

The Role of Liner Shipping Co-operation in Business Strategy

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Abstract

우리나라 정기선사는 1970년대 이후 경쟁선사와 다양한 형태의 전략적 제휴를 통하여 꾸준히 성장하여 왔으며 오늘날 세계 정기선시장에서 경쟁우위를 확보하게 되었다. 따라서 우리나라 정기선사의 전략적 제휴에 관한 연구는 제휴전략에 관한 이론을 더욱 더 발전시키는데 도움을 줄 것으로 기대된다. 이에 따라 본 논문은 정기선사의 경영전략과 전략적 제휴의 역할에 관하여 연구하고자 하며, 다음의 세 가지 연구 질문을 통하여 분석하였다. 첫째, 정기선사의 제휴동기는 무엇인가? 둘째, 제휴형태에 따라 제휴동기에 차이점이 있는가? 셋째, 정기선사의 경영전략이 제휴형태의 선택에 영향을 미치는가?

자료수집 방법은 전략적 제휴의 경험이 있는 해운선사를 대상으로 설문조사를 실시했으며, 각 선사의 제휴 의사결정에 참여하는 담당자와 인터뷰를 통하여 연구목적과 관련된 자료를 수집하였다. 자료분석의 결과, 우리나라 정기선사는 여러 가지 동기에 의하여 제휴를 선택하고, 제휴형태에 따라 각 동기의 중요도에 차이가 있음을 나타내고 있다. 또한, 정기선사의 경영전략이 제휴형태의 선택에 영향을 미치는 것으로 나타났다. 한편 본 논문은 경영전략에 따른 정기선사의 올바른 제휴형태 선택에 도움을 주는 의사결정 모델을 제시하고 있다.

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1. Introduction

One of the most notable trends during the last decade has been the growth in the number of alliances between competitors in many industries. A recent figure from the Economist in 1998 shows that 32,000 alliances have been created since 1995, and three quarters of these consist of agreements between partner companies of different nationality.¹⁾ The use of cooperative agreements has thus become an important phenomenon in international business.

Currently, container liner shipping companies are actively involved in co-operation of one form or another. Strategic advantages as well as economic necessity have combined to make partnership a dominant pattern in the container shipping industry. Leaving aside a price setting co-operation such as conferences, introduced in liner shipping over one hundred years ago, various operational co-operation forms such as slot charters, joint services, consortia, joint ventures and pooling agreements have proliferated since containerisation. Most notably, the industry is moving into an era of global alliances.²⁾ Among the top twenty liner carriers, fourteen carriers are members of the five major alliances.

This paper thus examines the role of liner shipping co-operation in business strategy. The paper focuses on theoretical and practical perspectives of liner shipping co-operation with a view to draw out ideas for choosing the right co-operation form in terms of business strategy. This is investigated through three research questions: (1) What motivates liner shipping firms to form co-operation? (2) Do the motives for co-operation formation vary with the form of liner shipping co-operation? (3) To what extent

does the business strategy of liner shipping companies influence their choice of co-operation form?

2. Literature Review

2.1 Definitions of Alliances

Modern literature pertaining to co-operation employs a variety of terms and definitions to describe interorganisational relationships. Some of the terms employed in this context include "cooperative agreement", "coalition", "collaborative arrangement", "strategic alliance", "co-operation" and "partnership".

In a recent study conducted by Das and Teng (1997), strategic alliances are defined along similar lines as 'interfirm co-operative arrangements aimed at pursuing mutual strategic goals.' Alliance forms included in their definition are joint ventures, joint R&D, product swap, equity investment and sharing, and licensing.³⁾

In the liner shipping industry, a global alliance is a distinct form of collaboration, although alliances in the general literature are used to describe a large range of collaborative agreements.⁴⁾ Thanopoulou et al. (1999) pointed out that in the 1970s and 1980s, pools and consortia were the prevailing forms of co-operation in the container shipping industry, by means of which container carriers increased their service frequency and optimised fleet deployment under the pressure of the high investment costs containerisation entailed. As the era of consortia came, however, to a close in the early 1990s, global alliances were ultimately born as a result of a major reshuffling of co-operation agreements and of the globalisation of the production process on the demand side.

Table 1. Types and Nature of Liner Shipping Co-operation

	Type	Author	Nature of Co-operation
Co-operation on Rates	Conference	Frankel (1985), Gardner (1997)	· an agreement reached by shipping companies operating liner services for the purpose of regulating or restricting competition with the objectives of a relative stability of rates, regularity and realising reasonable frequency of sailings while maintaining services to less remunerative ports.
	Stabilisation Agreement	Canna (1992)	· a voluntary agreement to reduce the level of overcapacity in order, eventually, to increase unremunerative rate levels.
Operational Co-operation	Slot Charter	Jon (1986)	· an agreement by which a liner service operator leases part of the slot on another's ships and markets that slot as his own.
	Pooling Agreement	Frankel (1985)	· an agreement between shipping companies in order to increase the pools share of the market, provide an equitable distribution of benefits among members, limit service competition and rationalise operations.
	Joint Service	Frankel (1985), Gardiner (1994)	· an agreement which establishes a new and separate line or service to be operated jointly by partner companies. The service fixes its own rates, publishes its own tariffs, issues its own bills of lading, and acts generally as a single carrier.
	Consortium	Koch (1975), Bras (1991)	· a cooperative venture of varying degree of closeness in which shipping companies involved operate under one name by pooling all or some of their activities in a particular trade.
	Joint Venture	Koch (1975), Frankel (1985)	· an agreement in which each party has a share of ownership as shareholders, in one separate and legally autonomous venture and the participants jointly own or lease vessels, equipment, and terminals. The venture has its own management.
	Global Alliance	Thanopoulou et al. (1997)	· an agreement between container shipping companies cooperating on a global trade route basis involving usually the provision of multimodal and logistics services as well.
	Merger and Acquisition	Jones (1982)	· a fusion of two companies. The assets become vested in and under the control of one company.

Source: Ryoo, D. K. (1999) *Co-operation Forms and Business Strategies: the Case of Korean Liner Shipping*. dissertation presented for PhD in UWC.

2.2 Forms of Liner Shipping Co-operation

Liner shipping co-operation forms can be divided into two groups in terms of the nature of the co-operation: co-operation on rates and operational co-operation. Co-operation between liner shipping firms is not new. Historically, many liner firms have become widely involved in either price setting agreements, such as shipping conferences, or operational co-operation forms, such as slot charters, poolings, joint services, consortia and joint ventures. However, what is new in the latter part of the 1990s is the extent to which some firms have become involved with other firms as part of their liner business strategy, and the range and types of co-operation that are taking place. The types of cooperative agreements are listed in Table 1 together with a brief description of the nature of each type of co-operation agreements taken from the literature related to the liner shipping industry.

2.3 Competitive Business Strategies in the Liner Shipping Industry

The competitive pressures and the market recession of the past decades, as well as the changing shippers' demands in liner shipping, have prompted a re-examination of competitive business strategy by most container shipping companies. There has been a growing need for container operators to find ways to secure a competitive advantage. Several authors have suggested a firm-specific competitive advantage and explored the competitive business strategy of container shipping companies by applying Porter's (1980) generic strategies to the container shipping industry (Williams, 1991; Brooks, 1993; Moon, 1996; and Lu, 1997). The competitive strategies suggested for exploiting

competitive advantage have included cost leadership, differentiation and focus strategies.

2.3.1 Generic Strategies

2.3.1.1 Cost Leadership in Container Shipping

Cost leadership refers to the ability of a firm to establish a clear cost advantage relative to its competitors. Due to a lower cost structure, the cost leader can either set a lower price than competitors and still make the same profit, or use the same price as its competitors but achieve higher levels of profit.⁵⁾ If firms are to sustain cost leadership successfully across their range of activities they must be clear as to how this is to be achieved through the various elements of the value chain. For example, a company may gain cost advantage through its access to low cost sources of raw materials or within its own operations because of its special skills, technologies or systems, or high levels of capacity utilisation.⁶⁾

Container shipping companies can achieve cost advantage by rationalising their ports of call and utilising their assets, both in terms of vessel and container equipment. Brooks (1993) points out that the use of slot charters and equipment sharing arrangements is one method whereby container carriers may reduce slot and equipment costs, and thus cut overall capital cost commitments to their container operation.

2.3.1.2 Differentiation as a Generic Container Shipping Strategy

Differentiation means the creation of perceived differences from other firms that offer similar products or services. Such differentiation may occur through design, technology, brand image, customer service and service network. Firms successfully performing this strategy will be able to earn above-average returns in an industry and to command customer loyalty and consequently

higher prices. Achieving a differentiation strategy, however, requires as a rule a trade-off with cost position and specific activities such as intensive customer service.⁷⁾

Williams (1991) notes that more differentiated service offerings have become a key successful business strategy in the container shipping industry.⁸⁾ There have been several studies examining service attributes in liner shipping (Pearson, 1980; Brooks, 1983; Collison, 1984; Tengku Jamaluddin, 1995; Chiu, 1996; and Lu, 1997). These have attempted to find important service attributes either from the shippers' or carriers' perspective, or both. Although significant variations in the service attributes were shown in these studies, nevertheless, frequently used attributes perceived to be more important from a shipper's perspective included frequency of services, directness of sailings, port coverage, door-to-door service, intermodal service, cost of service, transit times, reliability of delivery, logistics service and information technology.

2.3.1.3 Focus Strategy in Container Shipping

The third generic strategy, focus, means that the business focuses on one or more narrow market segments rather than going after the whole market. By concentrating on a particular group of customers or geographic markets, firms are able to serve their narrow strategic target more effectively or efficiently than competitors who are competing more broadly.⁹⁾ From the container shipping companies' point of view, some companies may prefer to provide container services in regional trades rather than global trades. They thus become *niche liner carriers*.

2.3.2 Beyond Classic Generic Strategies

2.3.2.1 Globalisation Strategy in Container Shipping

Apart from the generic strategies applicable to

the container shipping industry, as in other industries, there are alternative strategic options available to container shipping companies to cope with the structural changes in the container shipping business. One of the options is a globalisation strategy. Moon (1996) notes that a container carrier needs to pursue a globalisation strategy in order to meet a fast changing international shipping environment and thus occupy the competitive edge prior to any other carrier. To implement a global strategy, a container shipping firm needs to establish global service networks and a through intermodal system for worldwide big shippers. At the same time, it has to localise its overseas marketing network and secure overseas logistics centres in major regions to build up a global logistics service system. As the primary method of globalisation strategy, forming a global alliance between larger container carriers is a very useful device for establishing a global network composed of three trunk routes. In addition, a global alliance makes partner container carriers lighten the financial burden involved in building up a global network.¹⁰⁾

2.3.2.2 Market Stabilisation as an ad hoc Strategy

The major objective of a market stabilisation strategy is to avoid competition and to stabilise the market condition within which a company operates. In the liner shipping industry companies can choose between several alternative methods by which the market stabilisation strategy is to be developed. The most frequent method which liner carriers choose is a shipping conference with an aim to control a given freight market by limiting both internal and external competition.¹¹⁾ However, from a geographical point of view, the scope of activity of a shipping conference is

limited; most conferences serve definite trade routes, generally in one direction. Nonetheless, the conference system is powerful due to the number of conferences themselves, and the existing links between the conferences.¹²⁾

Conferences have, however, lost the advantage that they possessed due to the penetration of independent carriers based on their low cost operation and high quality of service.¹³⁾ For example, conferences previously held dominant market positions - more than 90 per cent on many trade routes - before the containerisation era, but the advent of unitisation has progressively reduced this to around 50 per cent on the main east-west trades.¹⁴⁾ Furthermore, co-operation on a global basis, especially through alliances, has shaken the role of conferences in that today's alliances created by mixing conference and non-conference lines may prove to be the most alarming threat to the future of conferences as a powerful alliance straddling the major conferences may well acquire sufficient monopoly power so as to assume to itself the price-setting role.¹⁵⁾

2.3.2.3 Market Development Strategy

A market development strategy aims at capturing a larger market share in a saturated or growing market, or developing new markets for current products or services.¹⁶⁾ In the liner shipping industry, this can be translated into increased market share in the liner market or the introduction of container vessels on new trade routes.¹⁷⁾

3. Research Questions and Hypotheses

The first research question primarily addresses the motivating factors for co-operation formation and the relative importance of each motive for

specific strategic co-operation forms. There is a lack of discussion in the existing literature regarding the choice of types of co-operation, and no prior discussion of how strategic motives might vary between different forms of co-operation in the container shipping industry. However, literature related to strategic co-operation in other industries has suggested that fundamental motivating forces differ between different co-operation forms, with one set of motives being more prevalent for one type of co-operation than another (Forrest, 1989; and Stiles, 1994). This reasoning has led to the formulation of the first hypothesis:

Hypothesis 1: *The relative importance of the strategic motivation for co-operation formation varies with the form of liner shipping co-operation.*

The second research question focuses on choice of co-operation form in the context of the specific business strategy of a liner shipping company. It is assumed in the literature that if firms participate in strategic co-operation, that co-operation formation is part of the business strategy of the participant firms (Harrigan, 1985; Porter and Fuller, 1986; Ghemawat et al., 1986; Doz, 1986; Forrest, 1989; Bronder and Pritzl, 1992; and Yoshino and Rangan, 1995). This has subsequently led to the second hypothesis:

Hypothesis 2: *The business strategy of liner shipping companies influences their choice of co-operation form.*

4. Methodology

The research involves a sample of Korean liner shipping companies. Information relating to the research objective was collected via a postal

questionnaire. An important aspect of methodology is the sample design. Churchill (1991) categorised sampling procedures into two broad types: probability (derived through random selection) and non-probability (based on personal judgment).¹⁸⁾ Non-probability samples are particularly effective when certain explicit criteria are necessary in a sample. The focus of this research on co-operation between container liner shipping firms required that sample companies should have some form of co-operation defined in this study. The selected firms were chosen because the research could draw upon their experiences resulting from their co-operation involvement. The presence of this requirement therefore made non-probability sampling the most appropriate sampling technique for this research.

Companies were identified from the co-operation database created on the basis of data in the *Containerisation International Yearbook*, the leading publication in the container shipping industry which includes data on co-operation agreements from which their forms may be deducted. Co-operation forms contained in *Containerisation International Yearbook* are slot charters, joint services, joint ventures, consortia, global alliances, merger and acquisition. However, additional information regarding Korean companies which were involved in pooling agreements, conferences and stabilisation agreements was needed. It was possible to obtain such information through the Ministry of Maritime Affairs and Fisheries (MOMAF) in Korea. Thus, of a total of fifteen Korean liner shipping companies, fourteen were identified suitable for the postal questionnaire survey.

Respondents were asked to identify whether

strategic co-operation was an explicit part of their liner shipping business strategy. They were also asked to indicate the reasons why firms had established strategic co-operation and to qualify the reasons in terms of their importance on a scale from 1 to 3: 1 = not important at all; 2 = important; 3 = very important. Twenty-one reasons were listed; these had been identified as important reasons from the general literature on alliances in various industries and from the literature related to the container shipping industry.

Three copies of the questionnaire were sent to each company in the sample seeking to obtain information from more than one company executive. As the research objectives were to investigate cooperative strategy, it was vital to have responses from both decision-makers on cooperative strategy and other members of staff in each company rather than just one response from each company in the sample. The use of multiple respondents at multiple organisational levels was intended to provide greater reliability and validity of data (Campbell and Fiske, 1959; John and Reve, 1982; and Phillips and Bagozzi, 1986).

The questionnaire data were analysed using the Statistical Package for the Social Sciences (SPSS) 6.1. Given the small sample size the best tests for this type of data are non-parametric tests which make no assumptions concerning the population parameters, or the shape of the distribution.¹⁹⁾ Such tests require limited distribution assumptions about the data and are useful for categorical, ordinal, interval, or ratio data.²⁰⁾ The data obtained were analysed in terms of frequency distributions, sample means and standard deviations.

5. Analysis

5.1 Characteristics of Responses

The return rate for valid responses was 100%. One principal reason for this excellent response rate was due to the fact that questionnaires were delivered to the sample companies through the Ministry of Maritime Affairs and Fisheries(MOMAF) which possesses a direct communication channel to them. In co-operation with the MOMAF, the researcher was thus able to obtain a very high response rate.

The respondents had a wide range of positions in the companies selected, from assistant manager to director. 81% per cent of the respondents from the sample had the title of manager or higher. 36% per cent of respondents had the title of general manager, while 14% per cent had the title of director. The reliability of information could thus be deemed to be good, at least as far as the position of respondents allowed as they were all in positions to possess a global picture of their companies' activities.

In terms of the size of responding firms' TEU capacity operated in 1997, eight companies out of the total fourteen sample companies surveyed, operated between 10,000 TEUs and 100,000 TEUs in 1997. Six companies in the sample operated 100,000 TEUs or more in the same year.

5.2 Comparison of Motives for the Different Types of Co-operation

The survey results of the motives for the different types of liner shipping co-operation are shown in Table 2. To analyse the results Table 2 was transformed into two XY scatter charts (see Figure 1 and 2). Figure 1 shows a comparison of

motives for forming two different types of co-operation on rates, and Figure 2 presents a comparison of motives for entering into seven different types of operational co-operation. The X-axis for each Figure represents the motivations for co-operation formation and the Y-axis indicates mean values on a scale of 1.00 (= not important at all) to 3.00 (= very important).

It can be seen in Figure 1 that respondents had, to some extent, similar views on motives for forming freight rate co-operation. Among the twenty-one motives, two motives, 'to stabilise freight rates' and 'to limit external competition' were identified as most important reasons for both conferences and stabilisation agreements. Although the overall mean values of importance of the motives for conference formation were relatively higher than those for stabilisation agreements, the mean scores of two motives - 'to rationalise service routes' and 'to share the risks of providing new liner services' - were comparatively higher for stabilisation agreements. However, 'to develop a liner service for specific market niches' was identified as the prime strategic purpose for entering into conference agreements.

Figure 2 shows a comparison of motives for forming different types of operational co-operation, which included alliances, consortia, joint services, joint ventures, pooling agreements, slot charters, and mergers and acquisitions. As can be seen in Figure 2, the level of importance of motives was found to be comparatively different across the different types of co-operation. Global alliances, pooling agreements, and consortia were identified as the most important co-operation forms with a view to stabilising freight rates and limiting external competition, while joint services, joint ventures,

Table 2. Motives for Forming Liner Shipping Co-operation

Co-operation Motives	Freight Rate Co-operation						Operational Co-operation											
	CONF		SA		ALL		CONS		JSA		JV		PA		SC		MA	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1. Stabilise freight rates	2.63	.60	2.25	.89	2.11	.78	1.38	.77	1.04	.20	1.17	.41	1.95	.97	1.00	.00	1.00	.00
2. Limit external competition	2.58	.61	2.00	.76	1.89	.60	2.08	.76	1.29	.55	1.17	.41	2.42	.77	1.03	.17	1.00	.00
3. Increase market share	1.74	.73	1.25	.71	2.78	.44	2.46	.78	2.04	.75	2.00	.63	2.37	.76	2.26	.70	3.00	.00
4. Benefit from economies of scale	1.11	.32	1.00	.00	2.67	.50	2.31	.85	1.87	.80	1.83	.75	1.42	.61	1.26	.61	3.00	.00
5. Maximise financial synergy	1.16	.37	1.00	.00	2.11	.78	2.15	.69	2.00	.83	2.50	.55	1.58	.77	1.26	.51	3.00	.00
6. Maximise operational synergy	1.05	.23	1.13	.35	2.89	.33	2.31	.75	2.04	.81	2.33	.52	1.42	.51	1.49	.70	3.00	.00
7. Rationalise service routes	1.42	.77	1.88	.83	2.78	.44	2.23	.73	2.33	.64	1.67	.52	1.74	.65	1.60	.77	2.33	.58
8. Increase the utilisation of container boxes	1.37	.68	1.38	.52	2.78	.44	2.15	.80	2.67	.56	1.50	.55	1.58	.61	2.63	.65	2.33	.58
9. Extend service coverage	1.42	.51	1.25	.71	2.22	.67	2.23	.73	2.33	.70	1.67	.52	1.37	.60	2.43	.74	2.00	1.00
10. Develop a liner service for specific market niches	1.84	.69	1.00	.00	2.11	.60	1.92	.76	1.83	.56	1.83	.98	2.00	.88	2.20	.68	1.67	.58
11. Fast entry to new trade routes	1.47	.70	1.25	.46	1.78	.67	1.92	.64	2.08	.78	1.83	.98	1.47	.70	2.31	.68	2.33	1.15
12. Link into partner's established marketing network	1.11	.32	1.13	.35	2.33	.50	1.54	.52	1.50	.78	1.50	.55	1.44	.62	1.56	.75	2.67	.58
13. Share the risks of providing new liner services	1.47	.61	1.75	.89	1.89	.78	2.38	.65	2.04	.81	2.17	.75	1.53	.77	2.51	.61	1.00	.00
14. Reduce capital cost of purchasing or supplying ships	1.32	.75	1.00	.00	2.33	.71	2.54	.52	2.17	.82	2.83	.41	1.26	.56	2.31	.68	2.33	1.15
15. Reduce firm's financial burden on equipment investment	1.21	.54	1.00	.00	2.33	.71	2.15	.69	2.00	.78	2.50	.55	1.26	.56	2.06	.64	2.33	1.15
16. Provide more frequent sailings	1.37	.76	1.00	.00	1.78	.83	2.15	.69	2.42	.65	1.17	.41	1.26	.56	2.40	.74	1.67	.58
17. Provide intermodal service	1.05	.23	1.00	.00	1.78	.67	1.46	.52	1.13	.45	1.17	.41	1.05	.23	1.06	.24	1.33	.58
18. Provide total container logistics service	1.05	.23	1.00	.00	1.78	.44	1.38	.65	1.04	.20	1.33	.82	1.05	.23	1.03	.17	1.33	.58
19. Gain access to general management skills	1.11	.32	1.00	.00	1.22	.44	1.23	.44	1.33	.76	1.83	.41	1.21	.42	1.03	.17	1.67	.58
20. Conform to shipping policy of national government	1.21	.54	1.00	.00	1.00	.00	1.00	.00	1.04	.20	1.17	.41	1.26	.45	1.00	.00	1.00	.00
21. Conform to shipping policy of foreign government(s)	1.32	.67	1.00	.00	1.00	.00	1.23	.60	1.08	.41	1.17	.41	1.37	.60	1.00	.00	1.00	.00

*Respondents ranked motives from 1 (not important at all) to 3 (very important)

*CONF: Conference, SA: Stabilisation Agreement, ALL: Global Alliance, CONS: Consortium, JSA: Joint Service Agreement, JV: Joint Venture,

PA: Pooling Agreement, SC: Slot Charter, MA: Merger & Acquisition

*M: Mean

*SD: Standard Deviation

Valid Number	CONF	SA	ALL	CONS	JSA	JV	PA	SC	MA
	19	8	9	13	24	6	19	35	3

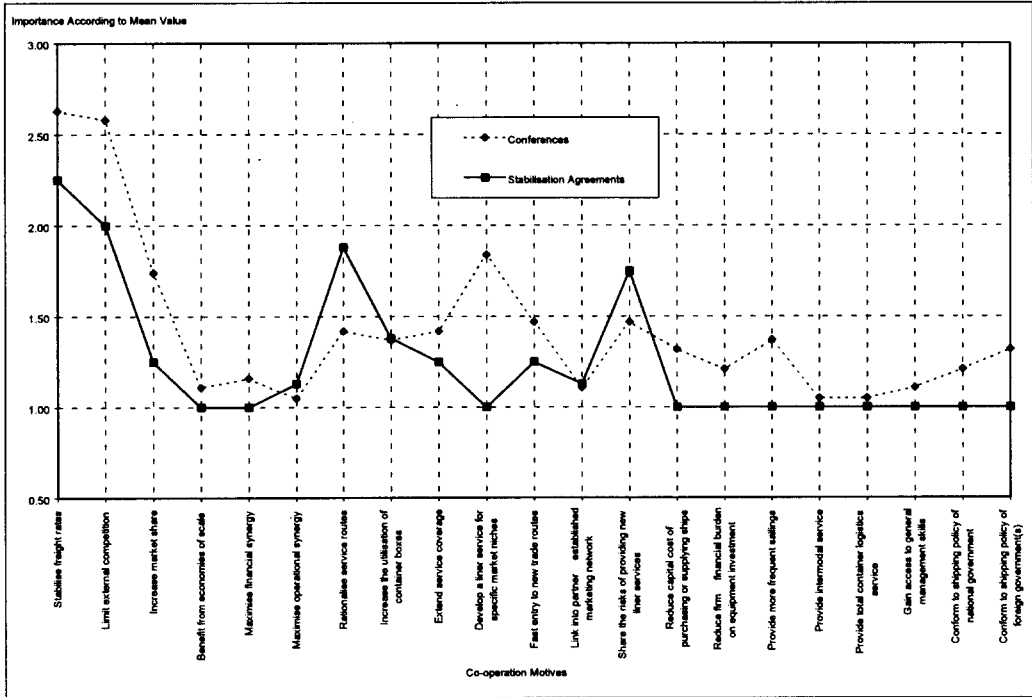


Figure 1. Comparison of Motives for Forming Co-operation on Rates

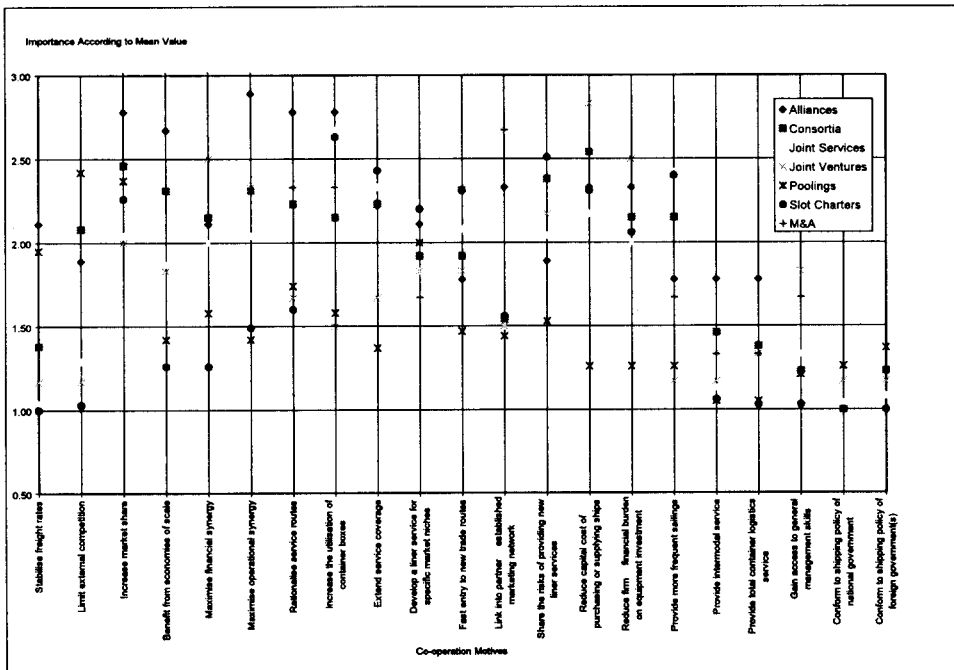


Figure 2. Comparison of Motives for Forming Operational Co-operation

slot charters, and mergers and acquisitions were shown to be relatively less important co-operation forms for stabilising freight rates and limiting external competition.

Among other operational co-operation forms, M&A and global alliances were identified as comparatively more important co-operation forms in terms of increasing market share, gaining economies of scale, maximising operational synergy, rationalising service routes, increasing the utilisation of container boxes, and linking into partner's marketing network. Respondents further identified global alliances as the most suitable form of co-operation to provide intermodal and total container logistics services.

Slot charters were found to be the most efficient co-operation forms in cases where liner companies wanted to extend service coverage, develop a liner service for specific market niches, and share the risks of providing new liner services.

Respondents identified almost all operational co-operation forms as suitable for reducing firms' capital cost of purchasing or supplying ships, and reducing the financial burden of equipment investment. The sample companies considered joint services as the most suitable co-operation form for providing more frequent sailings.

As shown in both Figure 1 and 2, the mean value for each individual motive is comparatively different across the different types of co-operation. Consequently, there is reasonable support for hypothesis 1 (H1).

5.3 Role of Co-operation in the Business Strategy of Liner Shipping Firms

The previous section examined the importance of each motive for the different types of liner

shipping co-operation. However, the motives for co-operation can be best analysed by focussing on the role of co-operation in the business strategy of the firm. It has been argued in the literature that if firms participate in any form of co-operation, that co-operation formation must be part of the overall strategy of the firm (Harrigan, 1985; Porter and Fuller, 1986; Ghemawat et al., 1986; Doz, 1986; Forrest, 1989; Bronder and Pritzl, 1992; and Yoshino and Rangan, 1995). Accordingly, the respondents to the questionnaire were asked if strategic co-operation was an explicit part of their liner shipping business strategy. All respondents answered in the affirmative. The involvement in strategic co-operation was thus considered to be part of the business strategy of the sample companies.

To analyse further the extent to which Korean container shipping firms formed co-operation as part of their liner shipping business strategy it was deemed appropriate to group the co-operation motives used in the questionnaire survey into specific categories. The motives were classified into four business strategy groups: those which formed part of the firm's market stabilisation strategy, those which were part of the firm's service differentiation strategy, those which formed part of the firm's cost reduction strategy, and those which contributed to the firm's market development strategy (see Table 3).

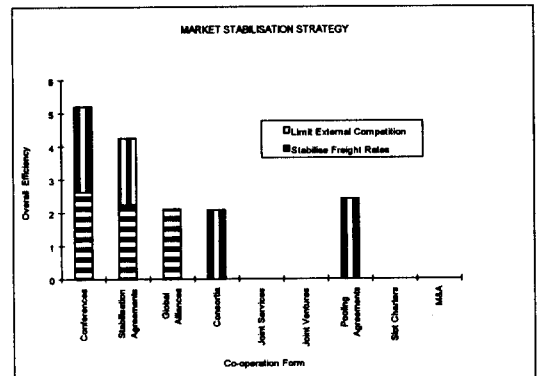
It was assumed that if the mean values of the motives for specific types of co-operation exceeded or were equal to the median measure (2.00), co-operation forms were regarded as important in terms of the business strategy focus into which the motives were classified. Based on this assumption, motives which exceeded or were equal to the median value

(2.00) were extracted from the survey results in Table 2. As a result, the mean values of the motives for each co-operation type are tabulated in Table 4, indicating the relative importance of co-operation forms in terms of business strategy focus. As can be seen in Table 4, there is a degree of variation in the mean values of importance of the motives across the different types of co-operation, after these have been narrowed down and classified according to type of business strategy.

5.3.1 Market Stabilisation Strategy

Conferences were identified as the most important form of co-operation achieving market stabilisation strategy, with the two motives, 'to stabilise freight rates' (2.63) and 'to limit external competition' (2.58) achieving the highest mean values for co-operation motive. Stabilisation agreements were identified as the second most important co-operation form in terms of

stabilising freight rates, while pooling agreements were the second most important co-operation form for limiting external competition. Based on the mean values of each co-operation form from a market stabilisation perspective, and taking into account results regarding both components,



*Note: Y-axis measures aggregate means as in Appendix E.

Figure 3. Co-operation Forms Focused on Market Stabilisation Strategy

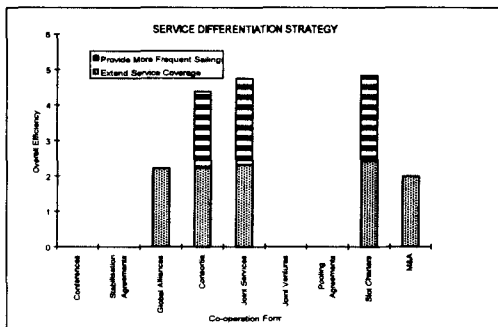
Table 3. Categorisation of Co-operation Motives according to Business Strategy Focus

Business strategy	Co-operation Motive
Market Stabilisation Strategy	<ul style="list-style-type: none"> • Stabilise freight rates • Limit external competition
Service Differentiation Strategy	<ul style="list-style-type: none"> • Extend service coverage • Provide more frequent sailings • Provide intermodal service • Provide total container logistics service
Cost Reduction Strategy	<ul style="list-style-type: none"> • Benefit from economies of scale • Maximise financial synergy • Maximise operational synergy • Rationalise service routes • Increase the utilisation of container boxes • Share the risks of providing new liner services • Reduce capital cost of purchasing or supplying ships • Reduce firm's financial burden of equipment investment
Market Development Strategy	<ul style="list-style-type: none"> • Increase market share • Develop a liner service for specific market niches • Fast entry to new trade routes • Link into partner's established marketing network

conferences were found to be the most efficient form of co-operation for fulfilling overall market stabilisation strategy (see Figure 3).

5.3.2 Service Differentiation Strategy

Co-operation forms which the surveyed companies entered into to achieve their service differentiation purpose included slot charters, joint services, consortia, global alliances and M&A. Of these forms, slot charters were found to be the most important co-operation forms in terms of extending service coverage and providing more frequent sailings. Joint services were identified as the second most important co-operation form for achieving these strategy purposes, followed by consortia, global alliances and M&A (see Figure 4).



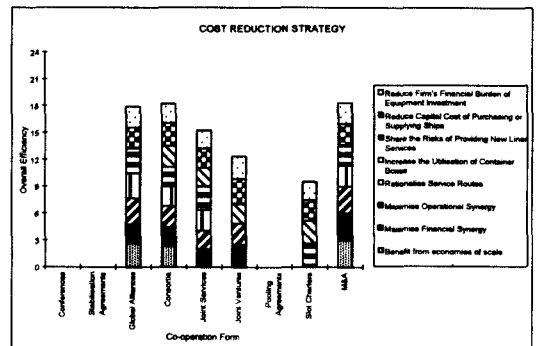
*Note: Y-axis measures aggregate means as in Appendix E.

Figure 4. Co-operation Forms Focused on Service Differentiation Strategy

5.3.3 Cost Reduction Strategy

Korean liner companies surveyed utilised, principally, six co-operation forms in order to achieve their cost reduction purposes. The forms included M&A, consortia, global alliances, joint services, joint ventures and slot charters. Of these forms, M&A was identified as the most efficient form for gaining economies of scale and maximising financial and operational synergy.

Global alliances were formed primarily to rationalise service routes and to increase the utilisation of container boxes. Slot charters were utilised primarily to share the risks of providing new liner services. To reduce the capital cost of ships and the financial burden of equipment investment, results showed that companies opted most commonly for joint ventures and consortia.



*Note: Y-axis measures aggregate means as in Appendix E.

Figure 5. Co-operation Forms Focused on Cost Reduction Strategy

When considering the overall efficiency of each co-operation form in terms of achieving cost reduction purposes, M&A emerged as the most efficient form of co-operation, followed by consortia, global alliances, joint services, joint ventures and slot charters (see Figure 5).

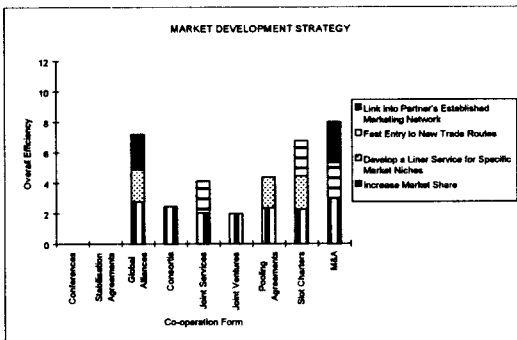
5.3.4 Market Development Strategy

With regard to market development strategy, Korean liner operators used all operational co-operation forms. Of the forms, M&A was identified as the most important co-operation form for increasing market share, entering new trade routes and linking into partner's established marketing network, while slot charters were formed primarily to develop a liner service for specific market niches.

Table 4. Co-operation Forms in Terms of Business Strategies

BUSINESS STRATEGY	Co-operation on Rates		Operational Co-operation						
	CONF	SA	ALL	CONS	JSA	JV	PA	SC	MA
Mean									
MARKET STABILISATION STRATEGY	-	-	-	-	-	-	-	-	-
Stabilise freight rates	2.63	2.25	2.11	-	-	-	-	-	-
Limit external competition	2.58	2.00	-	2.08	-	-	2.42	-	-
Mean									
SERVICE DIFFERENTIATION STRATEGY	-	-	2.22	2.23	-	-	-	2.43	2.00
Extend service coverage	-	-	-	2.15	2.42	-	-	-	2.40
Provide more frequent sailings	-	-	-	-	-	-	-	-	-
Mean									
COST REDUCTION STRATEGY	-	-	2.67	2.31	-	-	-	-	3.00
Benefit from economies of scale	-	-	2.11	2.15	2.00	2.50	-	-	3.00
Maximise financial synergy	-	-	2.89	2.31	2.04	2.33	-	-	3.00
Maximise operational synergy	-	-	2.78	2.23	2.33	-	-	-	2.33
Rationalise service routes	-	-	2.78	2.15	2.67	-	-	2.63	2.33
Increase the utilisation of container boxes	-	-	-	2.38	2.04	2.17	-	2.51	-
Share the risks of providing new liner services	-	-	2.33	2.54	2.17	2.83	-	2.31	2.33
Reduce capital cost of purchasing or supplying ships	-	-	2.33	2.15	2.00	2.50	-	2.06	2.33
Reduce firm's financial burden on equipment investment	Mean								
MARKET DEVELOPMENT STRATEGY	-	-	2.78	2.46	2.04	2.00	2.37	2.26	3.00
Increase market share	-	-	2.11	-	-	-	2.00	2.20	-
Develop a liner service for specific market niches	-	-	-	-	2.08	-	-	2.31	2.33
Fast entry to new trade routes	-	-	2.33	-	-	-	-	-	2.67
Link into partner's established marketing network	Mean								

* CONF: Conference, SA: Stabilisation Agreement, ALL: Global Alliance, CONS: Consortium, JSA: Joint Service Agreement, JV: Joint Venture, PA: Pooling Agreement, SC: Slot Charter, MA: Merger & Acquisition
 * The mean is the average on a scale of 1 (= not important at all) to 3 (= very important).



*Note: Y-axis measures aggregate means as in Appendix E.

Figure 6. Co-operation Forms Focused on Market Development Strategy

The overall efficiency of each co-operation form in terms of achieving market development strategy is shown in Figure 6. M&A was found to be the most efficient co-operation form for market development strategy, followed by global alliances, slot charters, pooling agreements, joint

services, consortia and joint ventures.

The findings of the role of co-operation in the business strategy of the firm. indicated that some co-operation forms seemed to be important for more than one type of business strategy because of their multi-purpose nature. There was, however, a clear distinction between co-operation on rates and operational co-operation according to strategy focus. While co-operation on rates, such as conferences and stabilisation agreements, contributed only to the firm's market stabilisation strategy, operational co-operation forms fitted into more than one business strategy. Two forms of co-operation emerged as the most versatile, namely, global alliances and consortia, which were identified as the most suitable co-operation forms for the four business strategy groups previously outlined.

It is interesting to note that the newly created co-operation form of global alliances fulfils and complies with all types of business strategy.

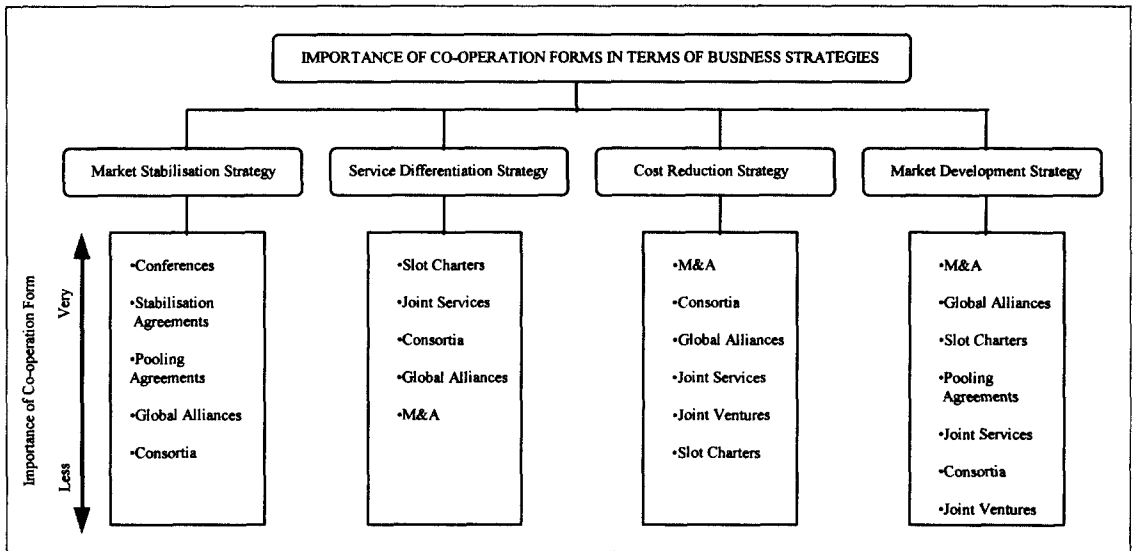


Figure 7. Importance of Co-operation Forms in Terms of Business Strategies

This supports Thanopoulou et al.'s (1999) study on the rationale behind global alliance formation. They noted that global alliances were formed between major global liner carriers in response to the globalisation of the production process on the demand side and the challenges of competition on major trade routes. The need for the provision of multimodal and logistics services, and frequent services on a global scale as part of the firm's service differentiation strategy, was one of the prime reasons for the creation of global alliances. Through alliances, partner carriers could gain operational and financial synergies, and increase market share. Most importantly, alliances might well acquire sufficient monopoly power as to assume themselves the price-setting role. Nevertheless it is noticeable in this respect that alliances have also included combinations of conference and non-conference members (Thanopoulou et al., 1999).

Drawing on the findings with regard to Korean container shipping, Figure 7 links liner

shipping co-operation and business strategy. The most important co-operation forms which were entered into as part of market stabilisation strategy were conferences and stabilisation agreements. To achieve a successful service differentiation strategy, Korean operators made more use of slot charters and joint services, whereas M&A and consortia were the most important co-operation options for cost reduction strategy. The study of Korean liner operators showed that M&A and global alliances were primarily used for market development. On the basis of these findings it may be assumed that there is a certain degree of support for hypothesis 2 (H2).

6. Conclusion

Korean liner shipping firms were minor players in liner shipping in the 1970s, but have since become major carriers in the world. In line with the ongoing success of Korean liner

shipping, Korean liner operators have greatly benefited from involvement in different types of co-operation. The success of Korean liner shipping exemplifies the potential cooperative strategies. The present examination of the Korean liner shipping industry provides a general foundation for theory development and an extension to the existing body of knowledge in the area of strategic partnerships.

The findings revealed that Korean liner shipping firms had multiple motives for forming specific co-operation forms, and the level of importance of each individual motive was different across the different forms of liner shipping co-operation. Additionally, the research showed that the rationale behind the formation of specific co-operation varied according to the firm's business strategy. This research provides a general framework for the identification of suitable co-operation forms based upon liner shipping firms' business strategies.

The findings from this research, as in all research, must be tempered by the limitations of the study. The focus of this research was the motives for strategic co-operation and the role of co-operation in the business strategy of liner shipping firms. The research setting for this study was limited in two ways: (1) it focused on one industry only- the container liner shipping industry, and (2) it was limited to container liner shipping firms in Korea. As data were collected from container liner shipping companies only in Korea, caution must be exercised when making any broad generalisations based on this study. The empirical evidence included in this research was conclusive only in relation to the current perception of co-operation and the benefits of co-operation participation of Korean container shipping companies. Nevertheless, the methodology used for this study can be deemed as one valid

option for expanding future research.

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