets. Next, it would also be interesting to find two (or a few) markets where each of the biggest players is equally active, and then to compare the ratio of sales office to agents being used in these markets.

Finally, the study also adds different insights to other results e.g. the positioning of individual companies like MSC and COSCO. It should be noted however that our investigation has certain limitation due to its general approach. Some of the companies, such as e.g. NYK or COSCO are more engaged in other shipping market segments (e.g. tankers, bulkers), more general logistics businesses, short sea operations etc. than other companies. Differences in the number of sales offices of single companies may thus also result from overlaps and synergies with such segments that are not directly linked to the container market. The single companies also show different historical development patterns that might have had effects on their structure of sales offices. Maersk for instance has grown significantly by acquisitions of e.g. Sea-Land and later P&O Nedlloyd while in contrast MSC has grown organic. This may have caused different representations of offices around the world. While our research thus adds another general indicator on the globalization patterns of the different companies it also indicates the further potential for research in particular on the single companies, and their individual patterns of internationalization. Related questions may refer to path dependencies, tactical considerations or contingency factors that affect such location decisions. More detailed research could also address different marketing requirements with respect to different world regions or the focus on different marketing channels.

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