A relationship approach to the marketing of professional ship management services

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A RELATIONSHIP APPROACH TO THE MARKETING OF PROFESSIONAL SHIP MANAGEMENT SERVICES

by

PHOTIS MICHAEL PANAYIDES

A thesis submitted to the University of Plymouth in partial fulfilment for the degree of

DOCTOR OF PHILOSOPHY

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Abstract

Professional ship management, i.e. the management of ships by third parties on behalf of their owners, has grown in importance in international shipping. This research investigates the relationship between professional ship managers and their clients in order to lay down the foundations for optimal marketing strategies directed towards retention of current clients and prospects over the long-term.

Professional ship management has been described as an efficient organisational adjustment to the needs of the global shipping market and a way by which western countries have been trying to sustain their global maritime dominance (Sletmo 1989). Despite this, ship management has received little attention from academia. The importance of the subject area and the limited scientific attention it has received, make professional ship management worthy of scholarly consideration.

A review of ship management was undertaken in order to ascertain current marketing policies and problems faced by the industry. Frequent client defections and client uncertainty and dissatisfaction coupled with marketing directed towards client attraction (mainly promotion) resulted in identifying that application of relationship marketing may be beneficial for professional ship management. A review of the relationship marketing literature supported the application of the concept in a ship management context and assisted in developing a conceptual model. The conceptual model aimed towards identifying the dimensionality of ship manager-client relationships and their classification. Classification involved carrying out tests to identify whether ship management companies may be assembled into segments on the basis of their client relationships, and if so, whether particular characteristics of the interacting organisations may be found in particular relationship segments.

Analysis of the data obtained from telephone interviews with a sample of ship managers in the United Kingdom and Cyprus resulted in the identification of the dimensions in ship manager-client relationships. A subsequent questionnaire to the respondents aimed at identifying the organisational characteristics of the companies and obtained structured responses to the relationship dimensions. Application of cluster analysis indicated the existence of four segments of ship management companies on the basis of their client relationships. The clusters obtained were validated and also supported on a theoretical basis from the relationship marketing literature. Preliminary investigation between organisational characteristics and cluster membership indicated that companies in particular relationship segments share certain similar organisational characteristics. Multiple discriminant analysis assisted in identifying those organisational characteristics that are more strongly associated with cluster membership.

A discussion of the results provides serious implications for practitioners, be it professional ship management companies or their clients. The research shows that ship management companies may be facing problems due to their client relationship attitudes, that the ship management industry is segmented in terms of service providers and that clients can have a choice of ship manager based on their individual needs. Companies with particular client relationships may face problems like short-term contracts and client defections. Based on the study, ship management companies will be able to address and combat such problems. Furthermore, implications for theory development, research methodology in a maritime context and scope for further research in professional ship management are discussed.
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LIST OF TERMS AND ABBREVIATIONS

BIMCO: Baltic and International Maritime Council.

CoA: Contract of Affreightment.

CREWMAN: Standard Crew Management Agreement.

CSS: Code of Shipmanagement Standards.

Demmurrage: Payment of money to shipowner by charterer for using the vessel over the agreed laytime period.

Despatch: Payment of money to charterer by shipowner for having the vessel available to the shipowner before laytime expires.

DNV: Det Norske Veritas.

GL: Germanischer Lloyd.

H&M: Hull and Machinery.

IMO: International Maritime Organisation.

ISF: International Shipping Federation.


ITF: International Transport Workers’ Federation.

K/S: Kommandittselskap.

Laytime: The period of time allowed for loading/unloading operations in port agreed between the shipowner and charterer.

LR: Lloyd’s Register

MOU: Memorandum of Understanding.


P&I: Protection and Indemnity. Mutual insurance for protection against third-party claims.

SEP: Safety and Environmental Protection.

SHIPMAN: Standard Ship Management Agreement.

SOLAS: Safety of Life at Sea.

S&P: Sale and Purchase.
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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award.

The first two years of the study were privately financed. Tuition fees were waived for one year of the study, due to the appointment of the author as member of the academic staff at the Institute of Marine Studies, University of Plymouth.

A programme of advance study was undertaken, under the supervision of Dr. Richard Gray.

Relevant scientific and commercial conferences were regularly attended at which work was presented; external institutions and individuals were either visited or contacted for consultation purposes and several papers prepared and published.

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References made to the outcomes of the study

*Lloyd's Ship Manager:* Managers gather to discuss future challenges (November 1996).

*Lloyd's Ship Manager:* Study highlights marketing priority (November 1997).


External contacts
International Ship Managers’ Association (ISMA)
Mr. Roderick Morriss, Secretary, ISMA
Stephen Chapman, Director, Marine Information Ltd
Dr. M. Willingale, Marketing Manager, V. Ships (UK) Ltd
Stephen Matthews, Editor, Lloyd’s Ship Manager

Signed..................................

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CHAPTER 1

Introduction

The introductory chapter of this thesis provides a background to the research. The subject area that is studied is that of professional ship management and reasons justifying this choice are discussed in section 1.1. Based on the discussion in section 1.1, general aims of the study are specified in section 1.2 in order to guide its further development. The chapter concludes with an explanation of the structure of the thesis (section 1.3).

1.1 Subject of the study

This research is concerned with professional ship management or the provision of services by third parties related to the management of ships. The aim of the discussion in this section is to explain the reasons and provide justification for researching ship management.

The provision of ship management services by third parties is a relatively new service in international shipping and represents a major change in the structure of the maritime industry. Sletmo (1989) argues that shipping has developed in ‘four waves’. The first wave is the early use of water transport by man, followed by the quest for maritime power occurring in the 17th to 19th centuries. The third wave began after the second world war and culminated in the trans-nationalisation of shipping with the greatly increased dependence on manpower from developing countries and flagging out. According to Sletmo (1989), professional ship management may represent the fourth wave in international shipping.

It is widely recognised by people in the shipping industry that ship management has developed to become an industry in its own right. The importance of professional ship management was recognised since the early 1970s. This is documented in the report prepared by the Committee of Inquiry into Shipping chaired by Viscount Rochdale (the
Rochdale report) and presented to the British Parliament in 1970. The report recognised that:

"There is an important part to be played by good independent ship management companies to help the small owner in developing his business. There may also be special circumstances where some larger companies may benefit from their employment. We regard the existence of good independent professional management companies as conducive to efficiency in the industry" (Rochdale report, 1970, p. 319).

Sletmo (1989, p. 298) refers to ship management firms as constituting "an efficient organisational adjustment to the conditions of a global shipping market" and questions whether the optimal form of organisation in the maritime industry is that which owns and also operates the ship(s). This is because large ship management companies can offer distinct benefits to their clients that culminate in improved efficiency of the shipping market at large. Efficiency arises from the effective use of resources so as to produce the maximum outputs with the least inputs. Ship management firms can contribute to efficiency because they can achieve greatly reduced average costs by virtue of their size (economies of scale). They can also facilitate the effective organisation of the resources required to maintain a ship by virtue of their professionalism.

Despite its importance in international shipping, ship management has not received extensive attention from an academic point of view. Attempts to research aspects of the ship management industry have been few and far between, the most notable being some contributions by Sletmo (1986; 1989), and a book by Spruyt (1990; 1994) and Willingale (1998), who offer a practitioner’s perspective on the industry. However, the remarkable growth of this industry, its undisputed importance in international shipping and the developments within the industry itself make ship management worthy of rigorous scholarly attention and consideration.

The need to research ship management arises from the requirement to tackle some problems faced by ship management companies and often referred to in the maritime press.
These developments within the industry are reviewed extensively in chapter 2, and necessitate scrutiny at a scientific level in order to develop valid suggestions for application at practitioner level. In particular, one of the major problems identified is the lack of application of systematic marketing strategies. Systematic and coherent marketing strategies can assist in combating other major problems identified in the ship management industry. Hence, the focus of this study is the marketing of the professional ship management service, which can, however, have important implications for the achievement of differentiation, competitiveness, growth and profitability.

1.2 Aims of the research

This research aims to provide an exploration of the ship management industry. In particular, the exploration aims to put into context the problems faced by the ship management sector and, by identifying and applying an appropriate theoretical approach, to suggest ways of tackling specific problems and make inferences about the future development of the industry.

This is the general aim of this study and provides a basis upon which specific research objectives can be developed as the study progresses.

1.3 Thesis structure

The thesis is made up of nine chapters including the introduction. Chapter 2 aims to identify and place into context the major issues and possible problems faced by contemporary ship management companies through literature reviews and informal external inquiry. The chapter details the nature and practices of ship management companies in addition to organisational behaviour and other characteristics of the industry. The problems identified provide an indication of the theoretical approach that may be applied to tackle such problems effectively. This theoretical approach is known as
"relationship marketing" and further support for its applicability in the professional ship management context is provided in chapter 3. Chapter 3 also provides a literature review of relationship marketing. The literature review aims at identifying the major constructs used in buyer-seller relationship research. This is done by consideration of the theories upon which relationship marketing is based and a review of the contexts of application of relationship marketing. The latter include business-to-business marketing, distribution channels, consumer marketing, services marketing and professional services marketing in particular. The chapter ends by considering an approach for studying ship manager-client relationships. It is concluded that since the current state of understanding of such relationships is virtually non-existent, an exploratory and investigative approach would be more beneficial. Hence, a conceptual model is developed in chapter 4 in order to facilitate the exploration of ship manager-client relationships. The conceptual model aims at classification and description with the ultimate objective of developing a ship management typology of relationships among ship management companies with different organisational characteristics. Based on the conceptual model, three hypotheses capable of being tested are developed. The first hypothesis can be used to assess the existence of relationship marketing constructs in a ship management context. The second hypothesis can be used to identify the existence of segments among ship management companies based on the relationship with their major client. The third research hypothesis is developed to investigate any association between the relationship segments and organisational characteristics of the ship management and client companies.

Chapter 5 provides a detailed consideration of the methodology used to operationalise the conceptual model. This includes choice of appropriate method (qualitative v. quantitative), specification of required data, selection of unit of analysis and appropriate respondents, sampling, design of the research instruments (i.e. telephone interviews, mail questionnaire) and collection of the required data. Special emphasis is given to the quality of data
(minimisation of error and biases) that will be collected and the validity of the research concept and reliability of the data. Chapter 6 lays down the methodology for analysing the data obtained during the research process. Preliminary analytical techniques are considered in order to provide initial insights into the data, followed by consideration of multivariate techniques of data analysis that may be used to test the hypotheses and satisfy the research objectives.

Chapter 7 is comprised of preliminary results that give fundamental insights into ship manager–client relationships and the organisational characteristics of the interacting entities. The first research hypothesis is assessed in this chapter. Chapter 8 details the application of multivariate techniques of data analysis and investigation of hypotheses two and three. The results indicate the presence of four segments of ship management companies based on the relationship characteristics exhibited in the interaction with their major client. Further investigation of these segments and other organisational characteristics of the interacting entities indicate an association between relationship segments and certain organisational characteristics. A typology of ship management companies is developed based on the results.

Chapter 9 of the thesis provides a discussion of the value of the study for practitioners (ship management companies and their clients) and the resulting implications for theory development and research in maritime organisations. Based on the results, inferences are made of the direction ship management is currently moving towards. A discussion of the limitations of the research is given and recommendations for further research are made.
Ship management is a professional service available to companies or individuals owning ships. To some, professional ship management has developed into an industry in its own right within the maritime sector. This chapter aims to describe and analyse all major issues associated with this professional service. The description will utilise a commercial and economic perspective with particular focus on marketing practices. This is essential as the focus of this research is the commercial viability of the professional ship management service.

The rapid growth and the complexity of ship management (Underwood 1989; Spruyt 1994), dictate the need to split the issue into two broad parts in an attempt to give a comprehensive, yet concise analysis of the industry. The parts that will comprise this analysis are the ship management company and the ship management industry.

2.1 Ship management defined

A prerequisite for understanding the analysis is a definition of ship management. The wide range of activities comprising ship management have given rise to differing definitions by practitioners. For instance, Downward (1987, p. xi) gives the following definition:

"The functions of taking care of a ship, i.e. responsibility for manning maintaining, supplying and insuring the ship, and ensuring that the ship is available to the operators for the maximum amount of time possible. In other words, all the activities not carried out by the operators"."
Rodger (1993, p. 3) stated that ship management means “the management and sustenance of the ship itself rather than of the trade in which it is engaged”. Spruyt (1994, p. 1) defines ship management as:

“The contracted and professional supply of all on-board services, together with their shore supervision, which would normally enhance a vessel from a bareboat into a time charter description, by a management company usually separate from the vessel’s ownership”.

A definition is also given in the Code of Ship Management Standards (CSS) developed by the International Ship Managers’ Association (ISMA). Section 1.1.5 of Part 3 of the ISMA Code states: “ship management means the rendering of services for ship operation and associated services”.

Although the above definitions are not taken lightly, they do represent the views of the aforementioned and may be incorrect in the strict legal or economic sense (Rodger 1993; Spruyt 1994). In an attempt to close this gap even further, a mere generalisation would give a more acceptable conceptualisation of ship management. Hence, professional ship management may be defined as the rendering of services related to the systematic organisation of all those economic resources concerned with the sustenance of a ship as a revenue earning entity.

Although this systematic organisation of resources has traditionally been the task of the shipowner, nowadays it may be carried out by third parties. Hence, the growth of the professional, independent ship management companies. A brief review of the evolution of ship management would serve as the key to a better appreciation of the company’s functions and the current state of the industry.
2.2 Ship management: a historical review

Independent ship management as we know it today, has a fairly recent origin if we consider that "...man discovered water transport long before he saddled a horse" (Heyerdahl 1978, p. 19). However, to state that the basic ship management functions are of recent origin would be a misconception. Leeson (1983) suggests that the basic ship management functions were performed since the early days of shipping, primarily by the master of the ship. The master, not only sailed and navigated the ship, but also procured cargo, fixed freight and received payment, engaged and disengaged the crew, directed maintenance and generally carried out all the necessary day-to-day operations for the sustenance of the vessel.

With the further commercialisation of shipping, the increasing legislative and administrative demands and the advancement of technology, it was impossible for the ship’s master to carry out the management functions. Those functions were transferred to the shore-based office of the shipowner and the master’s role had been restricted to navigation and on-board administration. This type of organisation may be considered as the traditional way of running a vessel.

According to Underwood (1989), the practice of having an independent entity or person running a vessel for the owner has been part of the shipping industry since medieval times. The practice continued (with the manager usually being a retired master) until the 19th century. At that time, the introduction of limited liability companies encouraged the merger of entities owning and managing vessels, forming the traditional shipping company. Independent management companies were primarily formed after World War II, but in insignificant numbers in order to serve niche markets.
It was not until the late 1960’s, when developments in the shipping industry triggered the formation of a new type of organisation. Sletmo (1989) described this as the shipping industry’s fourth wave. It may be argued that the evolution of third party ship management was begun by organisations not directly related to operating ships - principally by the oil majors and to a lesser extent by banks and other financial institutions. The traditional way of transporting oil was by time-chartering vessels suited to the particular trade operation. However, with the increasing availability of tax-breaks on ship investment, the oil majors seized advantage of the opportunity by making capital investments to acquire ships. They then delegated the management of those ships to specialised managers. Banks, on the other hand, at times wished to make investments in ship purchase (when trends and conditions were favourable) and delegated the task of running the ships to third parties. A significant number of vessels had fallen into the hands of bankers during and after the 1973 oil crisis. At the time, poor conditions in the shipping markets (low freight rates and poor sale & purchase market values) made it impossible for shipowners to repay debts. Stokes (1992, p.35) notes that “between 1973 and 1974 the average value of a 1972/73-built 250,000 dwt tanker fell from $65 million to $28 million and the following year it slumped further to $16 million”. It was virtually impossible for many shipowners to survive these poor conditions with the result that many went into liquidation and abandoned their vessels to their creditors - the banks. The bankers again entrusted these vessels to the hands of ship managers. This initial demand for third party ship management services encouraged experts from within the shipping industry to form offices and limited liability companies and tender for contracts. The fact that the formation of such companies was an easy task since it required little capital investment encouraged their further development. Ship managers were not required to have an equity stake in the ship and hence faced little risk as they were not directly affected by the vagaries of freight rates and shipping markets. Further boosts for ship management business came from emerging national shipping
companies seeking assistance in establishing merchant fleets and new entrants to the shipping sector (Gilbert 1994). Additionally, the fact that many shipowners viewed vessels as asset plays, and were more interested in sale and purchase rather than ship operation, was another reason for the growth of ship management.

Nevertheless, the ship management industry would have never grown to what it is today, if many of the traditional shipowners themselves did not recognise the opportunities offered by ship managers and handed over their own vessels for management. This came about not only because of the recognition that third party management offered obvious financial and administrative advantages but also because of the increasingly regulated environment the shipping arena has grown to be. To overcome those national and international legal, ecological, public and trade union pressures and to enjoy the fiscal advantages of economies of scale, many owners decided to entrust their vessels to third party experts - the ship managers.

2.3 The ship management company

Before examining the structure, organisational behaviour and marketing practices of the ship management industry, it is essential to provide an understanding of the nature and functions of companies within the industry. This will include primarily the types of ship management companies that exist, their functions and services on offer and the legal relationship between the company and the clients.

2.3.1 Company structures

The ship management functions are performed by organisations that may have different forms of organisational structure. Five such organisations have been identified, a brief outline of each is given below.
2.3.1.1 The "traditional owning" company structure

In this type of ship management company, management functions are carried out by a separate, in-house department of the traditional ship owning company. The ship management functions are performed under the auspices of the owning company, which controls the day-to-day operations of the company's vessels. It must be noted that this type of organisation does not manage third party vessels.

2.3.1.2 The "independent" ship management company structure

This structure refers to the professional ship management companies, managing vessels for third parties and having no equity stake in the vessels or having any vessels of their own. Their function is to offer the ship management service to their clients. These clients vary from traditional owners, to owning organisations (e.g. charterers, banks, investors) who, having little or no knowledge of ship operation, entrust their vessels to the independents.

2.3.1.3 The "owner-managing" hybrid structure

Some owners have diversified into performing ship management functions for third parties, i.e. other owners. These owners operate under a hybrid arrangement, managing vessels for other owners in addition to their own ships. However, the performance of ship management services is still carried out by an in-house department of the traditional owning company. An example of this arrangement is the family owned Malaysian company Halim Mazmin that expanded its in-house ship management arm to undertake full, technical and commercial management for Japanese shipowners (Iom 1995). The company directors believed that management of the owned fleet has contributed to the build-up of expertise that could be applied to the management of ships for third party owners.
2.3.1.4 The “manager-owning” hybrid structure

This type of hybrid structure is one of the latest developments in ship management company structures. It was brought about by the increase in size and financial capacity of independent ship management companies who decided to invest in ship purchase and, of course, manage the acquired vessels and trade them for profit. Their main function, however, is still the provision of third party services.

2.3.1.5 The “subsidiary” structure

Many large shipping companies have formed subsidiary companies that will principally undertake the management of the owned fleet of the parent company. These subsidiaries may or may not undertake third party business. Examples include Unicom Management Co. in Cyprus, which manages a large fleet for its Russian parent company and does not undertake third party management. Another example is Safman in the Isle of Man, which was created to undertake all crewing arrangements for its parent company Safmarine and any third party business will normally be conducted through joint ventures (Anon 1995a). Of course with the increasing propensity for forming joint ventures, other organisational structures that undertake ship management have emerged, albeit in less significant numbers.

2.3.2 Services offered by ship management companies

The services that may be offered by ship managers have grown to include virtually anything required to run a ship profitably but this excludes, however, the provision of equity finance (Spruyt 1994). The services on offer can be easily ascertained from the BIMCO (Baltic and International Maritime Council) SHIPMAN Standard Ship Management Agreement (supplied to the author by BIMCO – see appendix A). The SHIPMAN is a standard contract that may be used by the ship manager and his client, for
legally agreeing their respective rights, responsibilities and liabilities. The services specified in the contract include, crewing; technical management; insurance; freight management; accounting; chartering; sale or purchase of vessel; provisions; bunkering and operation.

The list may, however, be stretched further and it is at the owner’s discretion to subcontract ship management companies to provide other services mainly comprising: newbuilding supervision; payrolling services; vessel inspection both for purchase and condition audit services; claims handling; supervision of major damage repairs and conversion projects and planned maintenance and inventory control systems. Ship management companies may also offer advice on choice of flag and ship registration procedures.

The range of services on offer may continue to grow as the larger ship management companies have already demonstrated a response to the international marketplace. For example, Columbia Shipmanagement has lately specifically targeted newbuilding supervision projects (Anon 1996a), whereas V Ships has been reported to be involved in the conversion of a newbuilding hull into a cruise vessel (Anon 1995b).

Considering the services on offer in more detail, will reveal the actual functions undertaken and performed by ship management companies.

2.3.2.1 Crewing

Crewing is a service offered by most, if not all, of the existing ship management companies. Indeed, many of these companies came into being as ship managers by initially offering this service alone. The responsibilities of the ship manager include selection and
supply of qualified crew for the vessel(s) under management. They also include paying, insuring and overseeing all the necessary administrative procedures that must be fulfilled for proper employment according to national and international regulations. A more detailed consideration of the ship manager’s obligations may be ascertained from Clause 3 of the BIMCO CREWMAN Standard Crew Management Agreement (see appendix B). The CREWMAN is another contract of standard form developed by BIMCO, which determines the rights, responsibilities and liabilities of ship manager and client with regard to crew management specifically.

The ship manager will need to have knowledge of the employment laws of the seafarers’ country of domicile and the related flag state regulations. He must also be aware of up-to-date trade union and International Transport Workers’ Federation (ITF) demands and requirements. Apart from the basic pay, the ship manager must negotiate and arrange for associated costs such as overtime, leave, bonuses, social security, travel expenses, medical expenses, manning agency fees, levies, cadet costs, study leave, superannuation and recruitment costs (Downard 1981). It will also be the manager’s responsibility to present to the owner a budget (as agreed in their individual contract) which should include the costs and expenses with regard to crewing.

The manager, being a professional, is also expected to provide a service with a view to promoting the interests of the owner-client (SHIPMAN clause 2.2, CREWMAN clause 2.3). Therefore, one of his major concerns for cost-effective crewing will be the manning source. Tolofari (1989, p. 26) states that “the nationality of a ship’s crew can be extremely varied and it is this more than anything else which accounts for the wide disparities in wages”. It has been possible to engage crew from a variety of sources depending on flag state regulations. Thus, if a ship is registered under an open registry system or in a second
international ship register (see Ready 1994), it may be possible for the ship manager to work out cost-effective crewing options.

However, performing the crewing service is not limited to the aforementioned obligations. Since ship managers are expected to provide competent crew, they are among the first in the shipping industry to be concerned with the shortage of qualified labour the industry is now faced with. Mitas (1992) quoting an ISF/BIMCO report published in 1990, revealed that the shipping industry as a whole, was at that time short of 50,000 qualified officers with the figure likely to increase to 400,000 by the year 2000. The study showed that a surplus of ratings of approximately 200,000 in 1990 would become a shortage of 360,000 by the year 2000, if current trends were to continue. Training requirements are high on a ship managers’ agenda and many spend a substantial part of their budget on training. For example, Hanseatic Shipping Co., established an in-house marine training school in order to achieve the continued availability of qualified staff (Meyer 1992). Columbia Ship Management is also one of the few ship management companies that actually funds its own training programme by injecting up to $400,000 annually into various training institutions for training the company’s supply of crew members (Anon 1996b).

2.3.2.2 Technical Management

Technical management is integrated with the supply of spare parts and includes all those functions necessary for maintaining the mechanical efficiency of the vessel. Thus, the mechanical efficiency is maintained by engaging competent personnel, both on board and ashore, to carry out, oversee and administer the technical requirements and operations. Depending on the type of ship under management, the company has to employ qualified personnel that will be well acquainted with the specific shipboard operations. Technical management also includes negotiating and arranging for drydockings, surveys, alterations
and temporary or permanent repairs. It will be the ship manager’s job to supervise the aforementioned functions. The ship manager will also be responsible for supplying spare parts, lubricant oil and general stores necessary for the upkeep of the vessel. A prudent shipowner will normally require a vessel to be maintained up to a certain standard, stated in the company’s policy and dictated by international regulations and classification society requirements. It is the ship manager’s task to ensure that the vessel never falls short of that standard.

Technical management may also include overseeing the operational capabilities of ship-to-shore communication equipment. It will be the manager’s task to install and maintain an efficient and cost-effective communication system. Thus, a satellite communication system (SATCOM) may handle ship performance data, inventory control, planned maintenance, personnel records and cargo loading information at considerably less cost than a conventional telex system (Hughes 1989). It will be the ship manager’s responsibility to offer advice on the installation of a system that will serve the best interest of his client.

The ship manager is also obliged to furnish the owner with reports regarding the technical efficiency of equipment and operational procedures as well as related budgets. According to Verma (1993, p. 111):

“In order to evaluate the performance, the owner requires feedback from the ship of various data which will be indicative of the expenses incurred for the fixed and variable costs, time gained or lost, cargo loaded and deadweight reports, cargo loading and discharging operations and the performance of the vessel vis-a-vis stipulated speed and fuel consumption”.

It might be possible for technical-only management to be agreed by the ship management and owning company. Whether this is the case or not, the usual practice of handing over the vessel will be by conducting an overall survey by a mutually appointed independent
surveyor. A similar survey will be carried out when the vessel is redelivered to the owners. The technical condition of the vessel should be the same at the time of delivery and redelivery.

Throughout the technical management period the ship manager must serve the owner with utmost good faith and use his best endeavours to promote his interests while maintaining discretion over his client’s business secrets.

2.3.2.3 Insurance provision

The manager may undertake the task of insuring the vessel under management in accordance with the owner’s instructions. This may include taking out cover for Hull and Machinery (H&M) as well as mutual Protection and Indemnity (P&I) insurance. The owner’s instructions should be specific as far as insured value, deductibles and premia are concerned. The manager may, however, arrange for an independent estimation of the vessel’s value for insurance purposes. All money paid by the manager will be charged to the owner’s account.

The issue of P&I insurance is very important since the manager may find himself exposed to liability if, for example, the owner becomes insolvent. He must, therefore, pursue joint P&I insurance with the owner. However, Martyr (1994) notes that in case the owner becomes insolvent, the manager may be liable to pay overdue P&I calls irrespective of the contracting out of such liability in agreement with the owner. This is true provided the P&I club does not concede and be party to such an agreement.
2.3.2.4 Freight Management

This service, being minor in itself, is usually carried out in conjunction with the other functions of the chartering department within the ship management company. Preparation of voyage estimates, i.e. "calculating the return a ship will make after deducting from the income the expenses of a particular voyage" (Packard 1978, p. 9), is among the primary functions. This involves equating the perceived costs against the expected hire or freight and calculating the net profit. It is of vital importance for the profitable trading of the ship and provides the level for accepting or rejecting offers for chartering. However, with the advent of computer technology, it has become possible for ship managers (and owners) to carry out sophisticated analyses of voyage estimates quickly and at least cost (Kendall and Buckley 1994).

When the vessel is under charter, the ship manager will have to carry out calculations regarding laytime (see Packard 1979) and possible demurrage that may be owed by the charterer or despatch due to the charterer in accordance with the terms of the charterparty. He will also arrange payment of any monies due as well as the receipt of hire and/or freight on behalf of the owner. The requirements of discretion, utmost good faith and commitment to the owner’s interests are, once again, imperative.

2.3.2.5 Accounting

A requirement for the provision of prudent ship management services is establishing a detailed accounting system. This will facilitate the prompt despatch to the owner of costs and expenditures associated with ship management and also assist the manager in the preparation of budgets and reports with which he will have to furnish the owner from time to time. A system for keeping account records will be an additional bonus when strategic decisions for different operations have to be made.
2.3.2.6 Chartering

The business of chartering is a very complex process upon which depend the trading viability of the vessel and the business sustenance of the owner. Being the lifeline of the ship owning business, traditional owners have been reluctant to entrust this function to the hands of third party managers. Consequently, managers have underplayed the formation of chartering departments. Where such departments are present, they merely perform associated functions rather than actually fixing the vessel. However, as noted earlier shipping business investors and banks owning vessels and not having the expertise of ship operation will delegate the responsibility of chartering the vessel to the ship manager.

A vessel may be chartered for a single voyage, a period of time (time charter) or under a contract of affreightment (COA). The type of charter will depend upon the owner’s instructions and this would involve close liaison between manager and owner. The manager must be aware of the trading intentions of the owner, the economic feasibility of particular charters, current market conditions and the changing political regulations enforced by governments (Gorton, Ihre and Sandevärn 1990).

It is a prerequisite for ship managers operating a large chartering department to directly employ their own brokers specialising in seeking employment for the vessels. However, as Packard (1986, p. 10) suggests “*smaller organisations will probably rely on the services of perhaps one competent shipbroking company to seek and to secure profitable cargoes for their vessel(s)*”.

Depending on the type of charter, the ship manager will assume the responsibilities and functions the owner would have assumed, although any ultimate liability will lie with the owner. Obviously, more responsibilities are assumed if the vessel is voyage chartered.
Packard (1980) notes that the owner - and hence the manager - would be responsible for the running expenses as well as the incidental voyage expenses incurred. The latter costs include port charges, light dues, special voyage insurance, bunkers, canal tolls, tugs and pilotage which would have been assumed by the charterers had the vessel been time chartered. The expenses incurred by the manager during the charter period will be for the owner's account in addition to the ship management fee that will be charged for the service.

2.3.2.7 Sale or purchase of vessel

It is highly unlikely that traditional shipowners will assign to the ship manager the responsibility for negotiating the sale or purchase of a vessel. Shipowning entrepreneurs will have the last word before a sale or purchase agreement is concluded, even if the managers are assigned the task of supervising the process. As sale and purchase is usually conducted through S&P brokers (Packard 1988), it might seem inappropriate to engage another middleman (the ship manager) in the process. Where this is done, the assignment of the ship manager is merely to supervise an independent market valuation of the vessel and carry out the administrative aspects of the process. This means he would arrange for the vessel to be inspected and surveyed and probably engage an expert S&P broker to carry out the valuation. To this end, Clause 9 of the SHIPMAN agreement is supportive:

"The managers shall, in accordance with the owners' instructions, supervise the sale or purchase of the vessel including performance of any sale or purchase agreement, but not negotiation of the same".

Acquiring a vessel, however, may also mean building a new one rather than engaging in the second-hand market. If this is the case, the ship management company has the newbuilding supervision service to offer to the shipowner.
“Right from the arrival on site of the first batch of materials put aside for the commencement of construction of the new vessel, it is essential that a construction engineer/surveyor representing the purchaser should be on hand to protect his employer’s interest” (Packard 1988, p. 39).

Ship management companies having the “in-house” expertise of competent surveyors will readily furnish the owner with such requirements.

2.3.2.8 Provisions

The supply of consumables for ship operation is another function undertaken by managers. Consumables include victuals, cleaning materials, paint and brushes and electrical supplies. It might be in the best interests of the shipowner to assign this service to a manager because he can take advantage of economies of scale. Obviously, a ship manager providing supplies for a fleet of one hundred vessels or more will be able to purchase these from ship chandlers at competitive prices.

2.3.2.9 Operation

Ship operation involves functions associated with the day-to-day running of the ship. Thus, when the ship is approaching a port of call, the shipowner’s agents at the particular port have to be informed. Personnel have to be engaged to carry out cargo inspection and stevedores must be employed to facilitate the loading or discharging of the vessel. If the vessel has to begin on another voyage, the ship manager will issue the appropriate instructions, i.e. the date, time and place at which the next cargo is available and sailing times and schedules. In order to ensure the efficient and most economical sailing schedules, the ship manager has to review passage times in light of operating and voyage expenses.
If a fleet of liner ships is being managed, the ship manager may also undertake the task of marketing space availability and concluding cargo bookings. In marketing the service, the ship manager will have to draw up a plan for the liner tariff rates ensuring profitability and at the same time carry out advertising campaigns.

2.3.2.10 Bunkering

The supply of bunker fuel for the vessel is one of the most important services offered by ship managers. The significance of this service lies primarily with the considerable cost of fuel oil and the probable sudden price variations. The ship manager must possess the knowledge of where to buy bunkers from at any particular time so that the cost is minimised, whilst bunker quality is maintained. While the vessel is sailing on a particular voyage, the ship manager undertakes a continuous review of potential bunkering ports to ensure that the most favourable prices are obtained (Branch 1989). It is not uncommon to see vessels deviating from their original route in order to obtain cheaper bunkers from a particular port.

It is also very important for bunkers to be supplied in accordance with the specifications for the particular ship engine. Especially when a vessel is voyage chartered it would be the owner’s (and hence the manager’s) responsibility to supply bunkers. If bunkers of incorrect quality are supplied the vessel’s seaworthiness may be at risk and the charterers may take legal action against the owner. Such disputes are very common and it is the operator’s responsibility to “ensure that samples of fuel from each bunkering are properly collected, labelled and retained on board so as to provide important evidence in the event of dispute involving fuel quality” (Ewart 1982, p. 14).
2.3.2.11 Commercial Management

Spruyt (1994) includes in the term “commercial management” functions like voyage operation service (estimates, accounting etc.), marketing, chartering and technical operating service. However, following the BIMCO SHIPMAN notation, it is evident that such functions form services in their own right or are included under the term “operation”. Hence, it would seem more appropriate to include under the more general term “commercial management” services offered by ship managers and related to the general “commercial” sustenance of the vessel or the owning company. Such services definitely include advice on flagging strategies, ship registration, medium to long-term financial strategy and research on market trends on behalf of the owner.

The wide availability of ship registers enables managers to offer the service of providing feasibility studies to owners wishing to take advantage of more economical flag options. The provision of this service is made possible by the advantages of flagging-out, encouraged by the higher level of marginal cost of output under traditional high-cost flags (Tolofari 1989), beneficial ownership anonymity, freedom to trade world-wide and avoidance of protectionist measures under an open registry flag (Ready 1992). To the aforementioned, the political factor may also be added (Franco 1992). Shipowners have, nowadays, more than 143 different flags to choose from (Chapman 1992) and the ship manager’s expertise may be employed for such choice.

After the choice is made, ship managers may provide expert advice on ship registration in the particular country. This is necessary since ship registration is subject to statutory control (Gaskell, Debattista and Swatton 1994; Hill 1995) and different countries have different maritime law requirements. Thus, ship managers will have to know not only the registration procedures but also the legal requirements.
Ship managers have been around long enough to be able to provide advice on financial and investment aspects of ship ownership. Managers may also provide financial services to shipping investors despite the fact that the investing public is not very receptive to shipping shares (Gaunt and Morgan 1994). Financial advice services by ship management companies may be more applicable in various European countries that organise shipping ownership through various schemes. For instance, the Norwegian K/S financing system has attracted investors from a variety of backgrounds to shipping (Vikoren 1992, p. 42), although more recently the system has been cancelled and replaced by tax incentives attributable directly to corporate shipowners rather than individual limited partnership investors (Drewry 1996). Similar tax incentives for shipping investment operate in Denmark, Holland and Germany, and the potential of niche markets in financial services for ship management companies may be exploited.

2.3.2.12 Other Services

The wide range of services on offer by the largest ship management companies may include supervision of major damage repairs and conversion projects (technical and administrative), handling of claims and administrative services. Advice on maintenance and lay-up planning may also be available.

2.3.3 The legal relationship between ship manager and shipowner.

The legal relationship between the ship manager and the shipowner commences at the time the ship management contract is agreed and signed. The contract will specify such things as the services to be performed, the duties, responsibilities and liabilities of the parties, the fees to be paid and will state potential events that will lead to termination of the contract. It will also state the law governing the agreement and the procedures to be followed for resolution of disputes. The law of contract, thus, governs the relationship. In cases where
the ship manager fails to carry out his obligations under the contract, there is a breach of contract and he may be liable to the payment of damages. Further, he will have no claim to his agreed fee and the owner will be free to terminate the contract. The same, of course, applies for the manager in case the owner fails to perform a term in the contract. As has already been mentioned, in an attempt to provide a balanced apportionment of liability and responsibility in contractual terms, BIMCO has developed two standard form contracts that can be used by managers; the SHIPMAN Standard Ship Management Agreement for ship management and the CREWMAN Standard Crew Management Agreement for crew management (see appendices A and B respectively).

Although the terms of the ship management contract are conclusive, there is more to the duty of the ship manager than those specified in the contract. A ship manager is deemed to be a professional, i.e. someone who a reasonable person would expect to demonstrate his tasks with a higher degree of care and special skill. Hence, whether in contract or in tort, the manager owes the shipowner the duty to take reasonable care and skill in carrying out the ship management tasks. The law of agency is also central to the relationship. Agency is:

"The fiduciary relationship which exists between two persons, one of whom expressly or impliedly consents that the other should act on his behalf, and the other of whom similarly consents so to act or so acts" (Reynolds 1985, p. 1).

The ship manager acts “as an agent” or “for and on behalf” of the shipowner. This must be clearly indicated in the agreement. The owner will be bound by any agreement entered into by the manager who will have the power to affect his principal’s legal status. This is subject to the condition that the owner has given the manager the authority to make such agreement or has effectively indicated to the third party that the manager has such authority (Bundock 1989). The manager owes a duty of loyalty to his principal, he must protect the principal’s interests and where he has many principals he must treat them equally. In case
the manager has been negligent in performing his duties he will be held liable. This liability is strict and cannot be excluded or restricted contractually unless it satisfies the requirement of reasonableness as held in Flamar Interocean Ltd v. Denmac Ltd (formerly Denholm Maclay Co. Ltd) THE FLAMAR PRIDE [1990] 1 Lloyd's Rep. 434. The attitudes of the courts to exclusion clauses are notable in that they are construed contra proferentem, against the party relying on the clause. Thus, in Glafki Shipping Co. S.A. v. Pinios Shipping Co., THE MAIRA [1986] 2 Lloyd's Law Rep. 12, the managers agreed to place the ship’s insurances “in accordance with the insurance clauses of the mortgage bank”, but failed to do so. When an action was brought against them by the owners, they tried to rely on clause 10 of the agreement which provided, inter alia, “that the managers should not be responsible for any act or omission involving any error of judgement...in performance of the managers’ duties under the agreement”. The court held, that the omission was not an error of judgement and the clause could not go wider and exclude liability for breach of earlier clauses of the agreement.

Failure to comply with the contractual terms, negligence or wilful default are the most common reasons for which a ship manager may be found liable for claims from three directions, viz., his principal, second parties and third parties. As far as claims from second and third parties are concerned, the ship manager will only be liable if he contracts with such parties as a principal, or loses his agency status or breaches his warranty of authority. Such cases are rare, as it is extremely unwise for managers to contract in their own names when acting for somebody else. Managers must also ensure that they are co-assured on the owner’s P&I policy so that they are insured in case they are held liable. This happened in the case of The Marion [1984] 2 Lloyd's Law Reports 1, where both the owner and the manager were co-assured on the owner’s P&I policy so the P&I club was unable to bring a
recourse action against the manager for what had been found to be the result of his negligence (Lawford 1989).

More recently, the liability of the managers has been made statutory. Under sections 30 and 31 of the Merchant Shipping Act 1988 re-enacted in sections 94, 98 and 100 of the Merchant Shipping Act 1995, the managers may be held liable if found responsible for sending an unseaworthy vessel to sea or failing to take all reasonable steps to secure that the ship is operated in a safe manner. However, managers are granted the advantage of being able to limit their liability. According to Lawford (1992, p. 10):

"A ship manager is quite unable to bear the same degree of exposure to risk as the shipowner and must limit his exposure either by fixing a specific monetary limit on the amount of his liability, or set the gauge for the degree of negligence for which he is prepared to accept liability at a high level".

Liability of ship managers is limited in the standard agreements to 10 times the annual management fee in the SHIPMAN agreement and 6 times the monthly lump sum fee received by crew managers in the CREWMAN contract. Limitation of liability is also available to ship managers under the 1976 Convention on Limitation of Liability for Maritime Claims incorporated into English Law by the Merchant Shipping Act 1979 (Schedule 4). The only situation where ship managers may incur unlimited liability is under the United States Oil Pollution Act of 1990 (OPA 90) where they may be found jointly and severally liable with the owners.

Considering the case where an owner does not honour his contractual obligations, a manager may terminate the contract and be awarded damages. However, it will be very difficult to obtain any security for any monies due. Managers may have a lien in respect of goods or materials supplied to a ship for her operation or maintenance. However, a manager’s lien is not a maritime lien. Therefore, their claims will rank after those of a
mortgagee or holders of maritime liens. As far as arresting the ship is concerned, according to Section 20(2) of the Supreme Court Act 1981 (giving effect to the Arrest Convention 1952 into English Law) the applicable claims for the purposes of arrest by a ship manager are: (a) any claim in respect of goods or materials supplied to the ship for her operation or maintenance, and/or (b) any claim in respect of disbursements made on account of the ship (The Westport No.3 [1966] 1 Lloyd's Rep. 342). The management fee itself is not capable of supporting an arrest under English Law. It is not a claim made by an agent in respect of disbursements made on account of a ship, it is simply a fee paid for a service (The Borag [1980] 1 Lloyd's Rep. 111).

The increasingly regulated relationship will ultimately give rise to more disputes between the managers and owners. Thus, it is imperative for the parties to have a close understanding of each other’s needs in order to avoid costly litigation procedures.

2.4 The ship management industry

A description of the ship management industry is important in order to provide an understanding of the industry’s market structure, geographical distribution, organisational behaviour (including the application of quality management) and the role of the International Ship Managers’ Association (ISMA).

2.4.1 The industry’s market structure

It has been identified earlier that there can be five types of companies involved in the management of ships. This fact has been detrimental in the identification of the actual number of existing ship management companies attempted by various researchers. The problem arising is which companies to include as performing management services and which to leave out. For example, an owning company may separate - in legal terms - its
management department, thus adding one more company in the list of operators whilst only performing in-house management. Other companies may only offer the manning service and thus not be eligible to be included in the list of ship managers offering full management but still be considered as ship management companies. It follows that whatever statistics of the ship management industry are considered, some assumptions have to be kept in mind. Table 2.1 illustrates the growth in the number of ship management companies over the period 1990-1997.

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990/91</td>
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<tr>
<td>1991/92</td>
<td>412</td>
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<td>1995/96</td>
<td>515</td>
</tr>
<tr>
<td>1996/97</td>
<td>614</td>
</tr>
</tbody>
</table>

Table 2.1: Growth of ship management companies 1990-1997.

Source: Compiled by the author from *Fairplay World Shipping Directory (various issues)*

*The Shipmanagers’ Register* (1994) includes 395 companies offering ship management services. Rodger (1989), estimated that there were around 300 companies at the time, increasing by about 9% per annum, whilst he assumed the number of total ships under management to be around 3,400 with 2,200 managed by independent companies. Hackett (1989), head of consultants “Lloyd’s Maritime”, stated that there were 500 companies on the consultancy’s database, many of which being owner or operator managers. He suggested that the number of ships under management to be in the region of 3,000 with 1,200-1,300 being managed by 10 leading companies. Dorey (1989), suggested that there were only 250 companies with 4,000-5,000 vessels under management. Spruyt (1990), after consulting *Lloyd’s Confidential Index*, revealed that 3,000 ships are under
management with 25% of those managed by 6 leading companies. Unsurprisingly, all researchers stressed the difficulty of obtaining any form of statistics regarding ship management and the greater difficulty of making any absolute quantification.

Williams (1993), revealed the findings of research conducted between 1985 and 1987. He stated that the number of companies existing at the time were above the 200 mark, with 31% providing in-house and third party services and 59% providing services solely to third parties. The number of ships under management was around 2,200 with 28% being bulk carriers, 26% cargo ships, 16% tankers and 30% other types of vessels. He also revealed that the research identified over 450 owners entrusting their vessels to third party management.

Current statistics retrieved from maritime directories indicate the presence of around 600 ship management companies world-wide, although this includes all types of companies including some manning agencies and companies offering services ancillary to ship management. It was not possible to retrieve the total number of vessels currently under management due to the unavailability of updated secondary data.

2.4.2 Geographical distribution and location characteristics.

There are a number of factors affecting the establishment of a ship management company in a particular geographical location. According to statistics drawn from various maritime directories, the geographical distribution of ship management companies is as shown in table 2.2. It must be noted that during this study maritime directories were found to be inconsistent in their reporting of ship management companies.
Of the 54 countries listed, it may be claimed that 10 are established ship management centres. These are Cyprus (20), Germany (29), Greece (35), Hong Kong (25), Isle of Man (15), Netherlands (19), Norway (30), Singapore (29), United Kingdom (45) and the United States of America (47).

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of companies</th>
<th>Country</th>
<th>Number of companies</th>
</tr>
</thead>
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<td>Malta</td>
<td>5</td>
</tr>
<tr>
<td>Belgium</td>
<td>3</td>
<td>Monaco</td>
<td>1</td>
</tr>
<tr>
<td>Bermuda</td>
<td>2</td>
<td>Netherlands</td>
<td>19</td>
</tr>
<tr>
<td>Brazil</td>
<td>1</td>
<td>Netherlands Antilles</td>
<td>6</td>
</tr>
<tr>
<td>Canada</td>
<td>6</td>
<td>New Zealand</td>
<td>4</td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>1</td>
<td>Norway</td>
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</tr>
<tr>
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<td>Panama</td>
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</tr>
<tr>
<td>China</td>
<td>1</td>
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</tr>
<tr>
<td>Denmark</td>
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<td>1</td>
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</tr>
<tr>
<td>Finland</td>
<td>6</td>
<td>Singapore</td>
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<td>South Africa</td>
<td>1</td>
</tr>
<tr>
<td>Germany</td>
<td>29</td>
<td>South Korea</td>
<td>1</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>1</td>
<td>Spain</td>
<td>3</td>
</tr>
<tr>
<td>Greece</td>
<td>35</td>
<td>Sri Lanka</td>
<td>2</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>25</td>
<td>Sweden</td>
<td>7</td>
</tr>
<tr>
<td>India</td>
<td>21</td>
<td>Switzerland</td>
<td>7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2</td>
<td>Taiwan</td>
<td>3</td>
</tr>
<tr>
<td>Ireland</td>
<td>1</td>
<td>Thailand</td>
<td>1</td>
</tr>
<tr>
<td>Isle of Man</td>
<td>15</td>
<td>Trinidad &amp; Tobago</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>6</td>
<td>Turkey</td>
<td>1</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>U. Arab Emirates</td>
<td>4</td>
</tr>
<tr>
<td>Latvia</td>
<td>1</td>
<td>UK</td>
<td>45</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>4</td>
<td>USA</td>
<td>47</td>
</tr>
</tbody>
</table>

Table 2.2: Geographical distribution of ship management companies 1996
Source: Compiled by the author from *The Shipmanagers' Register (1994) & Fairplay World Shipping Directory (1997)*

There are different reasons for the establishment of ship management companies in the above countries. For example, countries like the United Kingdom, Norway, Greece and
Germany are traditional maritime centres. Companies have traditionally existed at these locations and the good maritime and ancillary services infrastructure of London, Oslo, Piraeus and Hamburg provide advantageous characteristics encouraging establishment in these places. However, it must be noted that establishment at the aforementioned locations also entails significant disadvantages. For instance, the cost of renting office space in London or Oslo is considerable. In addition, companies will incur higher costs in taxation (both corporate and personal), wages and telecommunication expenses. It must be noted that ship managers offer a service and the company’s profitability depends significantly on balancing the costs against a generally fixed management fee.

The mushrooming of open registries, concomitant with South-East Asia becoming the major source for crews, has led a number of companies to compare benefits against costs and seriously consider relocation. Among those who have benefited are Singapore, Hong Kong, the Isle of Man and Cyprus. Ship management companies moved to Singapore and Hong Kong primarily to be close to the labour recruitment areas of Korea and the Philippines but also close to suppliers of ships’ spare parts. Since these countries also offered favourable living conditions as well as cheaper state-of-the-art office equipment and telecommunication facilities, the choice had not been a hard one to make. On the other hand, Cyprus and the Isle of Man have lately been very favourable locations for the establishment of ship management companies. Perry (1994) discusses a number of favourable conditions for the establishment of ship management companies and both locations seem to fulfil the most demanding prerequisites. Both countries may be considered as tax havens, offering low corporate as well as employment taxes in line with relaxed employment regulations for non-citizens. They are also open registries, which may equate to increased ship management business. Furthermore, the Cypriot government in particular has demonstrated a clear support towards the marine industry and the offshore
sector. The availability of good telecommunication facilities, office equipment and low
rents coupled with cheap local labour and a good resource of accountants and lawyers have
made the two countries attractive ship management locations in recent years.

With the Greek owners looking unfavourably towards third party management and with
increasing costs in Greece and other traditional maritime centres, it would not be surprising
if more companies shift towards relocation to the newly emerging ship management
centres.

2.4.3 Organisational behaviour in the ship management industry
This section will provide a review of the past and present structural and behavioural
characteristics of ship management companies in the industry. The major characteristics of
companies in the industry include the formation of subsidiary companies by the large ship
management groups, joint ventures and expansion of the service offering through
diversification. The ship management industry is also driven by an eagerness to reduce
costs, and apply quality management principles.

2.4.3.1 Corporate structures
A study of Lloyd's Maritime Directory (1995) reveals that the large ship management
companies have become international with established offices in maritime centres around
the globe. For example, Denholm Ship Management (Holdings) Ltd, operate from
offices in Glasgow, the Isle of Man, Oslo, Singapore, Hong Kong, Bermuda and Houston.
Similarly, V. Ships operate offices in London, Southampton, Bombay, Genoa, Limassol,
New York and Oslo whereas Barber International Ltd is established in Malaysia with
offices in Oslo, Bombay, Hong Kong, New Orleans, Twickenham and Singapore. Whereas
this is a standard pattern for the large ship management companies, it is not the only
structure adopted by parent organisations. For instance, the Hamburg-based Bernhard Schulte Group also controls six self-sustained ship management companies. The companies are established in Cyprus (2), Germany, Hong Kong, Bermuda and the Isle of Man and while all fall under the auspices of the Schulte Group, decentralisation has been stated to be the strength of the Group (Anon 1989a). Probably one of the prime reasons for ship management company formation is provided by Navigo Management Co., which is established in Cyprus and controlled by the Schulte Group. With the other Cyprus established member of the Group (Hanseatic Shipping Co.) managing more than 100 vessels, Navigo was established “to meet the demand of a number of shipowners who prefer to put their vessels under the management of a smaller company” (Anon 1989b, p.10). It follows that size of the company is an important factor as far as restructuring is concerned.

2.4.3.2 Joint ventures

Joint ventures are another characteristic of the ship management industry and can take a variety of forms. For instance, ship managers may engage in joint ventures as intermediaries between two investors with the benefit of managing the vessels of the resulting entity or for a commission (Morel 1994). On the other hand, two ship management companies may decide to co-operate by forming a joint venture if they can recognise an opportunity as “joint ventures will in many cases boost the business potential of both partners in other fields” (Muller 1994, p. 68). This is a type of joint venture of growing importance in ship management. The ship management group Acomarit is one of the companies most actively engaged in joint venture activities in ship management. The company engaged in three joint ventures in 1994 with Osprey Ship Management in the United States, LPL Shipping S.A. in Piraeus and Black Sea Shipping Co. forming Blasco Ship Management (Cyprus) Ltd while withdrawing from another one with
Unicom in Cyprus (Gunton 1995). The company also formed another joint venture with Orient Ship Management in 1995 (Gunton 1995). Acomarit also formed a Dubai-based joint venture with a Kuwaiti oil services company to sell third party management to Arab shipping (Guest 1995a), and another in 1996 with the National Shipping Corporation of Saudi Arabia (Thorpe 1996). This prime example of joint venture activity is by no means unique in the ship management industry. The reasons may be summarised in a statement made by Airey (1995, p. 27):

"As the market for ship management services reaches saturation, the number of joint ventures, co-operation agreements and perhaps buy-outs will increase. Smaller companies with compatible services or specific geographical markets will see the advantages of combining forces to achieve further economies of scale".

Another example is the formation of a joint venture between the Scandinavian shipowning group Ugland and US based company Interocean Management to operate from the UK (Richardson 1995a) and concentrate on tanker management (Anon 1995c). The Hong Kong based Univan Ship Management set up a joint venture ship management company with the Rams Corporation, a Japanese trading house. Chadha (1996, p. 3) reports on this latter joint venture:

"The new company, Uniram Ship Management, will offer management and other technical services to owners and operators of ocean-going ships from offices in Hong Kong and Japan. It will also provide ancillary services, such as crewing, arranging insurance, claims handling and investigation, accounting, surveys and advice and drydocking and newbuildings supervision".

Interorient Navigation expanded its ship ownership and operation sector by forming a joint venture with the Latvian Shipping Company, and also joined forces with Baltic Shipping to form Baltinter to specialise in recruiting seamen for its parent operators and third parties (Anon 1996c). Hopson (1995) reports on a joint venture company formed by the UK’s Vanguard Floating Production and Cyprus’s ship management company Navigo to provide an integrated project management and operational capability for the offshore floating production market. Bibby-Harrison Management Services was formed
in order to attract more third party business through the credibility provided by the
complementary nature of the parent companies (Osler 1997a), whereas competition forced
two Japanese ship management companies to join forces (Anon 1997a). Ship management
companies may also be involved in joint ventures with national carriers (Dickey 1995), or
shipowners (Ion 1995) to offer third party services.

2.4.3.3 Diversification

Another characteristic of companies is that of diversification into business investments
which are either related or even unrelated to ship management. For example, Hanseatic
Shipping Co. has formed subsidiaries offering insurance broking, telecommunication
accounting and travel and tourism, whereas the group that controls Columbia Ship
Management in Cyprus has also invested in hotels on the island as well as a plant growing
company (Spruyt 1994). The example of an in-house subsidiary travel agency is a favourite
with many ship management firms as these services can be used in conjunction with
manning and form an indispensable part of it. Wallem Ship Management for instance, has
its own travel business group known as Wallem Travel in its headquarters in Hong Kong
(Anon 1996d). However, many other companies seem to have different views and prefer
quotes from outside agents (Anon 1995d). Another example of diversification and service
expansion is the growing involvement of V Ships in the management of cruise ships (Anon
1996e) and the entry into new markets by the same company (Anon 1997b).

The ship management market is definitely one where fierce competition predominates with
the result that companies either form partnerships, or consider diversification or
alternatively, face the risk of being pushed out of the market. The dynamic nature of the
sector does not allow for definite answers regarding its future behaviour. Underwood
(1988) made the prediction of having 6-7 dominant players existing together with a number
of smaller companies serving niche markets. The medium-sized companies will, thus, be placed under great pressure and will face the decision of corporate restructuring. However, such behaviour still remains to be seen. The major issues emanating from the above, are that companies are strongly pursuing the attraction of more clients by forming subsidiaries, engaging in joint ventures and diversifying into the provision of other services, mostly ancillary to ship management, but also sometimes completely unrelated.

2.4.3.4 Cost reduction

The reduction of costs for ship management companies has been of prime importance, mostly because of their inability to charge high fees and reap greater profits (see section 2.5.2 later). For example, **Acomarit (UK)** the Glasgow based subsidiary of a leading ship management group recorded a profit of £38,092 on a turnover of £4.1 million in 1994, after staff costs, depreciation, operating expenses and tax (Guest 1995b). Another Glasgow based company **Norbulk Shipping (UK)** reported an after tax profit of £5,331 on turnover of £953,678 in 1994 (Guest 1995b). The meagre profits made by companies over the years led to the adoption of various strategies for cost reduction.

Such strategies include relocation to areas offering tax incentives for offshore companies and low real estate costs, as well as consolidation of the service offering. For instance, **Barber International** transferred its top and middle management together with its technical operations from Hong Kong to Malaysia due to the high rental costs and the need to consolidate crewing and technical operations under one office structure in an efficient environment (Anon 1995e; Richardson 1995b). The aspect of location in a ship management context is discussed in more detail in section 2.5.3. Another strategy aimed towards achieving a reduction in costs is investment in information technology and communications systems that will improve efficiency and minimise clerical tasks (Anon
Barber International managed to double its net income without changing the level of fees charged by relocating its headquarters and introducing information technology so that purchasing and requisition could be done from the ship (Anon 1997c).

Despite these attempts to reduce costs, it is becoming increasingly difficult for ship management companies to do so as the stringent regulatory shipping environment requires adherence to higher safety standards and the implementation of quality management standards which require additional investments. Additionally, implementation of cost reduction strategies such as employing low-paid crews may not be the best route to ship management viability because absolute crew cost savings are not in the best long-term interests of the owner (Anon 1995f).

2.4.4 Quality in ship management

Probably one of the most often quoted words in ship management nowadays is that of quality. Following the second world war, quality management has been implemented in product industries, but mainly in Japan. The Americans followed suit and quality management has gradually attained wider popularity and has also been implemented in many service industries.

Quality, according to document 8402 of the International Standards Organisation (ISO), means “the totality of features and characteristics of a product that bear upon its ability to satisfy stated or implied needs”. Quality management is, thus, the performance of all those functions and activities that will ensure strict adherence to specifications and conformance with pre-determined standards.
The era of quality management inevitably swept across the ship management industry in the late 1980’s and has been the major ‘talk’ of the industry in the 1990’s. The requirement of quality management was inevitable because it is "the most efficient, user-acceptable and cost-effective way of running a vessel, while ensuring compliance with all statutory requirements in a safe and environmentally friendly way" (Cochran 1995, p. 6). The different pressures on ship managers and the wide ranging number of direct and indirect benefits accrued from quality management and certification has led most, if not all, ship management companies to seek and achieve accreditation to a particular standard. The pressures on ship operators which may also reflect some of the benefits to be derived include the increasingly regulated shipping environment and the move towards tighter port state control inspections and measures. For instance, during 1994, 16,964 inspections of 10,694 different vessels registered in 112 different flag states were carried out by states that are signatories to the Paris Memorandum of Understanding (MOU) on Port State Control and 1,597 ships were detained or delayed because of deficiencies (MOU 1994). With similar measures to the Paris MOU being taken by virtually all of the countries in the developed world, the pressure on operators is immense. Surely the last thing a management company would like is a ship under its management to be detained. On the other hand, the image of the individual companies and the ship management industry in general may be at risk if safety and quality in operations are not maintained. Accidents and injuries may also cost dearly in financial terms as well, while it is definite that a poor track record will be reflected in higher premiums for P&I and H&M cover.

A recent survey reported in Lloyd’s Shipping Economist (Anon 1995g) revealed some of the most important benefits derived from quality management. Twenty ship operating companies were asked to give their impression of quality management benefits in seven specified key areas. The most important benefit cited was that of improvement in internal
communications and co-operation. Market standing (access and share), productivity and risk management (reduction in personal accidents, pollution prevention and mitigation of spills) were the areas that followed. However, companies were still waiting to see any significant benefits with regard to lower operating costs and insurance premiums (both P&I and H&M) as well as improved personnel motivation and morale and customer relations. The latter is significant as it was cited by a company with the longest experience in quality management and with certificates held for over five years (Anon 1995g). Whereas such a finding cannot be taken to reflect the opinion of the whole industry, it does at least show that quality management may not be the most effective way of improving customer relations.

The standards available to the ship manager for implementation are wide ranging. They include the ISO 9000 series - with ISO 9002 being the most applicable to service industries and hence, ship management - the International Maritime Organisation’s (IMO) International Safety Management Code (ISM Code), the ISMA Code and various standards developed by classification societies such as Det Norske Veritas’ Safety and Environmental Protection (SEP) rules. In order to implement a standard, both shoreside and on-board safety and quality systems have to be developed in accordance with the requirements of the standard and the company’s specific functions. After implementation, auditing by qualified assessors will take place. Auditing will include inspections of a technical nature as well as assessment of management procedures to confirm compliance with the requirements. A document of compliance will then be issued by the auditing body and a shipboard management certificate for the particular vessel. Quality is, however, a never ending process and in order to ensure continuous improvement and compliance, both internal and external audits should be carried out regularly.
According to Cooney (1992), the cost of implementation and final accreditation for a medium-sized to large ship management company lies in a range between $150,000 and $250,000. In the long-term however, as the costs of non-conformance may be much higher than the initial conformance costs, quality and safety management have thrived within the ship management industry.

It has been suggested that the compulsory obligation for conformance with the ISM Code of the IMO for most ships by July 1998, (it has been incorporated into Chapter IX of the SOLAS 1974 Convention) would increase ship management business. This is because many owners will not have ability to comply alone, or because it will be economically viable to entrust a small fleet to a ship manager rather than set up a quality management department. Although some increase in business has been reported, a surge for third party ship managers has definitely not occurred to date.

2.4.5 The International Ship Managers’ Association (ISMA)

The dramatic growth of the ship management sector over the recent years made the formation of a ship managers’ association feasible. The development of a professional body was also seen as a move by ship managers to establish their involvement and have a say in international shipping affairs.

Founded in 1991 by five of the largest ship management companies, viz. Barber International (Malaysia), Columbia Ship Management (Limassol), Denholm Ship Management (Glasgow), Hanseatic Shipping Co. (Limassol) and Wescol International Marine Services (London), the Association has now grown to include 37 members. The Association is a company limited by guarantee, established in Cyprus and with a secretariat based in London. Membership and organisational regulations are set out in the “Articles of
Association of the ISMA”. The Association is governed by an executive committee of between 7 to 10 members elected at the annual general meeting every two years. The Association has set itself 23 aims enumerated in the “Memorandum of Association of the ISMA”. In general, the objectives of the ISMA are to promote the interests of members at all levels and liaise with other bodies for the promotion of the problems confronting the shipping industry, albeit training, safety or environmental protection.

Probably the most notable achievement of this professional body was the development of the ISMA Code of Ship management Standards (CSS). The objective of this, mandatory for members code, is to set standards to be applied to ship operation and personnel both at sea and shore (Anon 1994a). The Code is very comprehensive (covering 22 different subjects) and may be applied by ship managers, crew managers and traditional shipowners. Members are audited by an independent body formed by three leading classification societies (Det Norske Veritas’, Germanischer Lloyd & Lloyd’s Register) and “if compliance is achieved, a certificate is issued and signed by the three classification societies jointly” (Anon 1994b, p. 9).

The ISMA Code is seen by many ship managers as a means of quality assurance (Anon 1995h). This may be ascertained by the number of leading companies applying for certification and the belief that compliance with the ISMA Code will assist in complying with the ISM Code. This belief is not an unsubstantiated one as the ISMA Code takes into account the IMO resolutions A.647[16] and A.680[17] (predecessor of the ISM Code) as well as the ISO standard 9002, and has also been revised to reflect changes in both, the ISO 9002 and the final wording of the ISM Code as embodied in IMO resolution A.741[18] (Anon 1995i). In 1996, ISMA achieved new benefits for its members following an agreement by which an ISM Code document of compliance will be issued on request by
any of the classification societies involved in a successful ISMA office audit (Anon 1996g).

Reservations have been expressed, however, by many other leading ship managers and shipowners about the Code (Anon 1991a; Anon 1992). For instance, the management of Acomarit expressed reservations about the effectiveness of the Code with regard to the timing of surveys on-board ships (Anon 1995j). The management of Dorchester Maritime accepts that ISMA did a fantastic job in raising safety standards, but felt it inappropriate to join ISMA and impose on its clients an additional burden on top of the quality standards already adhered to (Anon 1995k). The extra expenses involved in ensuring compliance with the ISMA Code (which is a prerequisite for membership) meant that the association does not enjoy widespread membership and only a small proportion of the total number of ship management companies are currently ISMA members.

Despite this, the Association is striving to achieve many worthwhile objectives (Anon 1995l) and has a very important role to play in the international ship management scene.

2.5 Marketing the professional ship management service

It has been stated earlier that ship management is a fairly new service in the shipping industry. Consequently, advanced marketing strategies for the companies have been underplayed as managers had first to establish themselves in the marketplace. The marketing strategies adopted were mainly intended to attract clients. A conventional and long-standing approach to marketing analysis is the marketing mix (McCarthy 1981). The marketing mix has been defined by Kotler (1994, p. 98) as "the set of marketing tools that the firm uses to pursue its marketing objectives in the target market", these tools being classified under the four main headings of product, price, place and promotion. In services
marketing in particular, Booms and Bitner (1981) extended the 4 Ps of the marketing mix by adding participants, physical evidence and process (7 Ps) to reflect the idiosyncratic nature of services marketing. An initial examination of marketing initiatives in ship management indicates use mainly of the marketing mix elements. A discussion of the application of the marketing mix tools is essential for assessing the effectiveness of marketing strategies in ship management.

2.5.1 Product (service)

The "product" of the mix in services marketing means essentially the offering of the service. In ship management it means the offering of the ship management service. Gronroos (1990a) identified a basic service package as consisting of the core service, facilitating services (and goods) and supporting services (and goods). The core service is, in essence, the management of the ship with facilitating and supporting services being the operational and technical aspects of management as well as the land, labour and capital (not equity finance) that is provided by the ship manager. The core service may be turned into a generic form, an expected form or may be augmented (Kotler 1994; Christopher, Payne and Ballantyne 1993). The generic form consists of the basic ship management service in its most plain version, i.e. an office with basic equipment and personnel with some expertise in the management of ships. Spruyt (1994, p.138) puts it frankly: "any competent ex-mariner with a telex and some pals can tender for a contract".

In its expected form, the service actually consists of what the customer expects form it. For instance, the customer will expect the basics of the generic form but also prudent management of the ship with a view to safety and profit for his ship.
The augmented service would consist of additional features in the ship management service provision that individual companies may employ. For example, a ship management company may adopt a total quality management system that will differentiate it from other companies. Competition amongst ship management firms nowadays takes place at this level of product (service) development.

Another level has been identified, that of the potential product which ultimately means all the augmentations to the service that might take place in the future in the competitive ship management environment.

2.5.2 Price
Price is the second variable in the marketing mix. Pricing policy as an element of marketing strategy may not be very effective as far as ship management is concerned. This is because ship managers earn a basic fee for their services and the rates charged are fixed and only vary by a small margin from company to company. Chapman (1994) notes that an annual turnover in fee income for crewing and technical management of a fleet of 10-12 vessels would be in the region of $800,000 to $1.2 million. Guest (1995c) indicates that ship managers receive $5,000-$7,000 per month per ship which, for ship managers with large fleets (over 150 vessels) would mean an annual income of above $10 million. The level of fees has remained low and static, however, while costs have been rising inexorably and ship managers have made “pleas that fees should be raised albeit that such pleas had fallen on deaf shipowners' ears” (Guest 1995c, p. 5). The vice-president of a major ship management company was reported saying that “the level of ship management fees has basically been the same for the last 10 years” (Gray 1997, p. 5). The management fee levied is typically between 5% and 10% of the total vessel running costs, largely depending on vessel type (Fry 1993; Willingale 1992). Of course, the price charged often depends on
the quality of the service offered. A ship manager operating at higher quality standards will
normally require a higher fee. The actual price will be individually agreed between the ship
manager and shipowner after a series of negotiations. If the shipowner is price-sensitive,
the ship manager may be willing to bend a little in order to secure a contract. The actual
price set by a company will be a measure of the cost effectiveness of its operations. As
most companies try to achieve tight cost control, however, variations in prices are
relatively small and differentiation cannot be achieved through the isolated use of the price
variable alone. The standard methods used in pricing, the low fees charged (with respect to
the operation of managing a ship) and the small variations in prices between companies,
suggest that a pricing marketing strategy cannot ultimately be effective in ship
management.

2.5.3 Place (distribution)

The third variable, “place”, or “distribution” refers to a series of strategies pursued by
companies in order to efficiently make their offering easily accessible and widely available.
Ship management companies may adopt this approach through establishment in key
geographical locations, market entry strategies, and marketing channel configurations.

The location of the ship management company is important, not only as a means of
marketing but also for associated advantages. Thus, ship management companies have
increasingly fled from traditional shipping and ship management places to locations which
provided cost effectiveness in terms of operation, taxation (see for example: Anon 1997d)
and cheap land and labour (Perry 1994). The location of a service organisation’s facilities
is often determined by the location of customers and the degree of customer contact
(Mersha and Adlakha 1991). Hence, ship management companies have been inclined to
relocate or establish subsidiaries at places in close proximity to clients.
Various maritime directories report the United Kingdom to be the leading ship management centre. Companies are located principally in London and Glasgow. The Isle of Man also attracts a number of companies due to its offshore status (Osler 1997b). London is preferred because it is an established commercial centre (Anon 1995m), whereas Glasgow offers excellent communications and office personnel with special skills in managing ships (Anon 1995n).

In the Mediterranean area ship management companies are centred in Cyprus, Malta and Monaco because:

"Fiscal incentives offered by local legislation, communication networks, vastly improved air links on a global level, ideal infrastructure, and an awareness by governments of the importance of certain maritime industries are all criteria that these countries satisfy" (Anon 1995o, p. 11).

For Cyprus in particular, it is estimated that more than 75% of the companies involved in third-party management are located on the island which is the "home to the big names in the industry" (Anon 1995o). This estimate is not in line with the number of companies recorded in various maritime directories, which have been found by the author to be inconsistent and imprecise in their reporting of ship management companies.

Another consideration for relocating (mainly in Far East Asia) was the fact that seafarers were increasingly recruited from the relocation area and provided the companies an advantage of being close to manning sources (Anon 1997e). They later used this advantage, provided by their geographic proximity to manpower, as a means of marketing their service.

A further aspect which has been used for marketing is the fact that managers would relocate closer to suppliers or shipbuilding yards. Perry (1994, p.44) states that "with the
majority [of ships] in the world being built in either Europe or the Far East, managers in these locations perhaps have a slight advantage”.

Ship management companies pursue market entry strategies through the formation of joint ventures, mergers and acquisitions, or by establishing subsidiaries in all the major ship management centres of the world. In facilitating client accessibility to the increasing range of services on offer, ship managers may utilise marketing channels. The essential function of the marketing channel, in a services context, is to bring the service supplier and client closer to each other (Stern and El-Ansary 1982). Marketing channel configurations in ship management may take the form of agency and partnership arrangements, and associations with other companies in the shipping industry. Agents and associated companies can play an important role in the flows of promotion and negotiation.

2.5.4 Promotion

The promotional marketing mix of a ship management company may take various forms including advertising, entry in directories, production of literature, participation in exhibitions and public relations (PR).

Despite the fact that there is no evidence to support that advertising generates enquiries directly (Spruyt 1994), it does take a significant sector of the promotional mix in terms of monetary investment. This is despite evidence that tends to suggest that consumer reaction toward comparative advertisements in professional services is significantly lower than consumer reaction toward all other types of advertisements (Donthu 1993). The largest of ship management companies advertise heavily in a number of widely circulated maritime newspapers and periodicals like Lloyd’s List, Lloyd’s Ship Manager, Seatrade and
Fairplay. It is also a fact that the bulk of advertising is concentrated upon the offering of a quality service, followed by international coverage and an adequately trained crew.

Entry in maritime directories has become usual practice for ship management firms. Directories such as *Fairplay, Lloyd’s Maritime Directory, Lloyd’s Register List of Shipowners* and *The Shipmanagers’ Register* are among the most well known.

Another method of promotion used by ship management companies is that of production and distribution of marketing literature (brochures). The contents include description of the functions of the company and a basic departmental structure accompanied by colourful pictures of vessels under management, the company’s premises and staff. The brochures are distributed among prospective clients and people that visit the company’s premises.

Participation in exhibitions is a method of promotion widely adopted by companies in the maritime industry, but to a lesser extent by ship managers as ship management involves the provision of an intangible service.

Public Relations (PR) has been defined as “*any area of communication that reflects the public image of a company*” (Peterson and Porges 1991, p. 355). Although all methods of the promotional mix may be perceived to be embraced within the PR context, PR actually goes a step further than mere advertising. PR involves methods of communicating the image of the company in a more authoritative way by, for example, a speech in a conference or seminar or a press release. Ship management companies adopt such methods, and representatives of the companies very often appear as speakers in maritime conferences throughout the world. In this way they appeal directly to an audience of prospective clients.
2.5.5 Participants

Participants refers to the people involved in the production and delivery of the service. In a ship management context this would include personnel ashore and on-board the vessels as well as customers. There is no evidence to indicate whether ship management companies actually implement this variable in marketing their service offering. Of course, ship management companies strive to recruit competent personnel both ashore and on-board. However, it is extremely doubtful whether personnel are trained to become "part-time" marketers (e.g. Gummesson 1991), i.e. there is no evidence to suggest that internal marketing (e.g. Judd 1987), is actually taking place in ship management companies. Furthermore, the limited evidence (e.g. Gunton 1994) suggests that few companies actually implement customer surveys systematically.

2.5.6 Physical evidence

Physical evidence includes elements like the physical environment and facilitating goods that enable the service to be provided (Cowell 1984). In a ship management context physical evidence includes the building (and internal decoration) from where the company operates, as well as the quality of tangible goods supplied (e.g. bunkers, spare parts, provisions etc). Visits made by the author to various ship management companies in the UK and Cyprus clearly indicate the importance attached by ship management companies to the external and internal physical-working environment. Especially in Cyprus, all ship management companies are housed in modern and immaculate surroundings. With respect to the supply of tangible goods, most companies strive to deliver customer satisfaction on this aspect as required by the ship management agreement.
Process refers to the way the service is produced and delivered (Cowell 1984). Regarding the production and delivery process of the ship management service, it has been mentioned already that most, if not all, ship management companies implement nowadays quality management in their operations. This has been discussed in section 2.4.4, where it was revealed, however, that this process on its own may not be effective for improving customer relations and offer differentiation.

As has been shown, marketing in ship management revolves around the marketing mix elements, some of which are not even systematically implemented. It has been recognised that service businesses are more difficult to manage using a traditional marketing approach (Kotler 1994). The variables of the marketing mix concentrate on customer attraction rather than retention. The development of academic marketing theories and models suggest that marketing nowadays moves away from the traditional approach of the marketing mix paradigm towards a relationship approach (Gronroos 1994a). Gunton (1993, p.34) made an important prediction regarding ship management: “relations with customers will become increasingly important in the future... .” Reporting on a ‘listening to customers’ programme set up by Ocean Fleets in 1991, he revealed the first signs of proper marketing research within the ship management industry. Although there are no indications to show that this move has been followed by others, ship management companies will inevitably come to realise that the most precious asset in their possession is the customer itself.

2.6 Problems confronting the ship management sector

The literature review and external enquiry through informal meetings by the author with persons involved in the ship management business, were instrumental in the identification of the current issues and problems confronting the sector. The major problem already
identified is the frequent lack of a coherent marketing strategy; marketing is done on an *ad hoc* basis and concentrates on customer attraction through advertising. The lack of a coherent marketing strategy and associated problems that will be discussed herein are pivotal in the choice of an appropriate marketing concept that may assist in the resolution of these problems. The problems identified include competition, limited differentiability and client uncertainty and dissatisfaction.

2.6.1 Competition

Competition in ship management is nowadays very intense. Various examples are indicative of the fierce competition existing in ship management. For instance, leading ship management companies were involved in a fierce battle for winning a lucrative contract to manage six new containerships for **American President Lines** (Anon 1995p). Another example is the award of a prestigious crewing contract, after intense competition, to **Hanseatic Shipping Co.,** by the containership operator **Sea-land** (Richardson 1995c).

The intensity of the competition can be assessed by consideration of the determinants of competitive conduct proposed by Phillips (1962), who discussed a number of factors that determine competition in firms. These factors can be applied to ship management companies.

First, competition varies in intensity with the number of rival organisations. Panayides and Gray (1997a) indicate that the number of ship management companies increased from 226 in 1990 to 614 in 1997. This remarkable growth is a clear indication of the intensity of rivalry in the ship management sector. Osler (1996) reports that the closure of a UK based ship management company can be attributed to the crowded nature of the ship management market.
Second, competition varies with the degree of equality in the size of rivals. Ship management is an open market and it is not characterised by the dominance of one or few firms, but rather by the co-existence of many large, medium and small firms. Roughly equal market shares would tend to induce greater rivalry than a situation where one or a few organisations dominate a market (Khandwalla 1981).

Barriers to entry are also another factor affecting competition. The ship management market is extremely open due to the relatively low risk involved in setting up a ship management company and the relatively low initial capital investment required. Hence, the low level of barriers to entry indicates a greater degree of rivalry. Formation of new ship management companies and the undertaking of contracts by them is frequently reported in the trade press (e.g. Richardson 1995d).

Rivalry also varies with the degree of formality of interfirm organisation in the industry. Formality can range from legal cartels (e.g. some shipping conferences) to legally unenforceable gentlemen's agreements. The research carried out indicated that gentlemen's agreements do exist in certain sectors of the ship management fraternity. However, it has also been revealed that collusion and poaching clients from competitors is present; the loss by Wallem Ship Management of a major contract involving the management of four ULCC/VLCC tankers to Ugland/Interocan may illustrate such an example (Richardson 1995e). Another example could be the award of a major contract to Acomarit (UK) by the National Shipping Company of Saudi Arabia who transferred vessels that used to be managed by Northern Marine Management, Storli, and Denholm Ship Management (Bray 1996; Thorpe 1996). Willingale (1992, p. 31) states that "in many cases any new business coming on to the third-party market is competed for fiercely and efforts to win existing customers away from competitors have intensified".
Khandwalla (1981) also suggests that rivalry varies directly with the sophistication of an industry’s clientele. If an industry’s clients are sophisticated and are able to evaluate the claims of the rival sellers, as is the case in ship management, the sellers will have to compete harder. The problem of competition is exemplified in a report, which indicates that "in the future it will be increasingly difficult to get business. There is going to be a fight over new tonnage" (Anon 1995q, p. 36).

2.6.2 Limited differentiability

Differentiation is essential in the provision of professional services such as ship management. An organisation should pay close attention to the aspects in which it possesses a differential advantage in order to gain competitiveness. Kotler and Bloom (1984) suggest that the innate differentiability of professional services is quite limited. The amount of variation in the way ship management services can be offered is minimal. Ship managers have recently turned to quality management as a way for achieving differentiation, but it is now practised by virtually all reputable ship management companies, and cannot offer differentiation (Panayides 1996a). Additionally, even if the service is provided differently from competing services, it may be difficult to get clients, who are confronted with uncertainty, to perceive and recognise the real differences. Some ship management companies have tried to combat the problem of limited differentiability by expanding into non-shipping businesses (Kerr 1996). This is indicative of the difficulty of achieving differentiation in the ship management market and is hardly a strategy to be adopted for effective ship management.

2.6.3 Client uncertainty and dissatisfaction

Duncan (1972) argues that environmental complexity and dynamism are positively related to uncertainty. The management of ships is in itself a very complex process (Spruyt 1994).
The shipping environment is extremely dynamic in nature, characterised by economic booms and busts (e.g. Stokes 1992) and market volatility (Stopford 1988). These characteristics of the external environment are indicative of the uncertainty of shipowners who hand over their high-value assets for management. Additionally, according to Wittreich (1966), buyers of professional services are faced with uncertainty because of the difficulty of evaluating service performance characteristics before and after purchase and use. The wide availability of ship management companies has also resulted in an increasing propensity by shipowners to ‘shop around’ and consider different options when contracts come up for renewal. This indicates that clients are uncertain of the level of service quality they receive. Hence, they are inclined to try something different that may result in greater benefits at a lower price. The managing director of a ship management company was quoted saying: “at the moment we see a trend by shipowners to take ship management back in-house, in order to be able to exercise better control and to limit the risks” (Anon 1996h, p. 29). The problem of contracts being on a shorter time cycle has been reported since the late 1980s (Anon, 1987; Williams, 1993).

Another problem reported in the trade press is the reluctance of charterers and mainly oil majors, to charter vessels that are operated by third party ship managers (Guest 1994). Oil majors used to be major clients for the third party ship management business. Lately they have argued that they prefer communicating with an owner directly rather than through the owner’s agent, i.e. the ship manager. It seems that this attitude may be attributed to problems of communication, both between owner and manager, and also between manager and charterer. A chief executive of a ship management company stated that the reluctance of owners and charterers to accept ship management as a service could be a real threat to the industry. He added: “as ship managers we will gradually lose the most prestigious and lucrative contracts” (Guest 1994, p. 5). The loss of many contracts can also be attributed to
the uncertain nature of the shipping environment itself. The ship management review identified that major oil companies formed a substantial sector of the clientele of ship management companies in the 1970s and 80s. However, in the last years the fleets of these companies have been decreasing dramatically, a fall of 48% in the period 1984-1994 (Prescott 1995). The vessels are replaced through investments made by independent owners who also tend to manage and operate their vessels.

Communication has also been identified as a major problem in ship management. Grey (1995, p. 5) states for instance:

“One of the inherent difficulties of third party ship management has traditionally been that of communications between the manager who takes over the day-to-day husbandry of the vessel, and the owner who finds himself provided with reports from the manager from time to time. Strain on the relationship has come from the owner being provided with insufficient information about the operation of the vessel, caused by the manager being too selective or too secretive, or being too busy to provide the owner with what he regards as adequate reports”.

Poor communication and the complexity of ship management gives rise to conflicts and disagreements that may occur between the ship management company and the client’s organisation. Informal inquiry has indicated that disagreements, however minor, occur frequently at all levels of the organisational hierarchy. It is inevitable that even the smallest of errors may result in client dissatisfaction in ship management. Client dissatisfaction leads to conflict that may give rise to expensive litigation procedures and the potential termination of ship management contracts (Bundock 1989). Mulrenan (1994, p. 1) reported the following in a Lloyd’s List issue:

“Leading tanker owner Vela will end its reliance on commercial ship management by taking full control of its 6 million dwt fleet. The Saudi Arabian controlled shipowner will establish a ship operating centre in Dubai within three months as the first step to moving to in-house management”.

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The fleet of this company was managed by two major UK based ship management companies that participated in this study. Obviously, the two UK based companies have lost one of their major clients (if not the major client) in terms of revenue earning capacity. The problems of competition, client uncertainty and dissatisfaction, and the lack of coherent marketing practices aimed towards retaining current clients is reflected in the loss of more than 1.5 million deadweight of tanker tonnage by Wallem Ship Management (a major ship management company) to a newly formed entity. A report in Lloyd's List indicates:

"Wallem obviously fought hard to keep the four large tankers, but at the end of the day it was the vastly smaller Ugland/Interocian grouping – which Argonaut executives say offered a more personal service because of its size – that won through" (Anon 1995r).

The quote is indicative of the problems faced in ship management and of the importance of close relationships in order to offer a personalised service.

2.7 Research focus

The purpose of this review of ship management, which included informal inquiry with practitioners, was to describe the current state of the industry and identify the major issues and possible problems facing ship management companies. The review was instrumental in identifying the following:

- concentration on the establishment of subsidiaries and relocation for achieving cost reduction, despite the fact that this is a short-term strategy;
- concentration on diversification and expansion of the service offering through joint ventures, in contrast to concentration on identifying, anticipating, and satisfying the needs of current clients;
- the implementation of the marketing mix approach in ship management which does not provide long-term solutions for many of the problems discussed;
• an effort by ship management companies to attract clients, even by approaching competitors’ clients;
• the existence of fierce competition and the difficulty of achieving competitiveness;
• the loss of contracts (in some cases with important clients) due to client uncertainty and dissatisfaction that has led many clients to take management back in-house;
• the problem of communication between ship managers and clients and the possibility for conflict that can lead to termination of contracts;
• the limited differentiability of the ship management service.

This review of ship management is clearly indicative of the lack of specific policies and practices of ship management companies directed towards current clients. Companies seem to be offering the ship management service at the expected level and assume that application of a quality management system will offer the desired differentiation, competitiveness, cost reduction in the long-term and client satisfaction. However, quality means delivering the service according to the client’s specifications and this seems to be a problem in ship management. Otherwise, why would clients increasingly take management back in-house or defect to competitors?

In order to tackle the above issues effectively, corporate strategists have suggested analysing competition (Porter 1980; 1985), analysing and managing the internal and external environments (Duncan 1972), and marketing (e.g. George and Barksdale 1974; Shostack 1984). Analysis of competition by itself would clearly not tackle all the problems faced by ship management companies. An analysis of the complex internal and external environment in ship management would probably require commitment of time and resources beyond the limits set by this study. On the other hand, the lack of coherent marketing policies and the limited concentration on current clients suggest that marketing
may be adopted for tackling the aforementioned problems. Proper marketing may also result in the achievement of competitiveness.

Modern marketing theory and practice advocates the need for developing unique relationships with clients and other stakeholders of the organisation. This has been referred to as "relationship marketing" (e.g. Berry 1983; Christopher, Payne and Ballantyne 1991) and as it is shown in chapter 3, it is an applicable approach for studying ship manager–client relationships with a view towards tackling the problems identified in this chapter. Although development of relationships should not be considered a substitute for corporate strategy and other marketing activities, it adds a new dimension to the quest for effective solutions of the issues confronting professional ship management companies. Moreover, the benefits accruing from the development of relationships between organisations and their clients (see chapter 3), clearly indicate that the application of a relationship approach for marketing the professional ship management service is justified.
CHAPTER 3

Relationship Marketing: A Literature Review

It was suggested in chapter 2 that relationship marketing may be an applicable approach for marketing the professional ship management service. This assertion was based on the identification of the problems faced by ship management companies and the potential for tackling such problems through the development of relationships with clients. In order to provide further justification of the applicability of relationship marketing, it is essential to carry out a literature review of the concept. This literature review also aims to identify the major relationship marketing constructs that may be utilised within the ship management context of this study.

The chapter begins by laying down the methodology utilised for the relationship marketing literature review. This is followed by a discussion of the concept of relationship marketing. The advantages and possible limitations of the concept are reviewed as well as its applicability to services marketing in general and professional ship management in particular. Tracing the origins of relationship marketing in the relevant social and inter-organisational theories, a description of those theories is carried out in order to provide an understanding of the underlying principles of relationship marketing. A review of relationship marketing studies in different contexts including industrial marketing, channels of distribution, services marketing and consumer marketing is also carried out. The chapter concludes by discussing the basis upon which a conceptual model of relationships in a ship management context may be developed.

3.1 Literature review methodology

Cooper (1988) indicates that the major characteristics of literature reviews include the
focus, goal, perspective, coverage and organisation. The focus of this review of relationship marketing literature is mainly on research outcomes and theories rather than methodology. The goal is to integrate findings but not necessarily to criticise them in any sense. This is compatible with the goal of the study, which involves research in ship management from a relationship marketing perspective, rather than research in relationship marketing. Hence, the representation of the studies reviewed will be neutral, in that no attempt will be made to criticise shortcomings in concepts or methodology. The coverage will be representative of the major studies in buyer-seller relationships carried out in the last twenty years, although older studies may be cited if relevant. The review will be organised in a contextual perspective, although within the different contexts a historical review will take place.

A thorough literature search was undertaken using three approaches for locating research studies; computer CD-ROM indexes, existing bibliographies and other academics. The indexes used were BIDS, ABI Inform and Dissertation Abstracts. References from the bibliographies of recent articles proved to be an excellent source of past relevant studies. In addition, throughout the course of the research, several academics working in the relationship marketing area were contacted and their contribution in terms of any new studies in the area was invaluable. A problem encountered in conducting a thorough search of the literature is that many studies, usually for business consultancy, are never published or, if published, may not be cited in abstracting services. However, since it is impossible to trace unpublished or unquoted studies, research has to be content with what is available. Bearing in mind that the main objective of this study is not the advancement of the relationship marketing theory as such, the aforementioned problem becomes less important. Another problem in literature reviews is whether studies with methodological
weaknesses should be excluded or not. To this end Hunter and Schmidt (1990, p. 495) state that:

"The assertion of methodological inadequacy always depends upon the theoretical assumption about what might be true in a study...no research study can be defended against all possible counter hypotheses; hence no study can be without methodological inadequacy".

Hence, although it may be beneficial to exclude such studies, because of little or no a priori evidence to determine what constituted methodological weakness, no studies were excluded from potential inclusion in the review.

3.2 Relationship marketing: background

Relationship marketing is a relatively recent development in marketing theory and practice. However, the concept of relationship marketing is deeply rooted in the issue of exchange, which forms the basis of marketing itself. This section will provide a review of the exchange paradigm and the development of relationship marketing.

3.2.1 Basis of marketing: the exchange process and its relationship implications

Exchange has been widely accepted by marketing scholars as the core concept of marketing (Alderson and Martin 1965; Bagozzi 1974; 1975; 1979; Houston and Gassenheimer 1987; Hunt 1976). For instance, Bagozzi (1975, p. 39) states that marketing "is the discipline of exchange behaviour, and it deals with problems related to this behaviour". The official definition of marketing, approved by the American Marketing Association, indicates that exchange is at the centre of marketing:

"Marketing is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organisational objectives" (Anon 1985, p. 1).

In an examination of the fundamental explananda of marketing from a philosophy of science perspective, Hunt (1983a, p.13) stated: "marketing science is the behavioural
science that seeks to explain exchange relationships". Given this perspective of marketing science, Hunt (1983a) proposed that a general theory of marketing should aim to explain the behaviour of buyers and sellers directed at consummating exchanges, the institutional framework directed at consummating and/or facilitating exchanges, and the consequences of the above phenomena on society. Exchange between two parties may take the form of a discrete transaction characterised by a distinct beginning and end, and lacking any relationship elements. On the other hand, exchange may facilitate a long-term interaction characterised by the development of relationship attributes between the participants. The latter is indicative of the belief that the development of relationships should be a central aspect in marketing thought and practice.

3.2.2 The concept of relationship marketing

The emergence of the relationship concept in the marketing arena stems from the marketing reality that acquisition of new customers is much more expensive than the retention of existing customers (Stone and Woodcock 1995). This has important implications for ship management companies that, as indicated in chapter 2, concentrate merely on customer attraction rather than customer retention. In fact, Congram (1991) suggests that acquiring a new customer may cost at least six times as much as retaining an existing one. The cost of establishing contact with a potential customer and achieving the first sale may be so high that the returns from the sale are minimal or even negative (Gronroos 1989). It is only when the customer keeps buying that the sought benefits will be achieved. Relationship marketing provides an effective approach to customer retention over the long-term. It involves the development of bonds that will tie the customer to the particular product/service supplier and ensure continuing exchanges. To this end, relationship marketing has been defined as “encompassing all marketing activities directed towards establishing, developing and maintaining successful relational exchanges”
(Morgan and Hunt 1994, p.22). Since client defections to competitors, or the switching to in-house management are major problems in ship management, the application of relationship marketing in order to ensure client retention seems to be an attractive proposition.

The advantages accruing from relationship management between the buyer and seller dictate the need for serious consideration of this new marketing approach by both academia and practitioners. Levitt (1983), states that the nature of services requiring repeat negotiations and technological complexity necessitate long-term and involved relationships between buyers and sellers. Repeat orders will go to those sellers who have done the best job of nurturing relationships with their buyers. A long-term relationship will definitely enable the parties to develop an acquaintance with complex products and hence master their efficient use. In a services context, the clients' processes and practices will be known within a few encounters. It will also reduce transaction costs (see Williamson 1979), in cases where contracts have to be re-negotiated as is, very often, the case in ship management.

Apart from customer retention, Congram (1991) enumerates a series of relationship-associated advantages. Existing customers are easier to serve and constitute a continuous revenue stream. When customers are lost and are not replaced immediately there will be a revenue gap for the firm. Customers will ultimately become advocates and, hence, marketers of the organisation and help the organisation identify new services or improve current ones. By doing so, they will also improve their own situation. Relationship management is also cost-effective because time is spent only on those accounts where the potential for success is greatest (Sonnenberg 1988). Berry and Parasuraman (1991) suggest that relationship marketing entails benefits that are not just important to customers but also
difficult for competitors to duplicate. They posit that the stronger the relationship the
greater the opportunity to deliver those benefits. It follows that relationship marketing
probably offers the best available opportunity for product (service) differentiation and
achievement of competitiveness. It has been recognised in chapter 2 that limited
differentiability and difficulty in achieving a competitive advantage are major issues with
which ship management is confronted with. Hence, the relevance and potential
correlation of applying relationship marketing are established.

3.2.3 Relationship marketing as the new marketing paradigm

Scholars have seen the relationship marketing approach as a possible paradigm shift in
established marketing theories. A paradigm is an accepted model or pattern which
underlies scientific achievements (Dixon and Wilkinson 1989), and inspires theory
building as distinct from being mere theory itself (Arndt 1983). Iacobucci (1994) notes that
relationship marketing is currently enjoying popularity as a paradigm. Gronroos (1990a,
p.138; 1990b, p.5) for example, gives a relationship approach definition to marketing:

"Marketing is to establish, maintain, enhance and commercialise customer relationships
(usually but not necessarily always long term) so that the objectives of the parties involved
are met. This is done by a mutual exchange and fulfilment of promises".

This definition provides an obvious diversion from the more conventional view of
marketing as identifying, anticipating and satisfying customer requirements profitably
(Kotler 1994), and in-line with definitions of marketing considered previously, underpins
the view of relationship marketing as a paradigm.

Clark, Peck, Payne and Christopher (1996, p. 278) indicate that:

"Relationship marketing reflects an emerging paradigm of marketing that is cross-
functional, relationship driven and focuses upon processes as well as functions in
achieving long-term customer satisfaction".
Parvatiyar and Sheth (1994) speak of "the emergence of a relationship orientation in marketing". Ambler (1994) discusses the evolution of the 'relational paradigm' but expressly states that it is, in a broad sense, the same as relationship marketing. Gronroos (1996) strongly argues that the underlying philosophy of relationship marketing, with the transition from a product-based to a resource-based and competencies-related perspective (see also Gronroos 1997), means that relationship marketing is a new paradigm. Fisk (1994) asserts that relationship marketing is an emerging new paradigm, whereas the relationship marketing process is "an adaptive learning process innovation rather than a new paradigm". The view of relationship marketing as a paradigm is also illustrated in the advocacy for its inclusion in undergraduate courses (Gentry, Macintosh and Stoltman 1993; Palmer 1994).

The view of relationship marketing as the new marketing paradigm also arises from the recognition that the traditional marketing mix paradigm is too simplistic and far from satisfactory nowadays. Kent (1986) posits a series of issues rendering the marketing mix of the four Ps unsatisfactory. He states that research has revealed that what counts as marketing by the four Ps is rarely followed in practice, either on a departmental or managerial level. Further, the separation of the "product" variable from the other Ps implies the erroneous assumption that "price", "place" and "promotion" are not product related, whereas it tends to isolate decisions about a single product without due consideration of other products the firm might produce. The concept is seen as a handy classification rather than a theory. Kent (1986) suggests that a more useful approach would be to follow the sociologists' approach of viewing individual, everyday interactions as the construct of a reality of meanings that exist in the world, and building upon those. The latter implies the adoption of a relationship approach.
Enthusiastic advocates of the new relationship marketing paradigm include Gummesson (1987), Gronroos (1991; 1994a) and Christopher, Payne and Ballantyne (1993). Gummesson (1987) calls for renewal of what he refers to as the "old marketing concept" by consideration of long-term interactive relationships between suppliers and customers both at the corporate and marketing level. Gronroos (1991) views the relationship paradigm as an alternative and complement to the marketing mix approach, which is inapplicable to situations other than discrete transactions or single exchanges. Gummesson (1994) goes a step further and considers it justifiable to call relationship marketing a new paradigm that marks the beginning of new marketing-oriented management theory.

Despite the widespread acceptance of relationship marketing as the marketing concept of the 1990s (Christopher, Payne and Ballantyne 1993), the concept has also had its critics. The criticism stems not from a question over the importance of relationship marketing as such (that is undisputed) but on its applicability in different buyer-seller situations. Blois (1996a, p. 172) posits that although relationship marketing may encompass a broad range of ways of organising the buyer-seller interaction, "the appropriateness of relationship marketing to all buyer-seller relationships is open to question". Despite the acceptance that relationship marketing can be beneficial to interacting organisations, Blois (1996b) suggests that the costs and benefits must be assessed before implementing a relationship marketing strategy. By applying an economic perspective, he suggests that suppliers must assess whether relationships are going to result in a higher level of profits than a series of discrete transactions with customers. Low (1996) argues that in certain industrial environments it might not be feasible or ideal for long-term relationships to be sought, especially where short-term opportunistic relationships are favoured. Oliver (1990) suggests six critical contingencies, viz. asymmetry, stability, legitimacy, necessity, reciprocity and efficiency, which affect the probability of a relationship developing.
Awareness of the contingencies that will make the development of a relationship with customers more feasible, will assist towards the implementation of a relationship marketing programme.

Berry (1995, p. 236) suggests that relationship marketing “is an old idea but a new focus now at the forefront of services marketing practice and academic research”. Iacobucci (1994) argues that relationship marketing has been defined too broadly and is in danger of becoming a “fad” rather than a new marketing paradigm. Buttle (1996) reviews the wide-ranging definitions and concludes that relationship marketing has yet to acquire uncontested status and meaning. Iacobucci (1994) goes on to demonstrate that the wide-ranging use of the term “relationship marketing”, is nothing more than traditional marketing “done better”, with a simple re-focus to the customer.

Barnes (1994) also questions the acceptance of relationship marketing simply on the basis of long-term profitability. He argues that research needs to be carried out on how and with whom relationships are to be established and the form they should take. He also puts forward the controversial issue of customer retention by stating that customers may come back simply on a repeat purchase decision and not because they are tied to a relationship. He, like others, states that relationship establishment requires the formation of bonds on a business, as well as on a more personal, basis.

Hogg, Long, Hartley and Angold (1993) have also questioned the authenticity of relationships. They raise the question of how special should certain customers be treated compared to other customers and the need to consider the effects of relationships on third parties who are not recipients of the service but passive participants. Most of their
arguments, however, (for example that of privacy) are based on relationship formation in consumer marketing and are not applicable to business marketing.

Brodie, Coviello, Brookes and Little (1997), examined empirically using four case studies and a survey of 134 firms, whether relationship marketing constitutes a “paradigm shift” or whether transactional marketing is still predominant. They found that the notion of a “complete paradigm shift” could not be supported as for many firms transactional marketing was relevant and practised in conjunction with various types of relational marketing.

Indeed, the concept of relationship marketing requires extensive research and detailed consideration before it can be successfully applied to particular buyer-seller situations. However, although relationship marketing can be a difficult challenge for the marketer (Jackson 1985), its importance and perceived advantages cannot be underestimated.

3.2.4 Applicability of relationship marketing to the services marketing context

Research in relationship marketing has mainly concentrated in the area of industrial marketing (e.g. Hakansson 1982; Ford 1990; Wilson and Mummalaneni 1986; 1988). More recently conceptual applications of relationship models in the services marketing context have been considered (Beaton and Beaton 1995; Palmer and Bejou 1994).

The applicability of relationship marketing to services stems from some unique characteristics of services. Gronroos (1990a, p.27) states:

“\textit{A service is an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and/or systems of the service provider, which are provided as solutions to customer problems}”.

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Services are characterised by their intangibility (in contrast to goods) and the fact that they are consumed at the moment they are produced (Berry 1981). Grove and Fisk (1996), quoting Lovelock (1981) and Berry (1981), suggest that these characteristics of services necessitate an awareness of the social and physical context of the marketing exchange in order to deliver customer satisfaction. The direct outcome of an interactive and exchange process in marketing is the relational approach (Perrien, Filiatrault and Ricard 1993). The criticality of the service encounter (the period of time when the customer interacts directly with the firm) as a means for delivering customer satisfaction was also advocated by Parasuraman, Zeithaml and Berry (1985), Shostack (1984a; 1987), Solomon, Surprenant, Czepiel and Gutman (1985), and Surprenant and Solomon (1987). Since the pivotal issue for services marketing effectiveness requires investigation of the service encounter, and relationships tend to form during the service encounter, it follows that relationship marketing is an applicable, if not critical, approach to services marketing.

Within the services context, relationship marketing has received particular attention in the marketing of corporate banking. Banks decided to emphasise relationship marketing because of the pressures imposed on them by competitive and environmental developments (Moriarty, Kimball and Gay 1983). When competition is intensified, the basic strategy is to increase the retention rate of clients (Perrien, Filiatrault and Ricard 1992). Client retention is the outcome of relationship marketing (Congram 1991). Once again, this is in line with the issues encountered in the ship management industry and establishes the applicability of relationship marketing in this context. Apart from competitiveness, Perrien, Filiatrault and Ricard (1992) discuss other reasons that forced banks to implement relationship management. The advancement of technology, for example, enabled banks to widen their product portfolio thus requiring more detailed knowledge of the buying centre (i.e. their clientele). Deregulation, technological innovation and increased competition among banks
shortened the expected lifetime of most banking products (Turnbull and Gibbs 1987). Such problems could be combated by developing close, long-term relationships with clients.

Relationship banking has been defined by Moriarty et al. (1983, p. 4) as:

"A recognition that the bank can increase its earnings by maximising the profitability of the total customer relationship over time, rather than by seeking to extract the most profit from any individual product or transaction."

Berry and Thompson (1982, p. 72) state that "relationship banking concerns turning customers into loyal clients". Watson (1986) describes in detail a ten-stage process by which relationships can be built in corporate banking. The process is in line with other traditional relationship marketing approaches, being initiated by market research and establishing contact, to nurturing the relationship. Exchange of information, fulfilment of promises and ensuring client satisfaction, are again stressed. The work concentrates around the responsibilities of the account manager as a builder and manager of relationships, thus emphasising the importance of interpersonal relations. It is interesting to note that problems faced by banks are in many ways similar to the problems that are nowadays encountered by professional ship management companies discussed in chapter 2 and also referred to in the following section.

3.2.5 Applicability of relationship marketing to ship management services

Relationship marketing theory is directly applicable to ship management because the latter is a professional service offered to shipowners. Gummesson (1978) posits a criterion for identifying professional services. He suggests that the service should be provided by qualified personnel, be advisory and focus on solving problems. The professional should be identifiable in the market, independent of suppliers of other goods or services and have specialist know-how of the tasks (the service) assigned by the buyer. It can be easily deduced that this criterion applies wholly to the professional ship management service.
Other reasons, however, not only prove the applicability of relationship marketing in ship management but also necessitate the application of such an approach for effective marketing. Following the classification of services due to Lovelock (1983), it might be suggested that ship management falls into the category of an intangible service directed to a tangible asset (the ship). Relationship marketing is recommended by Berry (1983) as an appropriate strategy to overcome service intangibility. Furthermore, evaluation of the quality of the ship management service offered may not be easy for the shipowner, even after he has entrusted his vessel(s) to a particular company. This is especially true when the shipowner has no shipping background himself. Relationship marketing has been identified as appropriate for complex and 'credence' services, that is services that are difficult for customers to fully evaluate even after purchase and use (Zeithaml 1981).

A lot of hard work has been done towards improving the ship management service. For example, the majority of companies now operate in accordance with high industry standards, hold quality certificates or are under the process of obtaining such certificates. However, improving the service alone may not be the best marketing method in the increasingly competitive ship management environment. Palmer (1994) states that in competitive marketplaces good products and service alone are inadequate for a company to gain competitive advantage increasingly. This suggests that a point is reached where ship management companies will need to differentiate themselves in order to gain a competitive advantage. It is at this point where marketing and relationship marketing in particular comes into play. Applications of relationship marketing will not only ensure client retention, but will also assist towards achieving differentiation and competitiveness.
3.3 Foundations of relationship marketing

Relationship marketing is based on theories of social and inter-organisational relations, and the conceptualisation of exchange as the core concept of marketing. A reference to these theories is critical in understanding the development of relationship marketing models and empirical studies.

3.3.1 Social exchange theory

The basis upon which the concept of relationship marketing is built stems from studies of interpersonal relations within a social context. Thibaut and Kelley (1959) suggest that the essence of any relationship is interaction between individuals. Interaction was said to include the behaviour, communication and creation of products between individuals. The consequence (or outcomes) of such interactions were perceived to be the rewards obtained and the costs incurred, represented in a two-dimensional outcome matrix. In an attempt to evaluate the outcomes, two constructs were developed, the comparison level (or CL) and the comparison level for alternatives (or CLalt). The comparison level is a standard by which the value of the outcomes of a particular relationship may be assessed. The assessment is based on what the individual perceives to deserve, or has come to expect, from the relationship based upon his knowledge of past and present similar relationships (Anderson and Narus 1984). The comparison level for alternatives was defined as “the lowest level of outcomes a member will accept in the light of available alternative opportunities” (Thibaut and Kelley 1959, p.21). The outcomes were said to be controlled by a basic feature of dyadic interactions: interdependence, viz. the individual and joint activities of the dyad (Kelley 1983). The occurrence, sustenance and viability of the relationship will thus be dependent on the rewards vs. costs outcomes of the parties and will be determined by the relative positions achieved above or below CLalt. It follows that CLalt serves as the zero point on the outcomes matrix and is used as the basis for
attributing values to the outcomes matrix. The relationship will be satisfactory for values above \( CL_{alt} \) and unsatisfactory for values below \( CL_{alt} \). It is also worth noting that sometimes an individual may choose to remain in the relationship even for values below \( CL_{alt} \) as the social, emotional and legal costs associated with moving to better alternatives are too high (Kelley and Thibaut 1978). Hence, the importance of social and psychological factors in buyer-seller relationships.

3.3.2 Power dependence theory

Power and dependence have been examined by scholars within the broader context of social exchange. Dahl (1957) conceives power as the ability to achieve intended effects or goals. In considering the concept of power in relation to their outcomes matrix, Thibaut and Kelley (1959) note that the power of A over B increases with A’s ability to affect the quality of outcomes attained by B. Emerson (1962) suggests that power is a property of social relations which commonly entails ties of mutual dependence between the parties. He states: “\( A \) depends upon \( B \) if he aspires to goals or gratification whose achievement is facilitated by appropriate actions on \( B \)’s part” (Emerson 1962, p.32). He conceptualised that A’s dependence upon B is directly proportional to A’s motivational investment in goals mediated by B and inversely proportional to the availability of those goals from alternative sources. The power of A over B is said to be the amount of resistance on the part of B which can be potentially overcome by A. The formulation that the power of A over B is equal to and based upon, the dependence of B upon A, is reciprocal and, thus, reveals the interdependence of the parties.

Blau (1964) discusses the existence of power in relation to the supply of services by suggesting that exercising power will be inevitable unless the service receiver has the availability and chooses one of the following alternatives:
(i) that the other party needs a service in exchange as badly as he wants the service from that other party;

(ii) that he may obtain the required service from an alternative source;

(iii) that he may be able to coerce the supply of the service;

(iv) that he may be able to do without the service.

If the service seeker does not have the availability of the above alternatives, then the service supplier will have some degree of power over him. The service seeker will be dependent on the service supplier for the supply of the service.

3.3.3 Resource dependence theory

Recognising the fact that organisations depend on interactions within their environment in order to establish their viability, Yuchtman and Seashore (1967) and Pfeffer and Salancik (1978) conceptualised a resource dependence perspective in inter-organisational relationships. Resource dependence theory relies on the assumption that no organisation is self-sustained, but depends on other organisations in its environment in order to acquire resources. However, given the dynamic nature of the environment, resources tend to become scarce at times, making organisations within that environment unable to control the situation by themselves and hence, interdependent. Moreover, the fact that organisations may be unable to control the situation by which they acquire resources, introduces uncertainty into the organisation’s decision making (Aldrich 1976; Heide 1994).

In order to cope with uncertainty and establish a form of stability in resource input, organisations make “adaptations” in the sense that they establish relationships with other organisations in their environment. If the relationship is symmetrical, i.e. the degree of dependence is the same for both parties, no organisation will dominate the relationship.
However, a net asymmetrical relationship will mean that one part will have more power and exert a greater influence on the more dependent organisation. The environment is also viewed as being enacted by the organisation. Pfeffer and Salancik (1978, p. 222) state:

"Rather than taking the environment as given to which the organisation then adapts, it is considerably more realistic to consider the environment as an outcome of a process that involves both adaptation to the environment and attempts to change that environment".

Overall, the resource dependence approach emphasises voluntary interactions and contingent co-operation between organisations (Oliver 1990).

3.3.4 Transaction-cost theory

An economic oriented approach to inter-organisational relationship theories stems from a proposal of Williamson (1981) that a transaction occurs when a good or a service is transferred between entities that are technologically separable. By metaphorically referring to a transaction cost as the economic counterpart of mechanical friction, he concluded that reduction of transaction costs will ultimately lead to smoother transfers and exchanges between the entities. In an attempt to fill the gap in constructs differentiating between transactions, Williamson (1979) identified three critical dimensions for describing transactions. These critical dimensions are (i) the uncertainty associated with performing the transaction, (ii) the frequency with which transactions recur and (iii) the degree to which durable transaction-specific investments are incurred.

Transaction-specific investments are those that the buyer may not easily obtain from alternative sources and the supplier may not easily sell to other buyers. Such transactions are characterised by non-marketability and are referred to as idiosyncratic. It follows that long-term maintenance of an idiosyncratic relationship is a prerequisite, if the parties are to realise any benefits.
Uncertainty itself is an unimportant variable in the absence of transaction-specific investments. Environmental uncertainty will make it more difficult for the buyer to ascertain the supplier's actions. In reviewing transaction-cost theory, as expounded in Williamson (1975), Walker and Weber (1984) note that if uncertainty is combined with high specificity or uniqueness of the assets involved in the transaction (transaction-specific investments) the risk for the buyer increases dramatically. Frequent recurrence of transactions will bring a climate of personal trust between the parties making them more reluctant to behave in an opportunistic manner. This means that the chances of the idiosyncratic relationship surviving longer are increased, with the parties yielding the benefits.

Transaction-cost theory tends to specialise more on explaining the structures of relationships rather than the actual interaction processes (Han 1991). Williamson (1981) differentiates between three types of structures, viz. non-transaction specific, semi-specific and highly specific (idiosyncratic). Non-transaction specifics are not specialised structures and occur where exchanges of standardised goods take place. Such structures are typical of market mechanisms and are characterised by a high degree of certainty between the parties. Highly specific (or specialised) governance structures are applicable in recurring transactions or exchanges of a relational kind. Semi-specific structures fall in between. Bilateral governance and unified governance are the terms used to differentiate between a semi-specific relational exchange (where the parties keep their identities) and a highly specific one where uncertainty tends to increase and the parties may be better off by merging together. To this end, Galaskiewicz (1985, p.290) states:

“A central thesis of the transaction cost approach is that as uncertainty in transactions increases, there will be a shift from markets to firms. If transactions are highly problematic for organisations, then they must spent considerably more time and effort harmonising relationships. In the long run it may simply be more efficient to integrate that function into one’s own operations”.

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This justifies to a great extent the inclination of shipowning organisations that are faced with uncertainty to take management back in-house as revealed in chapter 2.

3.3.5 Marketing and exchange relationships

The relationship marketing approach is in line with the paradigm of dyadic exchanges. It has been argued that since marketing is an inherently social activity, concentration upon individuals as the unit of analysis is not sufficient (Bagozzi 1978a). Instead complex relationships in the market place should be modelled in the form of systems of dyadic exchanges (Bonoma, Bagozzi and Zaltman 1978). Bagozzi (1978a) proposes a formal theory of exchange, which is represented as a dynamic social process, functioning under both, economic and psychological constraints.

An important consideration in exchange theory is how the exchange and behaviour of the actors might be influenced by past and prospective exchanges. The introduction of the exchange relationship (Dwyer, Schurr and Oh 1987; Spekman and Johnston 1986) or relational exchange (Frazier, Spekman and O’Neal 1988) aims to take this situation into account. Exchange relationships are distinguished from discrete exchanges. For instance, MacNeil (1980, p. 60) states:

“Discreteness is the separating of a transaction from all else between the participants at the same time and before and after. Its pure form, never achieved in life, occurs when there is nothing else between the parties, never has been and never will be”.

Hence, relational exchanges can be distinguished from discrete exchanges (MacNeil 1978; 1980), by:

(i) having a history and expected future;

(ii) possible implicit and explicit assumptions, trust and planning;
(iii) participants perhaps deriving complex, personal, non-economic satisfactions during the social exchange;
(iv) increased interdependence;
(v) obligations being customised, detailed and administered within the relationship.

Although research on exchange relationships has been carried out, it is not considered conclusive. Exchange relationships and consequently relationship marketing may still be considered to be at a relatively young stage in marketing theory. Various research attempts have been made in different contexts (e.g. industrial marketing, channels of distribution etc.), and a framework of buyer-seller relationships has been developed. Moreover, scholars have attempted to explain exchange relationships by application of theories such as the political economy perspective (Achrol, Reve and Stern 1983; Arndt 1983; Stern and Reve 1980). Although research on relationship marketing and its underlying principles is continuously being undertaken, a review of past conceptualisations and empirical studies is essential for the further progress of the current study.

3.4 Contexts of relationship marketing research

Buyer-seller exchange and relationship development in marketing, have received increasing attention in the 1980s and 1990s both from an academic and practitioner viewpoint. Relational exchange studies have been carried out in a variety of contexts, including industrial markets, channels of distribution, services marketing and lately consumer marketing. Different approaches have been utilised to explain relationships within these contexts, for instance the dyadic approach applied in Reingen and Woodside (1981), or the network approach discussed in Iacobucci (1996). The studies found in the literature indicate research carried out at the empirical and conceptual levels, as well as papers of a descriptive nature. Table 3.1 represents an attempt by the author to classify the
major studies published mostly in refereed journals since 1980. It is not claimed that the
contents of the table are exhaustive as far as research in marketing relationships is
concerned. However, it presents major and important studies that should be within the
knowledge of researchers contemplating further research in relationship marketing, or
practitioners aiming to apply the concept.

<table>
<thead>
<tr>
<th>CONTEXTS</th>
<th>EMPIRICAL PAPERS</th>
<th>CONCEPTUAL PAPERS</th>
<th>DISCUSSION PAPERS</th>
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Table 3.1: Contexts of relationship marketing published papers (continued)
Table 3.1: Contexts of relationship marketing published papers


3.4.1 Relationship marketing in industrial markets

Relationship marketing in the industrial or business-to-business marketing sector has received extensive attention with conceptualisations and applications from various researchers. This stems from the belief among scholars that “industrial marketing is very much a matter of establishment and development of customer relationships”, (Johanson and Wootz 1984, p. 302). A number of important approaches will be considered herein.
3.4.1.1 Industrial Marketing and Purchasing (IMP) - the Interaction Approach

Probably the most comprehensive study of buyer-seller relationships in industrial marketing and purchasing has been the Interaction Approach by the IMP Project Group (Hakansson 1982; Turnbull and Valla 1986). The interaction model developed by the Group was based on inter-organisational and social exchange theories, the New Institutional Economic Theory characterised by the transaction-cost approach and other concepts including risk reduction, channel behaviour, industrial buying behaviour and the internationalisation process of the firm (Hakansson 1982). The researchers recognised that purchasing decisions in industrial markets are not discrete, but are based on a series of interactions between buyers and sellers that could lead to long-lasting relationships. The interaction model was, thus, made up of:

(i) the interaction process;
(ii) the interacting parties;
(iii) the atmosphere of the interaction;
(iv) the environment of the interaction.

In order to reveal the antecedents of each component of the model, closer examination of each will be hereby carried out.

(i) The interaction process

Interactions between buyers and sellers were separated into short-term exchange episodes (product/service, information, financial and social exchanges) and long-term relationships. The relationships were thought to be a consequence of the episodes between the parties stemming from the routinization of the episodes and the adaptations made by the parties during the exchange processes. The adaptations could take place in either, the exchange of
elements or in the processes of exchange as a means of facilitating the transactions and yielding benefits for both parties.

(ii) The interacting parties

Variables that were conceptualised to affect the interaction process and the relationship were the characteristics of the parties involved. The characteristics include organisational factors such as technology, size, structure, strategy and company experience in the particular or other relationship. Obviously the above factors will dictate the degree of power the one organisation has over the other and the extent to which one of the organisations will dominate the relationship (Hakansson 1982).

(iii) The atmosphere of the interaction

The atmosphere of the interaction was thought to be a product of the exchange episodes and long-term interactions of buyers and sellers. It was described in terms of the power-dependence and the degree of conflict or co-operation existing between the parties. The overall closeness or distance in social terms and the parties’ mutual expectations were also used to describe the atmosphere. The overall atmosphere of the relationship and the interaction processes are mutually dependent and affected by each other, i.e. they are characterised by a dynamic nature.

(iv) The environment of the interaction

The overall macro-environment within which the interaction takes place has an effect on the relationship. The parties to the interaction are not treated in isolation but interact within a broader national or international market affecting their own relationship. Other parties to the market will exert an influence on the relationship and this was conceptualised as the degree of market dynamism affecting the buyer-seller relationship. Similarly, the buying or
selling firm’s motivation to be involved in international relationships, the degree of influence from other parties in the channel between buyer and seller and the wider social system will exert an influence on the particular relationship. The interaction model can be applied at a conceptual level to ship manager–shipowner relationships (see Gray and Panayides 1997).

The interaction model was empirically tested in five European countries, viz. France, Italy, Sweden, the United Kingdom and West Germany. More than 300 companies manufacturing/processing industrial goods were targeted and the actual relationships with their customers were examined in depth, by structured interviews. The IMP Group concluded that long-term relationships in European industrial markets are very common and also characterised by stability and source loyalty, high costs of change of partner and power dependence (Turnbull and Valla 1986). Social distance and cultural differences were also found to affect the relationships between suppliers from one country and buyers from another country. In fact, the implications of source loyalty, stability, power dependence and long-term relationships were found to be more significant in domestic relationships.

3.4.1.2 The network approach

The research carried out by the IMP Group has been closely linked with the development and application of the network approach in marketing. A network may be characterised as sets of two or more connected exchange relations between individuals or organisations (Cook and Emerson 1978). However, unlike dyadic theory, which focuses on the exchange relationship between two actors, the network approach takes into account other relationships and interactions that influence or may be influenced by, the focal relationship. The focal relationship is viewed as being embedded in networks of continuing relations. As Cunningham and Culligan (1990, p. 509) state:

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"The uniqueness of each network derives from a combination of two factors - one, the uniqueness of each relationship with its own specific history and dynamic, and two, the unique combination of several relationships into that network".

Hakansson and Snehota (1995) view networks as a structure of actors, activities, resources and their bonds, links and ties, between two focal organisations and other third parties integrated into that structure.

Inter-organisational network relationships are associated with social exchange theory rather than strict economic exchange theory because of the presence of dependence, development of commitment and the influence of power positions among the exchange parties (Cook 1977; Cook and Emerson 1978; 1984).

The interactions and relationships of companies within networks are governed by similar principles to those that govern dyadic inter-organisational relationships. It is suggested that there is a division of work in an industrial network, which gives rise to interdependence between the companies. This chain of interdependencies between relationships is without limits and can span over several relationships, forming the network (Hakansson and Snehota 1995). Interdependence leads companies to co-ordinate their activities through interaction (Johanson and Mattsson 1987). Networks are both stable and changing as firms engage in transactions, and new relationships are formed and old relationships disrupted but leaving the system of activities functionally intact (Hakansson and Johansson 1988). Relationships are developed due to the formation of bonds of various kinds which have been distinguished into technical, planning, knowledge, socio-economic and legal, in the industrial business network context (Johanson and Mattsson 1987). Lorenzoni and Ornati (1988) propose that networks may create 'constellations' into which smaller firms may enter and grow through inter-organisational relationships. Thorelli (1986) states that a network may be considered in terms of positions, and links between the interacting parties.
A position is a location of power that depends on the economic base, technology, expertise, trust and legitimacy of the network participant. Links are multiple bonds formed due to interdependence and take the form of investments in a network relationship. Thorelli (1986) differentiates between “hardware” investments such as customer specific productive equipment and “software” investments in building expertise and trust.

3.4.1.3 The Wilson et al. contribution

Buyer-seller relationships in industrial marketing have received conceptual and empirical attention by Wilson and his colleagues in the United States. The studies were based on the conceptualisation by Wilson (1975) of a buyer-seller dyadic interaction model known as the “Dyadic Sales Process Model”. The model’s underlying assumptions are that:

(i) the buyer is attempting to secure a bundle of attributes (product-, company-, or salesperson-related) from the seller. The attributes may be tangible or psychological in nature.
(ii) the relationship develops over a period of time and it occurs at a dyadic level.

The relationship is conceptualised to develop in five stages hereby considered.

(i) Source legitimisation

The salesperson needs to establish himself as a legitimate and credible partner.

(ii) Information exchange - problem identification

Exchange of information between the parties with the salesperson trying to receive information that will lead to identification of the buyer’s problem so that he will be able to suggest a satisfactory package.
(iii) Attribute delineation

The parties develop a bundle of attributes that will be exchanged. The attributes may include product features, finance terms, product quality, delivery etc. Attributes may remain important but not determinant of how the relationship is maintained over time. Wilson (1975, p.395) states that “interpersonal exchanges between the buyer and the seller may become more important as the purchasing problem moves to the re-buy situation”.

(iv) Attribute value negotiation

At this stage the relationship goes through a bargaining process where each party tries to put a value on the available attributes in order to gain a more satisfactory package.

(v) Relationship maintenance

In this final stage, the parties try to build upon and maintain their relationship, and personal bonds developing may enable the relationship to grow from a formal business to a more personal/friendship relationship. Relationship maintenance may yield mutual benefits with the buyer able to negotiate more satisfactory packages and the seller finding it easier to maintain friendly accounts rather than developing new ones.

Building upon the Dyadic Sales Process Model, the IMP Group’s Interaction Model, and the fact that industrial marketing relationships can be studied using constructs of interpersonal relationships research (Guillet de Monthoux 1975), Wilson and Mummalaneni (1986) proposed a framework of relationship development at the corporate level between industrial buyers and sellers. According to this conceptualisation, the relationship is initiated by the buyer and seller coming together because of the complementarity of their needs. Those needs can be satisfied from each other’s resources. A resource-dependence perspective (Pfeffer and Salancik 1978) is, thus, applicable and
leads the parties to a series of interactions (exchanges) with elements of both conflict and co-operation present (Wilson 1978). Interactions take place mainly at a personal/individual level and apart from knowledge of attribute-specific factors, the credibility of the parties is also established. During these interactions the parties also tend to assess the costs and benefits (product-, organisation-, or person-related) associated with the relationship. The viability of the relationship depends on the outcomes of these assessments, which will determine the degree of satisfaction or dissatisfaction of the participants. If the outcomes are satisfactory, the relationship will strengthen by the formation of bonds between the participants. Bonds are "the social psychological glue that cements individuals into the units we know as social relationships" (McCall 1970, p. 9).

Building on the framework of McCall (1970), bonds were described to be economic in the form of investments or social in nature. Investments are adaptations made by the participants in their products or processes in order to accommodate reciprocal requirements and increase the satisfaction of the other party. The investments made by one party will be met by reciprocal investments from the other party that will build-up the social bonds of trust, attachment and commitment, turning the relationship from its initial formal business nature to a close-personal nature.

In this preliminary conceptualisation of buyer-seller relationships, particular emphasis was given to the concept of commitment. Commitment represents true vendor loyalty, has a future orientation and also determines the stability, enduring quality and durability of the relationship. Following the conceptualisation of Rusbult (1980; 1983), Wilson and Mummalaneni (1986; 1988) developed the following constructs:
Commitment = Satisfaction + Investment - CLalt

since Satisfaction = Rewards - Costs.

Commitment = Rewards - Costs + Investment - CLalt


Mummalaneni (1987, p. 33) tested the above model empirically by putting forward the following hypothesis:

"Commitment to the relationship is multiply determined by satisfaction as well as the external constraints of the level of investment in the relationship and the quality of available alternatives".

The results obtained from a sample of industrial purchasing managers provided support for the above hypothesis. It was also determined that a close personal relationship between the buyer and seller is a better predictor of the continued stability of the relationship, rendering commitment to be a richer variable than source loyalty in buyer-seller relationships.

3.4.1.4 The Dwyer et al. model

A model illustrating the important variables in buyer-seller relationships has been developed by Dwyer, Schurr and Oh (1987). The model seems to rely heavily on the theory of social exchange in relationships propounded by Scanzoni (1979), and considers the buyer-seller interaction and the process of change in that interaction. Dwyer, Schurr and Oh (1987) suggest that relationships evolve through five distinct phases hereby considered.

(i) Awareness.

This refers to a mere recognition of potential exchange partners, for example through advertisements or situational proximity. It includes any form of bilateral interaction that will mark the beginning of the next phase of possible relationship development.
(ii) Exploration.

This is a period of testing and evaluation between the parties and may be brief as minimal investment and interdependence may lead to early termination. It consists of five subprocesses as follows.

1. Attraction.

The result of a reward/cost outcome achieved between the buyer and the seller in their initial interactions. The outcome should be in excess of some minimum level (CLalt).

2. Communication and bargaining.

Bilateral communication is essential for relationship development. Bargaining is defined as "the process whereby in the face of resistance parties rearrange their mutual distributions of obligations, benefits and burdens" (Dwyer, Schurr and Oh 1987, p. 16).

3. Development and exercise of power.

Application of theories of interdependence as developed by Thibaut and Kelley (1959) and Emerson (1962) (see section 3.3.2).

4. Norm development.

Dwyer, Schurr and Oh (1987), quoting Lipset (1975, p. 173) define norms as "expected patterns of behaviour". Based on this notion, the parties in this phase set the guidelines for future exchange.

5. Expectations development.

This refers to relational expectations, which concern conflicts and co-operation among the parties. Special reference is made to the concept of trust as important in understanding expectations and imperative in any buyer-seller interaction research.

(iii) Expansion.

When the initial interaction outcomes are beneficial, the parties will derive satisfaction of the other's role performance; something that will enhance the relationship. As satisfactory
outcomes increase, the motivation to maintain the relationship will also increase. This will also be assisted by the increasing level of interdependence between the parties.

(iv) Commitment.

Commitment is defined as "an implicit or explicit pledge of relational continuity between exchange partners" (Dwyer, Schurr and Oh 1987, p. 19). At this stage the parties have reached a high degree of interdependence and satisfaction from their exchange outcomes and are less vulnerable to switch to alternatives. Commitment is measured by (1) inputs, (2) durability, and (3) consistency.

(1) Inputs: the resources invested by the parties in the exchange relationship;

(2) Durability: when the parties are willing to preserve the relationship and bond themselves by making investments that will safeguard continued relational exchange.

(3) Consistency: when inputs to the relationship are consistently and purposefully made with a view to maintain it.

(v) Dissolution.

Termination of the relationship which could come about for a number of reasons. The author contends that little is known about dissolution of buyer-seller relationships, occurring either in the stages or the processes reviewed.

Although the model may be viewed as a further step towards the explanation of buyer-seller relationships in different contexts, it lacks methods of operationalising key constructs and should be appreciated only for its conceptual contribution.
3.4.2 Relationship marketing in the channels of distribution context

Channels of distribution are characterised by close, complex and long-term relationships by companies (Ford 1980). A number of research approaches were utilised by scholars in an attempt to investigate inter-organisational relationships in marketing channels of distribution. All approaches were based, however, on the fundamental social exchange and organisational theories as well as the transaction-cost approach. This is because the constructs of power, dependence, control, conflict, co-operation, satisfaction/dissatisfaction and communication are essential for the investigation of the dyadic nature of inter-organisational channel relationships (El-Ansary and Robicheaux 1974; Robicheaux and El-Ansary 1975-76). Reve and Stern (1979) reveal that inter-organisational relations in marketing channels may be investigated more thoroughly and conclusively by application of social exchange theories and the variables of power, interdependence, conflict and satisfaction.

3.4.2.1 The political economy framework

Stern and Reve (1980), drawing on the political economy approach (Benson 1975; Wamsley and Zald 1973; Zald 1970) developed a unifying framework for the study of channel relationships by consideration of economic and socio-political factors. The approach has been defined as "a social system... comprising interacting sets of major economic and socio-political forces which affect collective behaviour and performance" (Stern and Reve 1980, p. 53). Two operative systems have been stipulated within the political economy framework, viz. the internal political economy and the external political economy. The division into economy (economic structure and processes) and polity (the sociological structure and processes) emphasises the economic and transactional characteristics as well as the behavioural and social characteristics of organisational
relationships. Figure 3.1 illustrates the political economy framework for distribution channel analysis developed by Stern and Reve (1980).

Figure 3.1: The political economy framework for distribution channel analysis  
Source: Stern and Reve (1980)

The constructs of the internal economy were described in terms of the transaction-cost approach and the nature of the economic decision mechanisms that determine the terms of trade among channel members. The internal socio-political structure (polity) was described in terms of power-dependence relations and the degree of co-operation and conflict within the channel. The external economy refers to the prevailing and prospective economic environment, and was perceived to be affected by the nature of its vertical (inputs and outputs) and horizontal markets. The distribution and use of power resources of external actors influencing the channel members were used to describe the external polity. The propositions put forward underlie that the economy and polity of channel systems are linked and must not be studied in isolation. This means that channel member relationship studies must take into account economic and social factors.
Arndt (1983) indicated that the political economy framework directs attention to inter-organisational management and internal marketing. Emphasis is given to exchange relations and ties of technical, economic, social, political, informational or competence nature. Inter-organisational management involves the relationship between a focal social unit and its environment. The most important dimensions of the environment were identified as being: (i) proximity to the focal social unit; (ii) environmental capacity (availability of resources sought); (iii) environmental differentiation (degree of heterogeneity and complexity of environmental elements); (iv) environmental concentration or dispersion, and (v) environmental turbulence (rate of change). Achrol, Reve and Stern (1983) conceptualised a primary task environment, a secondary task environment and a macro environment for channel dyads. The primary task environment is comprised of immediate interactants with the dyad, and the secondary task environment indicates immediate interactants with the elements of the primary task environment. The macro environment level is comprised general social, economic, political and technological forces, which affect the activities of the primary and secondary task environments. The author also makes a distinction between the perceived and enacted environment of channel dyads, the latter representing non-exchange external factors that might influence the exchange relationship.

Although the political economy perspective is a promising approach towards the analysis of exchange relationships, its potential has not been up to now utilised, mainly because of the difficulty of operationalising the highly abstract concepts put forward (Dwyer and Welsh 1985). It is, however, considered to be a direct antecedent of the relational paradigm (Ambler 1994).
Frazier (1983) conceptualised a framework of inter-organisational exchange behaviour among marketing channel members. The framework is made up of three processes, the initiating, implementation and review processes, described in a sequential manner. In the initiation process, the channel members are described to have a need and a motive for establishing a relationship and, thus, search for possible partners. Relationship formation will be affected by the expected and deserved intrinsic and extrinsic rewards, organisational, personal and macro environmental factors. The parties will choose the best alternative and will form an exchange agreement after negotiations and bargaining. Three outcomes are suggested to influence the ongoing nature of the relationship. These outcomes include the level of role performance as reciprocally perceived, the level of power which will be influenced by authority and interdependence and the aspirations (goals, motivations) of the parties. Ford (1978) has also found that channel power and role expectations and performance affect the stability of a channel relationship and, hence, its on-going nature. In the implementation process, interactions and exchanges taking place will give rise to a series of variables that will influence the nature of the relationship. Evaluation of role performance, expected and actual rewards, power, interdependence, conflict and co-operation are the major variables. The parties will try to influence one another and make their goals as compatible as possible. If the level of goal compatibility and satisfaction is low, this will give rise to manifest conflict. Manifest conflict is the actual conflict behaviour (Etgar 1979) and may be combated by conflict resolution. On the other hand, co-operation and effort among members will lead the members to evaluate achieved rewards or losses (outcomes of the implementation process). In the review processes the parties will make attributions of responsibility for achieved rewards and use them to influence evaluations of firm and personnel performance. Depending on the level of credit attributed to the selling firm for achievements and rewards, attraction, trust and
dependence may be reinforced or diminish. It is important to note that attraction, trust and
dependence are again utilised as determinants of the strength of an exchange relationship.
The level of equity perceived to exist is the ratio of rewards (losses) to contributions made
by the participants. If it is perceived to be unequal, the firms will try to balance it out.
Outcome satisfaction/dissatisfaction will be reflected by a party's feeling of being
adequately/inadequately rewarded by the exchange relationship.

In subsequent research, Anderson and Narus (1984; 1990) presented models of working
relationships between distributors and manufacturers in industrial marketing channels.
Analysing the exchanges in a dyadic interaction context, the models were based on the
social exchange theory posited by Thibaut and Kelley (1959), Kelley and Thibaut (1978)
and Kelley (1983) (see section 3.3.1). The empirically tested models offered acceptable
explanations of the social exchange theory from a channel perspective. In fact, Anderson
and Narus (1990) conclude that the constructs of trust, co-operation, satisfaction, relative
dependence and power and conflict appear to offer the basis for a comprehensive model of
channel working partnerships. Another implication of the research is the positioning of
relative dependence - that is influence over and by the channel partner - as capturing more
fully the interdependent nature of channel relationships. Influence over and by the partner
firm are seen as the two related but distinct constructs of relative dependence, something
which supports the notion that individual behaviour is undertaken by the firms in order to
restore balance between them. Firms undertake a dependence balancing operation if they
perceive that there is a high degree of dependence on the other party. Heide and John
(1988) found that in a channel relationship the more dependent firm needs to safeguard its
transaction specific assets and does so by balancing the degree of dependence through an
increase in the replaceability of their partner.
Continuity of channel relationships, that is the antecedents to relationships that would last over a longer period, have been considered by Anderson and Weitz (1989). Continuity of a channel relationship was conceptualised as being a function of:

(i) Trust between the parties;
(ii) Power imbalance;
(iii) Communication between the parties;
(iv) Stakes, i.e. importance of the activities involved in the relationship;
(v) Reputation of the seller;
(vi) The age of the relationship.

The determinants of the “trust” variable were in turn said to include, the reputation of the seller, the backup support provided by the seller, goal congruence between the parties, cultural similarity, age, communication and power imbalance. Similarly, communication was said to be influenced by the stakes in the relationship, cultural similarity, competence of personnel liaising, the age of the relationship and trust. Continuity of a relationship was found to be positively related to trust, age and stakes. Reputation was found to have a slight negative effect. A negative effect was also exhibited by power imbalance, whereas communication was not found to have a statistically significant impact on whether the relationship was to continue. The variable of trust was positively related to most of the determinants. The higher the reputation, support, goal congruence, age and communication, the higher the degree of trust among the parties. Also, the less dominant one party is over the other (power imbalance construct) the higher the degree of trust. Relationships between parties with different cultural backgrounds were not significantly different from those of parties with similar cultural backgrounds. Higher communication levels also effect higher trust. Older relationships were also found to involve less communication connoting that the longer the relationship the better the understanding.
between the parties. Communication levels are higher where higher stakes and competent personnel are involved. Communication was not found to be affected by cultural difference.

Long-term orientation in channel relationships was also empirically tested by Ganesan (1994). Trust and dependence were again used as determinants of long-term orientation. A significant contribution to the work carried out by Anderson and Weitz (1989), was the finding that the parties who perceived idiosyncratic (transaction-specific) investments by their channel partners believed their partners to be trustworthy. Idiosyncratic investments were also found to have a strong effect on the commitment of both parties to a relationship (Anderson and Weitz 1992) whereas one party's commitment is positively affected by the perceived commitment of the other party. Commitment itself implies long-term orientation towards a relationship (Dwyer, Schurr and Oh 1987).

3.4.2.3 Relationship marketing and the Just-In-Time concept

The underlying objective of the Just-In-Time (hereafter JIT) system is for the supplier to produce and deliver the required item at the right time, in the right quantities. The JIT concept has become very important mainly because it can achieve lower inventory levels and at the same time maintain customer service. Scholars have indicated that improvement of the JIT system requires development of close co-operative and long-term relationships between the buyer and the seller (Manoochehri 1984; O’Neal 1986). In a review of the application of the JIT in Japan, Manoochehri (1984) indicates that the success of the Japanese manufacturers is based on the development of relationships with the network of their suppliers. Those relationships are based on trust, loyalty and long-term common interests. Since a JIT system requires sharing of confidential information between the buyer and the seller, the relationship marketing elements of trust and loyalty are imperative.
for its effectiveness. O'Neal (1986) theorises that implementation of close long-term co-operation will have widespread beneficial effects. He suggests that the buyer would be able to purchase from just one supplier (single sourcing). This will improve product quality and delivery service, reduce transportation costs and provide incentives for mutual planning and control to improve performance. Close co-operation will further reduce the uncertainty that normally exists in customer-supplier arrangements, whereas long-term pricing agreements will motivate suppliers to improve productivity. It follows that the philosophical foundation of JIT success is relationship marketing implementation. Implementation of the JIT exchange system will also increase the degree of interaction between supplier–manufacturer firms (O’Neal 1987).

Frazier, Spekman and O’Neal (1988) developed a conceptual framework of JIT exchange relationships between suppliers of component parts–materials and OEMs in industrial markets. The process model is made up of four stages - the interest, initiation-rejection, implementation and review stages - and relies heavily on inter-organisational and social exchange theories. The major characteristics of this framework are the influences of environmental conditions including environmental uncertainty and the development of positive norms if uncertainty is stabilised and there is a future orientation of co-operation among the parties. Norm development will be based on the commitments and investments made by the parties and will lead to the build-up of trust. The model lacks empirical investigation.

The criticality of inter-organisational exchange relationships in JIT implementation has been empirically tested by O’Neal (1989). The research tested the effect of the adoption of a JIT system by OEM producer-customers on the exchange behaviour of the supplier organisations’ marketing centres. The results supported the hypotheses put forward.
Adoption of JIT by OEM producer-customers was found to have the following effects on the suppliers’ marketing centres:

- greater tendency to form longer-term relationships with selected customers;
- greater care to be exercised on the selection of customers;
- more extensive market centres with a larger number of functional units to be developed;
- greater degree of openness during communications with customers;
- provision of a higher level of customer support activities for the OEM customers served.

3.4.3 Relationship marketing in services marketing

Relationship marketing represents a new concept now at the forefront of services marketing practice and academic research (Berry 1995). This reality is paradoxical given that there are few conceptual applications of relationship marketing constructs in the services marketing literature and even fewer operationalisations and empirical investigations. Notwithstanding this constraint, a review of the current relationship marketing models in services will be carried out in an attempt to reveal the key variables that are applicable to services and, hence, the ship management context.

3.4.3.1 Relationship marketing in the consumer services sector

Palmer and Bejou (1994) use previous relationship marketing models as starting points to identify six variables that lead to relationship quality. The variables are operationalised to provide cross-sectional empirical evidence of the existence of a buyer-seller relationship life-cycle in the investment services sector. The six relationship quality components were conceptualised to be: relationship satisfaction, sellers’ trustworthiness, sellers’ customer orientation/empathy, selling orientation/salesperson’s pressure, sellers’ expertise and
sellers' ethics. Relationship satisfaction refers to whether the perceived outcome of a service encounter met customer expectations. It includes satisfaction with the core service, personnel and the organisation at large. The importance of trust in buyer-seller relationships is also acknowledged in this study. Trust forms the second component of relationship quality. Sellers’ customer orientation and empathy refer to the ability of the salesperson to identify and satisfy customer needs and at the same time build trust and cooperation to enhance development of a long-term relationship. Unlike the aforementioned variables, which are positively related to relationship formation, the fourth component (selling orientation/salesperson’s pressure) may have a positive or negative effect on the formation of a relationship. If there is insufficient pressure from the salesperson, the relationship may not even begin. On the other hand, if the salesperson is perceived to be more sales oriented than customer oriented, it is highly unlikely that a relationship will be formed. The sellers’ expertise is the fifth variable of relationship quality. Expertise reflects competence with credibility, reliability, responsiveness and an ability to provide solutions being its most important determinants. Last, the ethical behaviour of sales personnel is seen as an important variable in complex, intangible and high credence services, i.e. services whose quality is difficult to evaluate before consumption.

The hypothesis that buyer-seller relationships go through a life-cycle has been validated by the study. It was also found that empathy increases as the relationship develops, whereas at the same time sales orientation/selling pressure decreases enhancing the relationship even further. Ethical credibility and trust have a positive effect on relationship development as well.

Shemwell, Cronin and Bullard (1994) investigated constructs specific to relationship marketing in three consumer-to-business areas, viz. physicians, car mechanics and
hairstylists. Unsurprisingly, the variables on which the research hypotheses were based were trust, commitment and perceived risk. It was found that increasing the level of trust results in greater commitment to the continuation of the relationship (the hypothesis was not supported in the hairstylists’ area). Also, increasing the level of trust results in lower levels of perceived risk (the hypothesis was not supported in the physicians’ area). Strong support in all areas was found, however, for the hypothesis that an emotional or affective commitment results in greater intentions to continue the relationship (continuance commitment). The fourth hypothesis that affective commitment is negatively related to perceived risk was not supported by the results. It was also found that consumers’ gender affects the levels of trust and commitment, with females exhibiting higher degrees of these characteristics with the service providers than males, although both males and females were found to trust their doctors and hairstylists more than their car mechanics. Although an introductory and illustrative study, it makes a significant contribution to relationship marketing in consumer services: the fact that commitment and trust are very well applicable to consumer-service provider relationships.

3.4.3.2 Relationship marketing in the professional services sector

Beaton and Beaton (1995) made a significant conceptual contribution to relationship marketing in services by treating the concept of commitment as the central variable in such buyer-seller relationships. They posit that commitment is not only the primary concern, but it actually overtakes quality and value in a services context. Service value and quality are actually treated as commitment determinants. They state (at p. 57):

"Commitment has come to represent the continued stability of a relationship at the conceptual level, and its manifestations serve as surrogate measures of the likely longevity of the marriage between buyer and seller, service provider and client".

The Wilson and Mummalaneni (1986) framework of commitment is expressly adopted in their study. Courtship, bonding and forsaking others are viewed to be the major
commitment determinants. Courtship refers to the satisfaction outcome of the parties from their rewards v. costs assessment during their interactions and exchanges. Because satisfaction is not easily quantified, service quality (reward) and monetary price (cost) may be equated to give a measure of service value and, hence, satisfaction. Despite adoption of this definition, there has been research (Bolton and Drew 1991) which suggests that satisfaction is actually an antecedent and not a consequence of service quality. Also, service value perceptions may change once the client becomes committed to the organisation, rendering the construct sufficient only as a determining variable of commitment. Bonding is the second construct of commitment that is utilised in this research. Bonding (structural and social) is again described in the form of investments and adaptations in procedures, policies and people made by the service provider and his client. The third construct of forsaking others refers to the availability of alternative service providers and their comparison level in terms of service quality and price. The negative impact of alternatives on structural bonding and commitment is discussed. The variables put forward are discussed in the context of the legal services sector but are not operationalised.

3.4.4 Other contexts of relationship marketing

Christy, Oliver and Penn (1996) have lately argued that aspects of relationship marketing may be applied to consumer markets. According to Bennett (1996, p. 418) consumer relationship marketing:

"Seeks to establish long-term, committed, trusting and co-operative relationships with customers, characterised by openness, genuine concern for the delivery of high-quality goods and services, responsiveness to customer suggestions, fair dealing, and (crucially) the willingness to sacrifice short-term advantage for long-term gain".

Sheth and Parvatiyar (1995) integrate literature on consumer behaviour to identify the antecedents of consumer motivation towards reduction in market choice and establishment
of relational behaviour. Consumers engage in relational behaviour because of personal influences (simplification of consuming tasks), social influences (family and norms), and institutional influences (peer groups, marketers and governments). Christy, Oliver and Penn (1996) concluded that the potential for relationship development in consumer markets will be a measure of the level of relationship-friendliness of the market. The level of relationship-friendliness will depend upon the product field and the customer segment.

Goldberg (1988), and Copulsky and Wolf (1990) argue that direct marketing and the development of consumer databases form strong tools in building a company-consumer relationship. Sirgy and Lee (1994) discuss how the traditional marketing mix of the four Ps can be related to relationship marketing for the interests of consumers, but also other organisation stakeholders by adapting a quality-of-life (QOL) approach.

Gruen (1995) investigates the differences between business-to-business and business-to-consumer relationships and builds a theoretical model of the consumer's perspective of psychological and behavioural outcomes of relationship marketing. The model relies heavily on earlier works (e.g. Dwyer, Schurr and Oh 1987; Morgan and Hunt 1994) and is not empirically tested. It does however, provide a theoretical basis to support the existence of commitment, satisfaction, trust and other relationship marketing variables in the business-to-consumer interaction.

More recently, Fletcher and Peters (1997, p. 537) identified the importance of trust and information exchange in consumer markets for companies “to move from ‘one-off’ exchange to on-going relational exchange in their customer relationships”. Applying a focus group interview methodology, O’Malley, Patterson and Evans (1997) propose that the approach of database and direct marketing communications are not adequate for
building relationships in consumer markets. On the contrary, this approach has a negative impact on the development of integral elements such as trust and commitment.

The study of relationship marketing from a consumer markets perspective has been limited. This is despite the possibility that the underlying relationship marketing principles will influence the parties involved. The lack of scientific inquiry prompted Ellis, Lee and Beatty (1993) to put forward some proposals and directions for future research in consumer relationship marketing.

It is clear that relationship marketing has been associated with such a wide range of activities and attitudes towards the customer, that it is difficult to exclude anything the firm does as not constituting a function towards relationship development. Relationship marketing has been associated with the development of social bonds as well as the investment of economic resources that will eventually lead to long-term, stable and empathetic relationships with customers. However, the context of developing relationships has not been limited to the buyer-seller exchange, but has been associated with a series of other interactions.

Proponents of this broadened view of relationship marketing are the advocates of the network approach, mainly in Scandinavia (Anderson, Hakansson and Johanson 1994; Hakansson and Snehota 1995; Johanson and Mattsson 1985; 1987). As described in section 3.4.1.2, networks rely on reciprocal collaboration, interdependence, communication, and an informal climate directed towards mutual gain (Powell 1987). The application of underlying relationship attributes is evident. Networks and governance issues have provided new ground for the extension of relationship marketing (see for example, Iacobucci 1996; Sanyal 1993). It is suggested in the network approach that relationships
should be developed not only with the customer but with all other external organisations that the firm interacts with (including competitors) and also with the firm's own personnel. The latter refers to the association between relationship marketing and internal marketing. Gronroos (1991, p. 12) suggests that "a relationship marketing strategy requires an ongoing internal marketing process". Internal marketing is essential if the 'part-time' marketers in the organisation are to be prepared adequately for their relationship marketing tasks (Gronroos 1990b). Ballantyne (1997) views internal marketing as a relationship development process. Through a case study in the banking sector, he interprets how internal networks enable the discovery of new knowledge among staff that can be transferred to the host organisation.

Relationship marketing has also been grounded in competition theory. In particular Hunt (1997, p. 431) argues that "...increasingly firms are competing through developing relatively long-term relationships with such stakeholders as customers, suppliers, employees and competitors". Gummesson (1997) introduces the concept of hypercompetition as a conflicting and opposite trend to relationship marketing. This again implies that relationship marketing involves co-operation among interacting parties which is the opposite to viewing customers as constantly switching among hostile competitors as proposed in "hypercompetition" theory.

The application of the underlying relationship principles has also been extended in the area of strategic coalitions between competitive firms for enhancing technology development (Doz 1988; Nueno and Osterveld 1988), in the formation and management of strategic alliances (Hergert and Morris 1988; Parkhe 1993; Spekman, Isabella, Varadarajan and Cunningham 1995), co-marketing alliances (Bucklin and Sengupta 1993), partnerships for joint research and development (Comer, O'Keefe and Chilenskas 1980), in the exchanges
3.5 Towards a conceptual model of relationship marketing in a professional ship management context

The review of buyer–seller relationships and relationship marketing facilitated the identification of the major constructs and characteristics of relationships, which can be applied in the ship manager–client relationship. For the development of a conceptual model, it is important to specify whether a dyadic or network approach should be applied, and also to identify the major constructs that can be utilised from a theoretical perspective.

3.5.1 Network versus dyadic approaches

The network and dyadic approaches were reviewed in sections 3.4.1.2 and 3.4.1.3 respectively. The network approach may be applied in a study of ship management companies. Apart from transactions and interaction with clients, ship management companies are engaged in a series of other interactions with suppliers, bankers, charterers etc. Networks with such organisations may be studied in relation to the focal ship manager–shipowner relationship. Ford (1990) proposes that relationships may be explored alongside a network of interconnected relations. Mattsson (1997) posits that the extended interpretation of relationship marketing could become close to the “markets-as-networks” approach if relationship marketing research focuses on interaction between the focal firms with regard to other actors involved in similar relationships.

However, such an approach was not utilised in this study. Despite the potential for future research, concepts of the network approach have not been widely operationalised. The
approach is still at an infant stage and its extraordinarily complex nature (Anderson, Hakansson and Johanson 1994) indicates that further refinement of the concepts is required. On the other hand, the focus of this research is on relationship marketing, which has been mostly studied in the context of dyadic relationships between the buyer and the seller. Application of the network approach and its empirical assessment in a ship management context will also require considerable investment of financial resources and time beyond the limits of this study.

Achrol, Reve and Stern (1983) indicate that in studying networks of inter-organisational interactions, initially there must be an understanding of the basic transactions and acts of exchange between pairs of social actors by applying a dyadic model. As Aldrich and Whetten (1981, p. 385) acknowledge: "the starting point for all studies of aggregates of organisations is a relation or transaction between two organisations". Although the relevance of the network approach and the influence of the environment upon the focal dyadic interaction between ship manager and shipowner are acknowledged, it only seems reasonable that in an exploratory study such as the current one, the focus should be on the dyadic relationship.

3.5.2 Cross-sectional versus longitudinal perspective

Past studies of buyer–seller relationships applied either a cross-sectional or a longitudinal perspective. For instance, the model developed by Dwyer, Schurr and Oh (1987) takes into account the development of a relationship over time. On similar grounds, Halinen (1997) researched the development and evolution of advertising agent–client relationships over time. This is termed a longitudinal approach to the study of buyer–seller relationships and has also been applied by the IMP Project Group (see section 3.4.1.1). On the other hand, a cross-sectional study aims to capture the characteristics of a relationship at a specific point
in time rather than over a period of time. This approach has been utilised more widely in the studies of relationships and has been applied by Teas (1988), Morgan and Hunt (1994) and many others. The selection of an appropriate perspective rests with the objectives of the research and the resources available including time. It would have been impossible from a practical perspective to research ship management relationships over time as this would most probably require observation of the relationship at the actual setting. Ship management or client companies would almost certainly decline such a request, bearing in mind the secretive nature of the maritime industry and the sensitivity of the topic of the study. Additionally, this would require a period of time beyond the limits available in this research effort. On the other hand, a cross-sectional approach is not incompatible with the general aim of the research set out in chapter 1. Hence, the latter approach will be utilised.

3.5.3 Context of the relationship

In a dyadic interaction model, marketing behaviour is regarded as an inherently social activity, where the outcomes of the exchange depend on structural arrangements and shared affective or cognitive images existing between the buyer and the seller (Bagozzi 1978a). Hence, in any conceptual model which aims to explore the relationship between the ship management organisation and the client organisation, the following contexts should be included:

(i) The dimensions of the relationship

The literature review in this chapter has assisted towards identification of the major constructs in buyer–seller relationships. Dependence seems to form a central part in buyer–seller relationships research (see section 3.3), and should be taken into account in an examination of ship manager–client relationships.
Relationship dimensions refer to the cognitive and behavioural perceptions of the relationship. The importance of dimensions such as trust, commitment, co-operation, friendship and conflict has been evident in all the major studies reviewed in this chapter. Additionally other relationship dimensions may be economic in nature like, for example, the investment of resources or adaptations in the particular relationship.

A conceptual model of ship manager–client relationships has to take into account the dimensions of the relationship. However, apart from communication, it is not known whether the constructs discussed in the literature are actually present in ship manager – client relationships. Hence, a conceptual model may seek to determine the presence of relationship marketing constructs and provide a theoretical link to the relationship marketing literature. This may be in contrast with the approach of many relationship marketing studies, where determination of the antecedents and consequences of dimensions is sought.

(ii) The structural characteristics of the interacting organisations.

Following the specification of Bagozzi (1978a), a relationship may be associated with the characteristics of the interacting parties or organisations, in this case the organisational characteristics of the ship management and client companies. Hence, a conceptual model may seek to determine such characteristics and investigate a possible association with relationship characteristics. A similar approach was applied by the IMP Project Group where it was conceptualised that the characteristics of parties in a relationship may affect the interaction process (see section 3.4.1.1).

Further justification for the conceptual approach utilised in this study is provided in the following chapter.
CHAPTER 4

Conceptual Model Development

By considering scientific approaches to model building, this chapter develops a model that may be used to provide a typology of the relationship between ship management companies and their clients (sections 4.1 and 4.2). The development of the conceptual model is based on the premise that characteristics of the ship manager–client business relationship may be associated with the organisational characteristics of the interacting companies. The model underpins the proposition of three theoretical hypotheses, thence, put forward (section 4.3).

4.1 The role of models

There is a general consensus among scholars that models are intended to be representations of real-life phenomena or situations. Buzzell (1964) purports that a model is anything used to represent something else whereas, Naert and Leeflang (1978, p. 9) state that “a model is a representation of the most important elements of a perceived real world system”.

Models are of extreme importance in science as they are used to delineate constructs that can be manipulated and tested empirically, something that could not have been achieved otherwise, bearing in mind the complexity of real-life situations. The behavioural sciences in general, and marketing in particular, are so complex to study (Ehrenberg 1966) that the abstraction and simplification of constructs through modelling is a prerequisite for describing and explaining real-world phenomena.

There are two major problems, in general, associated with model development. First, a model might not necessarily reflect reality in a perfect manner. Second, there can be an infinite number of models, ranging from simple to very complex, which can be built to
represent the same real-life system (Makridakis 1974). Aaker and Weinberg (1975) purport that the task of the model builder is to counterbalance model completeness (and thus validity) with simplicity (and thus usability).

In developing an adequate model to describe aspects of the ship manager-shipowner relationship, one has to have in mind the inherent problems and limitations. The aim should be to develop a model that adequately describes the real situation, and is general enough to permit exploration but focused enough to delimit the study.

4.1.1 Model classification

Models have been developed and applied in a variety of complex and diverse real-world situations. This has led to the development of a number of different typologies that classify models according to certain specific characteristics.

For instance, Lilien, Kotler and Moorthy (1992) diagnose the existence of measurement, decision support and theoretical models, whereas Ackoff (1962) classifies models according to the functions they are concerned with, categorising them into iconic, analogue and symbolic. On similar grounds, Lilien (1975) classifies models according to their specific use. He distinguishes between conceptual, descriptive, experimental/exploratory and prescriptive, without excluding others that might not fall into these categories. Conceptual models are those used by model builders in the initial stages of model development and abstraction. They help towards thinking about reality rather than describe it, something that is covered by the descriptive models group. Descriptive models may also be used for forecasting and planning. Experimental/exploratory models are those used to investigate the response and characteristics of a system. They are mostly used when it is impracticable or costly to experiment on a real system. Prescriptive models are developed to direct the course of action of their users in a given situation.
Naert and Leeflang (1978) also state that intended use is an important determinant of model specifications and distinguish between descriptive, predictive and normative models. According to this classification, descriptive models are aimed at describing decisions or other processes. Predictive models are used for forecasting or predicting future events, whereas normative (or prescriptive) models establish a course of action against which alternatives can be evaluated or compared. This classification is identical to the one by Montgomery and Urban (1969). They also classify mathematical marketing models according to the classes of instruments such as advertising, price, distribution, personal selling and new product (Leeflang and Koerts 1973).

Hunt (1983b) provides a classification of explanatory models, i.e. those models capable of answering ‘why?’ questions, by distinguishing between the different types of logic and rules of evidence utilised by each model. Models are categorised into deductive-nomological, deductive-statistical, inductive-statistical, statistical-relevance, the pattern-model and functional explanation.

The model that will be developed for the ship manager - shipowner relationship would initially fall into the conceptual models category of Lilien (1975), with the ultimate aim of becoming a descriptive model. The conceptual model should permit exploration of ship manager-shipowner relationships and conceptual (or hypothesised) links between the explored issues. The empirical testing of the model will assist in identifying its validity in the real world and permit description of real-life situations in a ship management context.

4.1.2 The link between models, theory and hypotheses

The conceptual model that will be developed should be based on some underlying theoretical assumptions. The empirical testing of the conceptual model will provide a basis for validation of the model, and hence, the underlying theory in a ship management
context. Braithwaite (1960) suggests that a model is epistemologically prior to a theory and should have the ability to suggest theory. Imperative in the development of this conceptual model is the assertion of Bagozzi (1984) that no theory is complete without an explication of why or how the terms in the proposition are linked. Hunt (1983a) explains the nature of scientific theory through a conceptualisation of its characteristics, accepted by philosophers of science, philosophers of social science and marketing theorists. He states:

"Theories are systematically related sets of statements, including some law-like generalisations, that are empirically testable. The purpose of theory is to increase scientific understanding through a systematised structure capable of both explaining and predicting phenomena" (Hunt 1983a, p.10).

The statement provides the fundamental basis of this research since it calls for empirically testable theory development; that is, a theory which is not far from observable reality, i.e. is not highly abstract. Zaltman, LeMasters and Heffring (1982, p. 107) state:

"Once a general theoretical statement has been made, the next step is to make a deduction and translate it into an empirical statement so that observations can be made and the "truth" of the statement tested. This testability of a statement is of extreme importance to logical deductive analysis".

Burnett and Chonko (1980) contend that a marketing theory should be such that it explains the variation of some marketing phenomena. The starting point is the delineation of a set of variables that will make up the system. The first step in testing a theory empirically is the development of research hypotheses that are operationalisable. Hence, the current chapter aims at making hypotheses that are consistent with the model developed, and are also capable of testing the support of the underlying theory and accommodating specified variables that are measurable.

4.2 Model development

Modelling all the concepts, elements, and processes that are present in the ship manager-shipowner relationship, is not a task that may be realistically accomplished. Given the scale of the phenomena and the virtually non-existent level of current understanding, such
an effort would require considerable time and resources. Furthermore, such a model would be so wide as to exclude any manageable empirical investigation. Therefore, for the model to be manageable, meaningful and operationalisable, some delimitation and simplification is required. Realistic simplification will not constitute a major drawback as all marketing models are based on assumptions that are employed to simplify an existing marketing situation (Lazer 1962).

The study requires the exploration of ship manager–client relationships, and identification of the constructs that may influence the development of particular relationships. The major constructs conceptualised to exert an influence on the relationship have to be selected, whereas other constructs incidental to the relationship must be eliminated. However, this elimination should not affect the usefulness of the study in practical terms.

Naert and Leeflang (1978), describe various approaches to model building. The approach developed by Urban (1974) is used in the development of the conceptual model associated with the current research, without excluding relevant concepts and ideas suggested by others. The following steps were adhered to in the process of model building.

(i) Problem finding.

The first step involves identification of a problem in a real-world situation. An understanding of the real problem areas will contribute to the selection of an appropriate model building technique. The latter is important because the model should be of direct relevance to the problem at hand and of practical usefulness. The review of the ship management literature and informal interactions with practising ship managers enabled the identification and specification of the problems that the model may assist in combating. The problems identified were reviewed in chapter 2.
(ii) Model development criteria.

Based on the understanding of the problem at hand, the next step is to determine whether the model should be descriptive, predictive or normative. The conceptual model aims to identify an underlying typology. Hence, it should be capable of becoming descriptive in nature. However, with further refinement in future research it may be used as a predictive tool for decision makers.

(iii) Specification.

This involves specification of the most important elements of the real-world system that will be included in the model. It also involves specification of the conceptual relationship between these elements. The first step is to specify the most important constructs from the literature review on ship management and integrate those with theoretical constructs from the relationship marketing literature.

The nature and state of the elements specified and the mechanisms linking them are not independent of environmental influences surrounding them, whereas no matter how detailed the model is, it must be studied in relation to some closed (bounded) system. It follows that illustration of environmental influences and a bounded system should not be omitted from the model.

It is recognised that the model represents a relatively high level of abstraction as individual constructs may have formed the basis for a thesis in their own right. Bearing in mind, however, the virtually non-existent level of understanding of the interactions of such constructs in the ship manager-shipowner relationship, it was felt that it would have been more useful to provide a structure of the key elements and the links between them. Modelling and explanation of individual concepts or more narrow areas could form the
basis of further research, once the fundamental links and relationships are identified and described.

(iv) Parameterisation or estimation.
This involves the determination of the parameters of the model, through the collection of appropriate data. The data will be gathered through the utilisation of the appropriate measures for the constructs under scrutiny. Where possible, measures for constructs operationalised in other contexts will be used, in order to improve validity.

(v) Validation
This involves evaluation and assessment of the model’s success in adequately accommodating real-life phenomena. The criteria for success might be considered in terms of:
- The degree to which the results are in line with those expected. This will be ascertained by comparing the conceptual specifications with the actual results that will be derived from the empirical examination.
- The degree to which the model is useful for clarifying/describing phenomena. This will be a measure of the simplicity and relevance of the model in its area of application.
- The degree to which the model is useful as a basis for determining optimal marketing policies. A measure for this will be the interest shown by practitioners in the study and the actual application of the model by ship managers once it has been developed.

Communicating the results of the study to the particular audience is essential.

(vi) Application or use of the model.
It is envisaged, that the proposed model, so long as it can be empirically tested and passes any validation requirements, will be useful to ship managers, their clients and shipowners seeking a ship manager to whom to entrust their ship(s). Section 9.1 in chapter 9 provides
an exposition of how the results and implications of the study are useful to each of these groups.

4.3 Theory construction

King, Keohane and Verba (1994) specify a set of five rules imperative in the construction of theories. These rules were followed in this study. First, theories should be falsifiable, meaning that they must be treated as tentative and must not be dogmatised. The bounds of applicability of the theory must also be specified. Second, theories should be internally consistent. If two or more parts of a theory generate contradictory hypotheses, the theory is wrong in principle. The third rule calls for the careful selection of dependent variables which should represent the variation that must be explained and must not cause changes in the explanatory variables. Rule four suggests that any concepts chosen should be observable where possible. However, in the study of relationships, it is virtually impossible to eliminate cognitive and behavioural concepts, which are largely unobserved. This hindrance may be overcome by defining the unobserved concepts in such a way so that those concepts, or at least their implications, can be observed and measured. The final suggestion is that theories should strive to explain as much of the issue under scrutiny as possible, notwithstanding the constraints imposed by any of the previous rules.

4.4 The conceptual model

Figure 4.1 illustrates the conceptual model developed for this study. The model does not seek to test or explain causal relationships. Rather, it aims to explore the possibility of an underlying typology between the characteristics of ship management business relationships and the characteristics of the interacting companies. Hence, the model aims towards classifying ship management organisations on the basis of client relationship and organisational characteristics. Rich (1992) notes that classification provides the basis for strong research by breaking the continuous world of organisations into discrete and
collective categories. Classification permits parsimony without simplicity, the ability to recognise fundamental structure and relationship (McKinney 1966), and a basis for theory development (Hass, Hall and Johnson 1966). The typology of ship management companies will provide a means for comparison by clustering them into categorical types without losing sight of the underlying richness and diversity that may exist within the type. The approach to classifying ship management relationships is original in a relationship marketing context. The approach has received favourable comments in a major marketing conference (Panayides and Gray 1997b). In addition, Storbacka (1997) applied the innovative approach in a relationship marketing context by segmenting customer bases in retail banking in order to facilitate better understanding of customer relationships. He shows that "such segmentation is a strong analytical instrument as a basis for formulating marketing strategies" (Storbacka 1997, p. 479).

The model initially permits exploration of the ship manager–client relationship and identification of the underlying characteristics of this relationship. It is conceptualised that not all relationships between the ship management companies and their clients will be exactly the same and that many of these relationships may share similar characteristics. On this basis, relationships may be broadly assembled into clusters with ship management companies in the same cluster having similar relationship characteristics in the interaction with their clients and different from companies in other clusters.

The model also permits exploration of the existence of an association between the hypothesised relationship clusters and the organisational characteristics of the ship management and client companies. The model allows the exploration of this association by initially profiling the clusters with the characteristics of the entities independently and by permitting subsequently a combination of the profiles in order to reveal an underlying typology.
Figure 4.1: The conceptual model

It is worthwhile to note that what is conceptualised does not remain unaffected by environmental influences. Attempting to model all such influences, however, would result in an unmanageable model. Whilst their effect is illustrated in figure 4.1, such influences are assumed to be constant for all ship management entities that will be scrutinised in the research. Also of critical importance is the fact that the whole model operates within a closed (bounded) system, i.e. it is assumed to be independent of other world events that
may affect it (cf. Bagozzi 1983). Each component of the model will be hereby considered in more detail, and theoretical support for the hypothetical links will be provided. With respect to the influence of the immediate and macro environment on the ship manager–client relationship, such issues will be referred to in the discussion and implications of this research in chapter 9.

4.4.1 Problem specification

The review of the ship management literature (chapter 2) revealed the major contemporary problems faced by ship management companies (section 2.5 and 2.6). It was suggested that the resolution of the issues confronting the sector may be grounded in the relationship between the companies and their clients.

Bearing in mind that ship manager–client relationships are unexplored, and the current level of understanding does not go beyond disparate opinions of practising ship managers, it was decided to develop a conceptual model that will permit the exploration and deepening of our understanding of such relationships. Hence, the conceptual model does not seek to solve the problems faced by ship management companies but to improve understanding that will allow logical decision making and actions that may contribute towards the resolution of problems.

4.4.2 Relationship characteristics

The interaction between ship management and client companies will inevitably be characterised by certain dimensions or relationship characteristics. These dimensions may or may not be present in other relationships. Similar dimensions may be present in relationships between other professional service providers and their clients. It is equally possible, however, that dimensions of relationships will differ even between companies offering different types of professional services. The limited research in the area of ship
management indicates that the dimensions of this particular relationship are not currently known. Hence, the model initially seeks to determine these dimensions. Owing to the limited scientific research in the ship management area and the fact that this study is exploratory, it was considered necessary to elicit the dimensions of ship manager–shipowner relationships directly from the parties involved in the relationship. Such an approach will provide evidence of the dimensionality of the ship manager–shipowner relationship, rather than testing the existence of pre-determined attributes borrowed from relationship marketing research in a multitude of diverse contexts. As Kannel and Egan (1976, p. 323) state: "it is not enough to hypothesise the existence of certain dimensions...and then build instruments which depend on these initial assumptions about dimensionality".

The model also specifies that companies may be assembled into segments on the basis of the characteristics of the relationship with their clients. Hence, it is conceptualised that certain companies will have relationships with a particular client that will have the same or similar dimensions and different dimensions from companies that will be clustered in another segment. The model indicates the presence of $a$, $b$, $c...ith$ segments in the group of ship management relationships that will be scrutinised. Hence, the determination of the number of such segments is another objective that will be accomplished through the empirical testing of the model.

4.4.3 Communication

Communication has been defined as "the formal as well as informal sharing of meaningful and timely information between firms" (Anderson and Narus 1990, p. 44). In the ship manager–client interaction, communication between the parties is essential. Therefore, it is given that for an interaction to exist, communication has been taking place. Communication, is hence, a dimension of the relationship that is known to exist. The
exchange and sharing of information is a critical factor in inter-organisational relationships. Dwyer, Schurr and Oh (1987, p. 17) state that: "... a relationship seems unlikely to form without bilateral communication of wants, issues, inputs, and priorities". Communication facilitates mutual participation in goal setting, adaptability of behaviour through feedback and co-ordination of efforts to achieve objectives (Anderson, Lodish and Weitz 1987).

On this basis, the treatment of the communication variable will be different from the other variables that may be present in the relationship. Communication will be used together with the other independent variables in the profiling of relationship clusters. This is because communication is known to be present, and aspects of communication (e.g. frequency, modality, content) may be associated with a particular relationship segment.

In resource-dependence theory (see s. 3.2.3) organisational uncertainty and interdependence are two critical variables (Pfeffer and Salancik 1978). In order to reduce uncertainty and alter their interdependence, members of organisations engage in interaction and information exchange. Communication is seen, therefore, as a medium to cope with and reduce dependency (Euske and Roberts 1987). Therefore, the greater the dependency, the greater the willingness to engage in communication.

Various dimensions are used in the literature (e.g. Mohr and Nevin 1990) to describe inter-organisational communication. Such dimensions include frequency, direction, modality and content. Frequency is used as an indicator of the amount of communication between the parties. Communication may be formal or informal (Stohl and Redding 1987). Formal communication refers to the structured, routinised manner of conveying day-to-day information, whereas informal modes are more spontaneous and personalised ways of communicating and may occur outside the organisational boundaries. Informal modes tend
to contribute to the build-up of trust. Content of the transmitted communication refers to what is included in the message that is transmitted. Content has been categorised in the literature on the basis of the type of information exchanged and the influence strategy embedded in the exchanged information (Frazier and Summers 1984; Mohr and Nevin 1990).

Other relevant issues with regard to communication include the length of particular information exchanges as well as the depth of exchange. Collecting data on all the communication variables discussed above, however, would probably require a research study in its own right. Adopting the theoretical basis of dependence, it can be hypothesised that the greater the dependency of the ship manager on his client the greater the willingness to engage in sharing and exchanging information irrespective of contractual obligations. Hence, frequency of communication only will be used in the profiling process, although it may be possible that useful information with regard to ship manager–client communication will be obtained during the elicitation of the dimensions of the relationship.

4.4.4 Ship management company characteristics

The literature review on ship management (chapter 2) provides an in-depth illustration of the issues that characterise contemporary ship management entities. The model requires the collection of data in order to reveal the organisational characteristics of ship management companies. These characteristics include the size, type, location and main business activity of the ship management organisation, length of time in the ship management business, number of vessels under management, specialisation by vessel type or service provided, number of employees ashore and on-board, use of manning agencies and annual turnover.

It is conceptualised that ship management companies with different characteristics will have different types of relationship with their clients. The model permits exploration of this
conceptualisation by profiling the relationship clusters in accordance with the
organisational characteristics of the ship management company. Hence, it will be possible
to identify any association between clusters and organisational characteristics.

The above conceptualisation is based on the concept of dependence. The variable of
dependence is grounded in the theories of power-dependence and resource-dependence
reviewed in chapter 3 (see sections 3.2.2 & 3.2.3 respectively). The attributes of
dependence are used together with our own conceptualisation, to explain how the
characteristics of the ship management entity affect the degree of dependence and, hence,
the relationship of the ship management entity with their client.

Emerson (1962, p. 32) states that "A depends upon B if he aspires to goals or gratification
whose achievement is facilitated by appropriate actions on B's part". Following the
notation, the ship manager depends upon the shipowner if he aspires to goals or
gratification whose achievement is facilitated by appropriate actions on the shipowner's
part. From the definition, it may be conceptualised that "appropriate actions on the
shipowner's part" refer to the agreement of the shipowner to entrust vessels to the
particular manager. The manager's "aspirations to gratification" is the degree of want to
keep the shipowner as a client and earn revenue (goal or gratification).

At first it would seem appropriate to think that all ship managers will depend on their
clients, since the clients represent their revenue earning source. However, although a
degree of dependency exists in every case, that degree of dependency may differ from case
to case. This is because the degree of "aspiration to gratification" may be different. For
example, an independent entity without any other business activities or own ships may be
more dependent on a particular shipowner, because managing for third parties is the only
revenue earning source. On the other hand, a ship manager owning vessels and managing
may not be dependent on his major client to the same degree, as he is also engaged in other revenue earning activities. As Emerson (1962, p. 35) states:

"The dependence of actor A upon B is directly proportional to A's motivational investment in goals mediated by B and inversely proportional to the availability of these goals outside the A-B relation".

The motivational investment (want to keep owner as earnings source) of a ship manager that is engaged in other activities may be less and also there may be a larger possibility of achieving goals (revenue) outside the relationship with the client.

The ultimate goals of ship management entities are, of course, growth, revenue and profitability. The size of the company is likely to determine the revenue generated annually. The larger companies will probably have a greater revenue generated from a greater pool of clients. It is, thus, logical to assume that the larger companies (size may be ascertained from number of ships, number of employees and annual turnover) may be less dependent on a particular client for revenue generation. Of course, the size of that client has to be taken into account. The importance of an exchange relationship is reflected by the size of the exchange or by the significance of the exchange (Heide and John 1990; Spekman 1988). If the client accounts for a very substantial percentage of revenue generation the dependency will be greater.

Organisational structure also plays a role as far as dependency is concerned. For instance, companies that have formed joint ventures may be less dependent on a particular client. The reason is that such companies may be dependent on a wider pool of clients that are more easily replaceable since they can be drawn from a variety of sources within the organisational structure. The availability of alternatives outside the relationship with the client is greater and, hence, the dependency may be less.
It is also conceptualised that the greater the time the ship manager has been in business the less the dependency on a particular client, obviously depending on other conditions such as the importance of the client. This is because an established ship manager may have developed a reputation and has a wider range of clientele that ensures continuity in revenue. That ship manager will have a wider availability of alternatives and thus, may be less dependent on a particular shipowner. On the other hand, a newly established ship management company that has attracted a given initial number of clients may be more dependent on them to stay in the relationship as the availability of alternatives is clearly narrower.

Specialisation refers to the differentiation and presence of a range of skills in the organisation (Aldrich 1979). If a ship management entity has developed a specialisation for managing a particular type or a narrow range of types of vessels, then this may affect the dependency on a particular client. This inference stems logically from the fact that specialisation would mean limiting the alternatives available, since there will be fewer ships that may be taken up for management. Hence, the more limited the availability of alternatives, the greater the dependency on a particular client-owner. The same holds if a ship manager has concentrated on the provision of a limited number of services, e.g. the crewing service alone.

With respect to the use of manning agencies, these are utilised mostly by companies that concentrate on the efficient provision of the crewing service. This characteristic may also have wider implications for ship management strategies.

4.4.5 Client company characteristics

A number of organisational characteristics of the client company may influence the ship manager's degree of dependence, and hence the dimensions present in the relationship.
Such organisational characteristics include the percentage of revenue contributed by the client, the length of time with the client, and the number of ships and type of management undertaken for the client.

It has been noted that dependency may be a measure of the length of time in business with the particular client. This is because the goals or gratification sought from the ship manager are more easily accomplished with an owner-client whose business practices are known. The ship manager will have greater efficiency in delivering satisfaction to the long-term client. Irretrievable transaction specific investments (see section 3.3.4) may have also been contributed by the ship manager who will, thus, be more dependent on the shipowner to stay in the relationship, as a potential dissolution may cost dearly.

It is also essential to note that a ship manager's dependency will be a measure of the importance of the particular owner-client organisation. Obviously, if the owner is a major client, the ship manager's dependency will be greater. To eliminate such bias, the relationship between the ship manager and the particular major client only will be examined, across different organisations (see also chapter 5, section 5.3).

The importance of the major client may be revealed by ascertaining the percentage of revenue attributed to the particular client and the number of ships managed for the client. Also, if ships are managed under full (or crewing) management contracts, the importance of the client is greater, since such contracts generate greater revenue.

Other client organisational characteristics which may influence the relationship include the geographical location of the client’s headquarters, the main business activity of the client, the market in which the client is engaged in, and the type of ships managed for the client. Geographical location of the client’s headquarters may have an impact on personal face-to-
face communication between the interacting parties. The client's main business activity may also affect a relationship. A client engaged in the shipping industry will make different demands on the manager as opposed to say a bank, that will entrust the vessel(s) to a professional in order to avoid the pressures of operation. Also a client engaged in tramp shipping may require more frequent contact with the manager, as opposed to a client in the liner business, where ship management is more structured since vessels run on scheduled voyages. Certain types of ships also require different commitments on behalf of the manager. For instance, specialised ships such as reefers or product tankers may require investment in training or the recruitment of specialist personnel with technical expertise. These organisational characteristics may potentially influence the relationship.

4.5 Specification of theoretical hypotheses

In order to assess the developed model empirically, certain theoretical propositions or hypotheses have to be specified. The hypotheses are based on the preceding discussion of the model and its various elements. Each of the research hypotheses is specified below:

**Hypothesis 1**

Ship management companies exhibit relationship marketing characteristics in the interaction with their major client.

**Hypothesis 2**

Ship management companies may be assembled into segments on the basis of the relationship characteristics they exhibit in their interaction with their major client.

**Hypothesis 3**

Ship management companies in the same relationship segment will share similar organisational and client characteristics.
4.6 Original contribution of the study

It is important to consider at this point whether the conceptual model developed and the envisaged outcomes will make a contribution and satisfy the research objectives of originality and practical usefulness.

Many aspects of this research should contribute towards its originality:

(i) the topic of ship management itself has received very little attention in terms of scientific research;

(ii) the relatively new concept of relationship marketing is considered for the first time as the basis for marketing the professional ship management service;

(iii) the relationship between the professional ship manager and his client has never been explored before at this level;

(iv) the application of conceptual and empirical methodology of the type utilised in this study has never been applied in a ship management context.

It is quite clear that the research should make original contributions for the advancement of knowledge from two perspectives. First, an original contribution is made through the understanding of business relationships among organisations in the maritime industry. Second, through the application and testing of various methodologies, an original contribution is made by identifying appropriate techniques for utilisation in scientific inquiry in the maritime industry. The extent to which an original contribution has been made is reviewed in detail in chapter 9.

4.7 Practical application and model usefulness

It was stated right at the outset that research should aim for the advancement of theoretical knowledge with practical applicability and usefulness. The advancement of knowledge comes from the development of theory and the improvement of practice. It is envisaged
that the proposed model and its empirical development will have important applications from a practitioner's viewpoint.

The model will be empirically developed through the collection of data from practitioners (see chapter 5). Its practical usefulness stems from the fact that managers' perceptions of organisations may influence streams of decisions made in them (Mintzberg, Raisinghini and Thoret 1976). Such decisions may involve adopting structures (Ranson, Hinings and Greenwood 1980), pursuing strategic alternatives (Child 1973), and more generally adopting responses (Kiesler and Sproull 1982). This information also has potential utility for managers since it points to largely implicit premises they may hold and presents them with opportunities for considering alternative interpretations of events (cf. Hambrick and Mason 1984). More fundamentally, uncovering managers' implicit frameworks may provide managers with some control over them (cf. Mitroff 1983).

Chapter 2 illustrated the scant attention given to the marketing function by ship management companies. The importance of relationship development as a means of marketing policy aiming for client retention was also established. The model initially aims to identify the dimensions implicit in relationships in a ship management context. Uncovering these dimensions and classifying them into potential clusters, will provide a greater understanding of relationship strengths and weaknesses. Ship managers may be able to use the classification for positioning their company in accordance with their client relationship objectives. Determination of relationship clusters and profiles on the basis of company and client organisational characteristics will provide a greater understanding of ship manager–client relationships. On this basis, ship managers will be better informed when taking decisions with regard to customer relationships.
The profiles of relationship clusters will also provide important insights with regard to the organisational characteristics (of the interacting companies) and the association of these characteristics to the relationship clusters. Through knowledge of the association between organisational characteristics and relationship clusters, ship managers will be able to identify the type of relationship that exists with their client, and what may be required in order to strengthen and improve the relationship. It will also be possible for ship managers to understand that changing organisational characteristics of their companies may affect their client relationships, and thus, take actions to prevent adverse effects.

The delineated organisational characteristics of the interacting companies cover a wide area to take into account the diversity of ship management and client companies. Thus, the model should appeal to a wide range of managers wishing to pursue a relationship marketing strategy.

The ship management review in chapter 2 facilitated the identification of a number of problems encountered by contemporary ship management organisations. Identifying and classifying the characteristics present in ship manager–shipowner relationships may provide an explanation for the existence of such problems like client defections, short-term contracts, client uncertainty and poor communications. If this is the case, ship managers with particular client relationship characteristics will be able to take appropriate corrective action. Hence, by facilitating identification and classification of client relationships, the model may enable ship managers to combat the problems currently encountered.

The aspects discussed in this study may provide an initial inducement to “change” in the ship management sector. By communicating the results to ship managers in a way that relates to their current marketing activities, it may be possible to provide a stronger foundation for marketing the professional ship management service.
Finally, it is envisaged that application of the model will not only be useful to managers in marketing terms, but will also be of benefit to their clients and the shipping industry at large, bearing in mind the importance of ship management in international shipping and the significant value and distinct advantages of relationship development in business.
CHAPTER 5

Operationalisation of the Conceptual Model

The aim of this chapter is to design and implement the methodology by which the conceptual model and the research hypotheses specified in chapter 4, will be tested in the real world. The methodology for data analysis will be discussed in chapter 6. The methodological design has been structured so as to address the following issues (cf. Denzin and Lincoln (1994)).

(i) Identification of the data required in order to connect empirical materials to the conceptual model and the specified hypotheses;

(ii) Who or what will be studied? This involves the identification of the most appropriate source for data collection;

(iii) What strategies of research inquiry will be used?

(iv) What methods or research tools will be used for collecting and analysing empirical materials? This involves the identification of the most feasible methods for data capture, and the development of research instruments for data collection with a view to the envisaged analysis of the particular type of data.

Imperative in methodological development is the minimisation of errors and biases during data collection. It is also essential to consider the validity of the research instrument and the reliability of the measures employed in order to assess the degree to which the results were affected by error. Figure 5.1 illustrates the major issues that will be considered in this chapter.
5.1 Research purpose and objectives

It is essential to outline a framework of research objectives that will guide methodological development. The following objectives have been set:

(i) To identify the characteristics (dimensions) of ship manager–shipowner relationships;
(ii) To identify organisational characteristics of the ship management and their client companies;

(iii) To carry out tests in order to identify the existence or otherwise of clusters among the ship management companies on the basis of their relationship characteristics;

(iv) To describe the clusters, if any, using the theoretical basis of relationship marketing;

(v) To identify any association between relationship clusters and organisational characteristics of the interacting organisations;

(vi) To develop a typology of ship management companies on the basis of their relationships with their clients and the characteristics of the interacting organisations;

(vii) To collect all relevant data with a view to the analytical methods that will be used in order to achieve the aforementioned research objectives.

It must be noted that the purpose of this study is not to test the relationship perceptions of ship managers, but to identify and describe them. The dearth of scientific research in the subject area means that the research is exploratory. Hence, the valuable contribution of this empirical study is vested in identification, classification and description rather than explanation.

5.2 Data required

Since one of the research objectives is to ascertain the association, if any, between organisational and relationship characteristics of the ship management and client companies, the data required for this research may be classified into three areas, viz. relationship characteristics, organisational characteristics of the ship management companies and organisational characteristics of the client companies. Chapter 4 also
addressed the importance of communication in the ship manager–client interaction. Figure 5.2 provides an illustration of the data required for this research.

![Figure 5.2: Schematic of data requirements](image)

The first type of data requires the identification of the characteristics of ship manager–shipowner relationships. The type and range of variables present in the particular relationship will be elicited directly from the respondents. The elicited relationship attributes will be used in the profiling of ship management companies (relationship profiles). Investigation is required of the association between the relationship profiles and the organisational characteristics of the ship management and client companies. Hence, data on organisational characteristics of the interacting companies are required as
illustrated in the diagram. The inclusion of the exact items of organisational characteristics, vests with the requirements of the conceptual model discussed in chapter 4. With regard to the communication variable, frequency of communication has been conceptualised as being an important measure in the interaction (chapter 4). However, elicitation of the relationship characteristics was performed prior to deciding on the exact measure of communication to be utilised.

In determining the type of data required for this study, substantial consideration was given to the available and applicable methods that can be used for the analysis of the data, and whether these techniques are compatible with the research objectives. A discussion of the data analytic techniques utilised in this study is provided in chapter 6.

5.3 Ship manager–shipowner relationship selection

The conceptual model developed in chapter 4 must be operationalised to carry out the empirical investigation. The model takes into account the ship manager and client organisations. Research concerning dyadic relationships (i.e. between two parties - ship manager and shipowner in this case) is faced with the dilemma of deciding whether to research one or the other side of the dyad, or both. A major problem for defining the model operationally is that relationship development is a complex area and may involve a number of different people or groups of people within both organisations. Financial and time constraints dictate that analysis of various individuals or groups that may be involved in relationship development is not possible. The choice of which side of the dyad to research should be in line with the research objectives (section 5.1). One of the objectives of this research is to identify and describe variables of the relationship in this business interaction. Relationship initiation and development would begin from the seller’s side, bearing in mind the distinct advantages to the seller described in chapter 3. Primarily, it is the ship
manager's actions that are required for the initiation and maintenance of stable relationships with owners. Therefore, it is most appropriate to research the member of the dyad that will initiate the formulation and provide the basis for relationship development, i.e. the ship manager. By identifying and describing the perceptions of ship managers with respect to relationship issues with their clients, the research objectives will be met. The research will also be useful for providing the basis upon which future research may strive to identify the shipowners' perceptions or the quality of ship manager-shipowner relationships, where a dyadic approach would be more appropriate.

It is also important to provide some justification over the choice to research the ship managers' relationship with their major client in terms of revenue generation. The requirement for homogeneity is imperative in the relationship selection. If, for instance, managers were asked to describe their relationship with any client, this would have an effect on the level of dependency, and it would have been difficult to make comparisons among ship managers. Hence, it is essential to confine the study to one type of client. The major client in terms of revenue generation was chosen because it ranks highly in terms of importance, and respondents will be more likely to be knowledgeable on aspects of this particular relationship. By requesting information on a particular focal relationship, informant bias is also minimised. Furthermore, it is essential for marketing purposes, to develop relationships with important - preferably the major - clients, as the costs involved from losing such a client would be much higher. It is also important to note that although ship management companies may treat all their clients with "sound ship management practice", relationships with more important clients would be different, if the conceptual application of resource-dependence theory (discussed in chapter 4), is valid in a ship management context. Furthermore, it also a fact that major clients do exist, since not all clients assign the same volume of business to particular ship management companies. In
the somewhat remote instance that there will be more than one major client, ship managers
would be asked to concentrate on one major client as far as data collection is concerned
(see further, section 5.8).

5.4 Key informant technique

It has already been suggested that many individuals or groups of individuals within the
ship management company may be involved in the relationship with the major client and
that researching all individuals or groups involved is not feasible. Hence, a method must be
utilised by which information about the organisation is obtained from one individual, or
unit, that is well informed. Furthermore, of significant importance in the research is the use
of an appropriate method for collecting information that reflects the characteristics of the
ship management unit and not the individual being interviewed. Seidler (1974) posits that
measurement of organisational characteristics requires research methods that are different
from those used to measure characteristics of individuals. Thus, research has focused on
the buying centre or, decision making unit (Bonoma, Bagozzi and Zaltman 1978; Webster
and Wind 1972), the strategic business unit (Buzzell, Gale and Sultan 1975; Schoeffler,
Buzzel and Heany 1974) and the distribution channel (Stern and Reve 1980) as the relevant
unit of analysis.

For the purposes of this research the key informant method will be utilised. This is a
method of collecting information about a social setting by interviewing key participants in
that social setting. Although some debate exists as to the appropriateness of key informants
(see Phillips 1981), the method is extremely useful where the organisation is the unit of
analysis. Campbell (1955, p. 339), states that the key informant method “enables the social
scientist to obtain information about the group under study through a member who
occupies such a role as to be well informed”. The method has been associated with
qualitative studies where in-depth information cannot be expected from survey respondents (Seidler 1974). It is also applicable, however, in survey contexts for obtaining quantitative information. It has been employed in such contexts extensively, especially in the marketing area (Phillips 1981).

In selecting the key informant from the ship management organisation, the criteria suggested by Campbell (1955) and Tremblay (1982) were adhered to. Thus:

(i) The key informants should occupy a role in the ship management organisation that enables them to develop and possess sufficient knowledge of the research issues, and;

(ii) The key informants must be capable and willing to communicate with the researcher.

John and Reve (1982) note that key informants are not considered to be representative members of the units of analysis in any statistical sense. However, a series of other guidelines have been put forward in an attempt to increase the validity of the key informant technique (see Mitchell 1994). The informant in the unit of analysis should have similar access to information and perspectives and biases as others in the unit of analysis. Furthermore, informants should be selected that occupy similar positions in each unit of analysis (Seidler 1974). Phillips (1981) provides evidence to suggest that high ranking informants are more reliable sources of information. Also, the greater the number of individuals involved in decision making, the less the representativeness of the responses of an individual informant. The fewer individuals involved in the decision making unit (DMU) the more valid the responses of a particular informant from that unit. However, evidence supports the view that the traditional, large DMUs in business, requiring multiple interviews, are actually reducing in size (see Stock and Zinszer 1987; Mitchell 1994).
Within the ship management setting, members at the top of the management hierarchy are selected as the key informants. Individuals such as the managing director or general manager are closely involved or at least knowledgeable of all aspects of the interaction with the major client. Research studies indicate that senior managers’ views are important because they interpret issues relevant to organisations (Daft and Weick 1984; Habrick and Mason 1984; Walton 1986). Although lower level departmental managers would interact with members of the client’s organisation, their knowledge would be restricted to aspects involving their individual departments. For instance, the chartering manager would have knowledge of the relationship regarding the chartering of the vessel(s) but not an overall knowledge of other aspects of the relationship. On the other hand, top managers would be more closely involved in decision making in the organisation like, for instance, decisions regarding investments in the relationship. Illustrating the point, studies by Pennings (1981) and John and Reve (1982) use the main decision maker rather than boundary spanning personnel as the key informant. The choice of the managing director, or general manager also limits the bias related to a large number of informants taking part in decision making.

A difficulty that might have an impact on the validity of the key informant technique in this particular study, is that single informants are more adequate on reporting observable rather than complex social phenomena (John and Reve 1982; Phillips 1981; Poggie 1972). The actual interactants are more adequate in reporting social phenomena. However, it has been suggested earlier that top management in ship management companies is very likely to be closely involved with the major client relationship. Furthermore, such individuals are the actual decision makers, something which supports the assertion that they should be the key informants.
5.5 Research methodology

The research methodology section attempts to answer the question of how the empirical part of the research should be conducted. The development of an interpretive or qualitative approach to social inquiry towards the end of the 19th century brought about considerable debate among scholars over the use of the traditional quantitative and the qualitative approaches in research methodology. It is important to highlight the features of each approach in order to provide the basis for supporting the methodological approach and data capture technique that will be used in the ship management context.

5.5.1 The qualitative–quantitative debate

Burrell and Morgan (1979) suggest that the roots of the debate between the qualitative and quantitative methodologies are found in the different assumptions regarding ontology, human nature and epistemology. The qualitative and quantitative approaches are seen as two extremes on a continuum, with the strict quantitative approach reflecting an objective, realist view of the world and the strict qualitative approach a subjective, idealist view of the social world (Morgan and Smircich 1980). The objective view bears a striking similarity to the epistemology of positivism, whereas the subjective view reflects a distinct non-positivist perspective. A quantitative researcher assumes that real world phenomena can be conceptualised as variables with objective, precise measures that attach numbers which capture important real world features (Neuman 1994). There is an emphasis on the empirical analysis of concrete relationships in an external social world. On the other hand, the subjectivist view gives rise to an epistemology that “emphasises the importance of understanding the processes through which human beings concretise their relationship to their world” (Morgan and Smircich 1980, p. 493). There is a focus on subjective meanings, definitions and descriptions that capture aspects of the real world for which it is difficult to develop precise measures. Layder (1988) suggests that the approaches reflect
distinctively different paradigms, the major differences being in the level of epistemology, the level of theory and the level of techniques (Brannen 1992).

The position taken by the quantitative approach is that its structure is logical. The first step involves determining the research problem from real-world phenomena and theory, and address these in the form of a conceptual model with causal or relational links between variables. Hypotheses are then developed which are used to test the causal relations between concepts derived from the theory. Operational definitions are devised and the data collected by a survey, observation or experiment is analysed in order to verify or reject the hypotheses. The empirical results are then used to develop the theory further.

In contrast, qualitative research involves less pre-structuring. The researcher identifies a broad area to be researched and then delves into it in depth in order to explain the events and interactions taking place. The research is most of the times longitudinal, in that the researcher captures data through a period of time, rather than in a single point of time (cross-sectional). The findings could again be used to develop theory in the particular area of research.

What is often emphasised in the qualitative-quantitative debate is the difference in method characteristics. As quoted in McClintock, Brannon and Maynard-Moody (1979), qualitative methods have been described as thick (Geertz 1973), deep (Sieber 1973) and holistic (Rist 1977). On the other hand quantitative methods are thin (Geertz 1973), narrow (Rist 1977), but generalisable (Sieber 1973).

Thus, the difference in epistemology reflects the difference in method, which in turn many times determines the technique that will be used for data collection. Both research
approaches make use of their own devices to explain their own set of assumptions about the social world (Rist 1977). For instance, quantitative researchers make use of experiments or surveys to obtain precise measurements. On the other hand, qualitative research involves techniques like participant observation and unstructured interviewing that assist towards understanding and describing processes in a complex social world.

Smith (1983, p. 9) states:

"To idealists, instruments do not have a standing independent of what they are designed to measure... To realists, instruments are a way to achieve an accurate reflection or measurement of an independently existing object".

Thus, the differences between the two approaches are epistemological, methodological and procedural. As Filstead (1979, p. 45) states:

"Quantitative and qualitative methods are more than just differences between research strategies and data collection procedures. These approaches represent fundamentally different epistemological frameworks for conceptualising the nature of knowing, social reality, and procedures for comprehending these phenomena".

5.5.2 Qualitative methodology: advantages and disadvantages

The intellectual positions which give rise to qualitative research are: phenomenology, symbolic interactionism, understanding, naturalism and ethogenics (Bryman 1995). Certain advantages are advocated by these positions. Primarily, the research reflects the views of the people that are being studied in an in-depth and non-manipulative manner. This gives rise to detailed description of the subject area with attention to minute detail as seen through the eyes of the subjects and not the researcher. Qualitative research, having an implicit longitudinal structure, also takes account of the fact that social life is progressing and not static. The lack of structure allows the researcher initial flexibility in deciding the exact aspects worth researching. A prior step in the epistemological process is the identification of variables worth estimating in the first place (Piore 1979). Qualitative research is ideal in identifying such variables. Because of this, qualitative methodology is
particularly suited for satisfying the first research hypothesis, i.e. identifying the relationship characteristics present in the ship manager–shipowner interaction.

The epistemological features reflect the type and quality of data that may be collected. Miles (1979, p. 590) offers the following view:

"Qualitative data are attractive for many reasons: they are rich, full, earthy, holistic, ‘real’; their face validity seems unimpeachable; they preserve chronological flow where that is important, and suffer minimally from retrospective distortion; and they, in principle, offer a far more precise way to assess causality in organisational affairs than arcane efforts like cross-lagged correlations".

Despite the above advantages attributed to qualitative methodology, a number of pitfalls have been expressed. Bryman (1995) discusses the problem of interpretation, the relationship between theory and research and the problem of generalisation. The first issue involves the inherent problems in interpreting events from the point of view of the subjects. Researcher bias and the intentions of the subjects may render such interpretation problematic. Further, qualitative researchers are more reluctant to contribute to theory once the research has been completed. Rock (1973) suggested that many sociologists are disinclined to depart analytically from the meaning systems they glean from the groups they study, preoccupied by the risk of losing touch with the real world. Another problem postulated with qualitative research is the extent to which results are capable of generalisation beyond the particular case under study. The implication is that contribution to wider theoretical development is limited. However, it has been stated that whilst statistical generalisation is not possible from a few case studies, that is not true for analytical generalisation (Firestone 1993; Yin 1993), or when an alternative conceptualisation of generalisability is applied (Schofield 1990), such as schema theory (Donmoyer 1990).
Another disadvantage is the fact that collection of “qualitative” data is extremely difficult and demanding. Qualitative data collection involves fieldwork techniques (e.g. participant observation, unstructured interviewing). These techniques require researchers to spend considerable time in the field of study, something which is time consuming. Furthermore, they are labour intensive and tend to overload the researcher with data.

Analysis of the data is itself very labour intensive, whereas the methods that may be used for analysis are not well formulated. This may result in presenting results which are unreliable, invalid and not generalisable (a discussion of validity, reliability and generalisation is carried out in sections 5.10 and 5.11).

5.5.3 Quantitative methodology: advantages and disadvantages

Proponents of quantitative inquiry argue that this methodology has been traditionally associated with the natural sciences, and anything not fulfilling the quantitative criteria is not scientific. In line with the objectives of natural sciences “social research aims to develop causal propositions supported by data and logic” (Davis 1985, p. 10). Quantitative researchers in the social sciences are themselves preoccupied with establishing the causal relationships between concepts. This has been seen as a way of absorbing the methods and assumptions of the natural scientists (Bryman 1995).

Quantitative results are more precise and valid in a statistical sense than qualitative results. The standardised, numerical form of the data and the structured methods of analysis render them easier to compare and analyse, and they are representative of the population from which they are taken. Thus, the reliability or generalisability of the findings can be accepted with greater confidence (Hart 1987).
Whereas the scientific nature of the approach is not disputed, debates exist regarding the nature of quantitative data. For instance, Mintzberg (1979) argues that statistical data lack the richness of qualitative data that allows descriptive capability, which is a pre-requisite in organisational research. Lack of rich description may imply ending up with statistically valid results of only the most plausible aspects of organisational behaviour (Hart 1987). Furthermore, Argyris (1979) posits that the results obtained from quantitative data and analysis may not be of high value to humans performing activities in everyday life, as they might be unable to adhere to the requirement of high precision.

5.5.4 Combining the methods

Despite the traditional debate between proponents of each approach, some researchers, appreciating the advantages that may be offered from a combination of the approaches (see Madey 1982), have used them in a synergistic manner. By ignoring the philosophical assumptions behind the approaches, and recognising their similar challenges and demands (Salomon 1991), researchers have actually moved the two approaches from conflict, to detente, to co-operation (Smith and Heshusius 1986). One such mixed-method design strategy is triangulation which refers to the use of multiple methods with offsetting or counteracting biases, in research of the same phenomenon, in order to increase the validity of construct and inquiry results (Greene, Caracelli and Graham 1989; Greene and McClintock 1985; Jick 1979; Mathison 1988) and, test for internal consistency or reliability (Jick 1979). The purposes served by using mixed methods are corroboration, elaboration, development and initiation (Rossman and Wilson 1994), as well as complementarity and expansion (Greene Caracelli and Graham 1989).

Nevertheless, the issue of ignoring philosophical assumptions and combining paradigms has been the centre of considerable debate between three groups of scholars; the purists, the
situationalists and the pragmatists (Rossman and Wilson 1985). The purists argue against mixing methods due to incompatibility of paradigms. The pragmatists advocate the logical independence of the paradigms facilitating their use in conjunction. The situationalist view retains the stance of the paradigmatic integrity of the purists, but argues that understanding of a research problem may be enhanced by exploring convergences from the alternative paradigms (Greene, Caracelli and Graham 1989). Despite the difference in philosophical assumptions, mixed methods have been used successfully, facilitating an increase in construct validity, interpretability and meaningfulness by counteracting inherent method biases and capitalising on inherent method strengths.

5.5.5 Choice of methodology in a ship management context

Despite the positions advocated by proponents of qualitative and quantitative methods, either when used alone or mixed, all methods have strengths and weaknesses (see for e.g. Peshkin 1993). The choice of a qualitative or a quantitative methodology must be guided by the objectives of the research, and the ease with which the required data may be retrieved by utilisation of either one or the other method. This position may parallel the “logics in use” approach advocated by Howe and Eisenhart (1990). They posit that methodology is grounded in the judgements, purposes and values that make up research activities themselves. To Howe (1988), the incompatibility of the quantitative and qualitative methodologies either at a level of epistemology or practice does not exist. He urges researchers to forge ahead with “what works”.

Bearing in mind the objectives of the research, a combination of qualitative and quantitative techniques towards data capture and analysis will be more beneficial. This is because the elicitation of relationship characteristics from the ship managers, requires an open-ended approach that will capture the “richness” of the data. This cannot be achieved
by strict utilisation of what is termed "quantitative methodology", because the descriptive
capability of structured quantitative data is limited (see section 5.5.3). On the other hand,
the statistical techniques envisaged for utilisation in the determination and profiling of ship
management clusters require data that can be more easily retrieved by designing structured
questions associated with the quantitative approach. Hence, what is envisaged is primarily
to use a qualitative approach to capture the relationship dimensions of the ship manager–
client business interaction. In order to investigate the possibility of clusters of companies in
accordance with the relationship dimensions, it is essential to design an instrument that will
facilitate utilisation of statistical methods of analysis. A structured quantitative instrument
is also more suitable for collection of data regarding the organisational characteristics of
the interacting companies and for the subsequent analysis of such data. The use of both
methods is feasible as qualitative and quantitative methods are not mutually exclusive (Van
Maanen 1979), but are logically independent and can, therefore, be mixed and matched
(Reichardt and Cook 1979). Crompton and Jones (1988, p. 72) stated:

"In organisational research, it is not a mutually exclusive decision between quantitative
and qualitative methodology. In reality, it is difficult to study organisations without using
both sorts of methods. In any event, quantitative data always rests on qualitative
distinctions".

Thus, while aspects of both approaches will be utilised, the exact methodology does not tilt
towards the extreme quantitative or qualitative end, neither will there be strict application
of the extreme principles in implementing the approaches. Since the approaches are two
ends on a continuum, a combination of the methods on any points of the continuum is
justifiable.

Once the method of research inquiry has been ascertained, figure 5.1 directs attention to the
specification of a sample that will be asked to participate in this study. The following
section deals with the methodology adopted for determining the sample.
5.6 Sample methodology

Tull and Hawkins (1993) specify a seven stage methodology for drawing a sample. The approach was utilised in this research as follows.

(i) The population

The population must be defined in terms of (a) element, (b) units, (c) extent, (d) time. Thus, the population may be defined as:

• element: prime decision maker (key informant)
• unit: in ship management companies located in the UK and Cyprus
• extent: with experience/knowledge in the relationship with the major client
• time: since he/she began working in the company.

The element of the population has been identified as the prime decision maker. This has been justified in the discussion of the key informant technique above (section 5.4). The unit has been defined as ship management companies in the UK and Cyprus. Several reasons have accounted for this decision. First, it proved necessary to restrict geographically the population under study, in order to keep the costs of the survey within the available budget (see survey methodology below). Geographical restriction will also facilitate a more in-depth investigation of relationship characteristics in the companies situated in these countries; exploratory and in-depth investigation being one of the objectives of this research. It is necessary to provide such an in-depth understanding before a study on a larger scale can be undertaken. The UK has been chosen, since it constitutes the world’s major ship management centre, with the largest number of ship management companies. Detailed statistics are provided in section 2.4.2 in chapter 2. Since the researcher is based in the UK, survey costs are kept low. The decision to investigate companies in Cyprus has been made on the basis that Cyprus is emerging as a key ship
management centre. Many of the largest ship management companies in the world are located in Cyprus and their number is increasing, rendering Cyprus within the top-ten ship management centres world-wide. Detailed statistics are also provided in section 2.4.2, in chapter 2. The differences between the two ship management centres (with London being the traditional maritime centre and Cyprus emerging as an offshore base for ship management companies), provides opportunities for comparison and investigation into the potential effects on the ship manager-shipowner relationship.

As explained in the key informant section, the chosen respondent should be an individual that is well informed about the relationship (extent). The “time” is defined as the period during which the respondent has been working in the company. Knowledge about a particular client relationship may have accumulated even when the respondent was at a lower position within the company. In identifying the actual informant, reference was made to past issues of maritime directories to ensure that all respondents have had at least 2 years of experience at the top level within the company.

(ii) Sampling frame

The sampling frame is a means of representing the elements of the population. For example, it may be a telephone directory representing households, or a listing of stocks in a stock exchange. A perfect sampling frame is required if a probability sample is to be taken. Tull and Hawkins (1993, p. 538) state that “a perfect sampling frame is one in which every element of the population is represented once but only once”.

Sampling frames for ship managers could be directories such as The Shipmanagers’ Register, Fairplay World Shipping Directory, Lloyd’s Maritime Directory or Lloyd’s Register List of Shipowners. However, the above directories are far from being perfect
sampling frames. The companies in these directories may be represented more than once, and under different names. It is common practice in the shipping industry for a shipowner to register each of his vessels in different companies, either to take advantage of tax regimes by flagging out or, in order to avoid claims against sisterships and/or other assets. Sisterships are vessels owned by the same company, and according to maritime law, they may be used to satisfy claims made against other ships of the company.

The evolution of open registries meant that shipowners could register their vessels in countries offering considerable savings in costs (Tolofari 1989). The law of open registries may require, however, for the owning company to be registered in the country. Therefore, a shipowner wishing to register his vessels under different flags, may form a number of companies equivalent to the number of ships, with each ship being part of a different company. All companies however, will appear in directories, despite the fact that they are under the control of a single entity. On the other hand, if claims against a ship owned by one company cannot be repaid by, for instance, the sale of the ship, the claimants may take legal action against a sistership. Therefore, if each ship is legally owned by another company, any claims against sisterships or other assets of the company will fail. Ship managers themselves may own vessels that are registered under different companies, but still appear as ship management companies in the aforementioned directories. Furthermore, shipowners themselves may appear in the ship management directories. For instance, a shipowner may set up a management company and assign the management of his own vessels alone to that company. Alternatively, a shipowning company may carry out management of vessels for a fellow shipowner only (a common practice in Greek shipping). All such companies will appear in ship management directories, but will not be the type of companies that this research is concerned with. This illustrates the disagreement
which exists over the exact number of ship management companies world-wide (Spruyt 1994, pp. 20-24).

The above discussion illustrates a major problem - the unavailability of a sampling frame from which the sample may be drawn. Due to this unavailability and a series of other reasons given below, a probability sample cannot be drawn, and therefore a non-probability sample methodology is assumed.

(iii) Sampling unit

The sampling unit is the basic unit containing the elements of the population to be sampled. This has been specified as “ship management companies in the UK and Cyprus”.

(iv) Sampling method

This is the method by which the sample units are to be selected. The most crucial decision to be made is the choice between a probability and a non-probability sample.

“A probability sample is one in which the sampling units are selected by chance and for which there is a known chance of each unit being selected. A non-probability sample is one in which chance selection procedures are not used” (Tull and Hawkins 1993, p. 543).

It has been stated earlier that due to the unavailability of a perfect sampling frame a probability sample cannot be drawn. However, other aspects relating to the nature of the research illustrate the need for a non-probability sample to be drawn.

Non-probability sampling would enable the researcher to choose specific members of the population to be interviewed. It is essential to make such choices in the research since many companies that appear in ship management directories do not offer services to third parties. It may, for instance, be a company of a shipowner who for business purposes
decided to separate management from ownership, but carries out management only for the ships of the sister company. It may include one-ship companies or companies carrying out part management for a fellow shipowner. Since the companies required are the professional ship managers, it follows that non-probability sampling is the only feasible route. Also, in choosing key informants, it is important to ascertain that the individuals have not just been appointed at their position, because this will significantly affect their knowledge of the client relationship. To accomplish this task it is essential to choose respondents who have appeared in the shipping directories as occupying the same position for at least the last two years (previous editions of the directories have been consulted for this purpose). This can only be done through a non-probability sampling procedure.

Nevertheless, criticism of the non-probability sampling method dictates the need for further consideration. The validity of inferring findings from a non-probability sample may be criticised, as the sample will not be drawn from the entire population of ship managers. However, the following three comments can be made.

The research is exploratory and its valuable contribution lies in the context of investigating and describing an area that has never been the subject of scholarly consideration. The study will provide the basis upon which quantitative approaches may be undertaken for investigating the validity of the inferences made to the whole population. The research may be repeated on different samples, or ship managers operating from other locations in order to test the findings of this study. While such an approach could be used to test the validity of the research, it is beyond the limits imposed by financial and time constraints. However, further research to test the findings of this study is encouraged, and may be pursued at a later stage.
The sample included all the companies operating from the UK and Cyprus. An examination of the companies reveals that the diversity of major organisational characteristics (e.g. size, number of ships, number of employees) is represented in the sample. The sample cannot be said to be representative of all the ship management companies all over the world. However, it is representative and illustrative of two quite different ship management centres and hence, there is a basis for comparison between the two. Additionally given the research emphasis on discovery rather than justification, a small geographically restricted sample does not mitigate the value of this undertaking. Rather its potential contribution is obtained from the original ideas, which in future research can be exposed to justification-oriented research strategies.

Thirdly, in a study conducted by Mason (1995), a non-probability sampling method was used because of the unavailability of a sampling frame to represent the whole population. Therefore, the business travellers of one airline flying from one airport to continental Europe were surveyed, whereas further research to test the validity of the findings was encouraged.

(v) Sample size

The use of non-probability sampling, limits the availability of any statistical techniques that may be utilised in determining the adequate sample size. However, a series of other considerations may be helpful towards determining the size of the sample. Chisnall (1992) suggests that the size of a sample depends on the population characteristics, the cost and time constraints, and the aims of the research. Since financial cost and time are major considerations, a manageable sample size should be selected. Sudman (1976, p. 89) recognises the constraints imposed on a doctoral candidate regarding sample size when stating:
"There is frequently a conflict between the candidate and his committee over sample size, since, for the committee, the data are free, but, for the candidate, they involve the use of a scarce resource - time".

It is acknowledged, of course, that the actual size of the selected sample should give valid results and not put the accuracy and precision of the survey at risk.

Non-probability sampling allows the researcher to select a smaller but adequate sample, and at the same time increases the accuracy and reliability of the survey. Although one may suggest that the bigger the sample the greater the accuracy, that is not the case. The relationship between sample size and population size is essentially unimportant. Large sample sizes help to reduce sampling error, but not sampling bias (unless the sample is 100% of the population). As Richardson, Ampt and Meyburg (1995) state, relatively little attention is often paid to reducing sampling bias by ensuring that the questions are being asked of the right people. An inclination to select a large sample is very common among researchers and has been described as "the fetish of the large sample" or, "conspicuous consumption" (Black and Champion 1976, p. 313). Increasing the sample size will increase the efficiency of the sample estimate. However, this is the case provided a probability sampling method is used. Increasing the sample size would imply additional costs. Therefore, the researcher should be content with an adequate number. Sykes (1990) notes that it is not always necessary to collect a large sample for it to be representative. Indeed many industrial studies are based on quite small samples, as the population is small (Hart 1987).

A total of 98 ship management companies operating from the UK and Cyprus were represented in the maritime directories consulted. Many of the companies however, were not professional ship management companies and were thus, subsequently excluded from taking part in this study. During the implementation of the survey methodology (see
section 5.8), a number of other companies were found to be ineligible for participation or have ceased to exist. This resulted in 45 companies participating in the first stage of the survey.

Having taken into account the considerations discussed previously, it is suggested that the final sample of 45 professional ship managers would be an adequate sample size for the purposes of this research. Selecting all companies operating from the UK and Cyprus assisted in the minimisation of sampling error (i.e. ensures precision). Also, by applying the key informant technique discussed earlier, sampling bias was minimised, and the accuracy of the survey was improved.

(vi) Sampling plan

The sampling plan involves specification of how each of the decisions made thus far, are to be implemented. Such issues are discussed in the survey methodology section (section 5.8).

(vii) Selecting the sample

This involves the actual selection of the sample elements and requires a substantial amount of office and fieldwork, particularly if interviews are involved (Tull and Hawkins 1993). Selection of the sample elements was based on information gathered from directories and further description of this selection is provided in the following paragraphs.

5.7 Data capture techniques

Interviews by telephone and mail questionnaires were the two data capture techniques selected for satisfying the requirements of the study. These choices have been made on the basis of the research objectives, the type of required data, the research methodology
adopted and the extent of the resources available. A detailed consideration is given in the following sections.

5.7.1 Telephone interviews selection

Relationship characteristics may be elicited from respondents, either through face-to-face interviews or telephone interviews. Mail questionnaires are less appropriate for variable elicitation, because of the need to ask a limited number of open-ended questions and the requirement for using probes until the researcher is satisfied that the respondent cannot offer any new information. A consideration of the advantages and disadvantages of each method has led to the selection of telephone interviews as the most appropriate method for the elicitation of relationship attributes. The first aspect that has been considered was that of the actual cost of carrying out a particular survey. Neuman (1994, p. 245) states that "the telephone interview is a flexible method with most of the strengths of face-to-face interviews but for about half the cost". Studies reporting actual cost comparisons strongly support the assertion that face-to-face interviews cost at least twice as much as telephone interviews (Collesano 1985 in Frey 1989; Groves and Kahn 1979; Hochstim 1967; Siemiatycki 1979). Utilisation of face-to-face interviews would mean that the researcher would have to travel to the respondents. With the ship management companies located in many areas (i.e. London, Glasgow, Cyprus, Isle of Man), the cost of carrying out such interviews would have been considerably high and beyond the budget limits of this study. On the other hand, telephone interviews are considerably less costly and offer a distinct advantage in terms of time. Telephone interviewing also allows the elicitation of relationship attributes in a much shorter period than personal interviews. The importance of this lies in the fact that the time period between the interview and the follow-up questionnaire (see section 5.7.2 below) should not be exceedingly high.
Thorough consideration was given to the issue of whether data obtained from telephone interviews would be of lower quality than that obtained from personal interviews. Research studies indicate that the quality of the data collected by telephone interviews is comparable to those collected by face-to-face interviews (Rogers 1976). If anything, telephone interviews have been found to be associated with lower interviewer effects than in-person surveys (Groves and Kahn 1979; Tucker 1983). De Leeuw and Van der Zouwen (1988) report that the few consistent differences in data quality between the two approaches appear to be getting smaller over time. A comparison of interviewing methods has shown that due to the physical presence of the interviewer, respondents in a personal interview are more likely to give socially desirable answers than those interviewed by telephone (Colombotos 1965; 1969). Response rates are comparable (Rogers 1976), whereas both methods enable the conduct of the survey at specific times at the respondents’ convenience. A review of 25 empirical evaluations of telephone interviewing by Quinn, Gutek and Walsh (1980) indicated that the method compares favourably with face-to-face interviews in terms of subject matter that can be covered, response rates, length of interview and data quality. With respect to subject matter that can be covered, Payne (1956) suggests that almost anything that can be asked in person (apart from items requiring visual aids) can also be investigated by telephone.

The disadvantages of telephone interviews were also considered. For instance, telephone interviews are usually shorter and do not allow the use of visual aids. However, for the purposes of this research, elicitation of relationship attributes would not take longer than 15-20 minutes and the use of visual aids is not needed. Telephone interviews are also susceptible to error and section 5.8 illustrates the actual steps taken to improve response rates and minimise error. In general, the decision to use or not to use the telephone interview method lies within the context of the research problem (Ibsen and Ballweg
1974). Bearing in mind the data requirements and the time and resource constraints, the decision to use this method is justified.

5.7.2 Postal questionnaires selection

Once relationship attributes have been obtained, the research requires the use of a method for collecting data regarding organisational and client characteristics. A profile of the actual relationship attributes present in each company must also be obtained. After thorough consideration of the available methods for collecting this information it was deemed appropriate to use a postal questionnaire.

The data required for the second phase of the survey served as the guideline for the selection of the data capture technique. The data required would have been difficult to capture with a telephone interview. The length of a prospective interview and the type of questions that needed to be asked made this data capture technique inappropriate. Personal interviews were also deemed inappropriate for the reasons outlined in section 5.7.1. On the other hand, mail questionnaires offered certain distinct advantages, compatible with the requirements of this phase of the survey.

Mail questionnaires have been deemed particularly useful for surveys of professionals (Erdos and Morgan 1970). Sudman (1985, p. 349) states: "Because professionals are often busy and difficult to locate for a personal interview, mail procedures are an especially efficient method for reaching them". Surveys based on postal questionnaires are low in cost and may cover a wide geographical area. It is important in this phase of the survey for the respondent to be able to check personal and company records if necessary. Postal questionnaires offer this advantage in addition to the fact that the questionnaire may be completed at the respondent's own convenient time. Interviewer bias or variability should
be non-existent in mail questionnaires (Boyd and Westfall 1955; 1965; 1970; Schyberger 1967), whereas the possibility of socially desirable responses is extremely remote (McDonagh and Rosenblum 1965; O’Dell 1962; Wiseman 1972). The data required in the second phase of the survey include aspects that may be considered confidential in the ship management context. For instance, issues like revenue generation by the major client, annual company turnover, number of ships under management and characteristics of the client’s company, may be highly sensitive. Respondents are more likely to answer sensitive questions when they do not have to face an interviewer or speak to someone directly (Frankfort-Nachmias and Nachmias 1996). This makes the use of mail questionnaires in the second phase of the study especially applicable. Furthermore, Singleton, Straits and Straits (1993, p. 265) state:

"A mailed questionnaire usually yields the most reliable information when closed questions are used, when the orders in which questions are answered is unimportant, and when the questions and format are simple and straightforward".

As illustrated in section 5.8.9.1 (questionnaire design), the questions utilised are of a simple format. The questionnaire is split into sections making it more difficult for respondents to answer questions randomly. The type of responses required, however, mean that answering the questions in any particular order will not bias the results. Mail questionnaires also tend to be more valid than either personal or telephone interviews because they enable respondents to verify their responses by consulting their records (Nuckols 1964).

Probably the major problem associated with mail questionnaires is the lower response rate when compared with other data capture techniques (Wallace 1954). High response rates in mailed questionnaires, however, are not a remote impossibility. Heberlein and Baumgartner (1978) reviewed 98 experiments on mailed questionnaire response rates and found that over one-quarter had a final return of more than 80%. A series of strategies have
been utilised in this study in order to increase the response rate in the second phase. These are discussed in section 5.8.10 below.

Neuman (1994) suggests that questionnaires have clear limitations for questions requiring visual aids, open-ended questions and complex questions. These types of questions, however, were not required for the second phase of the survey. Although opportunities for probing are not available, the questions asked were either of a multiple-choice format or required stating a fact (see section 5.8.9.1.4) and once a response had been chosen, no further clarification was required. Another limitation of mail questionnaires discussed in the literature is the lack of control over who fills out the questionnaire. This limitation, however, generally arises when questionnaires are sent to households and the general public. In this study, the questionnaire is sent directly to the identified key informant who has already taken part in the first phase of the survey and who has agreed in advance to complete the questionnaire.

5.8 Survey methodology

Figure 5.3 illustrates the process followed in carrying out the actual survey.
5.8.1 Identification of eligible companies and key informants

The selection of companies eligible for this study and the identification of key informants has been achieved by consulting *Lloyd's Maritime Directory 1996* and *Fairplay Shipping Directory 1996/1997*. These were the latest available versions of the directories. Hence, the
risk of changes in address, telephone numbers or personnel was very low. Both directories provide information such as full postal address, telephone, telex and fax numbers, key personnel such as managing director, general manager etc., the type of management services available, and the types of ship under management. A cross-check between the two directories provided further evidence of the validity of the information, although discrepancies were also identified. Lloyd's Maritime Directory 1996 also gives numbers of vessels under management. However, information about vessel types, vessel number and services can be deemed to be correct only at the time of the directories going into print.

All companies located in the UK and Cyprus and appearing in the directories were considered. Ninety-eight companies in total were reported in the directories. Each company was individually considered and its eligibility for taking part in the research was ascertained. This was accomplished through independent research into the companies and the information that appeared in the directories. For example, in some cases it was expressly stipulated that the company does not undertake third-party management, or that the company is a subsidiary managing ships for the owning group only. The task proved extremely difficult because, as anticipated, many companies appeared twice in the directories, whereas others were manning agencies that do not provide ship management services. Eligible companies were those, located in either the UK or Cyprus and offering ship management services to third parties. Forty-five companies comprised the final sample out of a total of 98 companies reported in the maritime directories. The specification of associate and parent companies as well as number of ships in the directories assisted in ascertaining whether companies were eligible for the research.
5.8.2 Obtaining the co-operation of the International Ship Managers’ Association

As was stated elsewhere, the International Ship Managers’ Association (ISMA) is a professional body, set up by leading ship management companies, with the primary objective of improving the quality of ship management services (see chapter 2). The Association now has 33 member companies, 9 of which have been identified as eligible to be included in this research study. The association has some form of influence over its members. Hence, it was deemed appropriate to obtain a supporting letter from ISMA and include it in the preliminary letter mailing as a strategy for increasing the response rate. Sudman (1985) notes that sponsorship from professional organisations (which may include simply a letter of endorsement) is important for making clear the legitimacy of the research. Diamantopoulos and Schlegelmilch (1996) state that a form of approval from an organisation valued by potential respondents establishes trust and improves response rate. The ISMA letter was, of course, only included in the mailing to ISMA member companies. The researcher made personal contact with the secretary of the association on a few occasions; including a personal visit to ISMA offices in London (October 1995) and meetings during ISMA’s annual general meeting (September 1996) and at the 7th Lloyd’s Ship Manager (LSM) Ship Management Conference (September 1996). The secretary was contacted by telephone on 26 February 1997 and his co-operation in the study was obtained. He agreed to prepare a letter suggesting the participation of ISMA members in this study, and requested more detailed information to be transmitted to him by facsimile. The ISMA letter was based on information regarding this study included in the facsimile message and sent on 27 February 1997. The secretary of ISMA visited the University of Plymouth on 6 March 1997 after an invitation by the researcher, who organised a lecture on ship management for postgraduates. The letter prepared by the ISMA secretariat can be seen in appendix C.
5.8.3 The advance letter to key informants

All key informants were sent a preliminary letter. The advance letter serves many purposes in the research. For instance, it reduces respondent surprise and uncertainty associated with an unexpected telephone call and, thus, improves data quality. The advance letter was shown to reduce refusal rates in samples of the general public (Dillman, Gallegos and Frey 1976). The letter, printed on the “University of Plymouth” letterhead, also provided evidence of the authenticity and legitimacy of the research, and was shown to increase cooperation during subsequent telephone interviews (Dillman 1978; Frey 1989).

The guidelines provided by Dillman (1978), Frey (1989), and Frey and Oishi (1995) were adhered to in the preparation of the advance letter. The guidelines include:

- printing the letter on University of Plymouth letterhead stationery;
- the letter should not be lengthy (not more than one A4 page);
- a personal salutation (e.g. Dear Mr. Smith) is used;
- the letter is signed in blue ink;
- the letter is dated to coincide with the mailing.

The contents of the letter included:

- that the key informant will be called very soon and that he specifically needs to be interviewed;
- how the respondent was chosen;
- a concise description of the study; a neutral and general description was given (marketing in ship management) because respondents may have been put off by the stipulation that the relationship with their major client would be researched;
- time expectation and advise to the respondent to ask the interviewer to call back if the call is made at an inconvenient time;
confidentiality assurances, the importance of the respondent’s views and appreciation for his/her co-operation;

- a contact number for the respondent to call, if he/she requires further information.

A copy of the advance letter is shown in appendix D.

5.8.4 Telephone interview design

The authoritative Total Design Method (TDM) of Dillman (1978) was used in part for the design of the telephone interviews. Particular effort was directed at the reduction of refusal rates and bias, the introductory/acquaintance procedure, the answers to potential reasons for refusal to co-operate, and the answers to possible respondents’ questions.

5.8.4.1 Reducing refusal rates in telephone interviews

The effort to reduce refusal rates in the telephone interviews survey included the establishment of credibility on the part of the research and the researcher, the preliminary letter explaining aspects of the study (section 5.8.3), collaboration with ISMA (section 5.8.2), and the design of the telephone interview introductory procedure.

The establishment of credibility is a key issue in the success of a research study. With ship managers being frequently consulted for participation in various surveys (some of which may have been a bad experience), the task of the researcher in this study has been by no means easy. The researcher’s credibility, but also the credibility, validity and usefulness of the research are imperative in obtaining respondent co-operation. An effective way of establishing credibility is through publications and conference speeches. The researcher presented a paper at the 7th International LSM Ship Management Conference (Panayides 1996a) where many of the respondents to this study were present as delegates. The
publication of the conference proceedings by LLP Ltd is a book widely purchased by ship managers. The paper presented was based on the research and a leaflet was distributed among the delegates (see appendix E) in order to provide further information about the study. A number of delegates showed special interest in the study and were more easily accessible in subsequent contacts. Credibility was also pursued through a series of publications in the ship managers’ vicinity (Panayides 1996a; 1996b; 1996c; 1997; Panayides and Gray 1997a; 1997c).

One of the most important issues in increasing response rates in telephone interviews is the introductory procedure. To effect a higher response rate, particular effort was directed to this procedure by sending respondents a preliminary letter. For ISMA members the letter prepared by the association was enclosed. Particular attention was given to the interview acquaintance procedure.

Dillman (1978) suggests that lengthening the acquaintance procedure on the telephone may reduce refusal rates in telephone interviews. The acquaintance procedure was quite long and the following issues were particularly directed towards reducing the refusal rate:

- reward by expressing positive regard and through receipt of results;
- emphasising the usefulness of the study;
- assurance of confidentiality;
- stipulation of short time period for the interview (about 15 minutes);
- offer to answer any questions about the research;
- “is that OK?”.
(i) Effects of expressing positive regard and offering the results at the end of the study

Dillman (1978) viewed the telephone interview as a special case of social exchange, incidentally one of the theories upon which relationship marketing is based (chapter 3). Social exchange theory can be used to increase response rates by offering rewards to potential respondents (other than economic rewards). Thibaut and Kelley (1959) purport that, being regarded positively by somebody else has a reward value for individuals. Expressing positive reward has been achieved by stipulating to respondents that they are part of a small and carefully drawn sample, and that their co-operation is of utmost importance for the success of the study.

Offering the results at the end of the study is an incentive which conveys trust to the respondent. The respondent will obviously incur costs in participating at the study. Offering tangible rewards such as a copy of the results tends to decrease the perception of those costs.

(ii) Effects of emphasising usefulness of the study

It has been shown by Slocum, Empey and Swanson (1956) that establishing an image of the social utility of the study can significantly improve response rates in telephone interviews. Dillman (1972) supported this in mail surveys of the general public. Hence, emphasising the usefulness of the study to the respondent and his organisation as well as to the ship management industry at large has been included in the objectives of the preliminary letter, the letter to ISMA, and the introductory procedure of the telephone interview. The fact that some respondents knew about ISMA’s support for this research also influences the social utility value of the study.
(iii) Effects of confidentiality assurance

Owing to the inherent secrecy of the ship management sector (chapter 2) it was considered appropriate to expressly stipulate assurances of confidentiality. Hence, confidentiality is assured in the advance letters and during the introductory procedure at the beginning of the interview. Research on the impact of assurances of confidentiality, however, have demonstrated no consistent or significant effects on refusal rates, on response rates or other data quality factors (Frey 1986; Singer 1978). Therefore, the decision to provide assurance of confidentiality is based on the particular circumstances of the target population. Nevertheless, confidentiality assurance must be treated with caution as there is evidence to suggest that the more vociferous the assurances, the more likely respondents will be careful in their answers (Frey 1989).

(iv) Effects of short time period stipulation

The key informants identified are busy executives at the top of the management hierarchy in ship management companies. Sudman (1985) notes that one of the reasons elite groups of respondents refuse co-operation in surveys is the fact that they are too busy and would like to spend time doing something else. Although a preliminary letter was sent to them, their co-operation is ascertained during the telephone introductory period. Hence, it was deemed appropriate to expressly stipulate once again that the time period of the interview would be short. Knowledge of the time involved provides to respondents with some evidence of the size of the task before them. This helps them to reduce the perceived costs of being interviewed and encourage them to give their consent.
(v) Effects of answering questions about the study

Offering to answer questions about the study seems rewarding to the potential respondents and promotes an attitude of trust and willingness to co-operate. Hence, reducing response refusals (Dillman, Gallegos and Frey 1976).

(vi) The final “OK?”

The most common way of ending an introductory procedure and asking permission to commence the telephone interview is by asking “is that OK?”. It is a natural way of ending the introduction and conveys a relaxed feeling rather than a feeling of being rushed into the interview (Dillman 1978).

5.8.4.2 Reducing bias in telephone interviews

The research interview is prone to a wide variety of biases (see Moser, 1951 for a comprehensive review). It is important to discuss and assess the potential errors and biases that might occur in the research interview. This will facilitate the identification of ways for avoiding or reducing their effect, where possible. If it is impossible to avoid potential bias, the existence of such effects must be acknowledged.

Interview bias may arise due to some characteristics that cannot be controlled (status characteristics), or due to role performance characteristics where a degree of control can be exercised (Williams 1964). In a study of destitute men, Rice (1929) recognised the possibility that different answers may be obtained from two interviewers asking the respondent the same question. Status or demographic characteristics that may account for interviewer effects include gender, ethnicity, social class, education and age. Published evidence, however, seems to tilt towards the view that most of the above characteristics do not have any significant effects on the responses obtained. For instance, Singer, Frankel
and Glassman (1983) report that interviewer education and age do not appear to have any significant effect on response quality. On the other hand, according to Collins (1980), research (e.g. Summers and Beck 1973) that suggests interviewer effects due to interviewer demographic variables seems to be inconclusive.

One interviewer characteristic that does seem to be consistently important is that of race. A number of authors have shown that when the interviewer and respondent are of the same race, the pattern of responses is different than when there is no matching in interviewer-respondent race (e.g. Hatchett and Schuman 1975; Schaeffer 1980; Schuman and Converse 1971; Webster 1996; Williams 1964). Similarly, Dohrenwend, Colombatos and Dohrenwend (1968), suggest that interviewer and respondent should have similar ethnic or class status to avoid bias. In general, however, such effects seem to occur when the respondents are asked topics of a racial nature (e.g. Hatchett and Schuman 1975; Schaeffer 1980; Williams 1964). No race of interviewer effects have been found in case of non-racial and non-political items (Campbell 1981). Furthermore, Boyd and Westfall (1965) suggest that this phenomenon is important only when the subject matter of the survey is sensitive. This suggestion was also supported by Weeks and Moore (1981, p. 247): “a difference in ethnicity between interviewer and respondent does not appear to affect the latter’s survey responses to non-sensitive questions”. Williams (1964) also reports that the race of interviewer is associated with bias only when social distance is high and an interview question is highly threatening. Since the current research does not involve questions on racial or highly sensitive topics of this sort, the race of interviewer effects are not considered to be of much significance.

The length of the interview may have an effect on responses, especially for questions asked towards the end. This is because respondents might not be motivated to answer questions
towards the end of a long interview. Herzog and Bachman (1981) posit that if the topic is of interest to the respondent and motivation is maintained, the quality of the data is not distorted even at the latest part of two hour long interviews.

Some researchers have also produced evidence of correlation between the attitudes of the interviewers and the reported opinions of their respondents (Barr 1957; Freeman and Butler 1976). However, Feldman, Hyman and Hart (1951), and more recently Collins (1980) have overruled such correlation on the basis of their research.

A further potential source of bias is the interviewer's voice intonation in the interview. Although the interviewer's voice intonation may have some effect on response behaviour (Barath and Cannell 1976; Oksenberg and Cannell 1988), it was thought that by trying to keep a constant, loud and clear tone of voice throughout the interviews, any possible biases would be highly remote.

Interviewer effects, i.e. bias due to differences among interviewers (Tucker 1983), are negligible, due to the fact that all interviews have been carried out by the researcher and the procedure was fairly standardised.

5.8.4.3 Introductory procedure

Since most refusals occur during the introductory procedure of the telephone interview (Collins, Sykes Wilson and Blackshaw 1988), this section is of special significance. The introduction was written with the aim of convincing the respondent to be interviewed, since very few respondents terminate once the interview begins (Dillman, Gallegos and Frey 1976). The introductory procedure should include a statement of who is calling, why the call is made, reference to the advance letter and aspects specifically directed towards
reduction of the refusal rates. Research studies suggest a number of aspects that should be included in the introductory procedure in order to reduce refusal rates (Dillman 1978; Dillman, Gallegos and Frey 1976). Consideration of these aspects was given in section 5.8.4.1 above. Combination of the above and due consideration of the specific context of the research has led to the development of the following introductory paragraph:

Good morning/afternoon Mr/Mrs Surname. My name is Photis Panayides and I am a researcher at the University of Plymouth. I am calling with regard to the study on marketing in the ship management business. A letter was sent to you last week explaining a little about the study. Did you receive the letter? Your personal cooperation is very important for the success of this study as you are part of a small and carefully selected group. The study may prove to be very useful to your organisation, the results are strictly confidential and you will receive a copy of the results as soon as the study is completed. The questions I would like to ask will only take about 15 minutes and I'll be happy to answer any questions about the study. Is that OK?

1. If the answer is "NO": "I am sorry the letter didn't reach you. It was a brief letter to let you know that I would be calling".

5.8.4.4 Possible answers to reasons for refusals

It is possible that respondents may initially refuse to be interviewed but may change their minds if they are pursued further. For this reason, a number of answers to possible refusals have been prepared and utilised appropriately. Details are given in appendix F.

5.8.4.5 Answering respondent questions

Respondents may be interested in learning more about the study than the information already provided in the introductory remarks and the advance letter. Although the researcher is knowledgeable about the study and could provide an answer to many questions, it was deemed proper to prepare some model answers for possible questions, details of which are shown in appendix G.
5.8.4.6 Variable elicitation procedure

It was considered appropriate to begin the interview by asking a few general and easy to answer questions. These questions were related to the study in order to introduce the respondent to the subject area, and at the same time to retrieve answers of importance to the overall research. The following questions were used:

- Do you regard marketing as an important aspect in ship management?
- What do you think about competition to attract clients in ship management?
- Do you think that companies should try to retain their clients in a systematic way?

Telephone interviews have been deemed appropriate for eliciting relationship attributes from ship managers. A difficulty in eliciting expert knowledge is the development of a technique that will measure and understand the way experts, (i.e. the ship managers) view their relationship (Wright and Ayton 1987). This difficulty is overcome by adopting aspects of concept mapping methodology (e.g. Trochim 1989) - a technique whose analytical part is similar to that utilised in this study. The first step in the design of the telephone interviews involves defining the brainstorming focus. The brainstorming focus refers to the actual domain upon which ship managers will be asked to give their views. The brainstorming session was focused on the ship managers' perception of the relationship characteristics that are present in the relationship with their major client.

Brainstorming is a creativity technique that is used for statement generation in concept mapping. According to the basic rules for brainstorming (Jones and Sims 1985), the participants should be encouraged to generate as many statements as possible, and there should be no criticism of statements or ideas during the session. The telephone interview sought the elicitation of in-depth constructs of attributes characterising the ship manager—
shipowner relationship. The use of appropriate probes like “what do you mean by that?” or “can you give some examples”, sought further clarification without biasing the results.

The brainstorming session was initiated with the following statement:

- **I would like you to concentrate on your major client (you don’t have to identify the client). Can you describe the relationship between your company and that of your major client?**

A follow-up question was sometimes used when the respondent thought that he has exhausted the subject. It was of the form:

- **What have been the strengths and weaknesses in the past interactions between your organisation and that of your major client?**

The brainstorming session during the telephone interview served as the test of the first research hypothesis (i.e. whether relationship marketing attributes exist in the ship manager - shipowner relationship). In case the characteristics elicited by the ship manager are also relationship marketing characteristics, then the first research hypothesis will be confirmed.

At the end of the interview the respondent was thanked for his/her participation and was asked whether he would agree to complete a questionnaire that would be sent to him/her.

5.8.5 Pilot tests

It would be highly risky to begin a research survey without thorough pilot work on every aspect of the survey. There is a general consensus in the literature over the need and usefulness of pilot studies that are carried out prior to the main survey. It is suggested that
such pilot studies should be small scale replicas of the main research survey, and aim to try out systematically all the various features of the main enquiry (Moser and Kalton 1971). Pre-testing of the research instrument facilitates its modification and improvement, and may also provide insights into ways of approaching ship managers most strategically. The pilot study was also used to provide a preliminary justification of the first research hypothesis, i.e. that ship management companies exhibit relationship marketing attributes in the relationship with their major client.

In principle, respondents in pilot studies should be as similar as possible to those of the main survey (Oppenheim 1992). The pilot study was, thus, carried out on a sample of ship managers operating from the two different locations (UK and Cyprus). This ensures that the attitudes, behaviour and knowledge of the pilot respondents is comparable to those targeted during the main survey.

As already explained, the total accessible population for this study was relatively small. Therefore, it would not have been wise to use up many potential respondents for the actual survey, during the pilot study. A pilot sample of 5 ship managers was considered adequate for meeting the objectives of the pilot study.

5.8.5.1 Telephone interviews pilot test

In order to pre-test the telephone interviews procedure, a preliminary letter was sent directly to the key informants of the sample of ship management companies. Five companies were selected, located in Cyprus, Glasgow, London (2) and Southampton. A preliminary letter was addressed to the key informants in the companies and sent on the 20th of March, 1997. The preliminary letter was identical to the one designed for the main survey, in order to test its effectiveness and ascertain potential modifications. None of the
companies used in the pilot test were members of ISMA. Ship managers situated in the UK were contacted by telephone on the 24th, 25th and 26th of March 1997 and the interviews were carried out. The telephone pilot interview with the ship manager located in Cyprus was carried out about 8 days after sending the letter, in order to allow the letter to reach its destination. The following aspects were tested in the pilot interviews.

- The introductory paragraph and the acquaintance procedure for establishing rapport;
- answers to potential refusals;
- effectiveness of answers to respondents’ questions;
- the efficiency of the brainstorming session;
- the ease of handling the interview schedule by the interviewer;
- the usage/applicability of probes.

A small modification to the preliminary letter was considered necessary after the pilot interviews. In the preliminary pilot letter, there was no disclosure of the fact that the study involved completion of a subsequent questionnaire. However, there was a risk that this would amount to a disadvantage, with respondents refusing to complete the questionnaire as they had not been informed about it earlier. Hence, the sentence “the study involves a telephone interview and a questionnaire” was inserted in an appropriate position in the letter.

5.8.6 Telephone interviews data capture

It was considered that pre-arrangement of the timing of sending out a preliminary letter and the subsequent telephone call for the interview would be beneficial. If the interviewee was called on the day, or at least one or two days after he has received the letter, knowledge of the study would have been fresh in his mind and the telephone call expected. This was ascertained during the pilot interviews (section 5.8.5.1). During the introductory interview
procedure respondents would declare their knowledge of the study as they would have read the letter during the morning of that day, or the day before. Letters were hence, sent out in waves of approximately one week apart. The first wave consisted of the pilot letters. All ISMA companies were then sent a letter along with another 10 companies in the UK only. The third wave consisted of all companies located in Cyprus (so as to make the interviews before the break due to the Greek Orthodox Church Easter) and another 10 UK companies. The rest of the UK companies were sent a letter in the last wave.

The telephone interviews survey began on the 1st of April 1997 and finished on the 28th of April 1997. In total, 45 key informants were interviewed with 44 agreeing to complete the forthcoming questionnaire and one refusing. A total of 98 companies were retrieved from the maritime directories. Twenty-four companies were not contacted at all, because they have been deemed as not eligible for participation in this research. Another 24 companies that were sent a preliminary letter, were either found not to be eligible when they were called, or have ceased to exist. Hence, 50 companies were found to be eligible for interviews, 5 of which refused participation when they were called. This represents a response rate of 90% from the eligible companies. Of course, this response rate was achieved after many telephone calls. Most of the companies were called more than 5 times each, before the key informant would be available to speak to the researcher. It is also worth noting that 8 out of 9 nine companies that are members of ISMA responded positively and participated in the research. As explained in section 2.4.5, only a small proportion of ship management companies are members of ISMA.

5.8.7 Editing of statements on relationship characteristics

The first step towards editing of the statements was the typing of all raw data collected from the telephone interviews. This included all the statements elicited as well as other
notes that the researcher took during the conduct of the telephone interviews. Every company was dealt with individually, and a detailed account of what happened during the telephone interview was given. A small part of this report (one company) can be seen in appendix H. The final report consisted of 30,000 words. Once the report was typed the elicited attributes and statements were all written in a list and then divided by the researcher according to which characteristics they referred to (e.g. commitment, trust etc.). Of course, this allocation of statements to characteristics reflected the researcher’s interpretation. In order to minimise bias, the list of statements (106 statements) together with the attributes (9 attributes) and a definition of the attributes was given to a group of academic experts at the Centre for International Shipping & Transport, for allocation. The experts had to tick an appropriate box in a grid that was provided. This procedure took place between 28/4/1997 and 2/5/1997. The documentation relating to the method can be seen in appendix I. Five experts provided an objective allocation of the relationship statements to the relationship attributes. The researcher then used this allocation together with the researcher’s own, to come up with the best possible allocation of statements to attributes. Once the allocation was completed, each set of statements corresponding to one relationship characteristic was considered in turn. Unclear statements were deleted. Statements indicating the same or similar response were refined to a single statement. The procedure helped to distinguish between statements referring to the same attribute but different in context. For instance, four statements were identified as referring to trust, but not the same level of trust. Three statements were identified for commitment, co-operation, conflict, investments, adaptations and personal/contractual relationship. Two statements referred to functionality of conflict. The identified statements were included in the client relationship section of the postal questionnaire.
5.8.8 Mail questionnaires

Mail questionnaires were used for the second part of the survey. Detailed consideration was given to the actual design of the questionnaire, including layout and contents.

5.8.8.1 Questionnaire design and layout

Importance is attached to the size and design of the questionnaire as it can significantly affect response rates. A4 size sheets were used with the questions printed on one side of the paper and stapled in the top left-hand corner. This was in line with research that indicated that higher responses are obtained with single-sided printing (Hyett and Farr 1977). The use of A4 size sheets was also preferred because of the significantly lower cost compared to the use of A3 or A5 sized booklets, and the fact that there was no evidence to suggest that the use of any other size of sheets would significantly affect response rates.

The questionnaire was printed on white paper of high quality. Research studies have shown that the use of colour questionnaires had no significant effect on return rates (Gullahorn and Gullahorn 1959; Matteson 1974). It was felt that use of high quality paper would contribute towards the respondent’s psychological resistance to dispose of the questionnaire. The appearance of the questionnaire is important especially in stimulating an increase in response rates (Ford 1968).

5.8.8.1.1 Front cover design

It is most likely that the front cover of the questionnaire will be examined before any other part. Hence, its design is important for creating a positive first impression. Levine and Gordon (1958) posit that the appearance of the questionnaire frequently determines whether it is read or discarded. Dillman (1978) suggests that the front cover of a questionnaire should contain (i) the title of the study, (ii) a graphic illustration, (iii)
directions on how to complete the questionnaire, and (iv) the name and address of the researcher.

(i) The title of the study.

The title should be designed so as to convey the topic of the study in an interesting, but neutral manner. The title “MARKETING IN SHIP MANAGEMENT” is thought to achieve the aforementioned objectives. It emphasises a combination of areas (marketing and ship management) which should be of great interest to all respondents. A subtitle is useful on many occasions for appealing to specific populations. Erdos (1957) posits that the use of a flattering title helps in achieving higher returns from people in the upper echelon of industry. The subtitle “A STUDY AMONG TOP EXECUTIVES”, is thought to appeal to the respondent’s ego, and hence, it is used on the front cover.

(ii) Front cover graphic illustration

The official logo of the University of Plymouth is the graphic illustration used in the front cover of the questionnaire. The logo has been chosen on the basis that it will convey a neutral but also authoritative message. It also emphasises the fact that the study is carried out for academic and not for commercial purposes.

(iii) Directions of how to complete the questionnaire were also included.

(iv) Name and address of the researcher

Although the name and address of the researcher appears in the cover letter and a stamped-addressed envelope was included in the mailing, it was felt important for practical reasons to provide this information on the front cover. This is because sometimes questionnaires
are separated from the cover letters and enclosed envelopes may be misplaced. In such cases respondents would be unable to return the completed questionnaire.

5.8.8.1.2 Typeface

A simple typeface was used in the questionnaire in order to make it easier for the respondents to read it and increase their willingness to complete the form. The size of the text was 12 pt Times New Roman with questions printed in bold.

5.8.8.1.3 Page design (layout)

Importance is attached to the layout and other particular features that may be built into the overall format of the questionnaire. Sanchez (1992) has found that the layout and graphic cues built into a questionnaire play an important role and have detectable effects on the quality of the collected data.

Questions are typed in bold so as to be easily distinguishable. The type of questions used in the form have a number of multiple-choice answers. Such lists of answers will consume a large amount of space if arrayed vertically and will result in an excessively lengthy questionnaire. For ease and convenience in answering, the multiple-choice answers are arrayed in both horizontal and vertical space. Boxes were used for the respondents to register their answers by a simple tick. This was deemed a much more convenient and simple format rather than the use of numbered answer categories where respondents would be required to circle the number corresponding to their answer. Ample space was left for respondents to register their answers in questions requiring written responses.

The first and last pages are important in the design of the questionnaire. The first page should be short and contain easy-looking questions. Since many people may turn and look
at the last page before completing the questionnaire, this page must also be easy. Dillman (1978) suggests that the last page should be deceptively simple. It should consist of an invitation to make additional comments, expression of appreciation, and plenty of white space. Questions should not be included on the back page, especially in light of the fact that the questions that would appear there, are the sensitive items appearing towards the end of the questionnaire. The last page is also used as a medium through which respondents may air relevant views on topics not asked in the questionnaire.

5.8.8.1.4 Question format

Design of the question format has been based on the data requirements and the compatibility of a particular format with the requirements of the analytical techniques (chapter 6). It was deemed appropriate to design multiple-choice questions for some questions in the organisational and client characteristics section. The data required for the analytical part of the research facilitated the use of this format for some questions. Multiple-choice items could also be used to display a range within which an answer may fall. This would make the question look less sensitive and consequently reduce the risk of refusals due to the nature of the information asked. Levine and Gordon (1958, p. 572) state that "multiple-choice questions may be used to elicit a wide range of information from the respondent with a minimum of annoyance". It is acknowledged that requiring respondents to adhere to the alternative categories of a rigidly structured questionnaire may prove frustrating. Deutcher (1956) discusses the resistance of a professional group to closed-ended questions. Because of this, it was deemed appropriate in certain questions to provide an "other" category followed by "please specify", for respondents to register answers that were not covered by the alternatives presented.
Most of the questions, however, were not of a multiple choice format (especially the questions requiring numerical information). For instance, it was deemed more appropriate for the purpose of analysis to obtain exact numbers of employees and ships, annual turnover value etc. It was thought that obtaining information in this format would have considerable advantages for analytical purposes, and those advantages far outweighed the disadvantage arising due to the risk of refusals to answer questions in this format.

Questions on relationship attributes were again of a multiple-choice format. This format was considered adequate after editing of the answers given by the respondents during the telephone interviews. The format is also particularly useful in analysing the data using multivariate techniques like cluster analysis and multiple correspondence analysis (chapter 6).

5.8.8.1.5 Question sequence

The sequence of the questions in the questionnaire has received extensive attention by researchers and it is of equal importance in this particular research. There is a general consensus in the literature regarding the subject of question sequence (Brenner 1985; Chisnall 1992; Judd, Smith and Kidder 1991; Neuman 1994). The particular order must be designed with due consideration of the ease with which the respondent should be capable of answering the questions, context effects and the overall organisation of the items in the questionnaire.

It is preferable to place relatively easy and objective questions at the beginning of the questionnaire. However, those questions should be related to the content of the study and arouse the interest of the respondent. It is preferable to use more general questions at the beginning, and more specific, difficult or sensitive questions towards the end.
The major concern which stems from the sequence of the questions is the "question order effect" or "when responses are influenced by the question's placement within a survey" (Sigelman 1981, p. 199). Although such an effect will produce biased results, it is not implied that these question order effects must actually occur (Schroder 1985). They are more likely to occur, however, with general or summary questions than with others (Tourangeau and Rasinski 1988). An unsuccessful attempt to obtain order effects is reported by Bradburn and Mason (1964). To limit the possibility of question order effects occurring, questions must be developed to measure the precise context they are intended for and avoid biasing the frame of reference to later questions since prior questions may establish a response set to a subsequent question (Crespi and Morris 1984). McFarland (1981) examined empirically whether questions on general issues should precede questions on more specific aspects. This hypothesis was supported and was found to reduce question order effects. Context effects are also especially likely when there is an attempt to summarise a complex issue with a single item (Schuman, Presser and Ludwig 1981). The use of multiple-choice questions and the advance elicitation of attributes from respondents tend to eliminate context effects arising thus.

5.8.8.1.6 Sequence of question groups

It is logical to group together questions that are specific to a particular topic. This will assist the respondent towards understanding the topic under scrutiny and will point out the meaningfulness between topics and the relevance of the topics in the overall research design. Grouping questions together will reduce the risk of respondent frustration and assist in the analysis of the results. The effects of gathering questions in logical groups and sequenced from one topic to the next were studied by Metzner and Mann (1953). They concluded that the grouping of questions and formal designation of subjects do not alter
established relationships between those questions or, artificially intensify such relationships.

Consideration must be given to the exact position of such groups of questions in the questionnaire, as well as the logical flow from one group to the next. The first topic should be concerned with easy and introductory questions that will motivate the respondent to complete the questionnaire. The section of organisational characteristics is placed first, with more sensitive questions appearing at the end of the section on the second page. Giving specific factual information about the client is regarded as a sensitive area in ship management. Hence, this section is placed after the organisational characteristics section and sensitive questions appear towards the end as it is felt that respondents actually completing the form up to this point will be less prone to refuse completion.

The questions should be numbered by section, i.e. a new section should begin again from question number 1, in order to avoid having a large aggregated number of questions which might put off respondents, especially if they look at the last questions before deciding to complete the questionnaire. As Erdos (1957, p. 31) points out “when the busy executive receives a questionnaire that ends with question 58 he may very well decide to throw it away”.

5.8.8.1.7 Question terminology and phraseology

The terminology used to convey the concepts of a question may have an impact on its meaning. The words used should be exact (reflect what they are intended to mean), simple, unambiguous and not biased (Judd, Smith and Kidder 1991). Research carried out by O’Brien (1984) reveals that about a quarter of the words used in market research questionnaires are not in frequent use, a similar proportion are potentially ambiguous and
one fifth fall into the category of problem words as described by Payne (1951). O’Brien (1984) suggests that the design of the questionnaire should be based on qualitative research and piloting as well as thorough consideration of ambiguity or the misunderstanding of the words in each question. Qualitative research is recommended in order to allow for answers that could not be predicted before the research and avoiding the risk of measuring only those things that the researcher (and not the respondent) thinks are important. These suggestions have been utilised in this study. Firstly, thorough pilot work of all aspects included in the data capture methodology has been carried out. The telephone interviews served as preliminary qualitative research to identify relationship aspects from the respondents’ point of view. These aspects have been used in the postal questionnaire. In order to avoid including items that may not reflect the true state of affairs, the factual issues included in the questionnaire (organisational characteristics) have been evaluated by a ship management market research expert (section 5.8.10). The pilot work carried out was instrumental in evaluating any ambiguities with regard to question wording. Careful consideration was also given to each word in order to avoid use of problem words. For this purpose, the 1000 frequent-familiar words listed by Payne (1951) has been consulted as well as the top 200 frequently used words listed by O’Brien (1984). Thus, words that fell into the categories of “problematic” or “multi-meaning” and could have the same effect in this research were avoided, so far as practicable.

In designing the questions, the researcher must also be aware of the vocabulary skills of the target respondent group (Shepherd 1984). It is possible to use more sophisticated terminology and wording with more educated, professional respondents than the general public. The effect of the same term being interpreted differently by different respondents is limited in the current research due to the relative homogeneity of the respondents.
Phraseology refers to the wording of a particular question, which may have an impact on the respondent's answer. For instance, Rugg (1941) reported results of a split-ballot experiment where responses differed substantially depending on the use of the words "allow" and "forbid" in a question on the same subject matter. A similar result was obtained in a study using the words "welfare" and "poor" respectively (Smith 1987). Various research studies (e.g. Blankenship 1940; Payne 1951; Petty, Rennier and Cacioppo 1987; Schuman and Presser 1981), illustrated that variations in the wording format, the choice of options available to respondents, and the complexity and length of language used, could affect the results significantly. However, Molenaar (1982) reviewed the results of 58 different experiments and found relatively small differences in results due to question variations. Presser (1990) examined the effect of different versions of the same item administered with a long time period in between, but found no indication of any effect. O'Brien (1987) suggests two hypotheses in support of the fact that question variations in attitude measurement may sometimes affect the results and sometimes not. The first hypothesis suggests that people with strong views on a subject are less likely to be affected by wording variations. The evidence, however, contradicts this view as illustrated by research on the bandwagon effect carried out by Marsh (1984). Schuman and Presser (1981) conclude that whatever the theory, there is not much clear evidence that attitude strength is implicated as an important variable in response to question form variations. The second hypothesis proposed by O'Brien (1987) is that, if people have never thought about the issue being asked, then they will be affected by the question wording. In this particular study, the use of multiple choice items in the attitude section (relationship section), lessens the effect and possible bias that may arise due to variations in question wording. In addition, the fact that the respondents were already exposed to relationship issues during the telephone interview, indicates that effects on relationship attitude items in the questionnaire are minimised.
5.8.8.2 Questionnaire content

Obviously the content of the questionnaire depends on the data required for achieving the research objectives. The required data were specified in chapter 4 (conceptual model) and in section 5.2. The variables that will be used for the development of the model are detailed in appendix J.

Apart from adequately retrieving all required data, it is important that the questionnaire draws and holds the respondent’s interest, avoids ambiguity and holds to a minimum the effort required to complete it. With respect to multiple-choice questions it is essential that the categories to be checked by the respondents cover the full range of answers the respondent can give to the questions.

5.8.8.2.1 Ship management organisational characteristics section

This section dealt with the organisational characteristics of the ship management companies. Question 1 was an easy multiple-choice question concerned with the type of the company (i.e. independent, subsidiary, joint venture). Similarly question 2 was concerned with the main business activity of the company. Both questions are important in terms of dependency on the client. Question 3 required the number of years in the ship management business and question 4 the total number of ships under management, whereas in question 5 the number of ships under the different types of management were required. Questions 4 and 5 were important in terms of assessing “alternative form reliability” (see section 5.11.3). Question 6 dealt with the number of employees ashore and on-board and whether the latter are employed through manning agencies. Question 7 requires specification of ship ownership by the company. If the answer is affirmative the respondent had to state the number of ships owned by the company in question 8. Finally, the sensitive question on annual turnover was placed last and the word “approximately”
was deliberately inserted as it would have been unlikely that the respondents would give exact figures in such a question anyway.

5.8.8.2.2 Client company characteristics section

This section was deemed to be more sensitive than the previous one. The first question was an easy multiple-choice question about the type of the major client’s company. Following this, respondents were asked to specify the location of the headquarters of the client’s company. The number of years with the major client was requested in question 3, followed by a specification of the client’s major business activity. The exact number of ships managed by the major client was asked in question 5, and question 6 required the allocation of the ships managed for the major client into the different types of management. In essence, questions five and six requested information covering the same issue (number of ships managed for the major client) which is important in terms of establishing “alternative form reliability” of the research instrument (see section 5.11.3). The last question considered to be the most sensitive in this section dealt with the percentage of the company’s revenue that may be attributed to the major client.

5.8.8.2.3 Relationship characteristics section

One of the purposes of the telephone interviews was to develop an effective questionnaire in terms of content regarding relationship characteristics. The edited statements retrieved from the telephone interviews were used in the third section of the questionnaire. The questions were of a multiple choice format and reflected the levels (dimensions) of the relationship characteristics present in ship manager–major client relationships. A copy of the questionnaire can be seen in appendix K.
5.8.8.3 Cover letter

The cover letter enclosed with the questionnaire is important because many respondents would decide whether to complete the questionnaire on the basis of the contents of the cover letter. The appearance of the cover letter is also important (Moore 1941).

The cover letter should read and look like a personal letter and should be short. It should also include assurances of confidentiality and any potential rewards for the respondents.

It is important in the mail questionnaire cover letter to make reference to past co-operation between the informant and the researcher with respect to the study (Levine and Gordon 1958). Waisanen (1954) reports on the successful use of telephone contact before mailing the questionnaires. All participating ship managers have already indicated (at the end of the telephone interview) that they would complete the research questionnaire. It was deemed appropriate to remind ship managers of this pledge in the cover letter: “thank you for participating in the telephone interview last April, and for agreeing to complete this research questionnaire”. Hence, ship managers were made aware that the questionnaire forms part of the overall study, and that their responses are essential for successful completion.

In the cover letter, which can be seen in appendix L, reference was made to the seriousness and importance of the study. Respondents were assured that the results will justify their time and effort in completing the questionnaire. The letter also indicated that the assistance of the respondents was vital and that the results would be of great value to themselves.
5.8.9 Response rates

The rate of response depends largely on the construction of the questionnaire, including design, format, wording and question sequence. These issues were thoroughly considered in the previous sections.

Sudman (1985) addresses the effects of mail questionnaires on elite groups (specialised respondents). He noted four reasons for non co-operation:

- the respondent is too busy and time would be better spent on more worthwhile endeavours;
- the usefulness of the survey is not clear, or it is clear but may be seen by the respondents as being low;
- there is concern about the confidentiality of the results;
- the questions appear biased or they do not allow the respondent a full range of choices.

The above issues were given thorough consideration

5.8.9.1 Stamped addressed return envelopes

All respondents were provided with a stamped and addressed envelope for returning their questionnaires. It was deemed more appropriate to purchase and use mail stamps rather than use a business-reply postal permit. Kimball (1961) illustrates in a simple experimental approach that use of mail stamps rather than a postal permit significantly affects the response rate. Ferris (1951) reported a response rate of 62 per cent in favour of the inclusion of a stamped addressed envelope, versus 26 per cent for the control group. The increase in response rate has been found to be associated with convenience for the respondent rather than cost (Price 1950). The use of mail stamps would differentiate the study from other questionnaires received by the respondents, especially junk mail
questionnaires (Veiga 1974). It was also felt that the expense of buying the stamps would provide a psychological commitment to respondents to return the questionnaire. For questionnaires that would have been returned from Cyprus, mail stamps of this country, acquired in advance, were used. First class mail stamps were used, and airmail labels were also provided to respondents located in Cyprus. Watson (1965) reported an increase in response rate due to a combination of factors which included using a first class stamp over third class, but Kernan (1971) found none at all. It must be pointed out that first class mail and airmail stamps (for companies located in Cyprus) were used in the outgoing mailings.

5.8.9.2 Letterhead paper

The cover letter enclosed with the questionnaire was printed on official letterhead paper with the logo of the University of Plymouth and the Institute of Marine Studies. This was done in order to indicate the importance of the study and the fact that the research is for academic purposes.

5.8.9.3 Personalisation

It has been shown repeatedly in mail questionnaire research that personalisation of the accompanying correspondence produces an increase in response rate (Carpenter 1974-75; Dillman and Frey 1974; Linsky 1983; Simon 1967). Personalisation is defined by Dillman and Frey (1974, p. 297) as "the process of creating a belief on the part of the respondent that he is receiving the researcher’s individual attention". Various ways have been used in this study to foster the belief among respondents that they do actually receive individual attention. Owing to the relatively small number of respondents compared to surveys of the general public, it was possible to give individual attention to each respondent. All correspondence was addressed to each respondent by name, and letters began with a personal salutation (e.g. Dear Mr./Captain Surname). The preliminary letter and the
questionnaire cover letter were personally signed by the researcher in blue ink. Although Kawash and Aleamoni (1971) did not find a significant difference in response rates between a personal and facsimile signature, the personal signature does contribute to personalisation. The telephone interviews also served as an additional way of fostering personal treatment.

5.8.9.4 Use of rewards

The use of rewards to respondents have been proved to be successful in increasing response rates (e.g. Cox 1966; Kephart and Bressler 1958). This strategy was also adopted and respondents were promised the results of the study in a report once the study was completed. As indicated by Diamantopoulos and Schlegelmilch (1996) a report of the study’s results was promised without requesting surrender of anonymity (all respondents were promised a copy). Also the strategy of promising/enclosing various gifts or charitable donations was deemed inappropriate in the context of this survey.

5.8.9.5 Prior notification

Various research studies report on the favourable effect of prior notification and pre-contact, on response rates to mail questionnaires (e.g. Kephart and Bressler 1958; Robin 1965). Linsky (1983) supports that all types of personal contact appear to increase response rates, with maximum improvements from pre-contacting by telephone. Stafford (1966) has found that respondents who received a preliminary letter returned 43.7 per cent of the questionnaires and those who received a prior telephone call 68.2 per cent, compared with 20.5 per cent returned by the control group who received no preliminary contact. Prior notification with respect to receipt of the mail questionnaire was given to respondents during the telephone interview. This would reduce the risk of the questionnaire being thrown out as ‘junk mail’ (Heaton 1965). The telephone interviews also served as a method
of pre-contact and personalisation. Gullahorn and Gullahorn (1959) also report that a significantly high response rate in mail questionnaires is obtained from respondents who had been interviewed beforehand.

5.8.9.6 Confidentiality-anonymity

Wildman (1977) found no differences in response rates to mail surveys between respondents who received questionnaires with identification numbers and those without. Ship managers were given assurances of confidentiality and anonymity once the survey was completed. However, an identification number on the questionnaire was deemed essential in order to ascertain non-respondents and send reminder letters and follow-up questionnaires. This was explained to the respondents in the cover letter. In any case, Mason, Dressel and Bain (1961), Rosen (1960) and Scott (1961) found no significant difference in response rates between relatively anonymous respondents and those who were identified in the questionnaire. They report that code numbers appearing on the questionnaire form have no significant impact on the response rate. Additionally, Reamer (1979) and Singer (1978) found no or insignificant impact of confidentiality statements on responses to sensitive questions, item non-response rates, or other data quality factors.

5.8.9.7 Deadline

Imposing a deadline by which respondents should return their questionnaires is another technique that may be used to stimulate responses. However, this method may also have negative effects. For instance, a deadline for returns may indicate directly or indirectly that after the stipulated date there will be no further communication to the respondent. This would suggest to the respondent that this is the only mailing that he will have to resist (Robin 1965). It was not considered appropriate to use this technique in the follow-up.
mailings either, as it seemed more appropriate to foster the impression that a continuous stream of requests will follow.

5.8.9.8 Questionnaire length

Questionnaire length is an important concern in the design of the research. This is because more information can be obtained through a longer questionnaire. However, respondents may not be willing to complete and return a lengthy questionnaire, although some research studies have found essentially no difference in response rates between long and short questionnaires (Scott 1961; Sletto 1940). Kanuk and Berenson (1975) report the results of a literature review which indicates no difference in response rates between short and long questionnaires. Dillman (1978) has found that there is not much difference in response rates for both the general public or specialised populations for questionnaires of less than 12 pages or those containing less than 125 items. Erdos (1957) has also reported a 75 per cent response rate to a 12 page long questionnaire sent to members of a specialised population. A balance between questionnaire length and the possible impact on response rates must be achieved. The evidence suggests that a questionnaire of up to twelve pages long should not have an adverse effect on response rates. The actual questionnaire was eight pages long, including the front and last page.

5.8.10 Mail questionnaire pilot testing

Testing of the questionnaire focused on the range of data and the inclusiveness of the categories of multiple-choice questions, as well as the clarity and meaningfulness of the questions.

The mail questionnaire was given thorough consideration by the researcher and the supervisory team. In fact, two versions of the questionnaire were prepared. The first
version utilised multiple-choice format (categorical data) for all the organisational and client characteristics questions. The second version utilised questions asking respondents to stipulate their answers rather than choose from a range of answers. The advantages and disadvantages of each version were assessed by the researcher and the supervisory team and academic experts at the University of Plymouth. The first version (multiple-choice questions) was, naturally, longer by three pages. Also, the fact that respondents would have been faced with an array of boxes to tick was considered to be a disadvantage. The second version was more “user-friendly” and shorter, but most importantly it could provide more in-depth data of the sought responses. For instance, respondents would stipulate the exact number of ships under management in their company, rather than choose from a range of possible answers (e.g. 1-4 ships; 5-10 ships etc.). The former type of data would also be susceptible to more thorough statistical scrutiny than the categorical data. For instance, it would be possible to retrieve the total number of ships managed by all the companies, the mean number of ships under particular management contracts etc. The only consideration against the second questionnaire version was the fact that questions asking exact numbers would have been more sensitive, thus increasing the risk of non-response. Nevertheless, the fact that the researcher has already built a relationship in advance with the respondents who have all agreed to return the questionnaire, meant that the impact on the response rate would have been minimal. The second version was, hence, deemed to be more appropriate. The questionnaire was then tested in two phases.

Phase one consisted of testing the questionnaire on an independent industry expert on research in ship management located in the UK, and by three academic experts at the University of Plymouth. All three experts had many years of experience in social science research in the shipping and transport industries. Phase two consisted of the pilot test of the questionnaire with a sample of ship managers.
The independent expert was well known to the researcher through a series of meetings at conferences. During a telephone conversation on the 11th of March 1997, the researcher informed him of the progress of the study and ascertained his co-operation for testing the questionnaire. The questionnaire together with a covering letter, explaining the requirements, was sent to him on the 15th of March 1997. This letter can be seen in appendix M.

Once the questionnaire had received extensive attention and any inconsistencies were corrected, the second phase of the questionnaire pilot test was carried out. The questionnaire was sent to five ship managers, prior to the main survey. The responses obtained were used to ascertain the adequacy of the questions, but also to help detect questions producing the least reliable responses. This was done by checking the responses obtained from the questionnaires with data obtained from the prior telephone interviews. Sletto (1940, p. 200) notes:

"The replies obtained from pre-test groups can be compared with those yielded by oral interviews...thereby the investigator will gain a knowledge of the probable limitations of his data and guidance in changing the final questionnaire in the direction of more valid responses".

5.8.11 Mail questionnaire data capture

The questionnaires were sent on the 10th of June 1997. The initial mailing consisted of 44 questionnaires. Of those, 28 questionnaires were returned; a response rate of 63.6% on the first mailing. Despite the fact that this was considered a very good response rate, follow-up questionnaires were mailed to non-respondents. Scott (1961, p. 164) described the use of follow-ups as "the most potent technique yet discovered for increasing the response rate".

The first follow-up questionnaires for companies based in the UK were sent about 2 weeks after the initial mailing. Veiga (1974) suggests that 2 weeks is a sufficient period of time
for second mailings to be sent. For companies based in Cyprus, the second mailing took place on the 4th of July 1997, allowing about 7 days for the questionnaires to reach their destination. A cover letter was also enclosed with the second mailing. This version of the cover letter can be seen in appendix N. Robin (1965) suggested that the content of follow-up cover letters should shift the emphasis from the importance of the research to the importance of the individual responding to the questionnaire. Additionally, increasing emphasis should be given on the confidential treatment of the data. A small reference to the study, the simplicity of completing the questionnaire and a note that the results will be provided to the participants were also included. A questionnaire was enclosed in case it had been misplaced together with another stamped and addressed envelope.

The response rate from the second mailing was 62.5% (10 out of 16 companies) yielding an overall response rate of 86.37% (38 questionnaires were returned overall). A third mailing was not deemed essential because of the high response rate achieved already, the fact that a further mailing would coincide with the summer break (August 1997), and that it would mean a further 2-3 weeks waiting for only a few responses. In analysing the questionnaires, it was found that many respondents did not disclose certain of the issues required, despite the fact that answers to all questions were requested on the first page of the questionnaire. These respondents were contacted again by telephone and mail, requesting the specific information. In total 34 usable questionnaires were available at the end of the mail survey.

5.9 Theory of measurement

The previous sections were concerned with measurement of organisational and relationship characteristics in ship management companies. An important implication of measurement is that the values obtained may reflect several components of measurement other than the
characteristic of interest (for example, a characteristic of the ship manager – shipowner relationship). These components are referred to as measurement error. In an analysis of seventy published studies, it was found that, on average, 32% of the variance between scores was random error, 26% was due to the measurement approach, and only 42% reflected differences in the characteristic of interest (Assael and Keon 1982; Cote and Buckley 1987). Hence, the extent to which any single measurement reflects the characteristic of interest versus other characteristic is of major concern.

Tull and Hawkins (1993) suggest that eight components may be reflected in any given measurement, only one of which represents the true characteristic. The remaining components constitute measurement error. The influence of such components in this particular research is described below.

(i) Short-term characteristics of the respondent

Temporary characteristics will include, for example, the emotional state of the respondent, fatigue and hunger. It is possible for such factors to be randomly distributed in their effect on the measurement and will, hence, cancel each other out. Although there is no evidence to suggest that this was the case, the fact that respondents have been given prior notification and the interviews were pre-arranged at their own convenience, the impact of such factors would not be as great.

(ii) Situational characteristics

Situational characteristics that influence responses include the setting of the interview. However, since dealings with clients take place at the company’s premises where the respondents were present during the interviews, any biases occurring in this situation would be present when the actual client-ship manager interaction takes place. Therefore,
situational biases may not be thought of as part of measurement error, but as an integral part of the phenomenon under study.

(iii) Characteristics of the measurement process

The method of telephone interviews and mail questionnaire for data capture might influence responses and interviewer characteristics have been associated with measurement error. Discussion of attempts to minimise such errors was carried out in previous sections.

(iv) Characteristics of the measuring instrument

Constant or random error may occur from unclear instructions, wording, terminology etc. The pilot study which has been carried out aimed to reduce such errors. Tests of validity will establish the reduction of such errors to a minimum.

(v) Characteristics of the response process

During the research interview it is possible that the researcher may inadvertently note the wrong response. However, such an error is more common when the researcher has to note responses on multiple-choice items, scales etc. This was not the case in this study where statements about the relationship were sought and noted.

(vi) Characteristics of the analysis

Mistakes can also be made by the researcher during coding, tabulation and the analysis and interpretation of responses. However, thorough checking of the results and of the analysis carried out, would reduce such bias to a bare minimum.

It is unavoidable that error (E) would be present in any measure (M), together with the true score (C). Thus $M = C + E$. The objective is to achieve higher accuracy by minimising $E$. 
There are two types of measurement error, systematic bias and random (variable) errors (Nunnally 1978). The term reliability is defined as the extent to which a measure is free from random error components (Broedling 1974). Validity is concerned with increasing the measurement accuracy of the characteristic, which includes both systematic and random errors. However, as Tull and Hawkins (1993) suggest it is more useful if the meaning of the term validity is limited to the degree of systematic error in the measurement. Thus, validity is defined as the extent to which a measurement is free from systematic error. Measurement accuracy will then be the degree to which a measurement is free from systematic and random errors. As Gorden (1975, p. 6) states: "method becomes scientific method when evidences of unreliability and invalidity are actively sought to discover their sources and to develop strategies, techniques and tactics to minimise the effects of bias".

A relatively new approach to assessing reliability and validity simultaneously is generalisability theory (Cronbach, Rajaratnam and Glesser 1963; Rentz 1987). Generalisability implies that scientists want to know to what extent, and with respect to what properties, one set of measurements is like (or different from) other sets of measurements that researchers might have taken from a given universe of potential measurements (Frankfort-Nachmias and Nachmias 1996; Peter 1979). Its use in marketing research is limited, however, because of its complex nature. Further, because its only assumption is random sampling, it cannot be used in this particular research where a non-probability sampling method has been assumed. Therefore, traditional methods of reliability and validity estimation and testing will be used.

5.10 Validity of the research instrument

Validity concerns the relationship between a concept and the indicator of that concept (Carmines and Zeller 1979). Validity is the extent to which a measure or indicator of a
concept, represents accurately the particular concept, i.e. it measures what it is supposed to measure. Validity is always assessed in relation to the intended purpose of the measuring instrument. This is because a measuring instrument might be valid for measuring a specific phenomenon, but invalid for measuring other types of phenomena. In this research the concept under investigation is whether ship management companies with similar organisational characteristics exhibit similar relationship characteristics in the interaction with their major clients. In order to investigate the concept, an adequate sample of ship management companies has been drawn and a research instrument based on telephone interviews and a mail questionnaire has been designed.

Validity is not an all-or-none property but rather a matter of degree, and validation is an unending process (Nunnally 1978). This means that to assert that a measure of a concept has validity would be incorrect. However, a positive outcome of a test of the validity of a measure would support the validity of that measure, and further enable the improvement of the validity of the measure from the knowledge gained through its application. Evidence of validity is a prerequisite of scientific inquiry, and it is desirable to use more than one method to assess validity (Campbell 1960). There are three main tests that can be used to assess the validity of a concept:

- Content validity
- Criterion validity
- Construct validity.

5.10.1 Content validity

Content validity concerns the extent to which a set of items reflect the content of some domain of interest (Carmines and Zeller 1979). Hence, the researcher’s task is firstly to specify the domain of the content that is relevant to the particular measurement situation,
and secondly to develop and/or select items associated with the domain of the content (Zeller and Carmines 1980). Content validity depends on ensuring that all items included in the instrument measure the particular concept or some sub-concept, and that no element of the concept is omitted from the instrument. It is preferable to develop too many measures than too few, since inadequate items may be eliminated at a later stage (Carmines and Zeller 1979).

In this study there are, essentially, two domains of interest that are relevant to the investigation of the concept. The first involves the relationship characteristics that may be present in the ship manager–client interaction and the second is related to the organisational characteristics of the interacting companies. Therefore, content validity depends on how well:

- all relationship attributes that might be present in ship management companies are adequately represented and included in the mail questionnaire;
- all organisational and client characteristics of ship management companies are included and adequately represented in the mail questionnaire;

A series of steps have been taken in order to provide content validity to the research instrument. For the purposes of the relationship attributes that are included in the mail questionnaire, it can be claimed that those represent adequately and accurately the full domain of the concept. This is because those attributes have been retrieved directly from the respondents through the telephone interviews.

Content validity for the ship management characteristics has been provided as follows. Firstly, as suggested by Carmines and Zeller (1979), a thorough literature search was undertaken to develop an in-depth understanding of the characteristics of ship management
companies and their clients (chapter 2). Second, the literature search together with consultation of previous studies of the organisational characteristics of ship management companies (Anon 1989c; Anon 1991b), provided a multitude of measures that have been adapted for use in this research. Assessment of content validity was also undertaken through subjective judgement. The measures were primarily presented to the director of a company specialising in shipping market research. He has carried out extensive research on the characteristics of ship management companies (Anon 1989c; Anon 1991b). Subjective judgements were also sought during the mail questionnaire pilot study. During the pilot study, the ship managers’ reactions to the research instrument were elicited. Ship managers were asked to comment and criticise the measures presented to them and to provide comments on the measurement instrument in terms of length, comprehensiveness and whether it aroused their interest.

Content validity may be criticised in that there are no objective criteria for establishing the attainment of content validity by a measure (Zeller and Carmines 1980). Hence, in the absence of such criteria content validity inevitably “...rests mainly on appeals to reason regarding the adequacy with which important content has been sampled and on the adequacy with which the content has been cast in the form of items” (Nunnally 1978, p. 93).

5.10.2 Criterion validity

Criterion validity (also referred to as predictive validity) is the extent with which predictions based on the findings of the instrument come true. Nunnally (1978, p. 87) states: “predictive validity is at issue when the purpose is to use an instrument to estimate some important form of behaviour that is external to the measuring instrument itself, the latter being referred to as the criterion”.

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Criterion-related validity has been widely criticised (Carmines and Zeller 1979; Nunnally 1978; Zeller and Carmines 1980), on a variety of issues. A criticism is that the criterion should be examined with as much scrutiny as the original measure, simply because it might itself not be valid. It has been argued that in the social sciences, there is often no reasonable, obvious or accepted criterion against which the instrument can be assessed. Bailey (1987) argues that the criterion should have content validity proved through usage. Criterion validity is a purely empirical test and does not take into account any conceptual basis of the instrument. Nunnally (1978) notes a hypothetical example where horseshoe pitching could have been regarded as an accurate predictor of success in college, solely based on a high correlation measure between the two.

To develop a test of predictive validity some criterion needs to be defined. The research investigates the relationship (if any) between organisational characteristics and relationship attributes. A suitable test of the instrument’s criterion validity could have been to see if predictions about relationship characteristics were true. A criterion might have been length of the relationship (length of the ship management contract). This is not, however, the objective of the study which is to investigate, identify and describe any relation or association between organisational characteristics and relationship characteristics, not to predict the length of particular ship management contracts. Even if such a study was undertaken, the results are entirely subjective and strictly empirical as they would have been based on a set of correlation values.

Nunnally (1978) notes that predictive validity is important when tests are employed for making decisions in certain problems, for example, when particular tests are utilised for student placement. However, the other two types of validity considered in this study are
equally, or more, important. Based on the inherent difficulties, criticisms and inapplicability of criterion-related validity, such a test was not undertaken in this study.

5.10.3 Construct validity

According to Tull and Hawkins (1993), construct validity is the most complex form of validity and requires an understanding of the nature of the construct and how it relates to other constructs. Peter (1981, p. 134) notes that a construct "...is a term specifically designed for a special scientific purpose, generally to organise knowledge and direct research in an attempt to describe or explain some aspect of nature". This statement implies that it is not only the measurement instrument which is a concern in validating a construct, but also the measurement procedure and the interpretation of data arising from the measurement procedure (Cook and Campbell 1976). The underlying logic of construct validation is reflected in this statement by Cronbach and Meehl (1955, p. 290):

"Construct validation takes place when an investigator believes that his instrument reflects a particular construct, to which are attached certain meanings. The proposed interpretation generates specific testable hypotheses, which are a means of confirming or disconfirming the claim".

Construct validity requires the existence of a theoretical network that surrounds the concept, and consideration of how the construct fits the theory and its relation to other constructs. In fact, it has been suggested (Carmines and Zeller 1979; Zeller and Carmines 1980) that construct validation requires three steps:

- specification of the theoretical relationships between the concepts;
- examination of the empirical relationship between the measures of the concepts;
- interpretation of the empirical evidence in terms of how it clarifies the construct validity of the measure.
The concept that has been developed in this study is that ship management companies may be assembled into certain types of segment on the basis of the relationship characteristics in the interaction with their major client. Further, that companies in the same relationship segment will share similar organisational characteristics. To test the validity of this concept, a research instrument to collect the appropriate data has been developed. The data will be interpreted through the use of suitable analytical techniques (chapter 6) in order to investigate the hypothesised association. If the hypotheses developed in chapter 4 are accepted, then this research will provide one piece of evidence to support the construct validity of the concept. The extent to which the theory examined in this study is in line with previously established theories will also provide an assessment of the validity of the construct.

5.11 Reliability of the data

The work of Spearman (1904; 1910) provided the initiation towards reliability theory and assessment. His notion of true and error components (i.e. $X = T + e$, where $X$: observed score, $T$: true score, $e$: error score) still remains influential. Reliability refers to a measure’s dependability and consistency. For instance, one needs to ascertain that the items used to measure the existence of relationship attributes in the mail survey, will provide consistent results over repeated measurements. Reliability is concerned with “the extent to which an experiment, test or any measuring procedure yields the same results on repeated trials” (Carmines and Zeller 1979, p. 11). The measurement of any phenomenon always contains a degree of chance or random error (Campbell 1983). Although random errors of measurement are never completely eliminated (Nunnally 1978), the effort of the researcher concentrates on reducing error as much as possible. To the extent to which measurement error is slight, the reliability of the measures is established.
The voluminous literature on reliability indicates three basic methods for estimating the reliability of measurements: the test-retest method used to examine stability reliability, the internal consistency method and the alternative form reliability method.

5.11.1 Stability reliability

Stability reliability is concerned with the issue of whether or not measures obtained from an instrument are the true measures of the property measured (Edris and Meidan 1990). It can be said that the items used in the postal questionnaire survey are the measures of relationship attributes present in ship management companies, since the items were elicited directly from the respondents during the earlier telephone interview. This provides evidence of the stability reliability of the relationship data through the accuracy and precision of the items that are employed.

The usual approach for measuring stability reliability is the test-retest procedure (Peter 1979). In this method, the same instrument is applied to the respondents usually over a time period of two weeks, and under as similar administration conditions as possible. The results of the repeated measurements are then correlated. A high correlation coefficient would indicate that the measuring instrument is reliable. A number of problems are associated with the test-retest method. For example, different results may be obtained depending on the time period between the first and second administrations. Bohrnstedt (1970) suggests that the longer the time interval between measurement and re-measurement, the lower the reliability. It is also possible that a respondent's attitude may change during the time period between the administrations. For instance, there is a possibility of ship managers being alerted to the issues put forward during the first administration and change their attitudes in the second. If a change in the phenomenon occurs at the time interval between the two measurements, there is no way to distinguish
between change and unreliability. The experience in the first testing may also influence responses in the second administration, if for instance the previous responses are remembered (Nunnally 1978). In view of these problems, Nunnally (1978) suggests that the test-retest method should not be used in general, except in cases where the retest would not be markedly affected by the first test. Peter (1979) also recommends that the retest method should better serve as a supplement to internal consistency estimates for each administration. Apart from these problems, in order to be able to examine stability reliability using the test-retest method it would have been necessary to test the same respondents again by administering a second questionnaire to them. Obviously, this would have been impracticable in the context of this research. This is because many respondents would be required to co-operate in as many as three administrations (telephone interview, mail questionnaire, and second mail questionnaire). Requesting completion of the same instrument after a short time period would have been certainly met with some apprehension and discontent. For these practical reasons it was not deemed appropriate to undertake a test-retest assessment of reliability.

5.11.2 Internal consistency reliability

This type of reliability applies when multiple indicators are used. Multiple indicators refer to multiple specific measures (e.g. several items on the interview questionnaire) all designed to operationalise (measure) the same construct. It is important for all items in the index to be designed to measure precisely the same thing, i.e. the construct (Gerbing and Anderson 1988). This measure attribute has been referred to as unidimensionality (McDonald 1981b), and its importance has been highlighted by Hattie (1985, p. 139): "one of the most critical and basic assumptions of measurement theory is that a set of items forming an instrument all measure just one thing in common". Therefore, by making the assumption that, in the lack of error, all items measure the same trait, differences (i.e. lack
of correlation) among specific items can serve as the basis for estimating the influence of random errors.

The split-half method is used to examine equivalence reliability. It is a more convenient method than test-retest because it does not require to interview people on two separate occasions. The split-half method involves dividing the indicators into two groups, and the scores on the halves are then correlated to obtain an estimate of reliability. The scale may be split on a random basis, or in terms of odd and even numbered items, or first half versus second half. Thus, the correlation coefficient that will be obtained will depend on the method used to separate the items, which is the basic problem of the split-half method (Mitchell 1991). As Brownell (1933), and Kuder and Richardson (1937) first indicated, the split-half coefficient is not a unique value because there are numerous different ways of dividing a test of a number of items into two halves.

A way of overcoming the split-half method problem is calculating the reliability coefficients for all possible ways of partitioning a set of items. These coefficients are often referred to as measures of internal consistency, and provide a single unique estimate of reliability for each administration (Carmines and Zeller 1979). The coefficient of reliability alpha (Cronbach 1951), often referred to as Cronbach’s alpha, is the most commonly used estimate of internal consistency.

In effect, this measurement produces the mean reliability coefficient for all possible ways of splitting a set of items in half (Peter 1979), and can be calculated by computer software (e.g. Vigderhous 1974). Values for coefficient alpha can range from 0 to 1.0 (Bagozzi 1978b). The closer values are to 1.0 the greater is the evidence that the scale is internally consistent, whereas values of less than 0.6 are usually viewed as unsatisfactory (Craig
It has been suggested that, for basic research, it is unnecessary to increase reliability beyond 0.8, because at that level correlations are attenuated very little by measurement error (Nunnally 1967). Coefficient alpha provides a good estimate of reliability since "the major source of measurement error is because of the sampling of content" (Nunnally 1978, p. 230). It was found that about 85 per cent of psychographic studies, which assessed reliability, used the internal consistency method (Edris and Meidan 1990). A value of 0.95 was obtained for Cronbach’s alpha when the method was applied to the assessment of the reliability of the social perceptual relationship characteristics in this survey. This established the reliability of the measures employed. Cronbach’s alpha was calculated using the Statistical Package for the Social Sciences (SPSS) software.

5.11.3 Alternative form reliability

Alternative form reliability assessment involves applying two ‘equivalent forms’ of the same research instrument to the same subjects. The results obtained from the administration of the two instruments are then assessed on an item by item basis. This means that a reliability coefficient will be calculated by correlating the answers of the two versions of each question. Ideally, the two alternative forms would be strictly parallel tests and should be administered about two weeks apart (Nunnally 1978). One problem associated with alternative forms is that of extra time and expense involved in obtaining two equivalent forms. The most important problem, however, is that of constructing two truly equivalent forms. Hence, a low correlation may reflect either an unreliable item/instrument or, the fact that the two forms are not equivalent. It is difficult to show whether the measures have intrinsically low reliability or whether the forms are non-equivalent in content (Peter 1979). The limited use of this method for reliability assessment has been attributed to the difficulty of developing alternative forms (Edris and Meidan 1990; Peter 1979). Other problems that may be encountered include respondent fatigue in
repeating the whole questionnaire and apprehension due to the imposition of many requirements for the study. The potential problems that may be encountered meant that the two alternative forms could not be administered to ship managers. It was possible, however, to use some questions (whose reliability may or may not have been examined otherwise) in alternative form in the same instrument. A possible problem is that some respondents may realise that questions are duplicated and either, refer back to their previous answer or, believe that it is their honesty being examined and not reliability. However, this method has been used successfully by Mitchell (1991). The alternative form questions were inserted in the organisational and client characteristics sections of the questionnaire. Question 4 in section 1 requested ship managers to state the exact number of ships under management in their company, and question 5 requested specification of the number of ships under the different types of management. Questions 5 and 6 in section 2 requested the number of ships managed for the client and the number of ships managed for the client under the different management arrangements. It was found that the numbers specified from the ship managers matched.

The assessment of reliability is imperative in research that aims to be reproducible. Hence, the utilisation of several methods for assessing reliability. It is argued, however, that no one method is totally satisfactory. In a comparison of alternative techniques, Parameswaran, Greenberg, Bellenger and Robertson (1979) suggest that different reliability techniques could produce significantly different results.

Although, the various methods used for assessing validity and reliability of the instrument and data respectively were considered and applied where practicable (sections 5.10 and 5.11), special effort was directed towards obtaining valid and reliable results with high quality data. Hence, a proactive stance was adopted where error (systematic and random)
would be minimised in the first place. The survey methodology section (5.8) provides a detailed account of the numerous steps taken in order to obtain valid and reliable data.

The following chapter provides an exposition of the analytical methodology and techniques utilised in order to analyse the data that were obtained as described in this chapter.
CHAPTER 6

Analytical Methodology

This chapter describes the analytical methods that are used to investigate the research hypotheses. These analytical methods will be applied to the data collected using the techniques described in chapter 5. Section 6.1 gives an overview of the analytical techniques chosen to satisfy the research objectives. Section 6.2 details the preliminary analytical techniques used to investigate and describe the ship management and client companies in terms of their organisational characteristics. In section 6.3, multivariate techniques of data analysis for investigating the existence of relationship segments of ship management companies are described. The techniques chosen include cluster analysis and multiple correspondence analysis, and these are reviewed in sections 6.4 and 6.5 respectively. Profiles of relationship segments are developed using multiple discriminant analysis; the procedure is described in section 6.6.

6.1 Analytical techniques

The analytical methodology techniques have been chosen on the basis of the research objectives which have been specified in the form of three theoretical hypotheses. The epistemic field of the philosophy of the social sciences indicates that scientific hypotheses must be assessed on rational empirical and theoretical grounds. The first research hypothesis involves the identification of the relationship characteristics present in ship manager–client relationships. To achieve this objective, the data obtained from the qualitative telephone interviews will be analysed, and linked on a theoretical basis to relationship marketing attributes.
The data required for investigation of the research hypotheses included organisational characteristics of the ship management and client companies. Before proceeding into using this data for profiling relationship segments, it is deemed appropriate to carry out a preliminary analysis of the data. Such an analysis will provide important insights into the organisational characteristics of the companies in the sample and those of their major clients.

It seems likely, that ship manager-shipowner relationship situations are characterised by a cognitive structure, which is based on past experiences with the relationship as well as present concerns and interests. Given the importance of relationship attributes and the potential impact that such naturally occurring cognitive structures can have on the application of relationship marketing, it is appropriate to develop a classification of relationship perceptions (i.e., the dimensions of the ship manager-shipowner relationship). The classification of relationship characteristics will give a profile of the companies that experience particular relationship dimensions in their interactions with their major client. Relationship profiles can be obtained through the use of multivariate statistical techniques. The second research hypothesis will be tested by utilisation of an appropriate technique that can reveal clusters of ship management companies on the basis of their client relationship characteristics. Cluster analysis has been chosen for the performance of this test; the reasons for this choice will be outlined in section 6.3.

The relationship classification profiles will then be described in accordance with the companies' organisational and client characteristics, in order to test the third research hypothesis. To accomplish this task it is essential to carry out a preliminary profile analysis of relationship clusters by organisational characteristics on a case by case basis. Hence, the organisational characteristics of the interacting companies will be
projected onto the relationship clusters individually in order to investigate the existence of any association. If an association between organisational characteristics and relationship clusters is ascertained, it will then be appropriate to investigate the strength of such an association. Multiple discriminant analysis will be used for this purpose; the reasons for the utilisation of this technique will be explained in section 6.6. Figure 6.1 provides an overview of the analytical methodology.

6.2 Preliminary analytical techniques

The aim of the preliminary analysis includes the identification of relationship characteristics from the data obtained during the qualitative telephone interviews and the classification of ship management companies in accordance with their organisational characteristics and those of their client companies.

6.2.1 Analysis of the qualitative telephone interviews

The analysis of the telephone interviews was of a qualitative nature. The first step involved the detailed word processing of all the data and notes obtained during the telephone interviews. This provided an overall understanding of the data. Special attention was given to the statements that describe the characteristics of the relationship between the ship management and client companies. The next step involved the isolation of those statements from other data and the reduction of the statements to key dimensions. Isolation of those patterns, processes, commonalities and differences in the statements was extremely important as those were used in the next wave of data collection (mail questionnaire).
The process of selecting appropriate statements for the mail questionnaire, involved the identification of statements that described particular relationship characteristics. The procedure for this selection was described in chapter 5, section 5.8.7.

Data choice and capture

- Gathering data
- Coding data

Data coding and describing

- Primary descriptions
  - Univariate analysis, Bivariate analysis, Cross-tabulation

Multivariate data analysis

- Cluster Analysis
  - To identify ship management clusters on the basis of relationship characteristics
  - Preliminary profiling
    - Cluster profiles on organisational characteristics (case by case)

- Multiple Discriminant Analysis
  - To profile ship management clusters on the basis of organisational characteristics of ship management and client companies
  - To ascertain the strength of association between clusters and specific organisational characteristics

Data classification

Interpretational aids

- Cluster solutions
  - Perceptual maps using Multiple Correspondence Analysis
  - Dendrograms
  - Statistics
  - Theory

- Multiple Discriminant Analysis Solutions
  - Perceptual maps
  - Statistics
  - Theory

Aids for Interpretation

- Construction of profiles based on clusters and organisational characteristics
- Validity & reliability of analysis
- OUTPUT

Figure 6.1: Analytical methodology
6.2.2 Preliminary analysis of organisational data

Before complex analysis is undertaken, preliminary analysis of the data set provides a useful understanding. The simplest form of classification is by one variable only (univariate analysis). An initial profile of the ship management companies may be developed by extracting simple frequency tables. Multiple-choice questions can be analysed by listing the proportion of the sample that responded to each answer option, in a frequency table. Using this technique a preliminary understanding of the ship management and client organisational demographics can be obtained.

Once frequency tables have been developed, cross-tabulation of data items may be used to provide a greater understanding of the data (bivariate analysis). Bivariate cross-tabulation involves the study of two variables at a time in order to determine associations between them (Upton 1978).

Bivariate cross-tabulation is an extremely useful technique for the simultaneous analysis of two variables. However, owing to the requirement for the analysis of a large number of variables, multivariate statistical techniques are used. The multivariate data analysis techniques used to undertake more complex investigations in the study are considered in the following section.

6.3 Multivariate data analysis

The type of data obtained from the mail questionnaire reflects the complexity of ship manager–client relationships. This complexity is illustrated in the many variables that are present in such relationships in addition to the numerous organisational characteristics of the interacting organisations. The analysis of many variables requires techniques different from the ones described in the previous section, where the analysis
was focused on one (univariate) or two (bivariate) variables. In order to achieve the objectives of the study the analysis of the data obtained requires the utilisation of multivariate techniques of data analysis. Hair, Anderson, Tatham and Black (1995) state that there is no clear-cut definition of multivariate analysis and the term is not consistently used in the literature. However, it is used to describe the examination of relationships between two or more variables or multiple combinations of variables. For this reason it is quite clear that this family of techniques is appropriate for utilisation in the analysis of the data obtained in this study and for achieving the research objectives. Because the term “multivariate analysis” includes a large number of techniques, the first step is to choose the appropriate technique that can be used, bearing in mind the type of data collected and the research objectives.

6.3.1 Choosing the appropriate multivariate techniques

In order to determine which multivariate technique is most appropriate the diagram in figure 6.2 may be utilised.

In essence the diagram identifies three questions that must be answered in making the appropriate choice:

(i) can the variables be divided into independent and dependent classifications based on a particular theory?;

(ii) if they can, how many variables are treated as dependent or independent in a single analysis – one or more?, and;

(iii) how are the variables measured – metric (ratio and interval) or non-metric (nominal and ordinal)?
Figure 6.2: Multivariate analysis
Source: Hair et al (1995) [adapted]
The diagram identifies two main categories of multivariate techniques. The first category is dependence analysis, which enables the prediction or explanation of dependent variables by independent variables. This means the dependent variable is to be predicted or explained by other independent variables. In contrast, an interdependence technique is one in which no single variable or group of variables is defined as being dependent or independent. Interdependence techniques involve the analysis of all variables simultaneously with the aim of identifying a structure of inter-relationships among all variables.

6.3.1.1 Analytical methodology for the second research hypothesis

The second research hypothesis states that ship management companies may be assembled into certain types of segment depending on the relationship characteristics in the interaction with their major client. Hence, it is hypothesised that an underlying structure exists among ship management companies based on the relationship variables. Identification of this structure of inter-relationships requires the utilisation of interdependence analysis. The technique should identify clusters among ship management companies (cases or respondents) based on relationship variables. This objective may be achieved by utilisation of cluster analysis as shown in figure 6.2. Justification for the use of this technique is given in section 6.4. Other techniques such as factor analysis and multi-dimensional scaling are not utilised for the reasons outlined below.

6.3.1.1.1 Factor analysis

Factor analysis can be used to analyse inter-relationships among a large number of variables and to explain these variables in terms of their common underlying dimensions. Factor analysis is a data reduction technique, which is able to reduce a system of many scaled measurements (or variables) down to a smaller number of
measures, known as common factors. Factor analysis may be performed for identification of common or similar variables or underlying factors and thereby reduce inter-correlation between variables. It also reduces the number of variables to be analysed, if cluster analysis is to be performed (Saunders 1994). The objective of this study, of course, is to identify clusters among all cases and all relationship variables elicited from the ship management companies. The objective is not data reduction, therefore factor analysis is not performed. It may be argued that principal components analysis (PCA) which is a type of factor analysis may be used in order to reduce the number of independent variables to a few principal components which will be more manageable. Once again, however, this was not feasible as data reduction would mean a substantial loss of information that is required for examining the third research hypothesis. In addition, subjecting the independent variables to PCA would produce variables that are linear combinations of the original variables. These variables could have not been used in the envisaged multiple discriminant analysis (see section 6.3.1.2), because the statistical assumptions of multiple discriminant analysis would be violated (Sharma 1996).

Q factor analysis is the technique that may be used in order to group ship management companies into distinctly different groups. Hair et al. (1995) state however, that instead of using this method which engulfs computational difficulties, cluster analysis should be used instead. Ehrenberg and Goodhardt (1976) suggest that factor analysis is not really needed for identification of clusters, as far as those clusters can be identified by less technique-oriented forms of analysis. They further state that alternative methods can communicate the results better than factor analysis.
6.3.1.1.2 *Multi-dimensional scaling*

The underlying principle of MDS analysis is the visual representation of psychological similarities between objects or experiences as points on a scattergram (Wright and Ayton 1987). MDS is particularly useful in the early stages of theory development as it provides "a highly inductive and descriptive approach to the study of a new domain of behaviours" (Rusbult and Zembrodt 1983, p. 276). Hair *et al.* (1995) state that MDS is particularly appropriate for achieving two objectives:

(i) as an exploratory technique to identify unrecognised dimensions affecting behaviour;

(ii) as a means of obtaining comparative evaluations of objects when the specific bases of comparison are unknown or undefinable.

MDS input data comprises of some measure of association between entities of interest (Blackburn 1982). The resulting MDS configuration represents the latent psychological distance between the entities in the respondent’s mind (Rabinowitz 1975). Shepard (1972) describes the purpose of MDS as being to capture a pattern or structure, which may lie hidden in a matrix of empirically derived data, and represent that structure in the form of a geometrical model. Objects and stimuli (e.g. ship management companies and relationship characteristics respectively in the context of this study) will be represented by points on the spatial model and the geometrical relations among the points will result in important inferences made through the researcher’s interpretation.

Despite the potential for the use of MDS techniques, as stated above, it would require obtaining relationship characteristics on some measure of similarity. This was deemed inappropriate in the context of this study for various reasons including the difficulty of
obtaining such data through telephone interviews or mail questionnaires (personal interviews would have been too costly to conduct). Obtaining similarity data would have been an extremely burdensome and time consuming procedure that would have seriously affected the response rate and the quality of the data. Additionally MDS is mostly used for comparing objects on a common basis (e.g. different cola drinks compared on flavour) and particularly suited for consumer judgements and segmentation analysis. Javalgi, Joseph and Gombeski (1995) note that categorical data can be obtained without subjecting respondents to the cognitive burden of rating similarities. It must be acknowledged that the respondents are busy executives at the top of the management hierarchy, and their co-operation is largely based on the time required for obtaining the data. Hoffman and Franke (1986) indicate that categorical data are useful when the researcher has many attributes to measure, when respondent co-operation is difficult to obtain, and whenever rating scales are difficult to use. Such data also assist in revealing fine distinctions between objects on the attributes. The objective of this study would have not been served by utilisation of a research instrument to obtain similarity data from ship managers on the basis of relationship characteristics.

6.3.1.2 Analytical methodology for the third research hypothesis

The third research hypothesis requires the development of a typology or classification of the ship management relationship clusters based on the organisational characteristics of the ship management and client organisations. With this objective in mind, it is clear that a dependence technique of multivariate analysis should be utilised. In this case, the clusters serve as the dependent variable and the organisational and client characteristics as the independent variables. If two or more clusters are identified from the earlier analysis, then those clusters will be used as levels of the dependent variable. Hence,
there will be one dependent variable in a single relationship with various metric and non-metric independent variables (organisational characteristics). Based on the above, the possible multivariate techniques that can be utilised include linear probability models, conjoint analysis and multiple discriminant analysis. Based on the discussion in the sections below linear probability models and conjoint analysis are not utilised. The reasons for choosing multiple discriminant analysis are outlined in section 6.6.

6.3.1.2.1 Linear probability models

Linear probability models are an alternative form of regression analysis. The most widely used type is logistic regression. Logistic regression is a special form of regression where the dependent variable is non-metric and binary. As can be seen from figure 6.2 the dependent variable for multiple regression is metric whereas for linear probability models is non-metric. When the objective of the study is to determine whether something happens or not, logistic regression is an alternative to discriminant analysis and conjoint analysis. Logistic regression would predict the probability of an event happening. Linear probability models are an alternative to discriminant analysis, but in instances where there are more than two levels of the dependent variable, discriminant analysis is more appropriate. As Hair et al. (1995, p. 184) state: “in cases when three or more groups form the dependent measure, discriminant analysis is better suited”. In this study there are four levels of the dependent variable (see chapter 8). Hence, this technique is not utilised. Further details of logistic regression can be found in Sharma (1996).

6.3.1.2.2 Conjoint analysis

Hair et al. (1995, p. 560) state that “conjoint analysis is a multivariate technique used specifically to understand how respondents develop preferences for products or
Conjoint analysis enables the evaluation of complex combinations of variables. As stated above, the technique is specifically used for determining consumer preferences by ranking respondents' ratings of the importance of certain attributes and the respective possible levels of those attributes of a particular product/service. It is clear that the objectives of this technique do not serve the objectives of this study. Additionally, the type of data obtained are not suited for this analysis.

6.4 Identification of ship management clusters: cluster analysis

Saunders (1980, p. 433) makes the following suggestion regarding the choice of cluster analysis as an appropriate technique for a specific situation: "the alternative procedures have to be investigated with care, keeping in mind the structure of the data and the purpose of the investigation". This rule has been closely adhered to in the selection of cluster analysis as the appropriate technique for examining the second research hypothesis. This section deals with justification of the choice on a theoretical basis. Obviously, the final choice of the technique was based on the actual implementation and performance of cluster analysis including validation of the clusters. The choice was also based on tests carried out with alternative techniques.

The operational part of the research was designed to retrieve relationship characteristic data directly from the respondents and allow the examination of the data in order to reveal the existence of underlying clusters in the sample of ship management companies. The decision of what type of data to obtain was based on the constraints imposed by the data collection process and the potential techniques that may be utilised for analysis. The third part of the research questionnaire was used to retrieve categorical type data. It was important to collect such data because the actual statements elicited from the respondents during the telephone interviews were used in the questionnaire.
order to examine the second research hypothesis, it is essential for the multivariate
technique to have the capability of analysing this type of data and identifying potential
clusters. Cluster analysis has been chosen because its use can achieve the
aforementioned objectives.

Obviously, the relationships between ship management companies and their clients can
be unique on a number of important dimensions. The characteristics of these
relationships were retrieved from the telephone interviews and the similarities and
differences between the ship management companies ascertained by use of a mail
questionnaire. It is possible that many companies would be similar on a number of
dimensions and different from other companies. It is also a possibility that no one
company is the same, although their relationships with their clients are similar on the
majority of relationship characteristics. To analyse each relationship in turn would be
meaningless. Classification of companies on the basis of relationship characteristics
would permit parsimony without simplicity and the clustering of ship management
companies into categorical types without losing sight of the underlying richness and
diversity that exists within each one. Identification and classification of groups of
companies sharing some important relationship characteristics can reveal important
inferences and would serve the objectives of this research. Cluster analysis can be used
to classify the sample under scrutiny into manageable groups.

The different computations involved in the performance of cluster analysis including the
choice of appropriate cluster analytic techniques and cluster validation are discussed in
chapter 8.
6.5 Perceptual mapping: multiple correspondence analysis

Multiple correspondence analysis (MCA) will be used as a supplementary technique for obtaining insights into the relationships among the relationship clusters and the relationship dimensions. MCA is a form of analysis that describes multivariate relationships between row and column points of a data matrix in relation to their physical proximity on a perceptual map (Greenacre 1984; Hoffman and Franke 1986). MCA is an interdependence technique that conducts perceptual mapping (Carroll, Green and Schaffer 1986; 1987; Lebart, Morineau and Warwick 1984). In the context of this study, MCA is not used to provide descriptions or explanation in any sense but merely to develop a greater understanding through visual interpretation.

The advantage of MCA is the utilisation of categorical data and the fact that multiple sets of variables can be placed on a single map (Kaciak and Louviere 1990). Additionally, MCA has the advantage of revealing relationships that are undetected through other multivariate techniques. It can also be used to show how variables are related and not mere confirmation of relationships (Hoffman and Franke 1986). The fact that MCA displays column and row categories in the same dimensionality allows analysis of structural relationships among the variable categories. This means that physical proximity between variables on the perceptual map would indicate the strength of the association between the variables. Graphical displays are of extreme importance because they can reveal hidden facts and relationships, convey a summarised reflection of reality and stimulate analytical understanding and investigation (Nagel and Dobberkau 1988).

According to Hair et al. (1995), MCA provides a powerful tool for providing managerial insight into the relative position of companies and the attributes associated
with those positions. The research objective of practical usefulness is, hence, satisfied through the use of multiple correspondence analysis as the data analytic technique for this stage of the analysis.

The technique is descriptive and suited for exploratory data analysis, which is the requirement of this study. The limitations of MCA should also be acknowledged. The interpretation of the MCA output is subjective and many different portrayals of data are possible which can give rise to different interpretations and solutions. This is the price paid, however, for the highly flexible nature of the technique, which can lead into a more in-depth insight of the phenomena under scrutiny. In MCA the number of dimensions cannot be conclusively determined. The limitation may be minimised through a balance of interpretability and parsimony applied by the researcher, and the fact that MCA will be used primarily for confirming previously determined relationships.

6.6 Profiles of ship management clusters: multiple discriminant analysis

Once clusters of ship management companies on the basis of their client relationships are identified, the research objectives specify the investigation of a possible association between these relationship clusters and the organisational characteristics of the interacting companies (the third research hypothesis). An initial investigation of such an association will be carried out using simple case-by-case analysis, where the association between a particular cluster and a specific organisational characteristic will be examined individually. To ascertain the strength of an association between relationship clusters and organisational characteristics, multiple discriminant analysis (MDA) will be utilised.
The selection of MDA as the appropriate analytical technique for examining the third research hypothesis was based on the objectives of the third research hypothesis and the type of data available for carrying out the analysis. Of course, the data were collected on the basis of the analytical technique that will be used.

MDA is the appropriate statistical technique when a problem involves a categorical (non-metric) dependent variable and several metric independent variables. Non-metric independent variables can also be used if they are dummy coded (Hair et al. 1995), i.e. transformed into a metric variable by assigning a 1 or a 0, depending on whether it possesses a particular characteristic. In this study, the dependent variable is non-metric, whereas the independent variables are both metric and non-metric. The latter variables were dummy coded.

MDA can be used as a profile analysis by providing an objective assessment of differences between groups on a set of independent variables. The use of MDA for profiling characteristics of groups which are most dominant in terms of discrimination has been widely adopted in marketing research (Brody and Cunningham 1968; Claycamp 1965; Massy 1965; Perreault and Darden 1975; Shuchman and Riesz 1975). In fact, Singh (1990) uses hierarchical and non-hierarchical cluster procedures to identify typologies (see also section 6.4), followed by discriminant analysis to determine the demographic characteristics that differ across the cluster groups. This is a very similar methodological approach to the one implemented in this study.

Where the dependent variable consists of two levels (e.g. male v. female) the procedure is referred to as two-group discriminant analysis. Where there are three levels of the dependent variable or more, the technique is referred to as multiple discriminant analysis.
In this study the dependent variable is made up of four levels (see chapter 8). MDA is unique in one characteristic among the dependence relationship techniques. If there are more than two groups of the dependent variable, discriminant analysis will calculate more than one discriminant function. For instance, two discriminant functions will be calculated for a three-group dependent variable, allowing the objects to have a score for each discriminant function and facilitating graphical plots in two dimensions. This is extremely important in the context of the study as the dependent variable is made up of four levels.

The procedures involved in the performance of MDA and validation of the results are discussed in chapter 8. The following chapter provides a preliminary analysis of the data.
CHAPTER 7

Preliminary Results

In order to achieve the objectives of the study, the research instruments collected data that can be analysed to provide a profile of the ship manager–client relationships. The data include the organisational characteristics of the interacting organisations, qualitative data of the relationship, as well as structured data with regard to the relationship dimensions. A preliminary assessment of the data is required to provide an understanding of the relationship and the interacting organisations prior to more detailed analysis. As indicated in the previous chapter, the first step in the analytical procedure involves the assessment of the data obtained during the telephone interviews. Part of the preliminary analysis also involves an examination of the organisational characteristics of the ship management companies and the characteristics of the clients’ companies. The findings from this analysis will be compared to published data, where possible – that is depending on the availability of published data.

7.1 Results from the telephone interviews

The results reported in this section are based on descriptive inference. Description and explanation are the basis of scientific inquiry. Description comes first: “It is hard to develop explanations before we know something about the world and what needs to be explained on the basis of what characteristics” (King, Keohane and Verba 1994, p. 34). It is also important to acknowledge that responses are not analysed by consideration of the number of ship managers giving a particular response. Because a non-probability sample was assumed, any attempt to assign numbers to particular responses will be fundamentally flawed. Instead, the value of this analysis lies in the type of responses, rather than the number of ship managers giving a particular response. As already mentioned, the objective
of this part of the study is to reveal the dimensionality of the ship managers perception concerning the relationship with this major client.

At the beginning of the interview, ship managers were asked to comment upon some preliminary questions. This assisted in the build-up of rapport and acquaintance with the process of respondent-researcher interaction through the telephone. Of course, the preliminary questions were relevant to the subject matter of the study.

Ship managers were asked to comment on the importance of marketing in the management of their company. Managers responded in two ways to this question. For the bigger companies, marketing was more important. However, there was a diversity of opinion as to what marketing is. Many managers thought that marketing is advertising and the quest for attracting clients. Hence, the aforementioned aspects are important in ship management, although they are very restrictive to the definition of the term “marketing”. Managers also thought that there is a fair deal of competition in terms of attracting clients from competitors. None of the managers has accepted that his/her company is engaged in such activities. The fact that many managers thought that this type of competition exists justifies the problems in ship management discussed in chapter 2. The vast majority of managers stressed the importance of retaining clients. However, this was done only when they were asked directly. None of the managers indicated that client retention forms part of their marketing activities.

The brainstorming technique outlined in the methodology section, proved very effective for the elicitation of relationship attributes from chief executives among the ship management fraternity. A number of variables, which form the central tenets of relationship marketing research, have been elicited. In particular, ship managers have mentioned during the interviews, the following issues.
7.1.1 Nature of ship management relationships

The maritime business is largely based on acquaintances and personal relationships. This is also the case in ship management and this has been ascertained during the course of this research. Many ship managers have indicated that they have known important personnel from within the major client’s company for many years. These acquaintances resulted in the formation of a personal/friendship relationship, rather than a relationship governed by a contractual agreement. It was also revealed that a business relationship began on the basis of a prior friendship between key members of the two organisations.

7.1.2 Trust

Trust is an essential element in business relationships where buyers and sellers rely on each other for the achievement of their individual objectives (Pruitt 1981). Many ship managers have indicated that the relationship with their major client is based on mutual trust. Ship managers that avoided mentioning trust during the elicitation procedure were asked to comment on the aspect. The range of responses included “we would trust the client to a fair degree”, “we cannot always trust the client” and “trust is not a word that I would use to describe this relationship”.

7.1.3 Commitment

Commitment has been defined as “an enduring desire to maintain a valued relationship” (Moorman, Zaltman and Deshpande 1992, p. 316). Commitment is viewed as the most advanced phase in buyer-seller relationships (Dwyer, Schur and Oh 1987). The ship manager’s degree of commitment in the relationship with the major client may determine the longevity of that relationship. Managers’ views on commitment varied. The great majority of managers pledged their strong dedication towards their major client. Fewer managers indicated that the nature of ship management with many ships being managed...
for many owners makes it difficult for the manager to give individual attention and
dedication towards any one client.

7.1.4 Co-operation

Co-operation is imperative in the ship manager–shipowner relationship as it reflects the
companies’ ability to collaborate and work together toward their respective goals, as well
as the joint striving towards mutual goals (Skinner, Gassenheimer and Kelley 1992). For
the ship manager, co-operation with the client is the means for achieving greater efficiency
in delivering the ship management service. Because of the personal nature of certain ship
management relationships, co-operation between the ship management and shipowning
entities is high. Managers specified that they would be willing to help and co-operate with
the client, even if that required performance of tasks beyond those stipulated in contractual
agreements. The growth of many ship management companies was associated with a
willingness to make investments in ships. Some ship managers have indicated that their
company has co-operated with the major client to the extent of making joint financial
investments in ships.

7.1.5 Conflict

The nature of ship operation is such that conflicts and disagreements between ship
manager and shipowner are inherent. Most ship managers indicated that the company had
several minor disagreements with the client’s company. Disagreements arise mainly in the
area of presentation of financial reports. They stressed, however, that such disagreements
are never of a nature that could disturb the relationship, and that they are resolved through
negotiation. Mutual solutions are often reached amicably. Only a few companies indicated
major problems with the client. This type of conflict present in ship management
relationships is comparable to conflict in channels of distribution classified by Robicheaux
7.1.6 Investments

In the transaction-cost approach, Williamson (1979) identifies the importance of idiosyncratic investments in an exchange relationship. Idiosyncratic investments are specific to a particular relationship and, thus, non-marketable. Transaction-specific investments render the investing party committed to the relationship. Many ship managers seem to make investments as a matter of being in business and not for specific clients. A number of managers indicated that they have made investments in the particular relationship with the major client. Such investments included the setting up of an office close to the proximity of the client, in order to facilitate better communication. Other ship managers indicated that investments have been made at the beginning of the relationship with the client, but no particular investments from there on. This seems to be the case when specialised vessels are taken up for management. Ship managers have to make investments in order to facilitate the special requirements for the operation of such vessels. Such investments, however, are in a sense compulsory and represent only a one-off case – certainly not the kind of investments discussed in the relationship marketing literature. Such investments may be viewed as initial transaction costs.

7.1.7 Adaptations

The adaptation of business processes and administrative procedures is an important aspect of long-term business relationships. This is because business relationships are based on some kind of match between the operations of two companies (Hallen, Johanson and Seyed-Mohamed 1991). Owing to the complexity of ship management, it is almost inevitable that ship managers will have to adapt their business processes or administrative routines. Most managers indicated, however, that they make minor adaptations in their
business processes in order to accommodate the special needs of their client. Such adaptations are mostly in the area of accounting reporting procedures. Other managers have indicated that it is hard to make any changes to their tailor-made offering because they operate under a quality management system, which specifies strict procedures that must be adhered to. Even if quality management does specify rules and procedures, however, showing flexibility and adaptation to clients' needs does not necessarily impede the application of quality management standards. Managers presented with this statement still believed that, because of the standard nature of their service offering, major individual needs could not be accommodated.

7.1.8 Communication

Communication has been defined as "the formal as well as informal sharing of meaningful information between firms" (Anderson and Narus 1990, p. 44). The exchange and sharing of information is a critical factor in inter-organisational relationships. Dwyer, Schurr and Oh (1987, p. 17) state: "...a relationship seems unlikely to form without bilateral communication of wants, issues, inputs and priorities". Communication between ship manager and shipowner is both formal and informal. It takes place very often at departmental or operational level and less often at senior management level. Meetings of an informal and social nature also take place, particularly with smaller companies whose managers have developed a personal/friendship nature type relationship. Modality of communication is also important, with most ship managers preferring the telephone and fax.

Appendix H shows the detailed analysis of the telephone interview for one company. The elicited dimensions of the relationship variables identified during the telephone interviews can be seen in appendix J (table J3). As indicated in the survey methodology section in
Chapter 5, the telephone interviews were followed by the mail survey. The following section provides a preliminary analysis of the responses to the questionnaires.

7.2 Profile of ship management companies

The initial sample consisted of 44 companies, of which 31 were UK based companies and 13 were based in Cyprus. The useable questionnaires were returned from 23 UK companies and 11 Cyprus based companies, representing a usable response rate of 77.2%.

7.2.1 Type of companies

The first survey question aimed to identify the type of ship management companies present in the sample. The literature has indicated that whilst most ship management companies have been formed by ex-seafarer entrepreneurs, a growing number have descended from shipowning companies that have diversified. Table 7.1 indicates that 22 companies (64.7%) described themselves as independent and 12 as subsidiaries (35.3%).

<table>
<thead>
<tr>
<th>Type of company</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>Independent</td>
<td>Subsidiary</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>14 (41.2%)</td>
<td>9 (26.5%)</td>
<td>23 (67.7%)</td>
</tr>
<tr>
<td>Cyprus</td>
<td>8 (23.5%)</td>
<td>3 (8.8%)</td>
<td>11 (32.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>22 (64.7%)</td>
<td>12 (35.3%)</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.1: Type of ship management companies

Most of the subsidiary companies (9) are based in the UK, with 3 based in Cyprus. Fourteen UK based companies and 8 Cyprus based companies are independent.

7.2.2 Main business activity

Of importance in the research is the main business activity of the ship management companies. It has been revealed in chapter 2 that many companies describing themselves as ship management companies may perform ship management merely as a secondary activity. As illustrated in table 7.2, of the 34 usable responses, 53% were engaged in third-party ship management only, whereas 26.5% were offering ship management services in
conjunction with their main business activity which was the operation of their own ships.

About 17.6% of the companies indicated that ship management is their main business activity, but that they are also engaged in the operation of their own ships. One company in the sample described itself as offering marine services to its clients.

<table>
<thead>
<tr>
<th>Main business activity</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship management only</td>
<td>18</td>
<td>53%</td>
</tr>
<tr>
<td>Mainly ship management/also operating own ships</td>
<td>6</td>
<td>17.6%</td>
</tr>
<tr>
<td>Operating owned ships/also ship management</td>
<td>9</td>
<td>26.5%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 7.2: Main business activity of ship management companies

7.2.3 Time period in the ship management business

It has been stated in chapter 2 that although ship management has been performed for hundreds of years, the development of the service to its present form largely occurred in the last few decades. Table 7.3 illustrates the number of years in the ship management business by the companies participating in this research.

<table>
<thead>
<tr>
<th>Years in ship management</th>
<th>Number of companies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>5-9</td>
<td>4</td>
<td>11.8%</td>
</tr>
<tr>
<td>10-14</td>
<td>9</td>
<td>26.5%</td>
</tr>
<tr>
<td>15-19</td>
<td>8</td>
<td>23.5%</td>
</tr>
<tr>
<td>20-24</td>
<td>4</td>
<td>11.8%</td>
</tr>
<tr>
<td>25-30</td>
<td>8</td>
<td>23.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 7.3: Number of years in the ship management business

About 62% of the companies have entered the ship management business between 10 and 24 years ago. Two companies reported being in the ship management business for 267 and 108 years and another 6 companies indicated being in the ship management business for between 31-100 years. These companies could not have been formed to carry out ship
management as it is currently practised, but must have evolved into becoming ship management companies. The literature provides evidence to show that this is the case (e.g. Anon 1995s; Osler 1997a). For example, two shipping companies in the UK established in 1807 and 1826, only recently decided to form a joint venture ship management company (Osler 1997a). Hence, in order to give a more realistic picture, it was deemed necessary to consider all companies reporting time in the business of more than 30 years as being in the business for 30 years. As it can be seen in table 7.3, these companies appear in the 25-30 years range.

Most of the companies in the sample have entered the ship management business relatively recently. This is in line with the indication by Panayides and Gray (1997a) of the growth of the ship management industry in the last 2-3 decades. This is also illustrated by calculating the mean of the number of years reported by ship managers. The mean is 17 years, and is indicative of the relatively recent development of ship management companies.

There is a difference in the number of years in ship management depending on whether a company is an independent or a subsidiary. Although most of the companies were formed in the last few decades, up to 84% of the subsidiary companies were formed in the last 24 years, with 50% formed in the last 14 years (table 7.4).

<table>
<thead>
<tr>
<th>Years in ship management</th>
<th>Number and percentage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent companies</td>
<td>Subsidiary companies</td>
</tr>
<tr>
<td>0-4</td>
<td>1 (4.5%)</td>
<td>0</td>
</tr>
<tr>
<td>5-9</td>
<td>2 (9.0%)</td>
<td>1 (8.3%)</td>
</tr>
<tr>
<td>10-14</td>
<td>4 (18.0%)</td>
<td>5 (41.6%)</td>
</tr>
<tr>
<td>15-19</td>
<td>6 (27.0%)</td>
<td>2 (16.6%)</td>
</tr>
<tr>
<td>20-24</td>
<td>2 (9.0%)</td>
<td>2 (16.6%)</td>
</tr>
<tr>
<td>25-30</td>
<td>7 (32.5%)</td>
<td>2 (16.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 7.4: Number of years in business by type of company

The formation of subsidiary companies in the last few years is attributed to legal and strategic reasons. As discussed in chapter 2, shipowners may form subsidiary companies in
order to avoid arrest of sister-ships, or avoid liabilities incurred by the parent company. Subsidiaries may also be formed in order to take advantage of geographical locations of potential or current clients, to locate close to manning sources, or to transfer operations to low tax jurisdictions. Relatively recent changes in the shipping industry, like the possibility of flagging-out and employing third-world crews and the emergence of south-east Asia as a dominant maritime centre, necessitated and spurred the formation of subsidiary companies.

Most independent companies were formed in the late 1970s and throughout the 1980s, indicative of the boom in the ship management industry prevailing at the time. About 15% of independent companies and 10% of subsidiaries were set-up in the last 10 years in the UK and Cyprus. This number is low when compared to the formation of ship management companies world-wide. However, certain reasons may account for this drop in the last few years. One reason for the decline in the formation of ship management companies in the UK may be attributed to the country’s economic recession from the late 1980s through to the mid-1990s, and the lack of a coherent government shipping policy (Ledger 1993). In Cyprus, most of the major ship management companies were already set up in the island, whereas companies wishing to set-up subsidiaries elsewhere would have moved in the last 10 years close to manning sources (India, Singapore, Hong Kong).

Important inferences can be made from a cross-tabulation between the number of years in the ship management business and the main business activity of the ship management companies (table 7.5).
The table clearly illustrates that the vast majority of companies formed in order to offer third-party ship management services only are less than 24 years old. In fact, almost half of those companies were formed between 10 and 14 years ago. No company has been formed before the late 1960s in order to provide ship management services only. The great majority (about 75%) of the companies set-up to offer ship management services in the UK and Cyprus were formed between 10 and 19 years ago. On the other hand, a larger number of older companies primarily operate their own ships in conjunction with ship management. The literature indicates that such companies were originally traditional shipowners that have diversified into management in recent years (Osler, 1997a). The same can be said of the two companies in the 25-30 years old range that reported ship management to be their main business activity, although they do engage in operation of owned ships. These companies represent that sector of the industry that was originally established as shipowners, but have recently expanded into management rather than owning. Turning to ship management has been quite common for traditional UK shipping companies in the last few decades. Many companies turned to ship management because they could see this as an opportunity for further growth. Bearing in mind that the resources (seafaring experience, technical skills and expertise in ship operation) were already present within the company, such a decision was totally justified. The company engaged in offering marine services (in the “other” category) is also 30 years old.
Table 7.6 illustrates a cross-tabulation between type of company and main business activity. About 70% of independent companies are either, offering ship management services only or, ship management represents their main business activity. About 20% of independent companies reported ship management as being their primary business activity, although they operate owned ships as well. These companies represent primarily that sector of the industry which was originally formed for offering ship management services only, but who have recently diversified into acquiring their own ships.

<table>
<thead>
<tr>
<th>Main business activity</th>
<th>Number and % of independent companies</th>
<th>Number and % of subsidiary companies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship management only</td>
<td>11 (50%)</td>
<td>7 (58.3%)</td>
<td>18</td>
</tr>
<tr>
<td>Mainly ship management also operating owned ships</td>
<td>4 (18.2%)</td>
<td>2 (16.7%)</td>
<td>6</td>
</tr>
<tr>
<td>Mainly operating own ships also ship management</td>
<td>6 (27.3%)</td>
<td>3 (25%)</td>
<td>9</td>
</tr>
<tr>
<td>Other</td>
<td>1 (4.5%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 7.6: Main business activity by type of company

More than half of the subsidiary companies are engaged in offering ship management services only. These companies are subsidiaries of larger ship management or shipowning groups formed specifically to take advantage of the opportunities presented in the ship management sector. This can be ascertained by looking at the mean of the number of years these companies have been in the ship management business. The mean number of years in the ship management business for subsidiaries is 16, clearly indicating the recent formation of these companies to take advantage of the ship management market. In particular, the literature reports one company that has been formed 12 years ago and whose parent company is a large ship management entity. The small subsidiary was formed in order to take advantage of a niche market. The parent company has expanded enormously and has
recognised the demand for smaller-sized ship management companies. Hence, the formation of the subsidiary. The literature from which this information was retrieved is the company’s own brochures.

7.2.5 Number of ships

The total number of ships managed by the 34 companies in the sample is 1,995. Spruyt (1994) gives various statistics of the number of ships managed by all ship managers worldwide. He does not reach a satisfactory conclusion but his statistics range from 3,000 to 5,000 ships. Allowing for some increase in the number of ships since the statistics were compiled, it can be said that the number of ships managed by the companies participating in this research represents a large proportion of the total fleet under ship management. This may be attributed to the fact that most of the largest and most famous ship management companies participated in this study. Spruyt (1994) claims that 25% of the managed fleet is in the hands of only 6 companies, whereas he presents statistics from other sources indicating that 40% of the managed fleet is managed by 10 companies. The statistics may explain the large number of ships managed by the 34 companies participating in this study as shown in table 7.7.

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>Number of companies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>3</td>
<td>8.8%</td>
</tr>
<tr>
<td>5-10</td>
<td>7</td>
<td>20.6%</td>
</tr>
<tr>
<td>11-20</td>
<td>6</td>
<td>17.7%</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>31-40</td>
<td>5</td>
<td>14.8%</td>
</tr>
<tr>
<td>41-100</td>
<td>7</td>
<td>20.6%</td>
</tr>
<tr>
<td>101-150</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>151-200</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>201-250</td>
<td>2</td>
<td>5.9%</td>
</tr>
<tr>
<td>&gt;250</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 7.7: Number of ships by number of companies

It can be seen that half of the companies manage small fleets of less than 30 vessels. In fact, 47.1% of the companies manage up to 20 ships with another 35.4% managing
between 31 and 100 ships. About 15% of the companies manage more than 100 ships. A cross-tabulation between fleet size and location of the ship management companies reveals that UK companies manage small fleets compared to companies based in Cyprus (table 7.8).

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>Number and percentage of UK companies</th>
<th>Number and percentage of Cyprus companies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>3 (13.04%)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>5-10</td>
<td>8 (34.9%)</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>11-20</td>
<td>3 (13.04%)</td>
<td>1 (9.1%)</td>
<td>4</td>
</tr>
<tr>
<td>21-30</td>
<td>1 (4.34%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>31-40</td>
<td>2 (8.69%)</td>
<td>3 (27.3%)</td>
<td>5</td>
</tr>
<tr>
<td>41-100</td>
<td>4 (17.4%)</td>
<td>4 (36.3%)</td>
<td>8</td>
</tr>
<tr>
<td>101-150</td>
<td>0</td>
<td>1 (9.1%)</td>
<td>1</td>
</tr>
<tr>
<td>151-200</td>
<td>1 (4.34%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>201-250</td>
<td>1 (4.34%)</td>
<td>1 (9.1%)</td>
<td>2</td>
</tr>
<tr>
<td>&gt;250</td>
<td>0</td>
<td>1 (9.1%)</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>11</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 7.8: Number of ships by location of ship management companies

Sixty-five per cent of companies in the UK manage up to 30 ships with only one company in the Cyprus based sample managing less than 30 ships. Of the Cyprus based companies some 28% manage more than 100 ships, with 64% managing between 31 and 100 ships. The size of the fleet managed by ship management companies may provide one indication of the size of the company. It can be inferred that many UK based companies are small when compared to their Cyprus based counterparts. This assertion can also be supported by consideration of the companies’ reputation. Most ship management companies based in Cyprus are well known and highly reputable on a world-wide basis (Anon 1997f). Although this can be said of some companies based in the UK, the majority have been set up to satisfy the local market, and hence, operate only a small number of vessels. The total number of ships managed by companies based in Cyprus is 1,062 compared to 933 managed by the UK based companies. The mean number of ships managed by UK based companies is 41 compared to a mean of 97 ships managed by companies based in Cyprus.
It can be argued that although the number of ships managed by companies is small, the ships themselves may be large. This, however, does not seem to be the case, because companies managing a few vessels are found in the UK only, and these companies reported managing fishing and supply vessels for their major client, or a few vessels engaged in coastal shipping. On the other hand, independent evidence (e.g. Anon 1989b; 1996b; 1996c; 1996d) suggests that Cyprus based companies bid for and undertake management of very large vessels (e.g. ocean going containerships, tankers etc).

Table 7.9 provides an indication of the fleets managed by independent and subsidiary companies.

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>Number of independent companies</th>
<th>Number of subsidiary companies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>5-10</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>11-20</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>21-30</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>31-40</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>41-100</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>101-150</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>151-200</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>201-250</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>&gt;250</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 7.9: Number of ships by type of company

Subsidiary companies do not manage large fleets. The maximum number of ships managed by a subsidiary company in the sample is 78 ships, whereas the maximum for independent companies is 295 ships. In fact, four independent companies manage fleets of more than 200 vessels. Subsidiary companies manage 377 ships (18%) compared to 1,618 ships (82%) managed by independent companies. The mean of the number of ships managed by independents is 74 ships whereas the mean of the number of ships managed by subsidiaries is 32 ships. This is another indication of the fact that subsidiaries were formed in order to manage fewer ships and take advantage of niche markets. It is also possible that subsidiary
companies have sister or parent companies also managing ships for the ship management group.

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>1-9</th>
<th>10-19</th>
<th>20-30</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>1</td>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5-10</td>
<td></td>
<td></td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>11-20</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>21-30</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>31-40</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>41-100</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>101-150</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>151-200</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>201-250</td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>&gt;250</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5</td>
<td>17</td>
<td>12</td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Table 7.10: Number of ships by years in business

It would be reasonable to assume that the greater the period of time in the ship management business, the greater the number of ships that will be managed by the company. This is because ship management companies would have had time to establish themselves and attract more clients. Table 7.10 indicates that companies between 10 and 19 years in ship management, manage fleets with more ships. This may, however, be attributed to the greater number of companies in the 10-19 years group. The mean number of ships for each group was, hence, calculated. Companies in the ship management business for 1-9 years manage a mean of 45 ships compared to 82 ships managed by the 10-19 years group. The difference may be attributed to the fact that the older companies were able to establish themselves in the market place and expand. The smaller and medium sized companies of 1 to 9 years in the business may still have potential to expand further.

Following this reasoning it would seem that companies in the business for between 20 and 30 years would manage even larger fleets. The mean of the number of ships managed by this group, however, is only 29 ships. A closer examination of these companies reveals the
reason for the small number of ships managed by the group. Many of the companies are based in the UK and are operating small fleets. The Cyprus based companies operate fleets of 150 and 34 ships. It has been already established that a number of UK based companies were set up to operate small fleets and satisfy the local market. There has been no willingness by these companies to expand internationally. These companies are mostly owned by individuals, who are satisfied with the current state of their companies, and do not seem to aspire to further expansion into huge international companies. This is partly due to the background of these individual entrepreneurs. Saxena and Joshi (1992, p. 56) note that "the complex ship management enterprise is usually managed by a relatively small group of ship managers who, by tradition, are professional seafarers". Hence, although they possess technical skills, they may lack managerial skills that will enhance further growth of their companies.

The relatively smaller number of ships managed by businesses in the 20-30 years old group may be explained by the fact that ship management is not the main business activity of all of these companies. These companies were originally traditional shipowners who have recently diversified into ship management. Their main business activity is operation of their own ships rather than managing for third parties. Hence, it is not surprising that although in business for many years, the fleets of these companies under third-party management are comparatively smaller than those of their much younger counterparts.

The effect of the main business activity on the number of ships under management pointed out above can be further investigated by a cross-tabulation between the number of ships under management and the main business activity of the company.

Table 7.11 illustrates that companies managing ships for third parties only have much larger fleets that those companies who operate their own ships as well. Five of these companies manage fleets of more than 100 ships compared to two companies for the
second group ("mainly ship management and also operating owned ships") and none for the companies who mainly operate their own vessels.

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>Ship management only</th>
<th>Mainly ship management</th>
<th>Mainly ship operation</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>5-10</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>11-20</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>31-40</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>41-100</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>101-150</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>151-200</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>201-250</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>&gt;250</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>7</td>
<td>9</td>
<td>1</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 7.11: Number of ships by main business activity

There are 18 companies offering third-party ship management only. They manage a total of 1,432 ships, a mean number of 80 ships. The seven companies in the "mainly ship management" group manage 416 ships, a mean of 60 ships. Companies mainly operating owned ships but also offering ship management services, amount to a total of 9, managing 147 ships, a mean number of 17 ships.

Table 7.12 shows the number of ships under the different types of management in the sample of 34 companies.

<table>
<thead>
<tr>
<th>Type of management</th>
<th>Number of ships</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>791</td>
<td>39.6%</td>
</tr>
<tr>
<td>Technical</td>
<td>39</td>
<td>2.0%</td>
</tr>
<tr>
<td>Commercial</td>
<td>76</td>
<td>3.8%</td>
</tr>
<tr>
<td>Crewing</td>
<td>1089</td>
<td>54.6%</td>
</tr>
<tr>
<td>Total</td>
<td>1995</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 7.12: Number of ships under types of management

It is clear from the table, that the greatest proportion of ships is entrusted to third-party managers for crewing only purposes. Many of the companies reporting fleets under
management of more than 100 or 200 vessels have up to 80% or 90% of the fleet under
crewing only contracts. This suggests that many shipowners would only entrust crewing
management to ship management companies. The reasons for this attitude include the fact
that ship managers have developed an expertise in crewing, and through their numerous
contacts and areas of operation can provide enormous cost-savings to the traditional owner.
A great proportion of ships is under full management, only a minor percentage of ships are
under technical only or commercial only management. The latter is due to the fact that few
owners would lack either the technical or the commercial expertise in order to appoint
agents to carry out these functions only. It is also uneconomical to maintain a department
for crewing and operations and sub-contract the technical and/or commercial aspects only.

7.2.6 Employees

Table 7.13 illustrates the exact number of personnel employed ashore and at sea by the
companies participating in the research.

<table>
<thead>
<tr>
<th>Employees</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashore</td>
<td>1939 (1 unspecified)</td>
</tr>
<tr>
<td>At sea</td>
<td>41108 (1 unspecified)</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>4981 (1 unspecified)</td>
</tr>
</tbody>
</table>

Table 7.13: Total number of employees

Obviously, a greater number of crew members need to be employed, as a person ashore
may be assigned responsibility for the particular operation of a number of ships (up to 8
ships per person). Companies managing large fleets will, of course, employ a greater
number of personnel both ashore and at sea. Approximately 12% of the employees on
board the ships are employed through outside manning agencies. Manning agencies are
companies specialised in the provision and employment of crew. The advantage of using
manning agencies is that a constant availability of crew is ensured. Additionally, manning
agencies are either located close to manning sources or maintain close links with agencies
based in advantageous locations such as the Philippines, India, Poland and Russia.
Manning agencies are used by 14 UK based companies and 4 companies based in Cyprus.
This may be attributed to the fact that large Cyprus based companies engage in the training of their own crews for employment on board the managed fleets (e.g. Anon 1996b).

7.2.7 Companies owning ships

Sixteen out of the 34 companies in the sample indicated that they have a stake in ships. Eleven of these companies are independent and 5 are subsidiaries (table 7.14).

<table>
<thead>
<tr>
<th>Type of Company</th>
<th>Own ships</th>
<th>Do not own ships</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of independent</td>
<td>11</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Number of subsidiary</td>
<td>5</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>18</td>
<td>34</td>
</tr>
</tbody>
</table>

Table 7.14: Type of companies owning ships

The total number of ships owned by the companies in the sample is 148. Independent companies own 103 ships (approximately 70%). Of the 16 companies owning ships, 9 have reported that their main business activity is the operation of their own ships, whereas, 6 indicated that operation of owned ships is secondary to third-party management. These companies own a total of 38 ships. The only company that is engaged in offering marine services owns one ship only.

The absence of a distinct pattern in ownership between independent and subsidiary companies is notable from table 7.14. As it has been already discussed, independent companies may have been originally set up to manage ships but have acquired their own with the growth in business. Independent shipowning companies may also have diversified into management but have retained a part of their fleets. Subsidiary companies, on the other hand may have been formed for management or management and ownership of vessels.
7.2.8 Annual turnover

As can be seen from table 7.15, a significant number of companies (about 24%) were reluctant to disclose their annual turnover. Of the companies providing this information, about 17.6% have annual revenues of less than £1 million and 35% have revenues of more than £10 million.

<table>
<thead>
<tr>
<th>Annual turnover (£)</th>
<th>Number and percentage of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1-0.9</td>
<td>6 (17.6%)</td>
</tr>
<tr>
<td>1-2.9</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>3-4.9</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td>5-9.9</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>10-15</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>16-25</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>26-40</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>&gt;40</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td>Not specified</td>
<td>8 (23.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.15: Annual turnover of ship management companies

One company above the £40 million mark reported annual revenues of £100 million. The latter seems to be excessive when compared with the revenues disclosed by companies managing larger fleets, although this company manages a fleet of 55 vessels.

<table>
<thead>
<tr>
<th>Annual turnover (£)</th>
<th>Number and percentage of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>UK based</td>
</tr>
<tr>
<td>0.1-0.9</td>
<td>6 (26%)</td>
</tr>
<tr>
<td>1-2.9</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>3-4.9</td>
<td>1 (4.3%)</td>
</tr>
<tr>
<td>5-9.9</td>
<td>1 (4.3%)</td>
</tr>
<tr>
<td>10-15</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>16-25</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>26-40</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>&gt;40</td>
<td>1 (4.3%)</td>
</tr>
<tr>
<td>Not specified</td>
<td>4 (17.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 7.16: Annual turnover by location of ship management companies
Table 7.16 illustrates the annual turnover of the companies located in the UK and Cyprus.

A greater percentage of Cyprus based companies refused to disclose their annual turnover. These four companies are in the group of the biggest and most reputable ship management companies not only in Cyprus but also world-wide. The four companies manage 607 ships between them. This number represents half of the ships managed from Cyprus and 30% of the total ships managed by the 34 companies in the sample. It is quite reasonable to deduce that these companies will have a high annual turnover.

It can be seen from the table that all companies with annual turnover of less than £1 million are located in the UK. Annual turnover may be regarded as an indication of the size of the companies. It can be inferred, that a relatively large percentage of UK based companies are quite small, although medium sized and large companies also exist. The absence of very small companies is very distinct from the Cyprus based sample. The total annual turnover of the companies based in the UK is £279.4 million with a mean of £14.7 million. The companies based in Cyprus have an annual turnover of £104.04 million with a mean of £14.8 million.

<table>
<thead>
<tr>
<th>Annual turnover (£)</th>
<th>Type of company</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent (Number and %)</td>
<td>Subsidiaries (Number and %)</td>
</tr>
<tr>
<td>0.1-0.9</td>
<td>2 (8.3%)</td>
<td>4 (33.3%)</td>
</tr>
<tr>
<td>1-2.9</td>
<td>2 (8.3%)</td>
<td>2 (16.7%)</td>
</tr>
<tr>
<td>3-4.9</td>
<td>1 (4.2%)</td>
<td></td>
</tr>
<tr>
<td>5-9.9</td>
<td>3 (12.5%)</td>
<td></td>
</tr>
<tr>
<td>10-15</td>
<td>3 (12.5%)</td>
<td>2 (16.7%)</td>
</tr>
<tr>
<td>16-25</td>
<td>3 (12.5%)</td>
<td></td>
</tr>
<tr>
<td>26-40</td>
<td>2 (8.3%)</td>
<td>1 (8.3%)</td>
</tr>
<tr>
<td>&gt;40</td>
<td>1 (8.3%)</td>
<td></td>
</tr>
<tr>
<td>Not specified</td>
<td>6 (33.4%)</td>
<td>2 (16.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 7.17: Annual turnover by type of company

Table 7.17 indicates the annual turnover of independent and subsidiary companies. The total annual turnover of independent companies is £204.39 million and of subsidiary
companies £160.45 million. It is worth noting, however, that one subsidiary company reported an annual turnover of £100 million, well over any sum reported by any other independent or subsidiary company. The company reported managing 55 vessels, 10 of which for their major client which is an oil major company.

7.3 Profile of client companies

In this section of the preliminary results, there will be a detailed account of the organisational characteristics of the major client companies.

7.3.1 Type of major client company

The ship management literature review in chapter 2 revealed that the development of ship management was largely due to the demand for such a service from a variety of organisations including traditional shipowners, charterers, bankers and individual investors. Table 7.18 illustrates the type of companies entrusting their vessels to the ship management companies participating in this research.

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of companies</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional shipowner</td>
<td>21</td>
<td>61.8%</td>
</tr>
<tr>
<td>Shipowner/charterer</td>
<td>2</td>
<td>5.9%</td>
</tr>
<tr>
<td>Charterer</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Bank</td>
<td>1</td>
<td>2.9%</td>
</tr>
<tr>
<td>Investor</td>
<td>3</td>
<td>8.8%</td>
</tr>
<tr>
<td>Oil major</td>
<td>2</td>
<td>5.9%</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>11.8%</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 7.18: Type of major client company

It can be seen that the vast majority of companies entrusting their vessels to ship managers are traditional shipowning companies. This can be explained not only by the fact that traditional shipowning companies own most of the ships in the world fleet but also by the considerable advantages offered to shipowners by management companies. Confirming the
results of the literature review, however, client companies include banks, investors and oil majors. The small number of oil major companies is indicative of the move away from ship ownership reported in the literature (Prescott 1995). In addition, the “other” category includes the UK government, a truck owners’ association, a firm of steel producers and a company involved in fish farming. This is indicative of the wide diversity of shipowners entrusting their vessels to third-party managers. It is also indicative of the fact that a variety of businesses will consider buying their own ships and entrusting them to professional ship managers.

7.3.2 Country of major client’s company headquarters

Table 7.19 indicates that the majority of the major client companies (about 62%) are located in two countries – the UK and Germany. Major client companies are also located in Norway (3), Japan (2), Austria, Belgium, Holland and Eastern Europe (“Other Europe” category). The category “other” includes one company each in the US, Singapore, Middle East and Turkey.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom</td>
<td>13</td>
</tr>
<tr>
<td>Germany</td>
<td>8</td>
</tr>
<tr>
<td>Norway</td>
<td>3</td>
</tr>
<tr>
<td>Other Europe</td>
<td>4</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Table 7.19: Country of major client company headquarters

A cross-tabulation of geographical location of ship management and client companies reveals important inferences. Ship management companies in the UK mostly serve the needs of UK companies. Many reasons account for this, including the influence of culture in the preferences of UK shipowners, as it may be unlikely for UK shipowners based in the UK to entrust their vessels to the hands of foreign companies based abroad.
Other reasons may include the size of the shipowning and ship management entities. As indicated already, many of the UK based ship management companies are quite small and serve the needs of clients based in the immediate locality (ship managers indicated that owners are engaged in short-sea shipping during the telephone interviews). The vast majority of companies based in Cyprus deal with German clients. This is because most of the companies in Cyprus are owned by German nationals and might have been previously set up in Germany. Cyprus offers low taxation and other fiscal and administrative advantages to German ship management companies. Since the island has become a tax haven and offshore centre (over 100,000 offshore companies are currently registered in Cyprus) it has attracted an influx of German companies. Again, cultural background may influence the selection of a ship management company. The five client companies managed by UK managers appearing in the “other” category are located in the Middle East, Turkey, USA and Singapore, and in the “other Europe” category are located in Holland and Belgium. The two client companies managed by Cyprus based managers are located in Austria and Eastern Europe. The indication is that companies in the UK would have clients all over the world, whereas ship management companies located in Cyprus would manage vessels for European companies. All eleven major clients of ship management companies located in Cyprus are European. This shows that ship management companies would be located in Cyprus in order to serve the needs of European clients. It

<table>
<thead>
<tr>
<th>Client’s headquarters</th>
<th>Ship management company’s headquarters</th>
<th>Number and percentage of companies in the UK</th>
<th>Number and percentage of companies in CYPRUS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>12 (52.2%)</td>
<td>1 (9.1%)</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>2 (8.7%)</td>
<td>6 (54.5%)</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td>1 (4.3%)</td>
<td>2 (18.2%)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Other Europe</td>
<td>2 (8.7%)</td>
<td>2 (18.2%)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>2 (8.7%)</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4 (17.4%)</td>
<td>0</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>11</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.20: Cross-tabulation of ship manager–client geographical areas
would be less likely to set up a company in Cyprus in order to manage vessels for Far Eastern, Asian or US clients. This does not mean of course, that companies in Cyprus would be indifferent to attracting clients from these countries. It would be more feasible, however, for companies wishing to serve clients in such locations to set up in close proximity to the clients, in countries offering similar advantages as Cyprus. This is also supported in the literature, where companies set up new offices or establish new companies close to their target markets (Anon 1995t; Richardson 1995a).

7.3.3 Period of time with major client

As indicated in table 7.21, 32 of the companies have been with their major clients for up to 20 years. Two companies reported being with their major clients for more than 21 years. Fifty per cent of the companies, however, have been offering ship management services to their clients for 1 to 9 years. The mean number of years with the major client is 10 years. The latter is an indication of the medium to long-term relationships, although it is relatively low when compared to a mean of 17 years in the ship management business. Of course, the number of years in business may account for the short-term nature of a relationship.

<table>
<thead>
<tr>
<th>Years with client</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>7</td>
</tr>
<tr>
<td>5-9</td>
<td>11</td>
</tr>
<tr>
<td>10-14</td>
<td>9</td>
</tr>
<tr>
<td>15-20</td>
<td>5</td>
</tr>
<tr>
<td>&gt;21</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Table 7.21: Number of years providing services for major client

Table 7.22 illustrates a cross-tabulation between the type of ship management company and the number of years spent with the major client.
**Table 7.22: Number of years with major client by type of ship management company**

No difference is found between independent and subsidiary companies as far as the length of time with the major client is concerned. The mean number of years with the client is approximately 10 years, for both independent and subsidiary companies.

No real difference in terms of the length of the relationships is found with respect to the main business activity of the ship management company. Companies offering ship management services only and not engaged in the operation of their owned vessels, have fewer shorter-term relationships, although the proportion of relationships for all companies tends to level out at the 9th year mark. As illustrated in Table 7.23, only 11.8% of “ship management only” companies have been with their clients for the short-term, compared with 28.6% and 34% of the companies that are engaged in the operation of their own ships as well.

**Table 7.23: Number of years with major client by main business activity**

The table indicates that companies offering only ship management services do not have relationships with their major clients for more than 21 years. This may, however, be attributed to the more recent formation of companies specialised in offering ship management services only.
management services only. It must be borne in mind that relationships reported here are with the major client, and one would naturally assume that relationships with other clients may be shorter.

7.3.4 Client’s main business activity

Most of the shipowners entrusting their vessels to managers are involved in tramp shipping (12 companies representing 35.3% of the sample). This may be attributed to the fact that tramp shipping requires the shipowners to be closely involved with the shipping markets and freight rates and be in constant contact with prospective charterers. Hence, they may entrust all aspects of ship management (apart from chartering) to professional ship managers.

<table>
<thead>
<tr>
<th>Main business activity of client</th>
<th>Number of companies and %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramp shipping</td>
<td>12 (35.3%)</td>
</tr>
<tr>
<td>Container liner shipping</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>Pool participants</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Tramp &amp; Pool</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Various shipping markets</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>Other</td>
<td>8 (23.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Table 7.24: Client’s main business activity

Kendall and Buckley (1994) discuss the excessive workload on the shipowner engaged in the management of tramp shipping. They state that owners should be avid readers of the daily news, economic conditions, political events, crop/commodity reports and must observe the frequent fluctuations of the charter market. Entrusting ship operation to managers may relieve shipowners of some of the pressures of ship operation, allowing them to concentrate on the employment of the vessels. Spruyt (1994) proposed that shipowners may entrust ships to managers in order to be relieved of the pressures of ship operation.
A fairly large proportion of the clients are involved in container liner shipping. This is again a highly competitive market within the shipping industry, and many owners would prefer to delegate ship operation in order to concentrate on other aspects of the market. A smaller proportion of clients have pooled their vessels. The latter may be attributed to the comparatively smaller number of owners engaged in shipping pools. Another reason may be that pooling places the vessels under the auspices of an administration, which assumes various responsibilities and relieves the owner of considerable pressures. Packard (1989) notes that the tasks of the pool officers include administration, marketing, chartering, operations and accounting, whereas the shipowner retains responsibility for financing, crewing and managing. He further notes that the shipowner “may well sub-contract all or any part of his ship-husbandry responsibilities to a specialised ship manager” (Packard 1989, p. 8).

The “various shipping markets” category includes four companies having interests in various ship types and engaged in ship chartering in different markets. One company owns roll-on/roll-off (ro-ro) ships and general cargo ships, with another owning ro-ro and dry bulk vessels. The other two companies are engaged in container and bulk carrier shipping and gas, ro-ro and container shipping. Different chartering arrangements may be taken out for these types of ships.

The “other” category includes companies engaged in a variety of activities, indicative of the diversity of owners entrusting their vessels to ship managers. One company is engaged in contacts of affreightment (CoA) trading. Under these type of contracts the shipowner is required to carry a specified quantity of cargo over a long-term period. Similarly, one other company engages in long-term fixed time charters. Another client is engaged in oil trading and owns ships in order to satisfy their own transport requirements. The remaining companies include one steel producer, a banker, a company engaged in waste disposal, a
company engaged in fish farming and a company engaged in the transportation of raw materials.

<table>
<thead>
<tr>
<th>Main business activity of client</th>
<th>Type of ship management company (number of companies)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramp shipping</td>
<td>Independent 10 Subsidiary 2</td>
<td>12</td>
</tr>
<tr>
<td>Container liner shipping</td>
<td>Independent 4 Subsidiary 1</td>
<td>5</td>
</tr>
<tr>
<td>Pool participants</td>
<td>Independent 0 Subsidiary 2</td>
<td>2</td>
</tr>
<tr>
<td>Tramp &amp; Pool</td>
<td>Independent 2 Subsidiary 0</td>
<td>2</td>
</tr>
<tr>
<td>Various shipping markets</td>
<td>Independent 2 Subsidiary 3</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>Independent 4 Subsidiary 4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Table 7.25: Main business activity of client by type of ship management company

Table 7.25 shows that independent owners involved in tramp shipping would entrust their vessels to independent ship management companies rather than subsidiaries. Subsidiary companies are far more likely to manage ships for owners engaged in a variety of shipping markets (owning different ship types) or, for owners whose main business activity is trading, rather than shipowning. This can be explained by considering which type of company is more likely to take on ships on a full management basis. The mean number of ships on full management contracts is 29 ships for independent companies and 14 for subsidiaries. This is because independent companies have all the expertise and required organisational structure in order to perform full management. On the other hand, subsidiaries may have been set up in order to develop an expertise on a particular type of management and take advantage of niches. It has been discussed earlier that tramp shipping owners would be more likely to hand-over their vessels for management on a full management basis (excluding chartering), in order for them to concentrate on the freight rate markets. Hence, independent companies manage more ships for owners engaged in tramp shipping than subsidiary companies. The same reasoning can be used to explain the fact that independent companies would manage a greater number of containerships engaged in liner shipping.
7.3.5 Number of ships managed for major client

The 34 companies manage a total of 418 ships for their major clients. Table 7.26 indicates the fleet sizes managed for the major client by the companies participating in this research.

<table>
<thead>
<tr>
<th>Number of ships</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>8 (23.5%)</td>
</tr>
<tr>
<td>4-7</td>
<td>9 (26.5%)</td>
</tr>
<tr>
<td>8-11</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td>12-16</td>
<td>6 (17.7%)</td>
</tr>
<tr>
<td>17-21</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>22-27</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>&gt;27</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Not specified</td>
<td>1 (2.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.26: Number of ships managed for major client

Two companies reported managing more than 27 ships. They are managing 35 and 62 ships for their major client. However, the majority of the companies manage small to medium-sized fleets for their major client. Half of the companies manage fleets of 1 to 7 ships.

<table>
<thead>
<tr>
<th>Number of ships managed for major client</th>
<th>Type of ship management company (Number and percentage of companies)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Independent</td>
<td>Subsidiary</td>
</tr>
<tr>
<td>1-3</td>
<td>6 (28.6%)</td>
<td>2 (16.7%)</td>
</tr>
<tr>
<td>4-7</td>
<td>6 (28.6%)</td>
<td>3 (25%)</td>
</tr>
<tr>
<td>8-11</td>
<td>1 (4.8%)</td>
<td>0</td>
</tr>
<tr>
<td>12-16</td>
<td>2 (9.5%)</td>
<td>4 (33.3%)</td>
</tr>
<tr>
<td>17-21</td>
<td>2 (9.5%)</td>
<td>2 (16.7%)</td>
</tr>
<tr>
<td>22-27</td>
<td>2 (9.5%)</td>
<td>1 (8.3%)</td>
</tr>
<tr>
<td>&gt;27</td>
<td>2 (9.5%)</td>
<td>0</td>
</tr>
<tr>
<td>Not specified</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 7.27: Number of ships by type of company

Another 32.4% of the companies manage fleets of between 8 and 21 ships for their major client. The small-sized fleets may be attributed to a variety of factors. For instance, it may be due to the small number of ships owned by the clients. Or, it may be due to the fact that
certain shipowners would decide to hand-over only a few ships, or a certain type of ship to one manager and another type to another manager.

Table 7.27 indicates that independent companies may be managing either small or very large fleets for their major clients. Independent companies managing small fleets are mainly located in the UK. These are small businesses run by individual entrepreneurs and serving the needs of clients locally. Most Cyprus based independent ship management companies manage large fleets for their major clients – one such company manages 62 ships for its major client. The majority of subsidiary companies managing large fleets are also based in Cyprus.

<table>
<thead>
<tr>
<th>Number of ships managed for major client</th>
<th>Main business activity (number of companies)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ship management only</td>
<td>Mainly ship management</td>
</tr>
<tr>
<td>1-3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4-7</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>8-11</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12-16</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>17-21</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>22-27</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>&gt;27</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Not specified</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 7.28: Number of ships by client's main business activity

Table 7.28 indicates a cross-tabulation between the number of ships managed for the major client and the main business activity of ship management companies. Companies that do not own ships and only offer ship management services manage small, medium sized and large fleets. Some 42% of these companies operate fleets of 1 to 7 ships. This would seem to be unreasonable as these companies would want to manage larger fleets since they do not engage in other business activities. It is important, however, to note that many of these companies are small UK-based companies whose objective is to serve the local market and their owners seem to be content with the current business and fleets. It is also important to
note that many of these small UK companies are not located in London, the Isle of Man or Glasgow, where large ship management companies and shipowning groups are found. Instead of being located in the maritime centres of the UK, these companies are scattered throughout certain port cities of the country and serve the needs of local owners.

It is also clear that the larger fleets managed for major clients are of those companies offering third-party services only. Two of these companies manage more than 27 vessels for their major client only.

The vast majority of companies that primarily operate their own vessels, manage very small fleets for their major clients. This is reasonable as these companies operate their own ships, and, hence, expansion of their fleets under management is not their primary interest. Companies that manage ships primarily but also operate owned vessels, manage both small and large fleets (up to 27 vessels). This is again reasonable as companies would want their fleets under management to expand and would pursue this objective.

<table>
<thead>
<tr>
<th>Number of ships managed for client</th>
<th>Tramp</th>
<th>Container liner</th>
<th>Pool</th>
<th>Tramp/Pool</th>
<th>Combination</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>4-7</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>8-11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>12-16</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>17-21</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>22-27</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>&gt;27</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>7</td>
<td>34</td>
</tr>
</tbody>
</table>

**Table 7.29: Number of ships managed for client by client’s main business activity**

The table above illustrates the fleet sizes managed for owners engaged in the different shipping business markets. It can be seen that the majority of fleets managed for owners engaged in tramp shipping are relatively small, although some fleets are of medium and
large sizes. Kendall and Buckley (1994, p. 58) state that "tramp shipping fleets vary in size from one to many ships depending upon the financial status of the individual owners". Hence, the number of ships owned may account for fleet size under management.

Larger fleets are managed for owners engaged in container liner shipping and those engaged in a combination of the variety of shipping markets which includes containerships. Liner shipping is quite different from tramp shipping. In liner shipping, vessels are scheduled to carry out voyages on particular routes on pre-specified dates. Ships will leave a particular port for their destination on the particular pre-determined date and time, whether full or not. Liner shipping is the most common operation for containerships. The demand for such services and the nature of liner shipping dictate the availability of a large number of vessels in order to carry out their pre-determined voyages. Hence, the large number of vessels in the fleets handed-over for management.

The category "other" includes the companies owning ships in order to satisfy their own sea transport requirements. Ship ownership is, hence, incidental to the business of these companies and does not constitute commercial ownership for profit. The companies would own a small number of ships in order to satisfy their business ventures and would, hence, hand over only small fleets for management as indicated in table 7.29.

<table>
<thead>
<tr>
<th>Years in business</th>
<th>Number of companies</th>
<th>Total and mean number of ships managed for major client</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>1</td>
<td>4 (4)</td>
</tr>
<tr>
<td>5-9</td>
<td>3</td>
<td>102 (34)</td>
</tr>
<tr>
<td>10-14</td>
<td>9</td>
<td>96 (11)</td>
</tr>
<tr>
<td>15-19</td>
<td>8</td>
<td>130 (16)</td>
</tr>
<tr>
<td>20-24</td>
<td>4</td>
<td>16 (4)</td>
</tr>
<tr>
<td>25-30</td>
<td>9</td>
<td>70 (8)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>418 (12)</strong></td>
</tr>
</tbody>
</table>

Table 7.30: Number of ships managed for major client by years in business
It can be claimed that the greater the number of years in business, the greater the number of ships managed for the major clients. This is not apparent, however, from table 7.30 as other factors such as type of company, location and the number of years with the client may affect the number of ships managed for the major client.

<table>
<thead>
<tr>
<th>Years with client</th>
<th>Number of ships</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1-4</td>
<td>45</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>b. 5-9</td>
<td>211</td>
<td>11 (32.4%)</td>
</tr>
<tr>
<td>c. 10-14</td>
<td>83</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>d. 15-20</td>
<td>75</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>e. &gt;21</td>
<td>4</td>
<td>2 (5.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>418</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.31: Number of ships managed for the client by number of years with the client

Table 7.31 indicates the exact number of ships managed for the major clients cross-tabulated by the length of the relationship with the major clients. The table indicates that relationships of greater than 4 years duration tend to be associated with a higher number of ships managed for the major client. This is further supported by considering the number of companies in each group. Although there are 7 companies in group “a”, the number of ships managed for the major clients is considerably lower than those of groups “b”, “c” and “d”.

<table>
<thead>
<tr>
<th>Client location</th>
<th>Number of ships managed for clients</th>
<th>Mean number of ships</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>73</td>
<td>6</td>
</tr>
<tr>
<td>Germany</td>
<td>191</td>
<td>24</td>
</tr>
<tr>
<td>Norway</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>Other Europe</td>
<td>73</td>
<td>25</td>
</tr>
<tr>
<td>Japan</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>21 (1 not specified)</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>418</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.32: Number and mean number of ships by client location

Table 7.32 indicates that a greater number of ships per company are managed for clients located in Germany, Norway and European countries other than the UK. It was discussed earlier that all the companies in Cyprus serve the German market primarily and Europe in
general. The fact that more ships per company are managed for German and European countries confirms the earlier finding that companies located in Cyprus manage greater fleets for their major clients than UK based companies. It also supports the assertion that although the majority of companies participating in the research are based in the UK and serve UK based clients, the actual fleets managed for many of these clients are very small.

7.3.6 Type and number of ships managed for major client

Table 7.33 provides an indication of the exact number of ships managed for the major client under the different types of management.

<table>
<thead>
<tr>
<th>Type of ship</th>
<th>Full management</th>
<th>Commercial Management</th>
<th>Technical management</th>
<th>Crewing management</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tankers</td>
<td>37</td>
<td>20</td>
<td>0</td>
<td>29</td>
<td>86</td>
</tr>
<tr>
<td>Bulk Carriers</td>
<td>64</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>78</td>
</tr>
<tr>
<td>Containerships</td>
<td>50</td>
<td>1</td>
<td>1</td>
<td>43</td>
<td>95</td>
</tr>
<tr>
<td>Chemical carriers</td>
<td>19</td>
<td>15</td>
<td>4</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Roll-on/Roll-off</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Reefers</td>
<td>19</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>General cargo</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Gas</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>25</td>
<td>31</td>
</tr>
<tr>
<td>Other</td>
<td>1+6</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>45</td>
<td>10</td>
<td>120</td>
<td>399</td>
</tr>
</tbody>
</table>

Table 7.33: Type and number of ships managed for the major client

The total number of ships shown is 399 as two respondents whose companies manage 16 and 3 vessels did not disclose the types of management. It can be noted that more than half (56%) of the ships managed for the major client are under full management contracts. This is an expected finding as the ships are managed for the major client in revenue terms, and more revenue will be generated by ships under full management. About 30% of the vessels managed for the major clients are under crewing only contracts. This is again reasonable as crewing generates much more revenue than any other form of management when all types of management are considered individually. It was established earlier (table 7.12) that more than half of all the ships managed by the 34 companies are under crewing only
management contracts. A smaller percentage (about 4%) of ships is under commercial only
management. Shipowners may sub-contract commercial management in case they lack the
expertise and resources in order to evaluate the different cost-saving arrangements that
may result from flagging-out and other commercial opportunities. Very few owners would
sub-contract technical management alone (about 2%). This is because it would be
uneconomical to maintain a management department and not incorporate the technical side
of management. Despite this, shipowners may seize opportunities where a manager may
provide good technical expertise and cheaper suppliers of spare parts.

It can be seen from the table that the majority of ships under any type of management are
bulk carriers, containerships and tankers. This is because these types of vessels
predominate in the world fleet, whereas specialised vessels are fewer. Nevertheless, where
owners diversify and acquire specialised vessels, they may consider entrusting them to ship
managers if they lack the expertise to manage the particular types.

7.3.7 Percentage of annual revenue generated by major client

The table below gives an indication of the percentage of revenue generated by the major
client for the ship management companies participating in this research.

<table>
<thead>
<tr>
<th>% of annual revenue generated by major client</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>7</td>
</tr>
<tr>
<td>6-10</td>
<td>1</td>
</tr>
<tr>
<td>11-16</td>
<td>6</td>
</tr>
<tr>
<td>17-25</td>
<td>3</td>
</tr>
<tr>
<td>26-35</td>
<td>1</td>
</tr>
<tr>
<td>36-45</td>
<td>4</td>
</tr>
<tr>
<td>46-60</td>
<td>3</td>
</tr>
<tr>
<td>&gt;60</td>
<td>3</td>
</tr>
<tr>
<td>Not specified</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

*Table 7.34: Percentage of annual revenue generated by major client*
Being a highly sensitive area, it is not surprising that 6 of the companies declined to give an indication of the revenue generated by the client even after they were contacted specifically for this reason. The table shows that ship management companies may receive a small or a large percentage of their revenue from their major client. The mean percentage of revenue attributed to the major client is 27%.

<table>
<thead>
<tr>
<th>% of revenue generated by major client</th>
<th>Type of company</th>
<th>Number of independent companies</th>
<th>Number of subsidiary companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td></td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>6-10</td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11-16</td>
<td></td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>17-25</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>26-35</td>
<td></td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>36-45</td>
<td></td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>46-60</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>&gt;60</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Not specified</td>
<td></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>22</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 7.35: Percentage of revenue generated by major client vs. type of company

It can be seen that most independent companies earn relatively small percentages of their revenue from the major client. This is reasonable if the number of clients is considered. Independent companies will normally have a much greater number of clients than subsidiaries. Subsidiaries may, on the other hand, depend upon a few or even one client for their viability. It is quite common for subsidiaries to be formed in order to serve a few clients or take advantage of niches. As the table illustrates, two subsidiaries have more than 60% of their revenue coming from their major client, whereas only one of the independent companies attributed such a high percentage to the business derived from their major client. The mean percentage of revenue attributed to the client is 41% for subsidiary companies and 20% for independent companies. This indicates that subsidiaries may be more dependent upon their major client than independent ship management companies.
7.4 Frequency of communication

As revealed in the review of ship management (chapter 2) and the relationship marketing literature review (chapter 3), communication is an important aspect of relationships in general and the ship manager–shipowner relationship in particular. The conceptual model in chapter 4 also takes into account this variable in the ship manager–shipowner relationship. Communication may take different forms. It may, for example, be face to face communication at an operational or senior management level. Communication may also take place through other media, the telephone, facsimile transmissions and telex being the predominant mediums in the case of ship management. The media of communication and the participants of the interaction were identified in the telephone interviews with the ship managers. The frequency of communication was also explored in the telephone interviews.

Questions 9 and 10 in the third section of the questionnaire served to quantify the frequency of communication. The respondents were asked to specify the frequency of communication and face to face interactions at operational and senior management level. A set of multiple-choice categories, as identified from the telephone interviews, was presented to the respondents. The responses to these questions are illustrated and discussed below, together with cross-tabulations with factors that may have an impact on the frequency of communication.

7.4.1 Face to face communication at operational level

Table 7.36 indicates that face to face communication at operational level is not very frequent with representatives of 56% of the companies meeting once every three months or less often. At operational level, meetings can be arranged on board a ship when representatives from the manager’s and client’s offices plan to visit.
<table>
<thead>
<tr>
<th>Frequency of communication</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>10 (29.5%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>6 (17.6%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>3 (8.8%)</td>
</tr>
</tbody>
</table>

Table 7.36: Frequency of face to face communication at operational level

It is possible that face to face contact at operational level will be hampered by the location of the ship management company. To explore this possibility a cross-tabulation between meetings at operational level and location of ship management companies was performed (table 7.37).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Number of UK based companies</th>
<th>Number of Cyprus based companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week</td>
<td>5 (22%)</td>
<td>0</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>2 (9%)</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>5 (22%)</td>
<td>2 (18%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>8 (34%)</td>
<td>2 (18%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>1 (4%)</td>
<td>5 (46%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>2 (9%)</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 7.37: Frequency of face to face communication at operational level by company location

It is evident that face to face communication at operational level occurs more frequently for UK based companies. This may be attributed to the distance between the companies and the client’s headquarters. Most UK based ship management companies manage vessels for UK based clients, unlike Cyprus based companies which mostly serve German clients. The frequency of meetings may be further increased by vessels visiting UK and European ports, where it will be more easy for UK based personnel to visit.

A cross tabulation between the frequency of meetings at operational level and main business activity reveals that companies engaged in offering ship management services
only tend to hold less frequent meetings than companies also operating their own ships (table 7.38).

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Main business activity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ship management only</td>
<td>Mainly ship management</td>
<td>Mainly operating own ships</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>2 (11%)</td>
<td>1 (16.6%)</td>
<td>1 (11%)</td>
<td>1 (100%)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>0</td>
<td>1 (16.6%)</td>
<td>2 (22%)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Once a month</td>
<td>5 (28%)</td>
<td>0</td>
<td>2 (22%)</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Once every three months</td>
<td>5 (28%)</td>
<td>3 (50%)</td>
<td>2 (22%)</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Twice a year</td>
<td>4 (22%)</td>
<td>1 (16.6%)</td>
<td>1 (11%)</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Once a year</td>
<td>2 (11%)</td>
<td>0</td>
<td>1 (11%)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>6</td>
<td>9</td>
<td>1</td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.38: Frequency of face to face communication at operational level by main business activity

In fact, as shown in table 7.38, personnel working for companies whose main business activity is operation of owned vessels have more frequent meetings at operational level with representatives from the major client company. This finding is rather surprising as one would assume companies whose main and only business activity is third party ship management, would be willing to meet personnel from the major client company more often. One reason that may explain this finding is the number of ships managed by the company. Companies performing “ship management services only”, manage larger fleets and have more clients than companies engaged in the operation of owned vessels. Hence, it will be more difficult for companies to send personnel for meetings with representatives from all their client companies. A cross-tabulation between meetings at operational level and number of ships managed by the companies does reveal that companies managing smaller fleets are engaged in many more meetings with the major client company (table 7.39). Meetings at operational level are also more frequent for longer term relationships and for companies managing larger fleets for the major client.
### Table 7.39: Frequency of face to face communication at operational level by number of ships managed

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Number of ships managed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-10</td>
</tr>
<tr>
<td>Once a week</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>4 (36%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>4 (36%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>0</td>
</tr>
<tr>
<td>Once a year</td>
<td>1 (9%)</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
</tr>
</tbody>
</table>

7.4.2 Face to face communication at senior management level

Table 7.40 indicates that the vast majority of senior personnel meet their counterparts from their major client company about once every three months. This is true for both UK companies (10 companies) and companies based in Cyprus (8 companies). Senior managers from UK based companies, however, also meet senior managers from their major client company quite frequently (8 companies reporting meetings of once a month or more frequent, compared to one Cyprus based company indicating a meeting once a month). This may be attributed to the close distance between the premises of the ship management company and the client in the UK. UK based companies, however, also reported less frequent meetings – two companies reporting meetings once a year and three companies twice a year. Again this may be attributed to physical distance, with some UK based companies serving the needs of clients based in the US and the Far East.

### Table 7.40: Frequency of face to face communication at senior management level

<table>
<thead>
<tr>
<th>Frequency of communication</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a week</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>3 (8.8%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>18 (52.9%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

The number of vessels entrusted to the manager may also account for the frequency of meetings at senior management level. Frequent meetings with clients entrusting small fleets to the manager were reported, although two companies reported annual meetings...
with clients entrusting 1-3 ships to the company. None of the companies managing more
than three ships reported annual meetings. Some companies reported meetings of twice a
year for fleets of up to 21 vessels. Companies that manage more than 21 vessels reported
quarterly meetings at senior management level. Hence, it can be claimed that the larger the
fleet managed for the client, the more frequent the meetings at senior management level.
This may be due to the importance attributed to the particular client by the senior managers
of the ship management companies. A cross-tabulation between meetings at senior
management level and the percentage of annual revenue generated by the client confirms
the above assertion (table 7.41). The higher the annual revenue generated by the client, the
more frequent are the meetings at senior management level. Of course other factors, like
proximity to the major client's offices may account for the frequency of face to face
communication.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage of annual revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-10</td>
</tr>
<tr>
<td>Once a week</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
</tr>
</tbody>
</table>

**Table 7.41: Frequency of face to face communication at senior management level by
percentage of annual revenue attributed to client**

7.4.3 Communication at operational level

Communication between the ship management company and the client's company at
operational level is of the utmost importance. Gray and Panayides (1997) note that once
the manager assumes management responsibilities he must keep close contact with the
owners in order to receive instructions and supply reports on all aspects relating to the
management of the ship(s).
Table 7.42 illustrates the frequency of communication of any sort at operational level as reported by the companies participating in this study.

<table>
<thead>
<tr>
<th>Frequency of communication</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>23 (67.6%)</td>
</tr>
<tr>
<td>Twice a week</td>
<td>5 (14.7%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.42: Frequency of communication at operational level

The importance of communication at operational level is clearly illustrated in the table. The majority of the companies are in daily contact with their major client’s company, whereas 5 companies communicate twice a week with the client’s company. Nevertheless, 6 companies reported communicating with their major client once a week or even once a month. This may be attributed to the business of the client, but also to the main business activity of the ship management company. For instance, if the financial owner of the vessel is not engaged in shipping as such (e.g. banks, investors), then communication may be less frequent. Indeed a cross-tabulation indicates that one of the clients of the 6 companies is a banker and another is engaged in waste disposal. However, 2 other companies are engaged in container liner shipping and 2 in tramp shipping.

The main business activity of the ship management company may affect communication at operational level. The cross-tabulation between frequency of communication at operational level and main business activity (table 7.43) gives some important insights.
<table>
<thead>
<tr>
<th>Frequency</th>
<th>Main business activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship management only</td>
<td></td>
</tr>
<tr>
<td>Twice a week</td>
<td>2 (11%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>2 (11%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 7.43: Frequency of communication at operational level by main business activity

Only two companies that offer ship management services only, reported communication once a week. One company whose main business activity is ship management but also operate their own ships communicate with their major client once a week, the same as one company mainly operating its own ships but also providing ship management services. The latter type of company, however, also included two companies communicating with their major client company once a month. Hence, ownership of vessels may affect communication with the major client. Companies not having a stake in vessels communicate with the client more frequently.

7.4.4 Communication at senior management level

The relationship marketing literature indicates that communication at senior management level is a prerequisite for the development of long-term relationships with clients.

<table>
<thead>
<tr>
<th>Frequency of communication</th>
<th>Number of companies/percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>7 (20.6%)</td>
</tr>
<tr>
<td>Twice a week</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>9 (26.4%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>4 (11.8%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>8 (23.5%)</td>
</tr>
<tr>
<td>Once every three months</td>
<td>2 (5.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>34 (100%)</td>
</tr>
</tbody>
</table>

Table 7.44: Frequency of communication at senior management level

Table 7.44 illustrates the frequency of communication between the ship management and major client companies at senior management level. The majority of senior managers seem
to maintain close contact with senior management at the major client’s office, with nearly 60% of the companies communicating with the major client company at least once a week.

Both ship management companies reporting communication of once every three months at senior management level, manage one ship for their major client and receive 1% and 1.3% of annual revenue from the particular client. This indicates that the number of ships managed for the client and the percentage of revenue generated by the client may influence the level of communication at senior management level. A cross-tabulation between frequency of communication at senior management level and both number of ships managed for the client (table 7.45) and percentage of revenue generated by the client (table 7.46) affirms the above.

<table>
<thead>
<tr>
<th>Number of ships managed for client</th>
<th>1-3</th>
<th>4-7</th>
<th>8-16</th>
<th>17-27</th>
<th>&gt;27</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>1 (12.5%)</td>
<td>1 (11%)</td>
<td>2 (28%)</td>
<td>3 (50%)</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Twice a week</td>
<td>1 (12.5%)</td>
<td>3 (34%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Once a week</td>
<td>1 (12.5%)</td>
<td>2 (22%)</td>
<td>3 (44%)</td>
<td>0</td>
<td>2 (67%)</td>
<td>8</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>1 (12.5%)</td>
<td>2 (22%)</td>
<td>0</td>
<td>1 (17%)</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Once a month</td>
<td>2 (25%)</td>
<td>1 (11%)</td>
<td>2 (28%)</td>
<td>2 (33%)</td>
<td>1 (33%)</td>
<td>8</td>
</tr>
<tr>
<td>Once every three months</td>
<td>2 (25%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>33</td>
</tr>
</tbody>
</table>

Table 7.45: Frequency of communication at senior management level by number of ships managed for the client

<table>
<thead>
<tr>
<th>Percentage of annual revenue generated by major client</th>
<th>1-10</th>
<th>11-16</th>
<th>17-35</th>
<th>36-45</th>
<th>&gt;45</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>2 (25%)</td>
<td>1 (17%)</td>
<td>1 (25%)</td>
<td>1 (25%)</td>
<td>1 (17%)</td>
<td>6</td>
</tr>
<tr>
<td>Twice a week</td>
<td>0</td>
<td>0</td>
<td>1 (25%)</td>
<td>0</td>
<td>1 (17%)</td>
<td>2</td>
</tr>
<tr>
<td>Once a week</td>
<td>0</td>
<td>2 (33%)</td>
<td>1 (25%)</td>
<td>1 (25%)</td>
<td>2 (33%)</td>
<td>6</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>2 (25%)</td>
<td>1 (17%)</td>
<td>0</td>
<td>1 (25%)</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Once a month</td>
<td>2 (25%)</td>
<td>2 (33%)</td>
<td>1 (25%)</td>
<td>1 (25%)</td>
<td>2 (33%)</td>
<td>8</td>
</tr>
<tr>
<td>Once every three months</td>
<td>2 (25%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 7.46: Frequency of communication at senior management level by percentage of revenue generated by the client
The major client’s main business activity also seems to influence communication at senior management level. The two clients referred to above are engaged in banking and fish farming. Hence, shipping is not the major business activity of either of these companies. Two companies whose clients are primarily engaged in manufacturing and transportation of their own oil requirements also reported communication frequency of once a month at senior management level. Similar communication frequency was reported by three companies whose clients are engaged in tramp shipping, two companies whose clients are engaged in container liner shipping and one company whose client owns a combination of different vessel types.
CHAPTER 8

Classification and Profiles of Ship Management Companies

Chapter 7 provided a detailed description of the data collected through the telephone interviews and the first two parts of the research questionnaire. The third part of the questionnaire was concerned with the relationship perceptions of ship managers towards their major client. The aim of this chapter is to provide an analysis of the relationship characteristics present in the ship manager–client interaction, and relate those characteristics to the organisational characteristics of the interacting entities.

The objectives of the analysis include the confirmation or disapproval of the following research hypotheses:

- Ship management companies may be assembled into certain types of segments depending on the relationship marketing characteristics that they exhibit;
- Ship management companies in particular relationship segments, have similar organisational/client characteristics.

Investigation of the first hypothesis mentioned above requires the use of a technique capable of classifying the ship management companies on the basis of their relationship characteristics in the interaction with their major client. If such a basis for segmentation exists, then cluster analysis will be the appropriate technique to use for investigating the hypothesis. Furthermore, in-depth insights may be obtained through the use of multiple correspondence analysis, the perceptual maps of which may provide supplementary investigation in support of the cluster analysis results.

The third research hypothesis will be investigated by profiling the relationship attributes exhibited by the ship management companies in accordance with the organisational
characteristics of the companies and the organisational characteristics of the major client companies. Multiple discriminant analysis and cross-tabulation will be utilised to investigate the hypothesis. For a more detailed account regarding the choice of the appropriate data analytic techniques see chapter 6, section 6.3.

Figure 8.1 illustrates in diagrammatic form the approach that will be implemented for the analysis envisaged in this chapter.

Figure 8.1: Flow diagram for the implementation of data analysis

8.1 Identification of ship management company segments based on relationship characteristics

The aim of this section is to explore the perceptions of ship managers with regard to the relationship with their major client. The objectives of the section include the identification of particular segments of ship management companies whose executives have reported specific relationship perceptions and the drawing of inferences based on the above.
In order to identify the existence of certain segments in the sample under scrutiny and to develop a typology of relationship segments, cluster analysis procedures will be utilised. Cluster analysis has been identified as the appropriate technique, because it can reveal the existence of segments in the sample of ship management companies based on the relationship characteristics exhibited by the companies. A detailed discussion of the selection of cluster analysis and the justification for its utilisation was provided in chapter 6.

Multiple correspondence analysis will also be utilised in the process of profiling of segments within the sample of ship management companies. MCA has the additional advantage of graphical displays that can be used to provide important inferences on the subject matter of the study. MCA will also serve as a means of confirmation of the initial segments drawn from cluster analysis. Justification for the use of MCA was also given in chapter 6.

8.1.1 Cluster analysis
The aim of cluster analysis is to determine whether ship management companies can be assigned into groups, which on the basis of the exhibited relationship characteristics, can be shown to be relatively distinct or to be associated. According to a number of authors (Everitt 1977; Punj and Stewart 1983), a fundamental problem is the lack of a satisfactory definition of what constitutes a cluster. Cluster analysis procedures are not based on probabilistic statistics. As a result, there is no single best solution to a clustering problem and issues concerning the validity and stability of cluster solutions are critically important (Punj and Stewart 1983). The cluster analysis methodology followed was designed in light of the aforementioned issues. There are two main procedures for cluster analysis, viz. hierarchical and non-hierarchical (iterative partitioning).
Hierarchical procedures are further sub-divided into agglomerative and divisive methods, and involve the construction of a hierarchical structure. Agglomerative methods involve the merging of objects, whereas divisive methods start with all objects together and involves splitting them up in the process. Hierarchical agglomerative methods include single linkage, complete linkage, average linkage, Ward's minimum variance method and the centroid method.

Hierarchical procedures were developed primarily for taxonomies of species in biology and may not be appropriate for marketing applications, owing to the classification of respondents into a hierarchy. Another criticism of hierarchical methods is that they irrevocably allocate respondents to clusters. This may be a problem if a respondent is poorly classified at an early stage (Everitt 1980). Once the hierarchical algorithm has joined two respondents then they cannot be separated any more. Hence, the procedure suffers from an inability to rectify erroneous decisions. Kaufman and Rousseeuw (1990, p. 44) state that "a clustering formed 'along the way' is not necessarily very good". The goal of hierarchical methods is different from the non-hierarchical procedures. Hierarchical procedures try to describe the data in the form of an evolutionary tree, which is why they have found useful applications in biology (Kaufman and Rousseeuw 1990).

Non-hierarchical procedures do not involve the treelike construction process, but the assignment of objects into clusters, once the number of clusters is specified. It is an iterative process in which respondents are allocated in repeated iterations to a cluster, until each respondent cannot be better allocated to another cluster. The algorithm tries to find a good partition in the sense that objects of the same cluster should be close or related to each other, whereas objects of different clusters are as far apart as possible. As respondents
can be re-classified it has an advantage over hierarchical procedures. Kaufman and Rousseeaw (1990, p. 44) state that “a partitioning method tries to select the best clustering with k groups, which is not the goal of a hierarchical method”.

8.1.1.3 Selection of the clustering algorithm

There are no hard and fast rules regarding the selection of either a hierarchical or a non-hierarchical method. Hair et al. (1995) indicate that the research problem may suggest one method over the other, whereas since both methods are evolving rapidly, future applications may suggest one method over the other.

The objective of clustering was not to describe ship management companies in the form of a hierarchy (or evolution) but to partition the companies in accordance with their relationship characteristics. Consequently, a non-hierarchical (K-means) algorithm should be used. Punj and Stewart (1983) suggest that K-means clustering is more robust than any of the hierarchical methods as it is least affected by the presence of irrelevant dimensions in the data. Hair et al. (1995) highlight the several advantages of non-hierarchical methods over hierarchical methods, once a theoretically accepted number of clusters is specified and validated. However, the problem which initially arises is that of deciding on the number of clusters, as the use of K-means requires an a priori specification of the number of clusters. Another approach that may be used to overcome this problem is to use both hierarchical and non-hierarchical methods to gain the benefits of each (Milligan 1980). Hair et al. (1995) note that a hierarchical procedure may be used initially for establishing the number of clusters and profiling the clusters. Then, a non-hierarchical method may be used to “fine-tune” the results by allowing the switching of cluster membership. Singh (1990) uses Ward’s agglomerative hierarchical procedure to obtain some idea of the number of clusters, followed by K-means clustering. On the basis of the above, both methods were used. The variables subjected to cluster analysis comprised of the
relationship characteristics of the ship manager–major client interaction as specified in appendix J (table J3). The procedures were carried out on the SPSS 7.5 programme for Windows 95.

8.1.1.4 The number of clusters in partitioning procedures

Everitt (1977) notes that a major problem with clustering techniques is deciding on the number of clusters that best fits the data. Depending on the type of clustering technique, several statistical or graphical methods have been proposed, but have been shown to be of little value (Everitt 1974). Hair et al. (1995) note that the distances between clusters may be used as a guideline by, for instance, choosing to stop when this distance exceeds a specified value or when the successive distance between steps makes a sudden jump. They also note that intuitive conceptualisation of a theoretical relationship may suggest a natural number of clusters. Hence, the researcher may use practical judgement and common sense to decide on the ideal number of clusters. According to Hair et al. (1995, p. 443): “the cluster solutions will be improved by restricting the solution according to conceptual aspects of the problem”. In addition, Everitt (1977, p. 76) suggests that “in practice solutions for a range of clusters are examined, and the clusters judged in terms of interpretability and predictive ability”. Acceptability on a theoretical basis and cluster validation will ascertain the “best” representation of the structure of the data. Hair et al. (1995) note, however, that the researcher must acknowledge the potential presence of other alternatives that could be acceptable. As indicated earlier (section 8.1.1.3) a hierarchical procedure will be used initially that will assist towards the determination of the number of clusters that exist in the ship management data. In line with the aforementioned suggestions the number of clusters will be decided on the basis of theoretical support.
8.1.1.5 Performance of cluster analysis

Hair et al. (1995) note that it may be beneficial for validation purposes to use both hierarchical and non-hierarchical methods. Both methods were used in order to ascertain whether or not different clusters are obtained depending on the method used. The hierarchical process was performed using Ward’s agglomerative method. In Ward’s method the distance between two clusters is the sum of squares between the two clusters summed over all variables. At each stage in the clustering procedure, the within cluster sum of squares is minimised over all partitions obtainable by combining two clusters from the previous stage. The selection of Ward’s method was based on consideration of the merits and flaws of the various agglomerative methods discussed by Hair et al. (1995).

The non-hierarchical procedure on SPSS 7.5 (Quick Cluster) makes use of the K-means algorithm which attempts to minimise the average squared distance, yielding so-called centroids. This programme adopts the parallel threshold method, which selects several cluster seeds simultaneously in the beginning and assigns objects within the threshold distance to the nearest seed.

8.1.1.6 Ship management clusters

Cluster analysis was initially performed for all cases and all relationship attributes (trust, commitment etc.) using both procedures. It was found that three relationship attributes do not account for any variation among the clusters. These attributes include commitment, cooperation and functional conflict. Examination of the data revealed that 90% of the respondents were in agreement on the dimensions of commitment and cooperation and 95% of the respondents had the same relationship perception with respect to amicable resolution of conflicts. Hence, it was decided to carry out the cluster analysis again but without including the above relationship characteristics. Hair et al. (1995, p. 428) state:
"the researcher is always encouraged to examine the results and to eliminate the variables that do not differ (are not distinctive) across the derived clusters".

The consensus of the respondents towards the particular relationship characteristics can be explained as follows:

The ship manager’s commitment towards the client is a contractual term and a prerequisite of sound ship management practice. Commitment and dedication is a pre-condition for the establishment of an agency relationship, where the agent (in this case the manager) acts for and on behalf of the principal (the owner).

As a provider of a professional service, the ship manager is at the lowest level expected to co-operate with the owner of the vessel. Young and Wilkinson (1989, p. 120) state that “co-operation appears always to be present in on-going relationships and is often perceived as equivalent to co-ordination by the respondents”. Very few ship managers, however, co-operate with the owner to the extent of joint financial investments. Making joint financial investments in business or ships is not a prerequisite of ship management practice but depends on the business strategy of individual companies.

With respect to conflict, the managers’ overwhelming perception is that the parties should strive towards mutual and amicable resolution (i.e. that conflict is functional). If the view of ship managers was negative rather than positive, then they would probably not be in the relationship with the client. Furthermore, a negative attitude towards any potential conflict would almost certainly deprive managers of many clients, bearing in mind the potential for conflicts that may arise in day to day ship operation. Also, according to Putnam and Poole (1987), managers in high-level positions view conflict more favourably than those in subordinate roles.
8.1.1.6.1 *Ship management clusters using hierarchical cluster analysis*

With the hierarchical procedure it was found that four clusters were adequate in explaining the variation of the companies in terms of relationship characteristics.

The resulting four clusters obtained from the hierarchical procedure can be seen in the dendrogram in appendix O. Tables 8.1–8.4 describe the four clusters obtained from the hierarchical procedure. The exact statements can be found in appendix J. The numbers below each statement show the company respondents in the particular cluster.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Conflict</td>
<td>7</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Investments</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Adaptations</td>
<td>1</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Relationship nature</td>
<td>2</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td><strong>8 companies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cases</strong></td>
<td></td>
<td></td>
<td>1, 6, 8, 9, 10, 21, 31, 32</td>
</tr>
</tbody>
</table>

Table 8.1: The first cluster of ship management companies

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Conflict</td>
<td>3</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>Investments</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Adaptations</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Relationship nature</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>8 companies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cases</strong></td>
<td></td>
<td></td>
<td>4, 7, 11, 15, 16, 17, 19, 30</td>
</tr>
</tbody>
</table>

Table 8.2: The second cluster of ship management companies

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflict</td>
<td>4</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Investments</td>
<td>1</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Adaptations</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Relationship nature</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>5 companies</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cases</strong></td>
<td></td>
<td></td>
<td>3, 12, 22, 23, 27</td>
</tr>
</tbody>
</table>

Table 8.3: The third cluster of ship management companies
Table 8.4: The fourth cluster of ship management companies

Table 8.1 indicates that relationships among ship management–client companies in this particular cluster are characterised by a high level of investments on behalf of the ship managers and a very low level of conflict. Trust in these relationships is also high, whereas the adaptations that most ship managers are prepared to make are of a minor nature. Another principal characteristic is the beyond contract nature of the relationship, where companies are prepared to help the client in whatever ways possible even if the actions required are not stipulated in the contractual agreement.

Table 8.2 shows that the principal distinguishing characteristic of companies in this cluster is the personal friendship nature of the relationship existing among key executives in the interacting organisations. Despite this, there is a relatively high level of minor conflicts occurring, whereas trust is high and the ship management companies tend to make large investments in the relationship.

The general nature of investments and the rigidity of the companies in terms of accommodating the changing needs of clients are the principal distinguishing characteristics of companies in the third cluster and depicted in table 8.3. Table 8.4 shows that this cluster of companies make general investments in the relationship which is also characterised by a high degree of minor adaptations (mainly in the area of accounting reporting procedures).
8.1.1.6.2 *Ship management clusters using non-hierarchical cluster analysis*

The initial performance of hierarchical clustering suggested the presence of four clusters to describe the variation in relationship characteristics among ship management companies. Nevertheless, non-hierarchical cluster analysis was performed for six, five, four, three and two cluster solutions. The decision of which cluster solution is chosen also rests with the researcher’s interpretation and his background knowledge of the subject area. After examining the companies appearing in each cluster individually, it was concluded that four clusters are adequate to account for the variation between the companies. The relatively small number of companies appearing in two clusters made the choice of four clusters much easier. Each of the four clusters was examined individually and the companies within them were found to be similar and different from companies in the other clusters. The output from the non-hierarchical cluster analysis can be seen in appendix P. As explained later, validation of the four-cluster solution was also performed.

Tables 8.5–8.8 show the influence of the relationship characteristics on each cluster individually.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>9</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Conflict</td>
<td>10</td>
<td>1</td>
<td>N/A</td>
</tr>
<tr>
<td>Investments</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Adaptations</td>
<td>4</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Relationship nature</td>
<td>5</td>
<td>6</td>
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</tr>
<tr>
<td>11 companies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cases</td>
<td>1, 6, 7, 8, 9, 10, 11, 17, 21, 31, 32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.5: The first ship management cluster

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Statement 1</th>
<th>Statement 2</th>
<th>Statement 3</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Conflict</td>
<td>1</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>Investments</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Adaptations</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Relationship nature</td>
<td>4</td>
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<td>0</td>
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<tr>
<td>4 companies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cases</td>
<td>16, 19, 22, 30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8.6: The second ship management cluster
The clusters obtained appear to be unclear as they contain a combination of characteristics. The clusters are not necessarily discrete in terms of relationship characteristics, as each may contain elements found in another cluster. However, the important point is the degree of relative influence. The fact that companies found in one cluster may share certain relationship characteristics with companies found in another cluster does not have a major implication. This is because the research aims towards exploring relationship characteristics of segments as a whole rather than those of individual companies. A detailed explanation of the relationship characteristics found in each ship management cluster is provided in section 8.2.

Table 8.9 shows the relative influence of particular relationship characteristics for each segment. The relationship characteristics that fundamentally influence the presence of companies in a particular cluster appear in bold. The actual statements for each variable represented in the tables can be seen in appendix J (table J3).
Table 8.9: Relative influence of particular statements

It can be seen that most companies in the first cluster (C1) make major investments in the relationship with the client, whereas the relationship is also characterised by a distinct absence of conflict. For companies in the second cluster (C2), the principal distinguishing characteristic is the personal friendship nature of the relationship among key executives of the interacting organisations. Companies in the third cluster (C3) tend not to make adaptations in their client relationships whereas they also tend to make investments of a general nature and not for specific clients. Similarly, companies in the fourth cluster (C4) make general investments in the relationship, but are prepared to show some flexibility and make minor adaptations.

After examination of the relationship characteristics in each segment the clusters were termed as follows:

Cluster 1: The investors segment
Cluster 2: The friendship segment
Cluster 3: The rigid segment
Cluster 4: The reactive segment.

The derivation of these terms assigned to the particular clusters was based on a detailed examination of the principal relationship characteristics found in each ship management cluster, a detailed account of which is given in section 8.2. In order to validate the terms
assigned to the clusters, a number of different terms were presented to researchers and academics at the Institute of Marine Studies together with the clusters obtained. They were asked to choose terms that would best describe the clusters with regard to their relationship characteristics. The process resulted in the terms specified above.

Although the results from the two clustering procedures were slightly different in terms of the companies appearing in a particular cluster, it was found that the same interpretation and the same names could be given to the four clusters obtained from both procedures. That is, the relative influence of relationship attributes on the clusters was identical for both procedures. This is very important as it validates the research from a theoretical viewpoint, i.e. that the clusters obtained are based on the relationship characteristics exhibited by the companies. Additionally, the majority of the cases found in certain clusters from the hierarchical procedure were also clustered together with the non-hierarchical procedure. Looking at the resulting dendrogram (appendix O) it can be seen that only 7 cases migrated from their original allocation using the hierarchical procedure. Cases 11, 17 and 7 migrated from cluster 2 to cluster 1 and cases 4 and 15 migrated from cluster 2 to cluster 4. The dendrogram shows that all these cases were allocated very close to the clusters that they subsequently migrated to during the non-hierarchical procedure. Case 22 also migrated from cluster 3 to cluster 2 and case 18 migrated from cluster 4 to cluster 3.

8.1.1.7 Ship management cluster validation

The choice of four clusters was not merely based on performance of hierarchical and non-hierarchical clustering, knowledge of the subject matter and interpretation. A procedure for assessing cluster validity was also utilised. The non-hierarchical cluster analysis was re-run but this time allowing the programme to randomly select 85% of the cases and assign them into clusters. The procedure was carried out four times and the results can be seen in table
8.10. It is quite clear from the table, that the original allocation of companies into their particular clusters was valid. Apart from five cases, the other twenty-nine companies appeared in the same cluster as the original in the subsequent applications of random cluster analysis. Cases 7 and 11 appeared in the third cluster once, but were twice allocated in their original position in cluster one. Case 17 appeared twice in its original position (cluster one), although it also appeared in clusters two and three. Case 18 appeared in cluster four once, and it was twice allocated in its original cluster three. Case 22 also appeared in cluster 3 once, but it was allocated in its original second cluster three times.

The four clusters obtained from the analysis were made up of eleven, four, five and fourteen companies respectively. The literature on cluster analysis indicates that small clusters should be regarded as outliers and excluded from the analysis (Hair et al. 1995). This is only relevant, however, to studies based on larger samples that seek to generalise findings to wider populations. This was not the objective of the study. The research aims to explore the relationship characteristics of all companies since they represent the majority of companies in the UK and Cyprus. Furthermore, the exclusion of companies would greatly undermine the contribution of the research, as the companies in the smaller clusters have fundamentally different relationship attitudes towards their client, than the companies in the large clusters.

Everitt’s (1977) suggestion of predictive ability and evaluation of the solutions was also adopted. One method for assessing the number of clusters is the use of graphical techniques that can give insight into the merits of the clusters obtained (Everitt 1977). Examination of the graphical displays obtained from multiple correspondence analysis (see section 8.2) also supported the choice of four clusters.
<table>
<thead>
<tr>
<th>Case</th>
<th>Original allocation</th>
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<th>2</th>
<th>3</th>
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<td>C1</td>
<td>C1</td>
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</tr>
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</tr>
</tbody>
</table>

Table 8.10: Validation of ship management clusters

### 8.2 Examining the clusters in terms of relationship characteristics

The previous section has shown that ship management companies may be assembled into segments on the basis of their relationship characteristics in the interaction with their major client. The relationship marketing literature indicates that there might be an association between characteristics of the companies in each cluster. In order to ascertain the existence of such an association and, thus, validate the results from a relationship marketing
theoretical perspective, it is now essential to examine the relationship characteristics in each cluster. The perceptual maps in figures 8.2-8.6 were obtained from the performance of multiple correspondence analysis and illustrate the relative position of each cluster with respect to the relationship dimensions under scrutiny. Particular reference to these perceptual maps will be made in this section in order to give a more illustrative picture of cluster positioning in terms of relationship dimensions. Although three dimensions are needed to explain the relationships on the maps, two dimensions are used for reasons of parsimony and simplicity. The reason for plotting the perceptual maps is to provide a simpler picture of the relationships between the variables and this cannot be achieved by having three-dimensional maps. As explained in chapter 6, this is a standard practice in the representation of MCA maps and although it is accepted as a limitation of the technique itself, the actual relationships are only slightly affected. Such effects will be highlighted.

Figure 8.2: Perceptual map of “trust” dimensions and ship management clusters
Note: a = “There is 100% trust towards the client”; b = “Our company would trust the client to a fair degree”; c = “Trust is not a word that I would use to describe this relationship”.

298
Figure 8.3: Perceptual map of “investments” dimensions and ship management clusters

Note: k = “We make investments in resources as a matter of being in business, but not for specific clients”; l = “We have made major economic investments to satisfy the specific needs of the client”; m = “We have made investments at the beginning of the relationship with the client, but no investments from there on”.

Figure 8.4: Perceptual map of “conflict” dimensions and ship management clusters

Note: i = There have been no conflicts or disagreements with the client whatsoever; j = “We have had several minor disagreements with the client”.

299
Figure 8.5: Perceptual map of "adaptations" dimensions and ship management clusters

Note: p = "We have made major changes in our business processes in order to accommodate the needs of the client"; q = "We have made minor modifications to accommodate the needs of the client; r = "There has been no deviation from our service offering".

Figure 8.6: Perceptual map of "relationship type" dimensions and ship management clusters

Note: s = "The relationship is characterised by personal friendship"; t = "We offer advice to the client beyond contractual obligations"; u = "The relationship is mainly governed by contractual obligations".
8.2.1 The “investors” ship management cluster

Cluster 1 was labelled the “investors” cluster. The name assigned represents the major relationship characteristics found in the companies forming this cluster. The companies in the “investors” cluster make major investments in the relationship with their major client. They also have had no conflicts with these clients. Companies in this cluster demonstrate the highest level of trust towards the client. This can be ascertained from the perceptual map in figure 8.2. Companies in the “investors” cluster (cluster 1) appear much closer to the highest trust dimension than companies in any other cluster. Figure 8.3 also shows that companies in this cluster exhibit the highest level of major investments. The “major investments” dimension is illustrated by “I” in figure 8.3. It can be seen that “I” appears very close to the “investors” cluster (cluster 1) and further away from all three other clusters. With respect to the relationship between trust and investments, Lorenz (1988, p. 209) states:

“Trust is crucial when contracting parties invest in specific assets, locking them into a relationship. Limited rationality means that efforts to protect ourselves from opportunism through comprehensive contracting will inevitably be deficient. Rational comprehensive contracting is impossible. Trust is expedient”.

Young and Wilkinson (1989) cite the work by Twomey (1974) who found a positive association between trust and the resolution of conflicts. Figure 8.4 shows that cluster 1 ("investors") is associated with the lowest level of conflict (illustrated by dimension “i”). It has also been ascertained in the marketing channels literature that communication may substantially reduce the amount of conflict between two parties (Etgar 1979). Communication at operational level between the interacting organisations in the “investors” cluster is extremely high (see section 8.4). The majority of companies (91%) indicate communication on a daily basis (unlike companies in the three other clusters). Most disagreements and conflicts in shipping will be related to operational procedures onboard and in the company. The high level of communication at operational level within the
Companies in the "investors" cluster make both major and minor adaptations in the relationship with the major client. Figure 8.5 shows that the "investors" cluster (cluster 1) is associated with dimensions "p" and "q" on the perceptual map. Adaptations may be regarded as an investment in the relationship. For instance Ford (1982) suggests that the more specific the adaptations, the less marketable the value of these changes as they could be regarded as a demonstrable investment in the specific relationship. Hence, a relationship between investments and major adaptations is supported by the evidence found in this cluster of companies. Although the nature of the relationship is not characterised by any personal friendship bonds, companies in this cluster are willing to assist the client by taking actions that may not be within their contractual obligations. This is illustrated in figure 8.6 and the close association between cluster 1 ("investors") and dimension "t".

8.2.2 The "friendship" ship management cluster

The ship manager–client relationship for companies in cluster 2, is characterised by a personal friendship nature. All companies indicated that the relationship is based on the close personal friendship of important executives of the organisations. The perceptual map in figure 8.6 illustrates the association between companies in the "friendship" cluster (cluster 2) and dimension "s". Mumallaneni (1987) has found that formal role relationships may develop into a close personal friendship in industrial marketing. The evidence from this study suggests that although this might be the case, business relationships are also initiated by previous personal friendship relationships.

Other characteristics of these particular relationships include minor conflicts, major and minor adaptations and high trust. It seems that a close personal friendship relationship may
still involve a degree of conflict in a ship management context. Mumallaneni (1987) found that high trust is correlated with a friendship/close personal relationship. Trust in this segment is very high (for 50% of the companies) and fairly high for 25% of the companies.

It can be inferred that companies in this cluster have a strong relationship with their clients on the basis of social bonds rather than economic investments and adaptations. The strength of the relationship can be ascertained by the frequency of communication between the entities. It has been stated that relationships are strengthened by information exchange (Hallen, Johanson and Seyed-Mohamed 1987; Hallen, Seyed-Mohamed and Johanson 1989). As can be seen from table 8.13 (section 8.4 – later) the frequency of communication in this cluster is high at senior management and operational level.

8.2.3 The “rigid” ship management cluster

The third cluster of ship management companies was labelled the “rigid” cluster. These companies make no adaptations in the relationship with their major client (indicating rigidity). The investments they make are of a general nature rather than specific to the relationship. Figure 8.5 supports the statement that companies in this cluster do not make any adaptations in the relationship with the major client. The “rigid” cluster (cluster 3) is strongly associated with the “no adaptations” dimension “r” in the perceptual map. A lack of flexibility would suggest that relationships with clients in this particular cluster are weaker than those found in other clusters. Hallen, Johanson and Seyed-Mohamed (1987) posit that relationships are partially strengthened by adaptations. The fact that certain respondents in this cluster view the relationship as being based on strict contractual terms, supports the assertion that relationships are weaker due to the lack of both social and economic bonds. This can be ascertained from the perceptual map in figure 8.6, where cluster 3 companies are more closely associated with dimension “u”.
The lack of economic bonds is also illustrated by the fact that investments made by companies in this cluster are of a general nature and not specific to the relationship. Hence, companies in this cluster would not consider installation of a communication system or computerised safety management system to cater for the specific needs of the client (e.g. where specialised vessels are concerned). The perceptual map in figure 8.3 illustrates the close association between companies in cluster 3 and the investments dimension “k”. Conflicts of a minor nature are likely to arise for 40% of the companies in the “rigid” cluster. This is illustrated in figure 8.4, where companies in cluster 3 are associated with both conflict dimensions (“i” and “j”). Companies in this cluster are also less likely to have a personal/friendship type relationship with their clients. The perceptual map in figure 8.6 shows that cluster 3 companies are further away from dimension “s” which represents personal friendship.

8.2.4 The “reactive” ship management cluster

The fourth ship management cluster was labelled the “reactive” cluster in order to reflect the fact that these companies are prepared to make some minor changes but do not have a proactive stance in terms of adaptations and investments. All fourteen companies comprising this cluster make minor adaptations in the relationship with their major client. As indicated in chapter 7 such adaptations would take the form of changes in the accounting reporting procedures of the company. The vast majority of companies also make general investments that may benefit the relationship, i.e. investments that are not directed specifically towards the particular relationship.

Investments are directly related to adaptations in the social exchange literature. For instance, companies may commit resources (investment) in order to adapt their business processes to those of the client. Therefore, the relationship between investments and adaptations found in the “reactive” cluster, supports the findings of previous research.
management companies in this particular cluster make investments as a matter of being in
to understand that the other relationship characteristics found in this particular
cluster contain a mixture of attitudes. For instance, trust is very high for the majority of
companies, although two respondents indicated that trust is not a word that they would use
to describe the relationship. Conflicts of a minor nature do occur, although other
companies indicated that they have experienced no particular conflicts. The executives of
many companies also indicated that relationships are based on close personal friendship.
This is illustrated in the perceptual map in figure 8.6, where cluster 4 ("reactive") appears
very close to dimension "s". Not all companies in this cluster, however, have a personal
friendship relationship with the client. Although cluster 4 appears closer to dimension "s"
than cluster 2, this is not exactly the case and it is attributed to the effect of two-
dimensional representation. Personal friendship relationships are common, however, in this
cluster of companies. The following table illustrates the distinguishing relationship
characteristics of a typical company in each of the four clusters.

<table>
<thead>
<tr>
<th>Investors</th>
<th>Friendship</th>
<th>Rigid</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major investments</td>
<td>Friendship</td>
<td>General investments</td>
<td>General investments</td>
</tr>
<tr>
<td>No conflict</td>
<td>relationship</td>
<td>No adaptations</td>
<td>investments</td>
</tr>
<tr>
<td>High trust</td>
<td>Minor conflicts</td>
<td>Major investments</td>
<td>Minor adaptations</td>
</tr>
<tr>
<td>Beyond contract</td>
<td>Major investments</td>
<td>High trust</td>
<td>High trust</td>
</tr>
<tr>
<td>relationship</td>
<td></td>
<td></td>
<td>Friendship</td>
</tr>
</tbody>
</table>

Table 8.11: Distinguishing relationship characteristics of a typical ship management
compny in each cluster
8.3 Preliminary profiles of ship management companies

The analysis so far has indicated the existence of four clusters of ship management companies on the basis of their client relationships. One of the research objectives is to explore the possibility of an association between the identified ship management clusters and the characteristics of the interacting organisations within each cluster. This section aims to make a preliminary exploration to reveal the existence, or otherwise, of such an association. It must be pointed out, that an analysis of this type requires the use of multivariate techniques such as multiple discriminant analysis. The analysis in this section explores, however, the association between organisational and relationship characteristics on a simpler basis by considering each organisational characteristic at a time. This is essential for ascertaining the mere existence of an association before carrying out a more complex analysis using all organisational characteristics concurrently that aims in addition to determine the strength of the association. Section 8.3.1 will concentrate on a preliminary analysis of the organisational characteristics of ship management companies and section 8.3.2 will focus on the organisational characteristics of the client companies. Associations between organisational characteristics and cluster membership should not at this stage be presumed anything more than an early indication of a possible association to be revealed by multiple discriminant analysis.

8.3.1 Profiling the clusters according to company organisational characteristics

The third research hypothesis indicates that ship management companies appearing in the same cluster may have some distinct organisational characteristics which are different from the characteristics of companies appearing in other relationship clusters. Hence, the relationship between ship management organisational characteristics and relationship cluster membership will now be examined. The discussion will relate the findings of this examination to ship management and relationship marketing theory reviewed in chapters 2 and 3 respectively.
Table 8.12 illustrates the organisational characteristics of ship management companies in the four identified relationship clusters.

<table>
<thead>
<tr>
<th>Organisational Characteristics</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
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<tbody>
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<td>n = 11</td>
<td>n = 4</td>
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<td>n = 14</td>
</tr>
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<td>Location: UK</td>
<td>73%</td>
<td>75%</td>
<td>60%</td>
<td>65%</td>
</tr>
<tr>
<td>Location: Cyprus</td>
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<td>25%</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>Independent companies</td>
<td>55%</td>
<td>75%</td>
<td>80%</td>
<td>65%</td>
</tr>
<tr>
<td>Subsidiary companies</td>
<td>45%</td>
<td>25%</td>
<td>20%</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Main business activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship management only</td>
<td>46%</td>
<td>50%</td>
<td>40%</td>
<td>58%</td>
</tr>
<tr>
<td>Mainly owned ship operation</td>
<td>36%</td>
<td>25%</td>
<td>40%</td>
<td>21%</td>
</tr>
<tr>
<td>Mainly ship management</td>
<td>9%</td>
<td>25%</td>
<td>20%</td>
<td>21%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Years in business</td>
<td>21</td>
<td>14</td>
<td>15.4</td>
<td>15.8</td>
</tr>
<tr>
<td>Number of ships managed</td>
<td>55</td>
<td>39</td>
<td>63</td>
<td>66</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>27</td>
<td>15</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>Number of ships under crew management</td>
<td>26</td>
<td>22</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Number of ships under commercial management</td>
<td>2.45</td>
<td>0.75</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>1</td>
<td>2.5</td>
<td>0</td>
<td>1.2</td>
</tr>
<tr>
<td>Employees ashore</td>
<td>57</td>
<td>36.5</td>
<td>63.6</td>
<td>63.2</td>
</tr>
<tr>
<td>Employees at sea</td>
<td>1222</td>
<td>835</td>
<td>1159</td>
<td>1346</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>8%</td>
<td>0.8%</td>
<td>28%</td>
<td>13%</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Companies owning ships</td>
<td>45%</td>
<td>50%</td>
<td>60%</td>
<td>42%</td>
</tr>
<tr>
<td>Annual turnover (£m)</td>
<td>13.1</td>
<td>7.35</td>
<td>14.8</td>
<td>12.0</td>
</tr>
</tbody>
</table>

**Table 8.12: Organisational characteristics and cluster membership**

*Note: Missing values were replaced by the median of all values. The values are either expressed as a percentage of companies in the particular category or represent the mean value.*

The organisational characteristics of the companies in each cluster will now be considered in turn.
8.3.1.1 Location

The table indicates that the majority of companies in each cluster are located in the United Kingdom. However, a greater percentage of companies in the “investors” and “friendship” clusters (1 and 2) are located in the UK than companies in the “rigid” and “reactive” clusters (3 and 4). The “rigid” cluster (cluster 3) is made up of companies more likely to be located in Cyprus rather than the UK when compared to clusters 1 and 2. This is also true for the “reactive” cluster. Up to 75% of the companies in the “friendship” cluster (cluster 2), and 73% of companies in cluster 1 (the “investors” cluster) are based in the UK. Hence, it may be inferred from the statistics that there is a greater possibility for companies in clusters 1 and 2 to be located in the UK rather than Cyprus when compared to the companies in clusters 3 and 4. Most of the companies in the “rigid” cluster are located in areas offering beneficial taxation arrangements (Cyprus and the Isle of Man in the UK). The fact that companies in the “rigid” cluster pursue such a strategy indicates that these companies may be conscious of cost-reduction.

8.3.1.2 Type of ship management organisation

Table 8.12 also indicates that the majority of companies in any one cluster are independent organisations. However, there is a greater number of independent companies in the “rigid” cluster (80%), whereas there is a great proportion of subsidiary companies in the “investors” cluster (45%) when compared to the other three clusters.

8.3.1.3 Main business activity

The “reactive” cluster (cluster 4) is more strongly associated with companies that offer ship management services as their primary activity. On the other hand, companies in the “rigid” cluster (cluster 3) are mostly associated with operation of owned ships as their main business activity when compared to companies in any other cluster. The possibility that companies in the “investors” cluster (cluster 1) will operate their own ships is also high. Companies in the “friendship” cluster (cluster 2) are more strongly associated with offering
ship management services although own ship operation may take place. Support for the aforementioned may be provided by calculating the mean number of ships owned and operated by the companies in the four clusters. As indicated in table 8.12, companies in the “friendship” cluster (cluster 2) own the least number of ships (a mean of 2 ships), whereas companies in “rigid” cluster (cluster 3) own the greater number of ships (a mean of 6 ships). Companies, however, in the “reactive” cluster which are more strongly associated with offering ship management services rather than ship operation, also own a relatively large number of ships (a mean of 5 ships). Further examination of the companies in this cluster revealed the existence of a few companies owning a disproportionately large number of ships. There is a lower possibility of ship ownership by companies in the “reactive” cluster (43% of companies own ships), whereas for the “rigid” cluster (cluster 3) it is the highest (60% of companies owning ships).

8.3.1.4 Number of ships under management

Companies in the “friendship” cluster (cluster 2) also manage the smaller number of ships (a mean of 38 ships, with a mean of 15 ships under full management and 22 ships under crewing only management). Companies in the “rigid” and “reactive” clusters manage the largest fleets with means of 63 and 66 ships respectively. It must be noted, however, that the majority of ships managed by the companies in these clusters are under crewing only management contracts. About 60% of the ships managed by companies in the “rigid” and “reactive” clusters are under crewing only management contracts compared with 47% for the “investors” cluster. About 56% of ships managed by companies in the “friendship” cluster are also under crewing only management. None of the companies in the “rigid” cluster manage any vessel under technical management. This may go some way towards explaining why companies in this cluster are rigid in terms of adaptations. Ships under technical management do require adaptations and flexibility in management as failure and repairs of complex equipment is an onerous task. The fact that the companies are not keen
to take on ships for technical management seems to explain in some respect the attitude towards adaptations and flexibility. Companies in the “rigid” cluster are also the least keen to undertake commercial only management. Commercial only management mainly involves the provision of advice on ship registration etc (see chapter 2), and the fees from the provision of such a service are relatively low.

8.3.1.5 Employees

The size of the fleets managed by the companies in each cluster is directly related to the number of personnel employed by the companies, both ashore and onboard. Companies in the “friendship” cluster are the smallest in terms of managed fleet and employees. It is also interesting to note that the companies in this cluster do not use staff supplied by commercial manning agencies. On the other hand, companies in the “rigid” cluster, tend to use commercial manning agencies on a comparatively larger scale.

The use of commercial manning agencies may bring many advantages to ship managers which will be reflected in the quality of the service offered. This is because manning agencies are used as a medium towards rationalisation of operation and reduction of costs. By operating through a network of agencies that, in terms of seafarer supply may be located in many advantageous parts of the world, these companies have access to a wide pool of human resources available all the time. In this way, they are able to provide the manning service more efficiently. Efficiency enables companies to serve more clients and manage larger fleets, which may go some way towards explaining the higher annual turnover of companies in the “rigid” cluster. Based on the above, it can also be inferred that companies in the “rigid” cluster are more commercially oriented, as they make use of practices to improve efficiency and reduce costs.
The number of employees ashore also reflects the size of companies found in the different clusters. Companies in the “rigid” and “reactive” clusters have many more employees than those in the “friendship” cluster. Companies in the “friendship” cluster are much smaller.

8.3.1.6 Period of time in ship management

The period of engagement in ship management activities by the companies in the sample is also indicated in table 8.12. As discussed in chapter 7, a small number of companies indicated the number of years of establishment in the shipping industry rather than the number of years of offering ship management services. The ship management literature indicates that ship management in its current form only came about in the last 30 years. Hence, this is the maximum number of years that was taken into account when calculating the mean number of years of establishment in ship management. The number of years for companies indicating that they have been engaged in ship management for more than 30 years was reduced to 30. Companies in the “friendship”, “rigid” and “reactive” clusters have been in business for a relatively equal number of years. The means calculated are 14 years, 15.4 years and 15.8 years respectively. Companies in the “investors” cluster have been involved in the ship management business for a longer period (a mean of 21 years). Examination of the exact number of years in business for every company in the clusters revealed that the majority of companies in the “reactive” cluster have been in business for 1-14 years. The majority of companies in the “friendship” cluster have been in business for 15-19 years and in the “investors” cluster between 20-30 years.

8.3.1.7 Annual turnover

The annual turnover is only slightly different for companies in the “investors”, “rigid” and “reactive” clusters. The highest turnover was reported by companies in the “rigid” cluster with a mean of £14.8 million. As indicated earlier, companies in this cluster tend to own and operate more ships than companies in any other cluster. This may explain why the annual turnover is higher as the financial benefits accruing from operation of own ships are
significantly higher than those obtained through management for third parties. This also explains the comparatively lower turnover for companies in the “friendship” cluster (a mean of £7.35 million). These companies not only manage smaller fleets but are also less likely to be engaged in the operation of owned ships. The number of ships that is owned by companies in this cluster is also small compared to those owned by the companies in the other three clusters. Annual turnover may also be regarded as a measure of the size of an organisation, as well as commercial orientation. Hence, this confirms that companies in the “rigid” cluster are large, whereas companies in the “friendship” cluster are small. It also supports the earlier assertion that companies in the “rigid” cluster are commercially oriented.

In summary, the following typology can be extracted from the preliminary analysis regarding the organisational characteristics for companies appearing in each cluster. The description of the “company” in each cluster is construed in accordance to the concept of polythetic typologies, where each member of the group may be close to possessing the properties described, but no member possesses all of the properties (McKelvey 1978; Sokal and Sneath 1963).

8.3.1.8 A company in the “investors” cluster

An independent or subsidiary UK based company engaged in offering ship management services only or operating owned vessels in conjunction with ship management. The company has been established in ship management for more than 20 years and has a fleet of 50-60 vessels under management. The vessels are managed under full management contracts, although crewing only and some commercial management may be undertaken. The company has about 50-60 shorebased employees and more than 1000 seafarers, a small percentage of which are employed through manning agencies. The company may own a small number of ships and has an annual turnover of about £13.0 million.
8.3.1.9 A company in the "friendship" cluster

An independent UK based company offering ship management services only. It has been established for about 14 years and has a fleet of 35-40 vessels mainly under crewing management contracts. It also undertakes technical management. It employs 30-35 shorebased staff and less than 1000 seafarers. Seafarers are not employed through manning agencies and ship ownership is very limited. An annual turnover of less than £8.0 million.

8.3.1.10 A company in the "rigid" cluster

An independent company probably based in a tax advantageous location (Cyprus or the Isle of Man) and engaged in offering ship management services, although it may have expanded into ownership more recently. It has been established for about 15 years and manages a large fleet of more than 60 vessels, mainly under crewing management contracts but also full management. It employs more than 60 staff ashore. A large fleet indicates that the company employs more than 1000 seafarers, one quarter of which are employed through manning agencies. There is a high possibility that the company may be building up an owned fleet (currently of small to medium size), and has a high annual turnover (close to £15.0 million). The company is commercially oriented, conscious of achieving efficiency and cost reduction, and seeks to invest in profitable maritime business opportunities.

8.3.1.11 A company in the "reactive" cluster

Probably based in the UK (without excluding Cyprus entirely), an independent company offering third-party management services only. The company has been established for about 15 years and has a very large fleet under management (more than 60 vessels). The company mainly undertakes management under crewing only contracts, although technical and commercial only, may be welcome. About one tenth of the 1500 seafarers are employed through manning agencies and are supported from more than 60 shorebased
staff. The company may be looking to expand into ownership and has an annual turnover of about £12.0 million. It is associated with the expected form of today’s ship management organisation, where management for third-parties is a priority and building up of a managed rather than owned fleet is the main business activity. Commercially oriented with regard to management, it may be less reluctant to engage in business outside this area when compared to companies in the “rigid” cluster.

8.3.2 Profiling the clusters according to client organisational characteristics

The characteristics of ship manager-client relationships may be greatly influenced by the organisational characteristics of the major client companies. This is because the client company characteristics partly reflect the resources that the ship manager is able to draw from the major client, and hence, the dependence on the major client. Additionally, other characteristics such as location of the client’s company may influence relationship characteristics such as communication or personal contact.

Hence, a profile of the characteristics of client companies found in each ship management cluster is essential for determining whether the relationship characteristics are influenced by characteristics of the major client company. Table 8.13 summarises those characteristics of client organisations in each of the relationship clusters.
<table>
<thead>
<tr>
<th>Client company characteristics</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 11</td>
<td>n = 4</td>
<td>n = 5</td>
<td>n = 14</td>
</tr>
<tr>
<td>Ships managed for client</td>
<td>15</td>
<td>11</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Ships under full management</td>
<td>10</td>
<td>4</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Ships under crew management</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Ships under commercial management</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ships under technical management</td>
<td>0.4</td>
<td>0.75</td>
<td>0</td>
<td>0.2</td>
</tr>
<tr>
<td>Number of years with client</td>
<td>10</td>
<td>11</td>
<td>6.8</td>
<td>12</td>
</tr>
<tr>
<td>% of revenue from major client</td>
<td>37</td>
<td>13</td>
<td>15</td>
<td>27</td>
</tr>
</tbody>
</table>

### Type of client

<table>
<thead>
<tr>
<th>Type</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional owner</td>
<td>64%</td>
<td>50%</td>
<td>80%</td>
<td>57%</td>
</tr>
<tr>
<td>Traditional/oil major</td>
<td>9%</td>
<td>25%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Traditional/charterer</td>
<td>9%</td>
<td>0</td>
<td>0</td>
<td>7.5%</td>
</tr>
<tr>
<td>Charterer</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.5%</td>
</tr>
<tr>
<td>Investor</td>
<td>9%</td>
<td>0</td>
<td>0</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>25%</td>
<td>20%</td>
<td>14%</td>
</tr>
</tbody>
</table>

### Client location

<table>
<thead>
<tr>
<th>Location</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>18%</td>
<td>50%</td>
<td>20%</td>
<td>57%</td>
</tr>
<tr>
<td>Germany</td>
<td>18%</td>
<td>25%</td>
<td>20%</td>
<td>29%</td>
</tr>
<tr>
<td>Norway</td>
<td>18%</td>
<td>0</td>
<td>20%</td>
<td>0</td>
</tr>
<tr>
<td>Other Europe</td>
<td>18%</td>
<td>0</td>
<td>20%</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td>28%</td>
<td>25%</td>
<td>20%</td>
<td>7%</td>
</tr>
</tbody>
</table>

### Client's main business activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Cluster 1</th>
<th>Cluster 2</th>
<th>Cluster 3</th>
<th>Cluster 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Container liner</td>
<td>0</td>
<td>0</td>
<td>20%</td>
<td>29%</td>
</tr>
<tr>
<td>Tramp</td>
<td>37%</td>
<td>75%</td>
<td>40%</td>
<td>21%</td>
</tr>
<tr>
<td>Pool</td>
<td>18%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tramp/pool</td>
<td>18%</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Combination</td>
<td>18%</td>
<td>0</td>
<td>20%</td>
<td>14%</td>
</tr>
<tr>
<td>Other</td>
<td>9%</td>
<td>25%</td>
<td>20%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Table 8.13: Client company characteristics and cluster membership

Note: Missing values were replaced by the median of all values

8.3.2.1. Location of client companies

As can be seen from table 8.13, companies in the “friendship” and “reactive” clusters are more likely to be managing vessels for clients located in the UK. Only one company located in Cyprus is managing vessels for a UK based major client (found in the “reactive” cluster). Hence, it seems that all companies managing vessels for UK clients in the “friendship” cluster and the majority of those companies in the “reactive” cluster are also located in the UK. The geographical location of UK based companies in the “friendship” cluster and the high possibility for client companies to be located in the UK may go some
way towards explaining the friendship type relationship found in this cluster. Close personal relationships are more likely to be formed when the parties are in close geographical proximity or have similar cultural background. In the “reactive” cluster, most of the companies based in Cyprus have clients based in Germany. These ship management companies are prepared to change certain operational procedures in order to meet the needs of specific clients. They are not prepared, however, to make any investments specific to a client relationship like, for instance, introducing computerised systems to deal with the operations of the major client only.

Companies in the “rigid” cluster deal with clients based in European countries including the UK, Germany, but most significantly Eastern Europe and Norway. The relationship between these companies and their client is characterised by rigidity in terms of adaptations, and general investments. As explained earlier, the rigidity of these companies may be associated with the fact that they are cost-conscious. This is not the case for Cyprus based companies and their German clients, where some degree of flexibility is present. It can be inferred that cultural background may have a bearing on the nature of ship management relationships. It must also be noted that the Cyprus based companies found in the “investors” cluster, also have German clients (hence, these companies may also make major investments for their major German clients). The degree of dependency, however, on the major client for the “investors” cluster is much greater.

8.3.2.2 Client’s main business activity

Companies in the “investors” cluster have clients engaged in a variety of activities. This indicates that major investments may be made for clients in a variety of businesses. However, clients of companies in this cluster are the only ones engaged in shipping pools. This may be important, as shipping pools have always been associated with high quality tonnage and management. It seems that clients requiring high standards of safety and
quality management may entrust their vessels to companies found in the “investors” cluster, since these companies may be prepared to make higher investments into such systems.

The majority of client companies for ship management organisations found in the “friendship” cluster are engaged in tramp shipping. The same is true for companies in the third cluster, although companies in the “rigid” and “reactive” clusters are the only ones that have clients engaged in container liner shipping. The inferences that can be made is that ships engaged in container liner shipping may not require flexibility or major adaptations on the part of the manager. Because liner shipping involves fixed schedules with containerships making voyages between scheduled ports, once a system to cater for the needs of these vessels is in place, it is less likely that major changes may be needed. This is supported in the literature: “containerships do not require the same high level of technical support as do, for instance, product tankers and gas carriers” (Anon 1995u, p. 7). Many clients of companies in the “rigid” cluster, however, are engaged in tramp shipping as well. Therefore, the evidence on whether the client’s main business activity accounts for certain relationship characteristics is not conclusive.

8.3.2.3 Percentage of revenue attributed to client

This particular characteristic is extremely important because it may directly account for the level of dependence the ship manager has on the particular client. For instance, if a great percentage of the ship manager’s revenue comes from the major client, obviously the manager will be more dependent on the particular client.

In the “friendship” cluster, the percentage of revenue attributed to the major client is low (13%). This may be accounted by the fact that only a mean number of 4 ships are under full management with a mean number of 6 ships under crewing management. Dependence
on the client is low in financial terms, because a ship management company can yield greater profits from full management contracts. This cluster exemplifies, however, the social/psychological side of a business relationship. Adaptations and investments are made because of the social bonds with the client. Hence, the companies are prepared to change their business processes to accommodate the needs of major clients.

One way of dependency reduction is the cultivation of alternative sources of desired resources (Pfeffer and Leong 1977). If the required resource is profit maximisation, then expansion into shipowning is cultivation of an alternative source. As indicated in table 8.12, some 60% of the companies in “rigid” cluster have invested in the purchase of ships. The companies in this cluster also own more vessels than the companies in any other of the three clusters. Because of the alternative source of profit, the dependence on clients is considerably less. This is supported by the fact that companies in this cluster attribute a 15% of their revenue to the relationship with the major client. Dependence on the client is low and therefore adaptations are not made. Companies are more reluctant to change their operational procedures for accommodating needs of the client. The fact that these companies manage a substantial number of vessels for their major clients does not seem to have a great impact on dependency because of the alternative sources of revenue (unlike companies in the “investors” cluster).

Hallen, Johanson and Seyed-Mohamed (1991) found that adaptation is related to the degree of dependence on the client. The percentage of revenue earned from the major client may be used as a measure of the ship manager’s dependence. Up to 80% of the companies appearing in the “rigid” cluster, earn less than 25% of their revenue from their major client. In fact, 60% earn between 1% and 10%, and 40% between 1% and 5%. For the “reactive” cluster, 28% of the companies earn between 1% and 5% of their revenue from the major client, 55% earn less than 25% of their revenue from the major client and
28% of the companies earn between 46% and 60% of their revenue from the major client. This suggests that adaptations are related to dependence in a ship management context.

This is also supported by looking at the “investors”, where 4 companies make major adaptations. In this cluster we find the only two companies in the sample who earn more than 60% of their annual revenue from a particular major client. On average, the companies in this cluster derive 37% of their revenue from the major client. Hence, the dependence on the client is higher and investments into the relationship are naturally substantial.

8.3.2.4 Length of relationships

Examination of the period of relationships between the ship management companies in the sample and their major clients indicates that relationships have been long-term. Table 8.13 indicates a mean number of 10, 11, 6.8 and 12 years for clusters 1-4 respectively. It can be seen that for all clusters the relationship with the client has been long-term. This long-term nature of the relationship is, hence, consistent with the high level of trust exhibited by ship managers, and confirms the association found in other studies on exchange relationships. It is seen that the vast majority of companies in all four clusters would trust the client 100%, with the rest indicating that trust is fairly high. This may be explained by considering the length of the relationship with the major client. The relationship marketing literature indicates that the longer the relationship with an exchange partner the greater the degree of trust among the parties. With increased experience, companies are more likely to have successfully overcome critical periods (Dwyer, Schurr and Oh 1987; Scanzoni 1979), and gained a greater understanding of the idiosyncracies of each other (Williamson 1985). Therefore, longer relationships facilitate the prediction of future behaviour and increased confidence and willingness to rely on the other party. Empirically, Anderson and Weitz (1989) found that a channel member’s trust in a manufacturer increases with the age of the relationship.
Summarising the above preliminary results, typical companies in the four clusters will have clients exhibiting the characteristics indicated in table 8.14.

<table>
<thead>
<tr>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client based all over the world</td>
<td>Client is based in the UK</td>
</tr>
<tr>
<td>Client engaged in shipping pools</td>
<td>Few ships under full management are managed for the client</td>
</tr>
<tr>
<td>A high percentage of the company’s revenue comes from the client</td>
<td>Low percentage of the revenue is attributed to the client</td>
</tr>
<tr>
<td></td>
<td>Longer term relationships</td>
</tr>
<tr>
<td></td>
<td>Client engaged in tramp shipping</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client based all over Europe</td>
<td>Client based in the UK or Germany</td>
</tr>
<tr>
<td>Client engaged in tramp shipping</td>
<td>Client engaged in container liner shipping</td>
</tr>
<tr>
<td>Low percentage of revenue comes from the client</td>
<td>The longest relationship with the client</td>
</tr>
<tr>
<td>Shorter relationship with client</td>
<td></td>
</tr>
</tbody>
</table>

**Table 8.14: Typical client characteristics per ship management cluster**

### 8.4 Examining the clusters in terms of communication frequency by ship manager

In the relationship marketing literature, communication appears to be one of the most important variables utilised in the understanding of business relationships. Mohr, Fisher and Nevin (1996) argue that the most important element to successful inter-firm exchange is communication. Bleeke and Ernst (1993, p. xvi) state that “the most carefully designed relationship will crumble without good, frequent communication”.

The research questionnaire was designed to capture the frequency of communication in the relationships under scrutiny. The results obtained for each cluster are illustrated in table 8.15.

In theoretical terms, the frequency of communication results validate the clusters obtained. Higher frequency of communication is likely in conditions of supportive climates, or symmetrical power. This has been referred to as a “collaborative communication strategy”
Communication of lower frequency is likely to appear in non-supportive structures or asymmetrical power. This is called "autonomous communication strategy" (Mohr and Nevin 1990). When there is a feeling of shared identity, supportive atmosphere and relationship closeness, exchange parties may seek information from one-on-one verbal modes (Huber and Daft 1987). It was supported throughout the analysis of results that companies in the "investors" and "friendship" clusters interact in a more friendly and supportive manner, than those in the "rigid" and "reactive" clusters. It can be seen that as far as face to face communication is concerned (at operational and senior management level), there is a higher frequency for both the "investors" cluster and the "friendship" cluster when compared to that for the "rigid" and "reactive" clusters.

<table>
<thead>
<tr>
<th>Communication frequency</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Face to face</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operational level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>2 (18%)</td>
<td>1 (25%)</td>
<td>0</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once per fortnight</td>
<td>1 (9%)</td>
<td>0</td>
<td>1 (20%)</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>1 (9%)</td>
<td>2 (50%)</td>
<td>1 (20%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once per 3 months</td>
<td>6 (55%)</td>
<td>0</td>
<td>0</td>
<td>5 (37%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>1 (9%)</td>
<td>1 (25%)</td>
<td>2 (40%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>0</td>
<td>0</td>
<td>1 (20%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td><strong>Senior management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td>2 (18%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Once per fortnight</td>
<td>0</td>
<td>1 (25%)</td>
<td>1 (20%)</td>
<td>1 (7%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>1 (9%)</td>
<td>1 (25%)</td>
<td>0</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once per 3 months</td>
<td>6 (55%)</td>
<td>1 (25%)</td>
<td>2 (40%)</td>
<td>9 (65%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>2 (18%)</td>
<td>0</td>
<td>1 (20%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once a year</td>
<td>0</td>
<td>1 (25%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
<tr>
<td><strong>Other communication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Operational level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every day</td>
<td>10 (91%)</td>
<td>3 (75%)</td>
<td>2 (40%)</td>
<td>8 (58%)</td>
</tr>
<tr>
<td>Twice a week</td>
<td>0</td>
<td>0</td>
<td>1 (20%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>1 (9%)</td>
<td>1 (25%)</td>
<td>1 (20%)</td>
<td>3 (21%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>0</td>
<td>0</td>
<td>1 (20%)</td>
<td>1 (7%)</td>
</tr>
<tr>
<td><strong>Senior management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a day</td>
<td>2 (18%)</td>
<td>2 (50%)</td>
<td>1 (20%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Twice a week</td>
<td>2 (18%)</td>
<td>0</td>
<td>0</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Once a week</td>
<td>4 (37%)</td>
<td>1 (25%)</td>
<td>0</td>
<td>4 (29%)</td>
</tr>
<tr>
<td>Once a fortnight</td>
<td>1 (9%)</td>
<td>0</td>
<td>1 (20%)</td>
<td>3 (21%)</td>
</tr>
<tr>
<td>Once a month</td>
<td>2 (18%)</td>
<td>0</td>
<td>2 (40%)</td>
<td>3 (21%)</td>
</tr>
<tr>
<td>Once per 3 months</td>
<td>0</td>
<td>1 (25%)</td>
<td>1 (20%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 8.15: Frequency of communication by ship manager
Face to face communication at operational level is much less frequent for the majority of the companies found in the “rigid” cluster. Some 60% of these companies communicate with their client twice a year or less, compared to only 9% of companies in the “investors” cluster, 25% of companies in the “friendship” cluster and 28% in the “reactive” cluster.

In an analysis of over 100 supplier-customer relationships in international markets Cunningham and Turnbull (1982) found that, among other roles, personal contact patterns served the roles of information exchange, adaptations and social bonding. Hakansson, Johanson and Wootz (1977) posit that personal contacts provide a significant means of transmitting and responding to the various influencing processes at work. One of these influencing processes is the adaptation and adjustment to the needs of the exchange parties.

It can be seen from table 8.14 that the companies making no adaptations (found in the “rigid” cluster) are also those that have the least frequent personal contact with their clients at both operational and senior management level. On the other hand, most frequent personal contact is found in the “investors” cluster. The companies in this cluster also make major adaptations in the relationship with their major client.

In inter-firm relationships characterised by a high degree of dependency, information exchange interactions tend to occur frequently (Frazier and Summers 1984). This is also true in this study, where 91% of the highly client-dependent companies in the “investors” cluster communicate daily with the client at operational level. Only 40% of the companies found in the “rigid” cluster communicate daily with the client at this level. This cluster has been found to be the least dependent on the client. At senior management level, 73% of the companies in the “investors” cluster communicate at least once a week with the client, compared to 75% of companies in the “friendship” cluster, 20% of companies in the “rigid” cluster and 57% of companies in the “reactive” cluster. In financial terms, companies in the “friendship” cluster were found to be least dependent on the client.
Despite this, communication was found to be frequent. This may be explained by the fact that these companies are more likely to depend on ship management for their business, rather than ship ownership (companies in this cluster own the least number of ships). Furthermore, the companies in this cluster were found to have a personal/friendship relationship with the client, and, as indicated above, a friendship and supportive atmosphere influences frequent communication. Mummalaneni (1987) found that a personal friendship relationship is associated with greater investments in terms of time. Hence, managers in the “friendship” cluster seem to invest more time in terms of seeking to communicate with the major client.

Cunningham and Homse (1986) surveyed 59 industrial supplier-customer relationships and found that personal contact patterns varied from approximately 20 times per annum in domestic relationships to 6 times per annum in international relationships – an overall average of about 10 times per annum. Table 8.16 illustrates the average annual personal contact frequency in each cluster at operational and senior management level within this study of ship management.

<table>
<thead>
<tr>
<th>Personal contact</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational level</td>
<td>15</td>
<td>20</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Senior management Level</td>
<td>13</td>
<td>11</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Average</td>
<td>14</td>
<td>15.5</td>
<td>6.5</td>
<td>9.5</td>
</tr>
</tbody>
</table>

Table 8.16: Annual personal contact frequency

It can be seen that the results obtained by Cunningham and Homse (1986) are comparable to those obtained in this study of the ship management industry. It was stated earlier that companies in the “friendship” cluster are more likely to be located in the UK and manage vessels for UK clients. Hence, the higher patterns of personal contact (domestic market). On the other hand, the contact patterns for the “rigid” cluster, are considerably less
frequent as companies will manage vessels for clients located in Europe (mainly Germany, Norway and other European countries).

Summarising the findings it can be deduced that companies in the “investors” and “friendship” clusters communicate with their major client organisations much more frequently than companies in the other two clusters. In particular, companies in the “rigid” cluster have the lowest frequency of communication and personal meetings at all levels.

8.5 Using organisational/client characteristics to discriminate between the clusters

In section 8.3, all organisational and client characteristics were used independently to explore any relationship between those characteristics and cluster membership. In this section, both organisational and client characteristics will be analysed in conjunction by utilising multiple discriminant analysis. By using the characteristics of the organisations together, it will be possible to reveal the relationship between those characteristics and cluster membership and also which characteristics account for most of the variation with respect to cluster membership. For example, it was found in the preliminary analysis earlier that a high value for the characteristic “percentage of revenue attributed to the client” was associated with membership in the “investors” cluster. MDA will be used to assess whether the particular characteristic accounts for significant variation among the clusters and whether it is, therefore, a characteristic that is strongly associated with cluster membership. The objective of multiple discriminant analysis is to identify the minimum number of discriminant functions that will provide most of the discrimination among the clusters (cf. Sharma 1996).

According to Hair et al. (1995, p. 192) “discriminant analysis is useful when the analyst is interested either in understanding group differences or in correctly classifying statistical units into groups”. This means that MDA can be used, either as a type of profile analysis
or as an analytical predictive technique capable of classifying future observations. Sharma (1996) notes that classification of future observations can be considered as an independent procedure, although the SPSS programme performs classification as part of MDA. As profile analysis, MDA provides an objective assessment of group differences between groups on a set of independent variables. This indicates that utilisation of MDA as profile analysis will satisfy the requirements of the analysis at this stage of the study. Since the objective of this study is to examine differences among the ship management clusters on the basis of the independent organisational variables, MDA as profile analysis will be utilised. MDA as a technique for the classification of future observations, being not appropriate, will not be pursued further, although it might be useful for future research.

The major organisational characteristics of the interacting entities that seem to discriminate between the clusters were identified from the preliminary classification in section 8.3. The characteristics will be used as the discriminating (independent) variables in MDA. MDA will be carried out between the 4 cluster centroids and these discriminating variables. MDA will enable assessment of the discrimination between the clusters found already in section 8.3.

8.5.1 Selection of variables for analysis

The first step in multiple discriminant analysis is the selection of the dependent and independent variables that will be used in the analysis. The dependent variable selected consists of the designation of the 34 ship management companies into the four relationship clusters. Hence, the categorical dependent variable is made up of four levels, i.e. clusters 1, 2, 3 and 4.

With respect to the independent variables, these are made up of the organisational characteristics of the ship management companies and the characteristics of the clients’
companies. A total of 24 discriminating variables were used in the analysis. The discriminating variables can be seen in tables J1 and J2 in appendix J.

After deciding which discriminating variables are to be included, it must be decided whether to exclude cases with missing variables or to replace these with mean or median values. Given the small number of cases, the fact that missing values appeared to be random and cases with missing values were not systematically different from the ones which contained values, it was decided to replace missing values with the median of all remaining cases. This resulted in 34 completed cases comprising 24 independent variables.

8.5.2 Analysis of relationship cluster membership differences

Analysis of the differences between the groups is firstly undertaken by examining the means and the standard deviations. Reviewing the group means and standard deviations will indicate if the groups are significantly different on any single variable. Tables Q1-Q4 in appendix Q illustrate the means and standard deviations of the 24 discriminating variables for each of the ship management clusters. It must be noted that these values are the same to the ones already presented in the preliminary profiles in section 8.3.

Examination of the means does indicate differences between the independent variables for different clusters, although the statistical tests for equality of group means indicate that not all the differences are significant from a statistical viewpoint. When the independent variables are aggregately assessed, however, they are found to be discriminating between the clusters, although not statistically significant if taken individually.

Tests for univariate equality of group means - Wilk’s lambda, F-ratio and significance - can be seen in table Q5 in appendix Q. Wilk’s lambda is the ratio of the within groups sum of squares to the total sum of squares when conducting a one-way analysis of the variable.
A lambda value of 1 indicates that all observed group means are equal, and a value close to 0 indicates that most of the variability is caused by the differences between the means of the groups. The variables were found not to be significant in a statistical sense. However, statistical significance can only be obtained if such techniques are performed with large samples and observations that exceed the number of independent variables. In social science research, it is often quite difficult to obtain large enough samples and many observations so as not to violate statistical assumptions. In this study in particular, since the number of independent variables is inherently large compared to the available number of respondents, greater emphasis is given to whether the independent variables can discriminate between the ship management clusters rather than statistical significance of such discrimination. Bearing in mind the research objectives of discovery rather than justification, the impact of this limitation is insignificant.

8.5.3 Estimating the linear multiple discriminant functions

If the objective of the analysis is to determine which variables are the most efficient in discriminating between the clusters, a stepwise procedure must be used. If the objective is to determine the discriminating capabilities of the entire set of variables, with no regard to the impact of any individual variable, all variables should be entered in the model simultaneously.

The information provided by the descriptive statistics and the univariate tests helps to identify possible differences between the four ship management clusters. The objective of the discriminant analysis in this case is to analyse the independent variables simultaneously and not one variable at a time. This is because it was identified earlier (section 8.3) that a single variable in itself cannot account for the differences in the relationship characteristics between the groups. Rather, the earlier analysis shows that it is the combination of a
number of organisational and client characteristics that may explain the cluster membership of a particular ship management company.

A linear combination of the independent variables forms the basis of assigning cases to the right cluster group. The clusters serve as a single index (t) and can be expressed in the linear multiple discriminant equation

\[ t = k_0 + k_1 x_1 + k_2 x_2 + \ldots + k_p x_p \]

where \( x_i \) (i=1...p) is the value of the independent variables and \( k_i \) (i=1...p) is the coefficient estimated from the data (discriminant weights). If the linear equation is to distinguish between the clusters, the groups are to differ in their t values. So the \( k_i \)'s are estimated in such a way that the values of the discriminant function differ as much as possible between the groups, or to ensure that for the discriminant function, the ratio of between groups sum of squares/within groups sum of squares is at a maximum. In the formula, t and \( x_i \) are expressed as deviations away from the mean. The actual mechanics of computing the coefficients is beyond the scope of this study, but can be referred to in Sharma (1996).

In the case of two groups there is only one discriminant function. In this study, however, there exist four groups (four ship management clusters). Hence, the number of discriminant functions would maximally be equal to min \((g-1, p)\), where \( g \) is the number of groups and \( p \) is the number of the discriminating variables. So for \( g=4 \) there will be 4-1=3 and \( p=24 \), so the maximum number of discriminant functions is equal to 3.

8.5.4 The number of discriminant functions to be retained

The next step in discriminant analysis is to determine the number of discriminant functions that should be retained. It has been stated earlier (section 8.5) that the objective of
discriminant analysis is to identify the *minimum* number of discriminant functions that provide *most* of the discrimination among the groups. Sharma (1996, p. 303) states that "the issue of how many functions should be retained is ultimately a judgmental issue and varies from researcher to researcher, and from situation to situation". Hence, the final choice rests with the practical significance of the functions in the particular research context.

Although, statistical significance tests are available, these are sensitive to sample size, and discriminant functions accounting for only a small difference among the clusters might be statistically significant. There exist, however, a number of other statistics that can be used to assess the significance of the discriminant functions. These include the squared canonical correlations, the eigenvalues and the percent of variance.

Table Q8 in appendix Q shows the canonical correlations of the first three discriminant functions. The canonical correlations are 0.816, 0.757 and 0.666 for functions 1, 2 and 3 respectively. The squared canonical correlations are 0.665, 0.573 and 0.443 respectively. High values of the squared canonical correlations suggest that the discriminant functions account for a substantial portion of the differences among the four clusters. It seems that the first two functions account for the greater proportion of these differences.

Table Q8 in appendix Q shows the eigenvalues for the three discriminant functions. The greater the eigenvalue for a given discriminant function, the greater the ability of that discriminant function to discriminate among the groups. It can be seen that the first discriminant function has a higher ability of discrimination (eigenvalue = 2.000). The second discriminant function also has a great ability for discrimination (eigenvalue = 1.342), however, that cannot be said for the third discriminant function (eigenvalue = 0.797).
The discriminating ability of the $j$th discriminant function can be assessed by the measure "percent of variance", also shown in the same table in appendix Q. This measure does not refer to the variance in the data but represents the percent of total differences among the groups that is accounted for by the discriminant function. It can be seen that function 1 accounts for 48.3% and function 2 for 32.4% of the total differences among the groups. This gives a total of 80.7% which once again suggests that two functions are sufficient to account for most of the differences among the groups. Therefore, the first two functions are retained. The choice is also made on the basis that with two functions it will be easier to provide further exploration of the data through perceptual maps in two dimensions. Furthermore, the discriminating variables associated with the third function can still be used for inferences on the basis of the analysis in section 8.3.

In running the discriminant analysis programme, only variables which pass the tolerance test are entered and a maximum number of discriminant functions is specified (i.e. three, see section 8.5.3). The minimum tolerance level is 0.00100 and the variables "exact number of ships managed", "number of ships under technical management for client", "number of years in ship management" and "number of years with the client" failed the tolerance test (table Q7 in appendix Q). The unstandardised canonical discriminant function coefficients for the remaining variables can be seen in table Q10 in appendix Q.

8.5.5 Interpretation of the discriminant function coefficients

The unstandardised coefficients are the multipliers of the variables when they are expressed in the original units. The magnitude of the indicators is determined by the underlying value of the independent variables. The independent variables, however, were not measured on the same scale and include metric and non-metric variables, which were dummy coded. Hence, for comparison purposes, standardisation of the coefficients is required. This means that all variables are standardised to a mean of 0 and a standard
deviation of 1. The standardised coefficients are shown in table Q11 in appendix Q.

Standardised coefficients are used for assessing the relative importance of discriminator variables forming the discriminant function. The greater the standardised coefficient, the greater the relative importance of a given variable and vice versa.

Table Q12 in appendix Q shows the structure matrix with the pooled within-groups correlations between discriminating variables and the standardised canonical discriminant functions. The variables are listed in descending order of correlation and shows the function with which it has the highest correlation with an asterisk (*). The independent variable “country of client’s headquarters” has the highest correlation with function 1 and the variable “annual revenue generated by client” has the highest correlation to function 2 (0.349). All discriminating variables correlated closely with functions 1, 2 or 3. The large number of discriminating variables, however, and their diverse nature does not provide grounds for assigning labels to the functions.

Table Q13 in appendix Q also shows the canonical discriminant functions evaluated at group means (group centroids). The first cluster of ship management companies has a positive mean for functions 1, 2 and 3. The second cluster has a negative mean for function 2 and a positive mean for function 1 and 3. Cluster 3 has a negative mean for functions 2 and 3 and a positive mean for function 1 and cluster 4 a negative mean for functions 1 and 2 and a positive mean for function 3.

The location of the four ship management clusters can be seen in more detail in separate plots. The perceptual maps (in figures Q1-Q4 in appendix Q) show the canonical discriminant function plots for the four clusters individually. Figure 8.7, which is a composite of the aforementioned maps, shows the group centroids of the four clusters plotted in an all group scatterplot. Plots are prepared for the first two functions. The values
for each group show its position in reduced discriminant space and the differences between the groups can be easily ascertained.

Figure 8.7: Group scatterplot of 4 cluster positions after MDA

Nevertheless, there is a limitation as not all the functions and, hence, not all the variance is plotted. However, up to 80.7% of the variance is in fact accounted for by functions 1 and 2, as already stated. Since the objective of multiple discriminant analysis was to identify the minimum number of discriminant functions that will provide most of the discrimination among the clusters (see section 8.5), it can be deduced that this is achieved by considering functions 1 and 2. In fact, in most cases the group differences are typically represented by two discriminant functions and consequently the perceptual map of group centroids is plotted with respect to two functions (Sharma 1996).

8.5.5.1 Differences between clusters on the basis of independent variables

The all group scatterplot and the correlations between independent variables and the discriminant functions are used to identify which independent variables account for the discrimination between the relationship clusters. The results will indicate the values of
discriminating variables that are associated with membership in particular relationship clusters.

8.5.5.1.1 **Discriminating variables correlated with function I**

Table 8.17 illustrates the independent variables (organisational characteristics) that are correlated with the first discriminant function. These discriminating variables account for the variation among the four clusters on the basis of function 1.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client location</td>
<td>All over the world</td>
<td>UK/Germany</td>
<td>Europe</td>
<td>UK/Germany</td>
</tr>
<tr>
<td>Client’s main business</td>
<td>Various</td>
<td>Tramp shipping</td>
<td>Tramp/combination</td>
<td>Other/containers</td>
</tr>
<tr>
<td>Company’s main business</td>
<td>Ship management--some owned ship operation</td>
<td>Mainly ship management only</td>
<td>Ship management and owned ship operation</td>
<td>Mainly ship management only</td>
</tr>
<tr>
<td>Mean number of vessels under crewing mgt.</td>
<td>26</td>
<td>22</td>
<td>36</td>
<td>40</td>
</tr>
</tbody>
</table>

**Table 8.17: Cluster profiling of independent variables correlated with function 1**

As can be seen from the perceptual map in figure 8.7, the “reactive” cluster (cluster 4) differs from the other three clusters on the basis of function 1. The principal distinguishing organisational characteristics for this category of ship management companies include the large number of vessels under crewing management only, managed for UK based clients. Additionally, such vessels are likely to be containerships as client companies in this cluster are engaged in the container liner sector. Ship management companies in the “reactive” cluster are also more likely to be engaged in offering ship management services only and not operating owned vessels, when compared to companies in the other categories.
8.5.5.1.2 Discriminating variables correlated with function 2

The independent variables correlated with the second discriminant function (function 2) are shown in table 8.18. These discriminating variables account for the variation among the four clusters on the basis of function 2.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Investors (Cluster 1)</th>
<th>Friendship (Cluster 2)</th>
<th>Rigid (Cluster 3)</th>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual revenue from client</td>
<td>37</td>
<td>13</td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>Number of ships managed for client under crew</td>
<td>2</td>
<td>6</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Number of ships managed for client under full management</td>
<td>10</td>
<td>4</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Type of company</td>
<td>Independent/ Subsidiary</td>
<td>Independent</td>
<td>Independent</td>
<td>Independent/ Subsidiary</td>
</tr>
<tr>
<td>Number of ships managed for client under commercial management</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Number of ships under commercial management</td>
<td>2.45</td>
<td>0.75</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>1222</td>
<td>835</td>
<td>1159</td>
<td>1346</td>
</tr>
</tbody>
</table>

Table 8.18: Cluster profiling of independent variables correlated with function 2

It can be seen from the perceptual map in figure 8.7 that companies in the "investors" cluster differ on the basis of the second function (function 2) from the other three clusters. The principal distinguishing characteristic which is found to be strongly associated with ship management relationships is that of the percentage of total company revenue that comes from the major client. Ship management companies in the "investors" cluster earn a high percentage of their revenue from their major client. A high percentage of revenue is also attributed to the client from companies appearing in the "reactive" cluster. Hence, this category of companies appears closer to the "investors" category. A lesser percentage of revenue is attributed to the client from ship management companies appearing in clusters 2 and 3 ("friendship" and "rigid"). Companies in the "investors" cluster also manage more vessels under full management for the client, hence the importance of the major client for
the companies. This importance may account for the relationship attitudes towards the client.

Companies in the “investors” cluster (cluster 1) and the “reactive” cluster (cluster 4) also employ more seafarers, especially when compared with the “friendship” cluster (cluster 2). This provides an indication of the size of these companies, and the fact that size of the ship management company may be associated with specific attitudes in the relationship with the major client. There is also a greater possibility for companies in the “investors” and “reactive” clusters to be subsidiary companies when compared to the other two clusters. Subsidiary companies may be formed to offer a greater level of personalised service.

Companies in clusters 2 (“friendship”) and 3 (“rigid”), do not seem to undertake commercial management to the extent undertaken by companies in the other two clusters. This seems to be an important variable discriminating between the clusters, as the lesser revenue from commercial management indicates the orientation towards profit of cluster 3 companies. Companies in the “rigid” cluster are also quite keen to undertake crewing management, which is the one single type of ship management service that can alone result in a high profit for the ship management company.

8.5.5.1.3 *Discriminating variables correlated with function 3*

The independent variables shown in table 8.19 are correlated with the third discriminant function (function 3).

As indicated earlier these independent variables only account for about 19.3% of the variation among the clusters. Hence, the low contribution of the third function in the discriminant analysis results, indicates that the third function and these variables are less significant in explaining differences in relationship patterns among ship management
companies. The third discriminant function has not been retained and it is not used in the perceptual maps, as explained in section 8.5.5. This does not mean that the above variables do not account for any variation between the clusters, they are variables that may influence relationship attitudes but are of less significance.

<table>
<thead>
<tr>
<th>Years in the ship management business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of years with client</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
</tr>
<tr>
<td>Number of employees from manning agencies</td>
</tr>
<tr>
<td>Number of ships under technical management for client</td>
</tr>
<tr>
<td>Number of ships owned by the companies</td>
</tr>
<tr>
<td>Type of client's organisation</td>
</tr>
<tr>
<td>Number of ships managed for client</td>
</tr>
<tr>
<td>Number of ships under full management</td>
</tr>
<tr>
<td>Company's annual turnover</td>
</tr>
<tr>
<td>Company location</td>
</tr>
<tr>
<td>Number of ships managed</td>
</tr>
<tr>
<td>Number of employees ashore</td>
</tr>
</tbody>
</table>

Table 8.19: Discriminating variables correlated with function 3

The results of the discriminant analysis indicate the set of independent variables that contribute to the discrimination between the relationship clusters. The preliminary analysis in section 8.3 has also shown that the relationship clusters differ on the basis of organisational characteristics of the interacting companies. Discriminant analysis facilitated the identification of those organisational characteristics that account significantly for most of the variation among the clusters.

8.6 Ship manager–client relationship typology

The analysis of the results in this chapter indicates that a typology of ship management companies based on the relationship and organisational characteristics scrutinised will be as shown in table 8.20.

The independent variables associated with the third function account only for 19.3% of the variation and are, hence, less important in terms of discrimination between the clusters.
The association between these variables and particular clusters was ascertained from the analysis in section 8.3. Although they account for little discrimination, they are associated with particular relationship clusters.

The implications of the results and projection of inferences with respect to the ship management industry will be discussed in the following chapter.
<table>
<thead>
<tr>
<th>Investors (Cluster 1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Major investments</td>
<td>No conflict</td>
</tr>
<tr>
<td>High trust</td>
<td></td>
</tr>
<tr>
<td><strong>Beyond contract relationship</strong></td>
<td>Independent or subsidiary</td>
</tr>
<tr>
<td></td>
<td>Third party management and some owned ship operation</td>
</tr>
<tr>
<td></td>
<td>Fewer ships under crew management</td>
</tr>
<tr>
<td></td>
<td>More ships under commercial management</td>
</tr>
<tr>
<td></td>
<td>Large number of employees at sea</td>
</tr>
<tr>
<td></td>
<td>High percentage of revenue attributed to client</td>
</tr>
<tr>
<td></td>
<td>Client based all over the world</td>
</tr>
<tr>
<td></td>
<td>Undertake management for a variety of clients</td>
</tr>
<tr>
<td></td>
<td>Most ships managed for client under full management</td>
</tr>
<tr>
<td></td>
<td>More ships under commercial management for client</td>
</tr>
<tr>
<td></td>
<td>Fewer ships under crew management for client</td>
</tr>
<tr>
<td></td>
<td>High frequency of communication at operational and senior management level</td>
</tr>
<tr>
<td></td>
<td><strong>UK based</strong></td>
</tr>
<tr>
<td></td>
<td>Many ships under full management</td>
</tr>
<tr>
<td></td>
<td>Many years in ship management</td>
</tr>
<tr>
<td></td>
<td>Many employees ashore</td>
</tr>
<tr>
<td></td>
<td>Few seafarers employed through manning agencies</td>
</tr>
<tr>
<td></td>
<td>High annual turnover</td>
</tr>
<tr>
<td></td>
<td>Client engaged in shipping pools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Friendship (Cluster 2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendship relationship</td>
<td>Minor conflicts</td>
</tr>
<tr>
<td>Major investments</td>
<td>Independent</td>
</tr>
<tr>
<td></td>
<td>Mainly providing third party services</td>
</tr>
<tr>
<td></td>
<td>Few ships under commercial management</td>
</tr>
<tr>
<td></td>
<td>Few ships under crew management</td>
</tr>
<tr>
<td></td>
<td>Smaller number of employees at sea</td>
</tr>
<tr>
<td></td>
<td>Lowest percentage of revenue attributed to client</td>
</tr>
<tr>
<td></td>
<td>Client based in the UK or Germany</td>
</tr>
<tr>
<td></td>
<td>Client engaged in tramp shipping</td>
</tr>
<tr>
<td></td>
<td>Many ships under crew management for client</td>
</tr>
<tr>
<td></td>
<td>Few ships under full management for client</td>
</tr>
<tr>
<td></td>
<td>Few vessels under commercial management for the client</td>
</tr>
<tr>
<td></td>
<td>Very high frequency of communication at operational and senior management level</td>
</tr>
<tr>
<td></td>
<td><strong>Own fewer ships</strong></td>
</tr>
<tr>
<td></td>
<td><strong>UK based</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Do not use manning agencies</strong></td>
</tr>
<tr>
<td></td>
<td>Fewer number of employees ashore</td>
</tr>
<tr>
<td></td>
<td>Least number of years in ship management</td>
</tr>
<tr>
<td></td>
<td>No vessels under technical management for client</td>
</tr>
<tr>
<td></td>
<td>More ships under technical management than companies in other clusters</td>
</tr>
<tr>
<td></td>
<td>Few ships under full management</td>
</tr>
<tr>
<td></td>
<td>Low annual turnover</td>
</tr>
<tr>
<td></td>
<td>Long relationship with client</td>
</tr>
</tbody>
</table>

Table 8.20 Ship manager–client relationship typology based on MDA (continued)
<table>
<thead>
<tr>
<th>Rigid (Cluster 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General investments</strong></td>
</tr>
<tr>
<td>No adaptations</td>
</tr>
<tr>
<td><strong>High trust</strong></td>
</tr>
<tr>
<td>Independent</td>
</tr>
<tr>
<td>Engaged in third party management and operation of owned ships</td>
</tr>
<tr>
<td>Many ships under crew management</td>
</tr>
<tr>
<td>Few ships under commercial management</td>
</tr>
<tr>
<td>Large number of employees at sea</td>
</tr>
<tr>
<td>Lower percentage of revenue attributed to client</td>
</tr>
<tr>
<td>Client based in Europe (UK, Germany, Norway, other European countries)</td>
</tr>
<tr>
<td>Manage more ships for major client than companies in any other cluster</td>
</tr>
<tr>
<td>Client engaged in tramp shipping or combination of markets</td>
</tr>
<tr>
<td>Many vessels under full and crew management contracts for client</td>
</tr>
<tr>
<td>No vessels under commercial management for the client</td>
</tr>
<tr>
<td>Medium to low frequency of communication</td>
</tr>
<tr>
<td>Cyprus or Isle of Man based</td>
</tr>
<tr>
<td>No vessels under technical management for client</td>
</tr>
<tr>
<td>Own more ships</td>
</tr>
<tr>
<td>Many employees ashore</td>
</tr>
<tr>
<td>Use manning agencies to the greater extend</td>
</tr>
<tr>
<td>Client is a traditional shipowner</td>
</tr>
<tr>
<td>No ships under technical management</td>
</tr>
<tr>
<td>Highest annual turnover</td>
</tr>
<tr>
<td>Many ships under crewing management</td>
</tr>
<tr>
<td><strong>Shorter relationships with client</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reactive (Cluster 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General investments</strong></td>
</tr>
<tr>
<td>Minor adaptations</td>
</tr>
<tr>
<td><strong>High trust</strong></td>
</tr>
<tr>
<td>Friendship relationship</td>
</tr>
<tr>
<td>Independent or subsidiary</td>
</tr>
<tr>
<td>Mainly providing ship management services only</td>
</tr>
<tr>
<td>Very large number of vessels under crewing management</td>
</tr>
<tr>
<td>Very large number of employees at sea</td>
</tr>
<tr>
<td>Highest number of ships under commercial management</td>
</tr>
<tr>
<td>High percentage of revenue attributed to client</td>
</tr>
<tr>
<td>Client based in the UK or Germany</td>
</tr>
<tr>
<td>Client engaged in containership shipping</td>
</tr>
<tr>
<td>Few clients in tramp shipping</td>
</tr>
<tr>
<td>More ships under full management for client, fewer under crewing and commercial management</td>
</tr>
<tr>
<td>Medium to high frequency of communication</td>
</tr>
<tr>
<td>Own more ships</td>
</tr>
<tr>
<td>Based in UK or Cyprus</td>
</tr>
<tr>
<td>Many employees ashore</td>
</tr>
<tr>
<td>Use manning agencies</td>
</tr>
<tr>
<td>Undertake management for a variety of clients (e.g. traditional shipowners, investors etc.)</td>
</tr>
<tr>
<td>High annual turnover</td>
</tr>
<tr>
<td>The longest relationships with client</td>
</tr>
</tbody>
</table>

**Table 8.20 Ship manager–client relationship typology based on MDA**

Note: Variables in bold represent the relationship characteristics of each cluster. Variables in italics represent the variables that account for little variation among the clusters. All other variables account for most of the variation among the clusters as revealed by multiple discriminant analysis.
CHAPTER 9

Discussion, Implications, Recommendations and Conclusions

The aim of this chapter is to discuss the implications for theory and practice emanating from the results obtained from this study. The chapter provides a discussion of the practical implications of the research and the contribution of the study in the areas of theory development and research in maritime organisations in general and ship management companies in particular. Consideration will be given to the limitations of the study, and recommendations for further research in the area will be made. It must be noted that the discussion in this chapter will also take into account changes in ship management that occurred since the commencement of the research and the implications of those in the context of the study.

9.1 Implications for ship management

The results of the research have widespread implications for the ship management industry in general and ship management companies in particular. Implications for practitioners can be readily drawn with respect to client relationships. Bearing in mind, however, the limited research in the area, and the wealth of information obtained during the study, the results can be used to make reasoned speculations about the ship management industry. Hence, the contribution of the study is not limited to client relationships, but also to the direction ship management is currently moving. In general, the development of relationships can have major benefits for ship management companies and their stakeholders, and on the basis of the study, such relationships are not actively pursued. As indicated in chapter 4 (section 4.7) the implications of the study may provide insights into ship management and client relationships that can facilitate informed decision making and a possible basis for change in the marketing orientation of the ship management sector at large.
9.1.1 Implications for ship management companies

The study revealed that different ship management companies can serve the needs of different types of clients. It is on this basis that ship management companies have been operating, but without due consideration of developing client relationships and serving the needs of the clients better. This section will discuss the implications of the study for marketing ship management, the marketing of smaller companies in particular and the achievement of a competitive advantage.

9.1.1.1 Marketing the professional ship management service

The study identified in chapter 2 that ship management companies concentrate on the variables of the marketing mix as part of their marketing effort. The results of the study indicated certain differences in the delivery of the ship management service to the client. In addition, many ship management companies concentrate on the extension of the service offer, and marketing their adherence to quality standards rather than concentrating on the relationship with their clients.

9.1.1.1.1 Delivery of the ship management service

The typology of ship management companies developed from the results obtained in chapter 8, indicates some major differences in service delivery among ship management organisations. In broad terms, certain companies seem to concentrate their efforts on the provision of services, and regard this as their major business focus that will assist them in attaining their corporate objectives. Such companies are found in the “investors”, “friendship” and “reactive” clusters, although there are distinct differences in terms of providing the actual ship management service. For instance, companies in the “investors” category, seem to regard the provision of services to the client as their major objective. These companies concentrate on the client, and take extra care in satisfying the
requirements of the client by making major investments and avoiding conflicts with the client.

On the other hand, companies in the “friendship” category offer services at a level of personalisation that cannot be attained by companies in any other category. This is because of the nature of the relationship between the executives in the interacting organisations.

Companies in the “reactive” category seem to be offering ship management services at the expected level. These companies carry out their functions in a manner that would be expected from a client entrusting his vessels to a professional. This includes a certain degree of flexibility and investments and a personalised touch in some instances.

Companies in the “rigid” category and, to a lesser degree, companies in the “reactive” category seem to be able to achieve their corporate objectives by pursuing strategies not traditionally associated with offering professional ship management services. These companies seem to be keen on expanding their service offering, operating their own ships and making additional investments in ship purchase. Companies operating their own vessels in conjunction with ship management (mostly found in the “rigid” cluster) have the highest annual revenue. These companies have either invested in ships, or undertake management as a secondary activity. Those companies that are prepared to invest in the relationship with the client (“investors” cluster) have considerably lower turnover. This is expected as the revenue from ship operation is considerably higher than the fee earned by ship management companies providing services. The results suggest that companies in the “rigid” category are downplaying the delivery of ship management services. In the “rigid” cluster, relationships with clients are more fragmented and conflict is relatively high.
It is possible that the profitability objectives of these companies are better met by owning ships and operating ships for third parties. This does not mitigate, however, the impact on the ship management organisation, which exists to provide a service. Ship management companies take pride in themselves for delivering the service in accordance with the client’s specifications. To do so, flexibility and personalised service are essential. If the ship management companies operating owned tonnage (in cluster 3) continue to be rigid and inflexible in their client relationships, then this may have an impact on the company, since it may be viewed as opportunistic rather than service oriented and trusting.

It is not suggested here that companies appearing in any particular cluster are inherently applying inadequate business practices. What is suggested is that the problems identified in ship management (and many of those problems were reported to be present in companies participating in the research) may be due to the type of relationship with the client. Hence, companies that have either adjusted their objectives and concentrate on areas other than provision of services in accordance with client specifications, or have diversified from offering ship management services into ship ownership, should not be surprised to find out that their client relationships are becoming short-term. Such short-term relationships are found in the “rigid” cluster. Companies in all other clusters seem to be doing reasonably well with their clients, although they differ in the way they produce and deliver the ship management service. It is important to note that companies in the “reactive” cluster, may in some respect jeopardise client relationships if attention is turned away from the client. At the moment, however, these companies seem to be the most successful, because they have the longer-term client relationships and a high annual turnover, while their costs are kept relatively low by making general investments and minor adaptations in their client relationships. The success of certain companies seems to be luring other traditional ship management companies to diversify into ship ownership. Reports indicate that the biggest management-only company taking part in this survey has been expecting delivery of its
first eight containerships with options for six more by the end of 1999 (Anon 1997f). This shows the trend in ship management away from personalised provision of services towards further expansion, diversification and commercialisation with the ultimate aim of increasing wealth.

9.1.1.1.2 Market segments and extension of the service offer

The four relationship clusters found in this research, and the association with certain organisational characteristics, suggest that many ship management companies exist to serve the needs of different market segments. Success in serving the needs of segments of customers seems to lure companies into extension of their service offer in order to attract more clients having different product (service) needs.

It seems that expansion of the service offering pursued by many companies can only be justified if it can satisfy the needs of large market segments. Market segments should be large enough to sustain the viability of additional services. However, this does not mean that the production of the service should not be accompanied by a flexible approach to the needs of the client. Service extension must not deprive the core service of essential elements. Expansion of the service offering should not make the service offering impersonal and thus compromise the ability to create a relationship with clients. Diversification and servicing the needs of market niches should only be pursued if the expected returns are not only higher than the original investment, but also higher than the return that would have been achieved, had the same investments been made into resources for satisfying current clients. Otherwise, current clients may be turning into in-house management or switch to competitors as identified in chapter 2.
9.1.1.3 Quality versus flexibility

Reference to the concept of quality and its importance in ship management was made in chapter 2. Quality management is important in shipping for the improvement of safety and the reduction of accidents and environmental pollution. Ship management companies, however, have seized on the concept of quality as a means of marketing their service offer. Hence, marketing efforts were directed on the basis of quality rather than flexibility. The result was a lack of differentiability as all major companies have obtained accreditation.

This study provides evidence that suggests a lack of flexibility and major adaptations among many ship management companies. It has been recognised that ship management relationships should be based on a willingness on the part of the manager to respond, change and adapt to the needs of the client (Spuyt 1994). During the research some managers indicated that their reluctance to make major changes is attributed to the quality management system which indicates certain procedures that should be followed and allows little room for flexibility. A review of press advertisements of ship management companies indicates a change from publicising “personal service”, “flexibility”, “dedication” and “trustworthiness” in the late 1980s to “quality assurance”, “safety” and “training” in the 1990s. The results of the research capture a lack of flexibility, which may account to a great extent for the problems faced by ship management companies and reviewed in chapter 2. It seems that many companies have relied too much on the buzzword of “quality” and have neglected to a certain extent the primary needs of their clients. There is no indication that clients would prefer “quality assured management” on the basis of being accredited with quality management certificates, at the expense of a personalised, flexible and trustworthy service. In fact, a quality service with no accidents is the least that a client would expect from a professional. With only a small segment of ship management companies able to offer personalised services, it might not be surprising that switching to competitors or to in-house management have been the problems in ship management.
9.1.1.2 Marketing for smaller companies

This study has identified the existence of different ship management companies in terms of size and in terms of the amount of resources they command (chapter 7). Large companies are able to pursue further expansion and bid for acquisitions. However, smaller ship management companies will not be able, either to participate, or to compete with the larger organisations (see also section 2.4.3). The view was also lately expressed by one of the key informants in this study in a trade magazine (Anon 1997f, p. 55): "smaller operators might find themselves going to the wall". Their owners must apply a proactive stance in order to maintain their companies' existence. On the basis of this study the options for smaller companies are twofold:

- Develop a close social relationship with current and new clients that will prevent them from defecting to bigger organisations;
- Position and market the company as a small organisation, offering personalised services to only a few clients.

It is clear that the above options require the development of strong relationships with current and new clients. Therefore, relationship marketing is of significant importance to all types of ship management organisations, large and small. The study indicates that managers in the smaller companies found in cluster 2, do have close social relationships with key personnel from the client’s organisation. The first option indicated above is, thus, attained by many of the smaller companies. These companies will need to concentrate on the second option and publicise this particular strength of the company. The results of the study, which indicate the achievement of a greater level of personalisation by smaller companies, are supported by events published in the maritime press. For instance, one of the biggest ship management companies lost a significant part of its management fleet to a newly formed smaller company. Executives from a client organisation said that the smaller
company won the contract because it could "offer a more personal service because of its size" (Anon 1995r). The options open to smaller companies are hence, justified.

9.1.1.3 Achieving competitive advantage in ship management

Chapter 2 and the preliminary telephone interviews identified that one of the problems faced by ship management companies is competition of an opportunistic nature, directed towards attracting clients from competitors. The results of the research indicate that companies are not systematically implementing strategies for strengthening relationships with existing clients. For instance, when respondents were asked to describe aspects of the relationship with their major client during the telephone interviews, none of them made any specific reference to actions taken for strengthening the relationship. Stronger client relationships, however, can contribute to a unique competitive advantage for ship management companies. According to resource-advantage theory (Hunt 1995; 1997a; 1997b), competitive advantage can be attained through acquiring and creating organisational, informational and relational resources. Relational resources can be reaped through development and the maintenance of client relationships as advocated by this study.

On the basis of the study it is clear that two clusters ("rigid" and "reactive") with the majority of ship management companies, make few or no adaptations or specific investments in the relationship with the client. On this premise, it is evident that a relational resource advantage cannot be attained by these ship management companies.

It is quite clear from the results that ship management companies do not pursue actively the achievement of a relational competitive advantage. It seems that practitioners have not yet fully recognised the presence of intangible resources that may contribute towards achieving a competitive advantage. Although ship management–client relationships are
characterised by variables discussed in the relationship marketing literature, the pursuance of client relationships is not structured and coherent.

A relational competitive advantage is unattainable by many companies on the grounds of adaptability and flexibility. It has been suggested that adaptation to the needs of the client may have important consequences for the long-term competitiveness of the firms (Hallen, Johanson and Seyed-Mohamed 1991). For example, when a client forces a ship management company to introduce a new system this may enable the company to become competitive in other client relationships. For instance, a client envisaging a stable long-term relationship with a ship management company may request the introduction of a computerised information system that will enable direct communication via satellite linking the offices of the interacting organisations and the ship(s). A company willing to change its communication procedures and adapt to such needs would almost certainly make such an investment. However, such an investment may be used in other client relationships, thus contributing to their stability.

The development of mutual trust in the relationship can also be a source of competitive advantage (Barney 1991). Barney and Hansen (1994) discuss three types of trust present in economic exchanges, viz. weak, semi-strong and strong. In the case of ship management relationships, most of the respondents indicated the strong level of trust existing in their client relationships, or that “trust is fairly high”. However, others also indicated that “we would not trust this client”. Three levels of trust were, hence, identified in ship management relationships. Although a minority, those managers indicating the presence of weak trust must actively pursue the build-up of mutual trust with clients. This can be achieved by showing individual dedication towards the clients and responsiveness to their changing needs. Frequent communication of an informal nature is essential for developing a climate of trustworthiness.
A corporate culture of trust and flexibility and the development of a client knowledge base are intangible organisational assets that accumulate over time and are acquired through a process of learning and investing in these areas. Competitive duplication of these assets is only possible through similar time-consuming processes of irreversible investments or learning that the firm itself underwent (Barney 1989; Dierickx and Cool 1989). The greater the irreversible investments made by the firm, the more difficult the duplication of the product market position of the firm. Hence, ship management companies making specific investments and learning about their clients will be able to secure their distinctive value and achieve competitiveness. Acquiring data and building a client knowledge base will require frequent and systematic communication at all levels of the organisational structure. The data from the various sources should be processed and integrated in order to produce information of value to the decision makers. With communication in many ship management companies being infrequent and on an ad hoc basis, it is more difficult to retrieve the data required for building a client knowledge base and achieving competitive advantage.

Client relationships can contribute to ship management companies producing and delivering their service more effectively and/or efficiently. Competitive advantage theory (e.g. Porter 1985) indicates that competitive advantages determine superior/inferior financial performance. Competitive advantages of efficiency and effectiveness can be achieved by knowing and understanding the customers' needs and delivering the service to satisfy those exact needs. Stable long-term client relationships will ensure that the service is produced and delivered more effectively and efficiently. Such relationships are based on the investment of tangible and intangible resources, frequent communication of a formal and informal nature and flexibility. The lack of these attributes among certain segments of the ship management fraternity indicates that the pro-competitive nature of a relational
advantage is more difficult to attain. Companies that seem to be able to achieve this form of competitive advantage are found in the “investors” cluster.

9.1.2 Implications for the ship management industry

The results of the study suggest the direction in which ship management should move for the achievement of commercial viability. In particular, there should be less attention towards cost reduction and greater attention towards efficiency through specialisation and market segmentation; development of stable client relationships may assist towards the achievement of such objectives. Additionally, striving towards greater profits through increased market share has implications for other stakeholder relationships in ship management.

9.1.2.1 Cost reduction versus specialisation and efficiency

Up until now, the ship management industry has been continually expanding in terms of greater number of companies, introduction of new services, diversification of companies into other services (related and unrelated to shipping) and investments in ship purchase. Expansion has been assisted by the continuous supply of new clients (although different types of clients, i.e. oil majors, investors, banks, traditional shipowners). Ship management has been extremely successful on the basis of cost reduction and achievement of economies of scale. Cost reduction was the driving force for shipping companies in the late 1970s and 80s. Ship management thrived because they could reduce costs for shipowners by offering advice on flagging-out strategies and recruiting seafarers from less developed countries and re-location. Additionally, by providing similar services and systems for a large number of vessels, ship management firms were able to create markets large enough to obtain greatly reduced average costs (Sletmo 1986). These cost savings were passed on to the clients.
Nowadays, however, the increasing regulation in shipping puts more pressures on ship managers to maintain higher standards. Hence, flagging-out and crews from less developed countries become less effective options unless investments are made into training competent crews. The advancement of technology indicates that the future trend is towards the requirement for greater efficiency and productivity rather than the short-term measure of cost reduction (without wishing to suggest the abandonment of strategies to achieve the latter). Client involvement and specialisation may achieve greater efficiency.

The ship management review (chapter 2) indicates that clients themselves have become more choosy and more demanding. Client satisfaction rests on building expertise and specialisation rather than contributing towards cost reduction alone. Specialisation will enable ship management companies to acquire expertise on the management of certain vessel types and easier adaptation to the clients’ requirements. Specialisation can be achieved in a variety of ways. It was suggested earlier that smaller companies may concentrate on offering a limited number of services or services for certain ship types, hence satisfying the requirements of specific market segments. This will assist in the development of client relationships, by building on service personalisation and service competence. For larger companies, specialisation can be achieved through the development of specialised departments that will deal with important clients, i.e. clients placing a large number of vessels with the company. Only one of the largest ship management companies is currently adopting such an approach (Anon 1996i). In this company, the actual ship management work is done by so-called ‘management cells’ responsible for about 12 ships each and consisting of three superintendent engineers, two ship operators and one group assistant. The management cells receive support from the accounting, personnel and general administration departments.
It was interesting to note that there were no joint venture formed companies in the sample. With some exceptions, ship management companies seem to compete rather than co-operate at the moment. In line with many other industries where companies offer services, however, co-operation will become of increasing importance. The expansion into more services is already happening in ship management. A point will eventually be reached where a company will not be able to sustain by itself the whole spectrum of services that could go on offer. The joining of forces with other companies and the sharing of resources will be the inevitable answer. Sharing of resources may take different formats, from joint venturing and strategic alliance formation to acquisition and integration.

9.1.2.2 Commercialisation and changing organisational structures

Ship management is moving away from the provision of personalised services and individual dedication to greater "commercialisation" and expansion. This may have been brought about by the greater need of efficiency and rationalisation that has swept across the whole shipping industry. A parallel can be drawn with liner shipping companies. Liner companies are themselves operating in a service industry, where reliability, trustworthiness and good client relationships are essential features. These maritime organisations have diversified enormously to the extent of becoming involved in the provision of a complete range of services for the carriage of goods by sea and land. They are also becoming involved in the operation of port terminals, facilitated by the swing towards privatisation. It is possible that the bigger ship management companies will themselves seek expansion and rationalisation of the service by vertical and horizontal integration. Vertical integration may involve acquisitions of suppliers like manning agencies or ship chandlers. This is the way for achieving greater efficiency, rationalisation of their service offer, and greater profits and this is the direction that ship management may be currently moving. Additionally, liner companies have formed the so-called strategic alliances, in order to reap greater economies of scale, acquire greater power at the expense of shippers and yield
greater profits. Smaller liner companies are left to concentrate on feeder shipping. It seems quite logical to speculate that the large ship management companies may themselves seek greater co-operation, rather than damaging competition. Strategic alliance formation in ship management may take the form of more than two companies sharing resources that they command internationally. For instance, if one company has expertise in technical management and supply of spare parts and another in crewing, the potential for co-operation in the areas of comparative advantage for the achievement of greater efficiency is quite rational. The trend away from personal services to the achievement of greater profits through increased power and expansion suggests that strategic alliances among ship management companies may be the next major change in the ship management industry. The viability of co-operative arrangements in ship management will, to a large extent, depend on the ability of companies to forge stable long-term relationships. Hence, the importance of relational capability for ship management companies.

A very recent characteristic of the ship management industry is the bidding for corporate acquisitions among ship management companies. In late 1997 for example, there was a bid for acquisition of an Australian ship management company by a ship management company that participated in this study (Anon 1997g). The UK based ship management company was one of four bidders (three of which were UK based companies participating in the study). The company viewed the acquisition as a means of expanding into the South East Asia market. It was believed that the acquisition would provide the basis for resource expansion, as the Australian company managed 23 ships (Anon 1997g). The number of ships indicates that companies susceptible to acquisitions may be found in the “friendship” cluster. This supports the discussion in section 9.1.1.2, where it was acknowledged that smaller companies may not be able to compete with the much larger organisations. Acquisitions of other companies do have, however, important implications for client relationships. This includes the current clients of the acquirer company as well as the
clients of the acquired company. It is inevitable that acquisitions will result in major changes in the structure and top management of acquired firms (Shanley 1994) and that such changes will disrupt employees (Hirsch 1987). Such changes may affect the relationships with the clients of the acquired firms. Acquisitions will also have an effect on the acquirer, its management and employees and may probably disrupt current clients who will view large scale structural changes with anxiety. Hence, relationship marketing becomes extremely important as the strength of the bonds with clients will serve as a means for reducing client uncertainty. Additionally, relationship initiation with the current clients of the acquired firm is important, as they themselves will be faced with even greater uncertainty bearing in mind the restructuring of top management and the introduction of other parties into the management of their vessels.

9.1.3 Implications for clients

Important implications can be drawn on the basis of this study for shipowners contemplating entrusting their vessel(s) to a manager as well as current clients of ship management companies.

9.1.3.1 Choice of ship manager

Probably the most important issue is that the production and delivery of ship management services varies. Hence, shipowners have a choice and are able to assign management to the third-party that can best satisfy their needs. So, for instance, an owner that requires assignment of full management responsibilities and other incidental services (e.g. supervision of major conversions), may opt for those companies that have expanded their service offering. This will give the owner the opportunity to assign all functions to a single management company. The large ship management companies found in the “reactive” cluster, however, are not able to provide personalised services at a level that can be attained by other smaller companies. Such companies are particularly suited for taking on
full management responsibilities for clients engaged in the containership market. Clients should expect a medium to high frequency level of communication. This may be particularly suited to the management of containerships that are less technically demanding and mostly sail on fixed schedules (Anon 1995u).

Shipowners that have personal relations with a ship manager and decide to entrust their vessels to him should expect personalised treatment and individual commitment. This is especially true if the ship manager is a small UK based company and the client is also based in the UK. Such relationships are found in the “friendship” cluster. Companies in this category are independent, provide mainly third party services and are especially suited for providing crew management to clients engaged in tramp shipping. Clients could expect a very high frequency of communication at operational and senior management level.

It seems that German clients are better off entrusting vessels to German companies based in Cyprus. Evidence from this study suggests that cultural background may prove to be one of the decisive factors in ship management relationships. This is because German companies are entrusting vessels to German ship managers and UK companies to UK ship managers. Spruyt (1994, p. 223) states that “there is a better working relationship...between German owners and German managers”. It is not clear what the author means by “better working relationship”, however, and this study provides evidence to indicate the preferences of owners with respect to cultural identity and background; the evidence shows that German owners do prefer German managers, whereas UK owners prefer UK managers. Relationships among German entities have been found in the “reactive” cluster. Ship management companies in this cluster make general investments and incorporate minor adaptations into the relationship, which is, however, characterised by friendship and a high level of trust. An investment of a general nature that did benefit a particular client was made by one of the companies (with an office in London) that
participated in the research and can be found in the “reactive” cluster. The company acquired a new client in the Far East and, spurred on by an identified increase in demand for ship management services in the area, management decided to set up a subsidiary in Singapore (Osler 1998). In addition the company was also involved in opening an office in San Francisco, strongly influenced by the presence of PML – one of its client. The appointed head of this operation stated: "a main motivation for the San Francisco location was proximity to PML. However, we feel that there will be significant commercial opportunities and a good customer base which can be serviced from this location" (Osler 1998, p. 12). This shows commercial orientation, expansion and differentiation as well as investments for the benefit of the client with a view to attracting more clients that would benefit from the investment (a general type investment). The issue of culture as an important variable in ship management relationships is supported by the move of a London based Greek ship management company to Athens. The company’s director stressed the importance of common language, communication and “traditional Greek quality of good housekeeping of vessels” as the company’s strengths in its attempt to tap the Greek market (Lowry 1997).

Shipowners wishing to entrust many vessels under full management contracts may also opt for companies in the “investors” cluster. Ship management companies in this cluster value the customer and make investments in the relationship. Such investments may be extremely important where specialised vessels are involved. The management of such vessels requires flexibility and idiosyncratic investments (investments that are specific to the operation of the vessels). These companies are mainly subsidiaries, which indicates a greater degree of specialisation to particular requirements. Additionally, the complexity of operating specialised vessels requires an attitude of conflict minimisation so far as possible, something which is associated with this cluster of companies. These companies can also provide a similar level of service irrespective of where the client is based. The fact
that these companies manage vessels for clients engaged in shipping pools provides evidence to support that they are engaged in the operation of specialised vessels. This is because, specialised vessels are more likely to be pooled in order to secure a higher level of continuous employment. These companies exhibit the same relationship characteristics towards the client no matter where the client is based. A high frequency of communication at operational and senior management level should be expected.

Finally, for clients wishing to be assured of the competency of the ship manager in managing his own vessels before deciding to entrust their own ships to him, companies in the "rigid" cluster may be a viable proposition. These independent companies are engaged in owned ship operation, and therefore, their competency in ship management is undisputed. They are large companies (many employees) and manage vessels under full or crew management contracts, but with very little commercial management on its own. They manage vessels for European clients mainly engaged in tramp shipping. Clients must however, accept a compromise between added assurance in competent ship operation and, lack of adaptability, coupled with medium to low communication frequency.

9.1.3.2 Communication with ship manager

Communication has been identified as a very important factor in ship manager–client relationships. Based on the results of the study it can be inferred that most of the companies communicate frequently with the client and make investments into the introduction of new technologies to facilitate communication. In fact, only the "rigid" category of companies was found to have medium to low frequency of communication, probably because the companies are not prepared to make large investments in client relationships.
Spruyt (1994) states that geographical distance between the headquarters of the companies and cultural differences may account for an escalation of conflict. The evidence from this study suggests the opposite. It was found that ship management companies in the "investors" cluster serve the needs of Turkish, American and Japanese owners, and that there has been no conflict between them. Spruyt (1994) assumes that conflict arises because of communication problems due to a combination of geographical distance, time difference, differences in nationality, race and the fact that the manager serves many different owners. Although the frequency of communication may be related to conflict, the assumptions that geographical distance and time difference contribute to conflict escalation, do not seem to be supported by this study. It is also important to note that the general attitude towards conflict was that of resolution by whatever means possible and through close co-operation with the client. Bearing in mind that ship management is becoming a 24-hour business, and with the availability of advance communication systems, communication problems can be minimised. In fact, it was found that companies in the "investors" cluster communicate with their clients more frequently than companies in the other three clusters at all levels. The results of this study suggest that clients prefer managers of similar cultural background and that face to face contact may be influenced by geographical proximity. However, no relationship between limited communication, geographical time difference and conflict escalation can be supported.

It is also important to note that companies in the UK and mainly Cyprus, principally serve the needs of European clients. Hence, it seems that companies in these ship management centres can satisfy the needs of European clients better. It has been suggested that shipowners may be reluctant to move their ship operation too far out of their local time zone (Anon 1995m), and companies in Cyprus are ideally placed to satisfy this particular need. Despite this, there is no evidence to suggest that companies in Cyprus communicate
more frequently with their clients in Europe, than companies with clients in Japan and the USA.

Figure 9.1 is a spray diagram illustrating a projection of the fundamental results obtained from the study and the implications for the ship management sector and the clients or potential clients.

9.1.4 Other implications

The results of the research have important implications for other issues currently taking place in the ship management industry. Firstly, it must be pointed out that the approach to study ship manager–client relationships is supported by recent developments in the problems faced by ship management companies. Furthermore, the results have implications with regard to the ISM Code and other interactions and relationships in ship management. Finally, it is envisaged that this study represents another step towards the narrowing of the practitioner–academic gap in the area.

9.1.4.1 Current ship management problems

The problems facing the ship management industry were reviewed in chapter 2, and led to the establishment of the focus of this study. The major problems identified included the short time-cycle of ship management contracts, client defections and fierce competition, sometimes to attract clients from competitors. Relationship marketing was identified as an applicable approach to combat those problems. Two years after the commencement of this study, ship management companies were facing the same problems, identified and reviewed in chapter 2. A recent press feature (Anon 1997f) reports the views of chief executives in Cyprus-based ship management companies. According to the executives (the majority of which participated in this study), competition has been increasing and was expected to become more fierce with the introduction of the ISM Code.
### Ship Management Sector

- Client relationship segmented
- Services to market segments

#### Investors
- Large percentage of revenue from client – client dependent
- Pursue conflict minimisation
- High cost of investment into client relationship
- UK based company
- Suits clients wishing to hand-over many ships to single manager
- Recommendation: market/publicise willingness to invest and adaptability to client’s needs

#### Friendship
- UK based, small company
- Concentrate on clients with similar cultural background
- For shipowners ranking personalised services at the top of requirements from ship manager

#### Rigid
- Low investment costs
- No adaptation cost
- High turnover
- Ship ownership
- Use manning agents
- Tax advantageous location
- Commercial orientation
- For shipowners wishing to have confidence in ship manager who can operate his own ships effectively
- Future trend: purchase and operation of more ships
- Recommendation: market/publicise expertise in ship operation

#### Reactive
- Low adaptation costs
- Low investment costs
- Involved in a wider range of projects
- Commercial orientation
- Concentrate on clients with similar cultural background
- For shipowners wishing to obtain/have access to a wide range of services from single manager
- Future trend: expansion, joint ventures, acquisitions, alliance formation
- Recommendation: market/publicise availability of wide ranging services and core competence on specialist services

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**Table 9.1: Results and implications for ship management**
In addition, that the problem of client defections is still present. The results of the study indicate that client defections and short-term contracts may be attributed to the lack of applying a systematic approach for strengthening client relationships. As companies became bigger, their focus has shifted from the client to expansion and growth via the provision of additional services or diversification into ship ownership. Hence, the lack of flexibility and investments in particular clients found among certain segments of the ship management fraternity. This study, by highlighting the need for flexibility and investments as well as the importance of social bonds, can provide a basis upon which the problems faced by ship management companies can be successfully tackled and combated.

Competition has kept management fees at a low level, indicating that the price variable of the marketing mix is not sufficient for differentiation and competitiveness as identified in chapter 2 (section 2.5.2). Additionally, there have been instances of unfair competition (undercutting) and breaches of business ethics, although a gentlemanly level is maintained within parts of the sector. This part of the sector may refer to the German ship management fraternity, within which this study has identified the presence of such unwritten codes of ethics. It has also been recognised that ship management "is going to become a buyer's market as profit margins shrink" (Anon 1997f). This indicates that relationship marketing and the implications of this study are more relevant now than ever before in ship management.

9.1.4.2 ISM Code and implications

It has been suggested that the demand for ship management services will grow due to the introduction of the ISM Code (also discussed in section 2.4.4). This is certainly true to a point, because many shipowners appreciate that it is not economic to implement and maintain the requirements of the ISM Code. Hence, they will turn to managers that have the ability and expertise for implementing the requirements of the Code. Nevertheless, this
is only true for small shipowning companies. If companies own very few vessels, then maintaining an additional department or employing additional personnel for overseeing the requirements of the Code is not a viable option. For companies with a large number of vessels, however, the decision is much easier because economies of scale will be achieved by implementing the Code over a large fleet. In fact, this is one of the reasons that ship management companies are able to offer this service and obtain ISM Code certification at a relatively lower average cost. Hence, although business is set to increase, there will not be a major boom for the ship management industry. Benefits will be obtained but only in the short term as the increase in business will only be a short-term phenomenon, and problems of competition will again arise as new companies enter the market. Ship managers should not, therefore, view the ISM Code as a long-term solution to their problems. Long-term solutions must be sought by concentrating on clients’ needs.

9.1.4.3 Other relationships

The study is also useful in terms of relationships beyond those of ship manager and client. For instance, it is doubtful whether companies making no adaptations or investments in relationships with clients, will make such adaptations or investments in relationships with other partners such as suppliers or competitors with whom a co-operative arrangement (e.g. joint venture) has been formed. In fact, it has been reported lately that a joint venture between one of the companies participating in this study and another organisation in Greece has dissolved (Anon 1998). The company is a leading ship manager and has formed the joint venture less than four years ago with another ship management company. The reasons for the dissolution of the venture were not made public. However, formation of the venture involved considerable costs, and dissolution within this short a period was certainly not in the plans of the partners. The operation of the vessels in the venture will remain with the UK ship management company (in Greece), indicating that it is problems in the relationship rather than the profitability of the operation that led to its dissolution.
The results of the research are, thus, of practical use outside the ship manager – client relationship. Companies that wish to form joint ventures (such as the company mentioned above and found in the "reactive" cluster) need to address the issues discussed in the study with regard to the formation of long-term, stable relationships.

9.1.4.4 The practitioner–academic gap

This study also contributes towards narrowing the academic–practitioner gap. Throughout the period of conducting the research, close contacts were made and kept with practising ship managers. Various results and aspects of the study were presented at conferences, including an annual ship management conference, where more than 100 delegates were practising ship managers. Contact and collaboration was also established with the secretariat of the International Ship Managers’ Association (ISMA). Additionally, collaboration was established with the managing editor of Lloyd’s Ship Manager, where results of the study were reported in various issues (Anon 1996j; Anon 1997h; Panayides 1998) and reached directly a world-wide readership of active ship managers. Permission was also granted for reproduction of part of the study’s results in the new edition of Ship Management (Willingale 1998). The dissemination of the results to the ship management sector should help in the development of their marketing strategies and contribute to the closing of the academic–practitioner gap in the maritime industry generally and the ship management sector specifically.

9.2 Contribution to theory development

A significant contribution to the further development of theory depends, to a large extent, on the current knowledge in the subject area as well as the generalisation of the results to a wider context. All stages of this study have the potential to make significant contributions to theoretical advancement. This is reflected in the literature reviews as well as the wider implications of the research in the ship management sector discussed above.
9.2.1 Literature reviews

The literature review is an essential part of any research study as it provides a comprehensive synthesis of the current knowledge in the subject area. As illustrated in the ensuing sections, both the review of ship management and the relationship marketing literature, undertaken as part of this study, make significant contributions to the development of theory.

9.2.1.1 Ship management review

The ship management review (chapter 2) provided the basis for ascertaining the problems faced by ship management companies. The commercial rather than technical orientation of the review was imperative bearing in mind that ship management companies were studied from a commercial perspective. The review of ship management in this thesis represents a recent contribution to the state and practices of the ship management sector. The ship management sector is dynamic in nature and has been undergoing continuous changes. Recent changes with respect to re-structuring patterns (section 2.4.3), the state of competition (section 2.6.1) and current marketing practices (section 2.5) have been identified by the review. The only other comprehensive contribution available is that of Spruyt (1994). As the author himself states in the preface, however: "ship management is productive of debate about many trends in the shipping industry. There will be many different views and I have leaned towards expressing my own to stimulate thought and discussion rather than to define too rigidly" (Spruyt 1994, p. vi). Hence, the review of ship management in this thesis represents a substantial contribution bearing in mind the limited number of comprehensive sources of reference. In addition, and indeed as Spruyt (1994) intended, his views were sometimes different to those expressed in this thesis. These views were made available to the public in refereed publications (Gray and Panayides 1997; Panayides and Gray 1997a), in order to spur further debate and research.
The ship management review involved an exploration of issues confronting the ship management sector through a search of the past literature and interaction with practitioners. The problems identified are presented in chapter 2 (section 2.6) and were also published in conference proceedings (Panayides and Gray 1997b). The problems identified in section 2.6 provide grounds for further research in ship management. Despite the fact that relationship marketing may prove to be useful in combating the problems, it is also possible that other approaches (e.g. internal marketing or market segmentation) may be used as a basis for studies involving the identified problems. For instance, a study may concentrate on the identified problems and provide a classification of the type of companies experiencing particular problems.

The review also classifies the main marketing activities that are pursued by ship management companies (section 2.5). These have been identified as revolving around the four of the variables of the marketing mix, i.e. product, price, place and promotion (see also Panayides and Gray 1997a). Although reference to marketing is made by Spruyt (1994, pp. 215-220), this is limited to advertising and public relations, i.e. aspects of promotion, whereas other strategies pursued by companies are surprisingly ignored. The updated edition of Ship Management (Willingale 1998) reports the issues discussed in this study in the marketing section.

9.2.1.2 Relationship marketing literature review

The aim of the literature review of relationship marketing was to identify the central issues in the study of buyer-seller relationships from a marketing perspective. It must be noted that this thesis concerns research in ship management and not relationship marketing. Hence, the relationship marketing review served as a tool, and the objective was not to criticise past studies or identify issues that research has left unresolved. The objective was to provide a description of the relationship marketing studies and to identify central tenets
emanating from them. The review cannot be considered to be exhaustive but it is representative of the major conceptual and empirical studies in a variety of marketing contexts. This review makes a contribution by synthesising the different studies in a variety of contexts and also classifying them according to different levels, i.e. empirical, conceptual and descriptive. This classification presented in a summary table in section 3.4 (table 3.1), together with the large number of studies referred to, provides useful information for use in relationship marketing research.

The relationship marketing literature review also served as a basis for applying the concept to ship management. The review provides evidence to support the application of relationship marketing to professional services in general (section 3.2.4) and ship management in particular (section 3.2.5). Hence, future researchers wishing to apply relationship marketing in ship management should be able to justify this approach on the basis of this thesis in general and the evidence presented in chapter 3 in particular.

9.2.2 Modelling phenomena in maritime organisations

The initial step in theory development is the abstraction of complex phenomena in the form of models. Although there have been many shipping related models developed of an econometric or mathematical nature, few models have been developed in order to classify, predict or explain phenomena of a social nature in a maritime context. The study has shown that modelling phenomena in a maritime context can prove useful in furthering our understanding of complex social situations. The management of ships is a complex process because of the many inter-organisational interactions required between the many parties contributing to ship operation (i.e. suppliers, crewing agents, port agents, classification societies, insurance companies etc). The model developed in chapter 4, facilitated the simplification of the internal and external interactions of ship management organisations and enabled the concentration on the ship manager–client interaction. By simplifying and
focusing the situation it was possible to conceptualise the potential differences that might have existed in ship manager–client relationships, (i.e. specify the potential existence of relationship clusters). Modelling also helped in restricting the potential influences on the ship manager–client relationship, thus facilitating the investigation of differences among the clusters derived from the research on the basis of the organisational characteristics of the interacting entities. The empirical examination and identification of the influence of organisational characteristics on cluster membership would have not been possible if the underlying principles of modelling were not applied.

The future in shipping management should involve the application of valid theoretical principles and practitioner-academic interaction (Panayides 1996b), a view that was subsequently supported by Shashikumar (1997). Modelling can provide a greater understanding of complex phenomena by academics and practitioners.

9.2.3 Theory development

As indicated in chapter 5 (section 5.6), the use of a non-probability sample limits the potential of the study for making inferences from the sample to the whole ship management population (see also section 9.6.1). That is not true, however, for analytic generalisation. In analytic generalisation, the researcher generalises a set of results to a broader theory (Yin 1989). This means providing evidence to support (but not definitely prove) that theory. The theory put forward in this study is that categories of ship management companies may be identified on the basis of their relationship with their client. Furthermore, those categories may be associated with certain organisational characteristics of the ship management and client companies. The results of the study provide sufficient evidence to support the theory in the sample examined. Specifically, sections 8.1 and 8.2 in chapter 8, provide evidence to support the presence of categories of ship management companies on the basis of their client relationships. Section 8.5 also
provides evidence to support the influence of certain organisational characteristics on
client relationships.

Additionally, the study provides sufficient evidence to suggest that resource-dependence
theory is applicable to inter-organisational relationships in ship management organisations.
The theory of resource-dependence was reviewed in chapter 3 (see section 3.3.3), and
provided grounds for the development of the conceptual model in chapter 4. The results
indicate that ship management companies with alternative sources of revenue depend to a
lesser extent on the relationship with their major client. This can be seen by considering the
four ship management clusters. The companies in the “investors” cluster derive as much as
37% of their revenue from their major client. Hence, dependence on the client is higher
and the relationship is characterised by stronger economic and social bonds. On the other
hand, companies in the “rigid” cluster, have alternative sources of revenue (ship
ownership). Hence, dependence on the client is lower and this is characterised by the
shorter relationships as well as the rigidity of the companies.

Marketing’s heterogeneous demand theory holds that, because intra-industry demand is
significantly heterogeneous, different market offerings are required for different market
segments in the same industry (Alderson 1957; 1965). This seems to be the case in ship
management, where although the basic service is relatively homogeneous, the actual
production of the service varies, as do the additional service features. This study provides
evidence to support the heterogeneous demand theory in a ship management context. The
results obtained in chapters 7 and 8, indicate that different ship management companies
serve the needs of different types of clients. For instance, companies in the “rigid” cluster
do not undertake commercial or technical management for their major clients, unlike
companies in the “investors” cluster and, to a lesser extent, in the “reactive” and
“friendship” clusters. Companies in the “rigid” cluster also tend not to undertake
commercial management in general, whereas companies in the “investors” cluster do. Companies in the “reactive” cluster also tend to offer crewing management services on a larger scale than companies in any other cluster. Differences also exist in terms of other characteristics like, for instance, the company’s and client’s main business activities, the type and size of the companies and ship ownership. Client companies also tend to prefer certain types of ship management companies. For instance, only companies in the “investors” cluster manage vessels that take part in shipping pools. A more detailed account of the differences among the clusters can be found in chapter 8 (sections 8.3, 8.4 and 8.5). The support of the aforementioned theories derives from the empirical assessment of the conceptual model developed in chapter 4.

9.2.4 Validation of the conceptual model

The evidence obtained from the empirical examination supports the conceptual model developed in chapter 4. It can be claimed that on the basis of the results, the model is successful in adequately accommodating real-life phenomena. The criteria cited by Naert and Leeflang (1978) were utilised to assess the success of the model. The first criterion related to the degree the results were in line with those expected. This study was exploratory and investigative. Therefore, specification of expected results was beyond the bounds of the research. However, ample evidence exists to support the hypothetical propositions put forward in chapter 4. Additionally, the model involves classification of ship management companies. Therefore, it is useful for describing, clarifying and simplifying particular phenomena.

The model may also be used as a basis for determining optimal marketing policies for ship management companies by consideration of the profiles developed. For instance, companies with particular characteristics can determine whether their client relationships
are accurately reflected by what the results show, and utilise the suggestions in order to meet their marketing objectives.

On the evidence from this study the model can be used for making inferences regarding ship management–client relationships. Figure 9.2 illustrates the results derived from the study and represents a validation of the conceptual model. On the basis of the conceptual model it was hypothesised that ship management companies may be assembled into segments depending on their client relationships and that those segments would share particular company organisational and client company related characteristics.

The results of the study also provide evidence supporting the construct validity of the research instrument. In the preceding discussion in section 5.10.3 (chapter 5), it was stated that construct validity can be assessed by the extent to which, the research hypotheses are accepted, and the results support previously established theories. Confirmation of the research hypotheses and validation of the conceptual model supports the validity of the construct developed in this study. Furthermore, section 9.2.3 in this chapter indicates how the results obtained provide evidence to support previously established theories.
Figure 9.1: Conceptual model validation
9.2.5 Research generalisation

Due to the fact that a non-probability sample was utilised in this study, sample-to-
population inference of the theory put forward cannot be made on the basis of statistical
support. Sample-to-population inference is not always viewed, however, as the basis for
generalisation, especially in the social sciences. For instance, Campbell (1986) uses the
example of the water hydrolysis experiment to support his disapproval. The experiment
showed that water is made up of hydrogen and oxygen atoms, but it was done without
drawing samples of water or the copper wire that ran through it; yet it has stood the test of
time. Another argument is that whether statistics have been used or not, the results can
never offer conclusive evidence but only support for a theory (Kennedy 1979). Moreover,
Campbell (1986) concludes that most high-quality scientific studies have used illustrative
rather than random samples. Kennedy (1979) suggests that the criteria for generalisation
from non-probability samples includes the presence of a wide range of attributes, the
presence of common attributes and few unique attributes and the relevance of the
attributes. It can be claimed that this study has also utilised an illustrative sample of ship
management companies. This was achieved by selecting companies from two different
ship management centres, i.e. the UK and Cyprus. The two centres are fundamentally
different and reflect the current status quo regarding the location of ship management
companies. Companies are either located in traditional maritime centres (i.e. like the UK)
or have recently moved to cost-effective locations, one example of which is Cyprus (see
also chapter 2). Cyprus has lately been recognised as "the biggest third-party ship
management centre in the world" (Anon 1997f). Additionally, it can be established from
the analysis of preliminary results (chapter 7) that the ship management companies that
participated in this study are representative of the companies that currently exist in the ship
management sector, in terms of their organisational characteristics. The data collected
reflected a wide range of characteristics that were common across all ship management
companies (in terms of the range of characteristics and not the actual characteristics), and all the attributes or characteristics were relevant to the subject matter of the study.

Hence, this study is valid for making inferences to the Cyprus and UK ship management population and it is also valid for making inferences to other ship management companies that share similar attributes to the companies participating in this study (despite the fact that the attribute of location may be different). Hence, the results may be generalised to a much wider context, although that may not include every single ship management company. However, as Firestone (1993) suggests, even if a study applies only to a specific segment of a population, the results are a significant contribution especially for those that wish to use the results in the context of that specific segment.

The contribution to theory made in this study is, thus, generalisable and further replication is required in order to confirm or dis-confirm the support for the theory.

9.3 Methodological contribution for research in maritime organisations

It has been mentioned already that empirical research of a social nature in maritime organisations is quite limited. In fact, a search of the published literature indicates that this is probably the only study of ship management organisations in particular that implements this level of conceptual development and empiricism. Hence, based on this study, important insights can be drawn regarding operational methodologies for research in ship management organisations specifically and maritime organisations in general.

One of the issues identified is the lack of a perfect sampling frame for drawing probability samples. A degree of error may be acceptable in cases of unavailability of more precise sources. The degree of error in maritime directories reporting ship management organisations, however, was well beyond the level that could have been acceptable for a
study based on probability sampling. Selecting companies at random would have given imprecise results because companies appear more than once and under different names. Additionally, not all companies are represented in these directories. Hence, future studies aiming towards using maritime directories for drawing probability samples, should approach this task with great caution.

Chapter 5 also introduced the technique of key informants for the first time in published studies of maritime organisations. The technique proved to be extremely successful in retrieving relationship and organisational characteristics for both ship management and client organisations. Success was dependent on the level of knowledge of the chosen respondents on the research issues. Top managers in ship management organisations were found to be knowledgeable of the aspects of the relationship as well as of the characteristics of the organisations. The success of this technique may be attributed to a number of factors. For instance, top managers may have been particularly interested in their company's relationship with their major client. Another reason could be that the decision making unit (DMU) in ship management organisations is particularly small, so that top ranking managers have sufficient knowledge of the research issues. The latter assertion is supported by the fact that shipping organisations have traditionally relied on the entrepreneurship of individuals for their commercial viability. Changes may be taking place, however, as maritime organisations become larger and their span of activities expands.

With respect to the surveys conducted, it was found that telephone interviews are an effective approach for retrieving data. The data required for the first phase of the survey related to perceptions. Although such cognitive images may be difficult to elicit, ship managers were able to describe cognitive relationship aspects with little difficulty, although in some instances probing was required. The major difficulty encountered during
the process of obtaining responses in this phase, was actually contacting the respondents. Ship managers are extremely busy professionals, and making contact required, on average, up to five telephone calls per respondent. Hence, researchers encountering such problems should not be discouraged, because once contact was made the managers seemed to be quite keen on participation in the survey. A preliminary letter informing the respondents of the researcher's intention to call is essential.

As reported in chapter 5, the mail survey proved particularly successful with respect to response rate. Of particular significance was the fact that respondents participated in the earlier telephone interview and their commitment to completing the mail questionnaire was given verbally. Every aspect of how the response rate might have been affected was scrutinised in advance as indicated in chapter 5. What proved to be essential is at least a second follow-up letter with another questionnaire enclosed (and not just a reminder letter). This was ascertained from the fact that all late respondents have actually returned the questionnaire enclosed with the second letter rather than the first one (the second questionnaire was coded differently to identify this). The high response rate obtained should be encouraging for the potential of future research in the area.

9.4 Limitations of the research

It would be unreasonable to suggest that any empirical study does not suffer from certain limitations. Limitations arise because of the complexity of real-world phenomena (especially in the social sciences) and the fact that a study has to implement a certain level of abstraction. Additionally, the investigator may have limited resources at his disposal, and the success of the study must be assessed in the context of these issues. Hence, it is essential to acknowledge the limitations of the study in order to provide the basis for a more objective evaluation for potential readers and users.
9.4.1 Assumptions of the conceptual model

As indicated in chapter 4, it was essential to delimit the issues to represent in the conceptual model in order to facilitate empirical investigation. The major assumption is that the effect of external environmental influences on ship manager-client relationships are considered to be constant for all relationships. Hence, for instance, a relationship might be affected at a specific point in time by for example, a major change at the client's or ship manager's organisation, sale and purchase of ships, the vagaries of the freight markets, by political events or environmental disasters. The existence of such an event might have influenced the perceptions of ship managers with regard to a relationship. It would have been impossible, however, to gauge the existence of external influences for every relationship because of their diverse nature. Additionally, it was possible that the ship managers during the telephone interviews could have mentioned major external influences. No such influences on the relationship were mentioned. Hence, it is assumed that no such influences existed.

9.4.2 Non-probability sampling

One criticism of this study is that a probability sample was not drawn. Therefore, inferences from the sample to the whole ship management population cannot be strengthened by knowledge about the probability that certain kinds of cases will fall into the sample. Probability sampling, however, requires large populations, large samples and a perfect sampling frame. It has been mentioned already, that perfect sampling frames for ship management organisations are unavailable. Additionally, the precise number of ship management organisations is not known. On the basis of available data (directories), however, the number of companies offering third-party ship management services (including those operating their own ships) should not exceed 400 companies. All directories report a number in the range of 400-600, although these estimates include in-house organisations and manning agencies. The sample of 98 companies (all companies in
the UK and Cyprus) was drawn on the basis of convenience. The sample, however, represents a large proportion of the companies world-wide, and includes most of the largest and most reputable ship management companies. Furthermore, bearing in mind that the objective of the study was exploration and discovery, rather than statistical justification of how all ship management companies behave with respect to the research issues, the sample drawn does not mitigate the value of this undertaking. Rather, a significant contribution is made from the original ideas (an example of which is illustrated in figure 9.1) that in future research can be exposed to justification-oriented research strategies. The future availability of better sampling frames may enable the extrapolation of these research strategies from sample to population. Furthermore, as explained in section 9.3.3, although statistical generalisation may not be possible, this study provides the basis for analytic generalisation.

9.4.3 One side of the dyad

The study assesses ship manager-client relationships from the ship manager's point of view only. Important inferences can be drawn, however, from studying the client's perceptions of the relationship. The reasons for choosing the ship manager's side of the dyad rather than a dyadic approach include time and cost constraints, but most importantly the difficulty of identifying those shipowners that entrust their vessels to third-party professionals. No directories exist that provide such information and, quite reasonably, ship managers themselves would not disclose such information under any circumstances. Identification of clients can be made through a laborious process of literature searches of trade newspapers and magazines (e.g. Lloyd's List). Even in this case, however, it will not be possible to draw a sample representative of some population, whereas that sample will almost certainly be extremely small. This study, by providing a typology of the interacting organisations using data from the ship manager's point of view, provides the basis for a future client-centred or dyadic assessment of the relationship. Any future study of this
nature should almost certainly adopt a case study methodology, bearing in mind the difficulty of identifying client organisations.

9.4.4 Cross-sectional nature of the study

This study is cross-sectional and not longitudinal, i.e. it assesses ship management relationships at a point in time and not over a period of time. A study of the latter type may give a more comprehensive picture of the cycle of ship management relationships. For instance, a longitudinal approach may provide elements of relationship initiation, stages of development and possibly resolution of ship management relationships. Bearing in mind the research objectives, however, the cross-sectional approach that is implemented does not provide grounds for concern. A longitudinal approach will also require a different survey methodology approach. For instance, qualitative methods like case studies and participant observation will be more appropriate. Bearing in mind time and cost constraints, implementation of such approaches in this study was not feasible.

9.4.5 Statistical limitations

This study may also be criticised on the basis of inferences from the application of analytical techniques (i.e. multiple discriminant analysis), despite the fact that certain coefficients did not in fact show statistical significance. The approach applied to this study, however, is quite different from the strict statistical view. First, research in a social context may not allow the comforts of obtaining large data sets from large populations so as not to violate the statistical assumptions of certain techniques. This was the case in this study. Hence, the options are, either to carry out research acknowledging the constraints and statistical limitations while making significant contributions within the limits of what is possible or, alternatively, not to do the research at all. Of course, the former was chosen in this case.
Scientific method is scientific when every effort is taken to avoid producing falsehoods. Hence, efforts were concentrated on minimising error that could have been present. Hence, improving the chances of producing a true theory. On this premise, it is suggested that this study provides evidence to support the theory put forward, and as in all empirical studies, replication is required in order to support or refute the theory.

9.5 Recommendations for further research

Although some questions may be answered on the basis of the study, the study has also raised a significant number of other questions that require further research.

Firstly, it would be highly beneficial if a similar study can be undertaken but in a different context. For instance, a study could concentrate on the relationship between dimensions of ship management relationships and organisational characteristics of companies located in other ship management centres. Such a study will provide important insights through comparison of the results. It will also provide a basis for further support and validation or otherwise, of the theory put forward on the basis of the results obtained in this research.

One of the research limitations discussed earlier included the fact that the relationship was studied from the ship manager’s side of the dyad only. Ample justification for this choice is provided in chapter 5, section 5.3. It must be noted, however, that studies with a different focus and objectives may be designed in order to research the client’s side of the relationship or the whole dyadic interaction.

Such studies, however, must consider overcoming the problem of identification of the ship managers’ clients. The unavailability of such information means that this is a major constraint. Hence, the most feasible approach could be to obtain the co-operation of certain ship management companies initially and by adopting a case study methodology to
investigate client relationships over a limited number of cases. It is also possible to identify a limited number of client companies by scrutinising the maritime press over a period of time. Bearing in mind that the number of companies will be few and the impossibility of undertaking any statistical study, a case methodology would almost certainly have to be adopted again. Of course, obtaining the co-operation of the client companies would also be of major concern.

Bearing in mind that the dimensions of the ship manager–client relationship were not known prior to this study, it was essential to adopt a methodology for identifying these dimensions before building instruments for their further examination. The study has identified that ship management relationships involve variables discussed in the relationship marketing literature. Thus, it may be beneficial to examine these variables in a ship management context further. For instance, this study has identified that the variable of trust is present in varying degrees in the ship manager–client relationship. On this basis, further research may concentrate on this variable alone and by borrowing measures developed in past relationship marketing studies to examine the variable of trust in more depth. This will provide insights on trust, or indeed any other identified relationship variable, in a ship management context. Such studies may consider, for instance, the antecedents and outcomes of trust in business-to-business interactions, and by utilising a causal model and multi-item scales to investigate the extent of a specific conceptualisation in a ship management context. This will strengthen the basis for relationship construct identification and measurement in a ship management context.

One of the limitations identified is the fact that the relationship with the major client only was researched. Future studies, however, may concentrate on a portfolio of clients of ship management organisations. This may provide evidence of different relationships within ship management organisations rather than between them. A study of this type may
examine the issue of profitability, i.e. which one of the different relationships (if relationships are indeed different) within a ship management organisation is more profitable for the company. Once again, however, identification of specific clients will most probably be required and a case study methodology may be more appropriate.

9.6 Conclusion

It can be claimed that the general research aim set in chapter 1, and the objectives developed subsequently in order to meet this aim have been achieved. The general research aim involved the exploration of the ship management industry, with specific focus on certain problems encountered in the industry. Furthermore, by applying appropriate theoretical approaches to suggest ways of tackling the problems and make inferences for the further development of the industry.

It is hoped that on the basis of this study ship management companies will endeavour to look at their current clients in line with other strategic decisions they are making. Although many companies seem to be keeping current clients reasonably satisfied with their service offering, there is a need for considering a structured approach to the management of key client relationships. Furthermore, the existence of relationship segments in the industry indicates that prospective clients have a choice and on the basis of the study can select a ship manager that is closer to fulfilling their individual needs.

This study represents an initial attempt to research the ship management industry at scientific level. The importance of the ship management industry in the international shipping scene is undisputed and it is essential to endeavour in researching other aspects in the industry. It is hoped that this study will provide a basis for the further development of research and practical application for the commercial viability of professional ship management.
APPENDICES
APPENDIX A

BIMCO SHIPMAN
STANDARD SHIP MANAGEMENT AGREEMENT
<table>
<thead>
<tr>
<th>1. Date of Agreement</th>
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<tr>
<th>2. Owners (name, place of registered office and law of registry)</th>
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<tr>
<td>Name</td>
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<td>Place of registered office</td>
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<td>Law of registry</td>
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<th>3. Managers (name, place of registered office and law of registry)</th>
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<tr>
<td>Name</td>
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<td>Place of registered office</td>
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<td>Law of registry</td>
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<tr>
<th>4. Day and year of commencement of Agreement (Cl. 2.1)</th>
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<tr>
<th>5. Crewing (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(i) and Cl. 3)</th>
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<tr>
<th>6. Technical Management (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(iii) and Cl. 4)</th>
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<tr>
<th>7. Insurance (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(iii) and Cl. 5)</th>
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<tr>
<th>8. Freight Management (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(iv) and Cl. 6)</th>
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<tr>
<th>9. Accounting (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(v) and Cl. 7)</th>
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<tr>
<th>10. Chartering (state &quot;yes&quot; or &quot;no&quot; as agreed; if &quot;yes&quot;, also state period of employment) (Cl. 2.3.(vi) and Cl. 8)</th>
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<td>period of employment in excess of which owners' prior consent shall first be obtained</td>
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<tr>
<th>11. Sale or purchase of vessel (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(vii) and Cl. 9)</th>
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<th>12. Provisions (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(viii) and Cl. 10)</th>
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<tr>
<th>13. Bunkering (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(ix) and Cl. 11)</th>
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<tr>
<th>14. Operation (state &quot;yes&quot; or &quot;no&quot; as agreed) (Cl. 2.3.(x) and Cl. 12)</th>
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<th>15. Annual management fee (state lump sum amount) (Cl. 15.1.)</th>
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<th>16. Redundancy costs (state maximum amount) (Cl. 15.3.(b))</th>
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<th>17. Day and year of termination of Agreement (Cl. 23.1.)</th>
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<tr>
<th>18. Law and arbitration (state 24.1., 24.2. or 24.3. of Cl. 24, as agreed; if 24.3. agreed also state place of arbitration) (if Box 18 not filled in 24.1. shall apply) (Cl. 24)</th>
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<tr>
<th>19. Notices (state postal and cable address, telex and telefax number for service of notice and communication to the Owners) (Cl. 25)</th>
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<tr>
<th>20. Notices (state postal and cable address, telex and telefax number for service of notice and communication to the Managers) (Cl. 25)</th>
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It is mutually agreed between the party mentioned in Box 2 (hereinafter called "the Owners") and the party mentioned in Box 3 (hereinafter called "the Managers") that this Agreement consisting of PART I and PART II as well as ANNEX "A" or ANNEX "B" (as applicable) and ANNEX "C" attached hereto, shall be performed subject to the conditions contained herein. In the event of a conflict of conditions, the provisions of PART I shall prevail over those of PART II and ANNEX "A" or ANNEX "B" (as applicable) and ANNEX "C" to the extent of such conflict but no further.

Signature(s) (Owners)  
Signature(s) (Managers)
PART II
"SHIPMAN" Standard Ship Management Agreement

Definitions

In this Agreement save where the context otherwise requires, the following words and expressions shall have the meanings herein assigned to them:

* "The Owners" shall mean the persons or corporations who own or have the right to manage the Vessel for the time being.
* "The Vessel" shall mean the vessel details of which are set out in Annex "A" hereto.
* "The Fleet" shall mean the vessels details of which are set out in Annex "B" hereto.

"Crew Support Costs" shall mean all expenses of a general nature which are not particularly referable to any Individual vessel for the time being managed by the Managers and which are incurred by the Managers for the purposes of providing crew services. Crew Support Costs shall include, but are not limited to:

(i) payroll arrangement;
(ii) Crew Support Costs during the said 12 months;
(iii) and any Interest thereon shall be held to the credit of the Owners in a separate bank account.

The Owners shall agree according to Box 7) as to when and until terminated as provided herein. the Owners hereby appoint the Manager or Managers as their agents for and on behalf of the Owners the Managers shall provide technical management which includes, but is not limited to:

-({(i) establishment of an accounting system which meets the requirements of the Owners and provides regular accounting services, supply regular reports and records in accordance therewith; and
(ii) the performance of all general management duties as required by the Owners.

1. Marginal Headings

The Marginal Headings of this Agreement are for identification only and shall not be deemed to be part hereof or to be taken into consideration in the interpretation or construction of this Agreement.

2. Appointment of Managers

2.1. With effect from the day and year stated in Box 4 and continuing unless and until terminated as provided herein, the Owners hereby appoint the Manager or Managers hereby agree to act as the Managers of the Vessel.

2.2. The Managers undertake to use their best endeavours to provide the Management Services specified in sub-clause 2.3. on behalf of the Owners in accordance with the prevailing circumstances the Managers in their absolute discretion may from time to time be entrusted to their management and in particular, but without prejudice to the generality of the foregoing, the Managers shall be entitled to:

(i) arrange and supervise drydocking, repairs, alterations and improvements of the Vessel as required by the Owners, provision of which includes but is not limited to:
(iv) any arrangement or supervision of drydocking, repairs, alterations and improvements of the Vessel as required by the Owners, provision of which includes but is not limited to:
(v) the performance of all general management duties as required by the Owners.

2.3. Subject to the terms and conditions herein provided, during the period of this Agreement, the Managers shall carry out, as agents for and on behalf of the Owners, such of the following functions in respect of the Vessel as shall have been indicated affirmatively in Boxes 5 to 14 in PART I:

(i) Crewing (see Clause 4);
(ii) Technical Management (see Clause 4);
(iii) Insurance (see Clause 5);
(iv) Freight Management (see Clause 6);
(v) Accounting (see Clause 7);
(vi) Chartering (see Clause 8);
(vii) Sale or Purchase of Vessel (see Clause 9);
(viii) Provisions (see Clause 10);
(ix) Bunkering (see Clause 11);
(x) Operation (see Clause 12);
(xi) (xii) Enforcement of appropriate standing orders.

and shall have authority to take such actions as the Managers may from time to time in their absolute discretion consider to be necessary to enable them to carry out their duties under this Agreement in accordance with sound ship management practice.

2.3.(f) to (t) are options to be agreed, and Boxes 5 to 14 in PART I should be filled in with either "yes" or "no" accordingly.

3. Crewing (only applicable if 2.3. (i) agreed according to Box 6)

The Managers shall provide adequate and properly qualified Crew for the Vessel. The Managers shall provide the Owners, provision of which includes but is not limited to:

(i) employment of Master, officers and crew (hereinafter collectively referred to as "the Crew") of the Vessel;
(ii) arrangement of transportation of the Crew, including repatriation;
(iii) training of the Crew;
(iv) supervision of the efficiency of the Crew and administration of all officers and crew of the Vessel;
(v) payroll arrangement;
(vi) arrangement and administration of pensions and Crew Insurance;
(vii) discipline and union negotiations;
(viii) enforcement of appropriate standing orders.

4. Technical Management (only applicable if 2.3. (ii) agreed according to Box 6)

The Managers shall provide technical management which includes, but is not limited to, the following functions:

(i) preparation of the Vessel to supersede the maintenance and general efficiency of the Vessel;
(ii) arrangement and supervision of drydockings, repairs, alterations and improvements of the Vessel to the standards required by the Owners provided that the Managers shall be entitled to incur the necessary expenditure to ensure that the Vessel will comply with all requirements and by the classification society, and with the laws and regulations of the country of registry of the Vessel and of the country where the Vessel is registered.
(iii) arrangement of the supply of necessary stores, spares and lubricating oil;
(iv) appointment of surveyors and technical consultants as the Managers may consider from time to time to be necessary.

5. Insurance (only applicable if 2.3. (iii) agreed according to Box 7)

The Managers shall arrange such insurances as the Owners shall have instructed or agreed, in particular as regards insurance values, deductibles and franchises.

6. Freight Management (only applicable if 2.3. (iv) agreed according to Box 8).

The Managers shall provide for transportation which includes but is not limited to the following functions:

(i) provision of voyage estimates and accounts and calculation of hire and freight and/or other expenses of whatsoever kind to which Owners may be entitled arising out of the employment of or otherwise in connection with the Vessel.

7. Accounting (only applicable if 2.3. (v) agreed according to Box 9).

The Managers shall:

(i) establish an accounting system which meets the requirements of the Owners and provides regular accounting services, supply regular reports and records in accordance therewith;
(ii) maintain the records of all costs and expenditures incurred hereunder as detailed or necessary for the settlement of accounts between the parties.

8. Chartering (only applicable if 2.3. (vi) agreed according to Box 10).

The Managers shall, in accordance with the Owners' instructions, provide chartering services which includes but is not limited to:

(i) the establishment of an charterer's representatives or other contracts relating to the Vessel, including the performance of any charter or purchase agreement, but not negotiation of the same.

9. Sale or Purchase of Vessel (only applicable if 2.3. (vii) agreed according to Box 11).

The Managers shall, in accordance with the Owners' instructions, supervise the sale or purchase of the Vessel, including the performance of any sale or purchase agreement, but not negotiation of the same.

10. Provisions (only applicable if 2.3. (viii) agreed according to Box 12).

The Managers shall arrange for the supply of provisions.

11. Bunkering (only applicable if 2.3. (ix) agreed according to Box 13).

The Managers shall arrange for the supply of bunker fuel of the quality specified by the Owners as required for the Vessel's trade.

12. Operation (only applicable if 2.3. (x) agreed according to Box 14).

The Managers shall provide for the operation of the Vessel, as required by the Owners, which includes but is not limited to:

(i) the provision of voyage estimates and accounts and calculation of hire, freight, demurrage and/or despatch moneys due from or to the Charterers of the Vessel;
(ii) arrangement or performance of any voyage instructions;
(iii) appointment of agents;
(iv) arrangement of stevedores;
(v) arrangement of the surveying of cargoes.

13. Insurance Policies

All insurances shall be in the Joint names of the Owners and the Managers provided that, unless the Managers give their express prior consent, no liability to pay premiums or P & I Calls shall be imposed on the Managers, notwithstanding the restrictions on P & I Cover which would thereby result.


14.1. All moneys collected by the Managers under the terms of this Agreement other than those set out in Clauses 10, 11, 12 and 13, and any Interest thereon shall be held to the credit of the Owners in a separate bank account.

14.2. All expenses incurred by the Managers under the terms of this Agreement on behalf of the Owners (including expenses as provided in Clause 15) may be debited against the Owners in the account referred to in Clause 14.1, but shall in any event remain payable by the Owners to the Managers on demand.

15. Management Fee

15.1. The Owners shall pay to the Managers for their services as Managers under this Agreement an annual basic Management Fee in the lump sum amount as stated in Box 15 which shall be payable by equal quarterly instalments.

15.2. The Managers shall, at no extra cost to the Owners, provide their own office accommodation, office staff and stationery. Without limiting the generality of Clause 14 the Managers shall agree that the Managers shall continue to be payable for a further period of three calendar months. In addition, provided that the Managers continue to provide Crew for the Vessel in accordance with Clause 4, the Managers shall also be entitled to receive a further Management Fee as stated in Box 16.

15.3. In the event of the appointment of the Managers being terminated, or the Managers in accordance with the provisions of Clause 2.3. other than by reason of the default by the Owners of the Vessel, the Managers shall be entitled to be paid for a further period of three calendar months.

15.4. Whilst this Agreement remains in subsistence, if the Owners decide to lay-up the Vessel and such lay-up tests for more than three months, an
TEXT BOUND INTO

THE SPINE
PART II

"SHIPMAN" Standard Ship Management Agreement

Section 1. Management of Funds

1.2. The Managers shall present to the Owners annually a budget for the operation of the Vessel for the next year, which shall be submitted to the Owners at least 90 days prior to the commencement of the new year.

1.3. The Managers shall prepare a monthly financial report for the Vessel, which shall be submitted to the Owners within 10 days of the end of each month.

2. Auditing

2.1. The Owners shall have the right at any time after giving reasonable notice to the Managers to inspect the Vessel for any reason they consider necessary.

3. Duration of the Agreement

3.1. This Agreement shall terminate forthwith in the event of an order being made for the sale of the Vessel.

4. Law and Arbitration

4.1. This Agreement shall be governed by English law and any dispute arising out of this Agreement shall be referred to arbitration in London, one arbitrator being appointed by each party, in accordance with the Arbitration Acts 1950 and 1979 or any statutory modification or re-enactment thereof for the time being in force.

5. Notices

5.1. Any communication may be sent by telex, registered or recorded mail or by personal service.

25. Notices

25.1. Any communication may be sent by telex, registered or recorded mail or by personal service.

25.2. The address of the Parties for service of such communication shall be as stated in Boxes 19 and 20, respectively.
of Agreement:

Particulars of Vessels:
Ward Ship Management Agreement – Code name: “SHIPMAN”

of Agreement:

...g.ers’ Budget for the first year with effect from the Commencement Date of this Agreement:
<table>
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<th>1. Date of Agreement</th>
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<tr>
<td>2. Owners (state name, place of registered office)</td>
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<td>3. Crew Managers (state name, place of registered office)</td>
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<td>4. Day and year of commencement of Agreement (Cl. 2.1 and 9)</td>
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<tr>
<td>5. Day and year of termination of Agreement (Cl. 5.8(a) and 9)</td>
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<td>6. Flag of the Vessel (Cl. 3.3, 4.1 and 4.5(d))</td>
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<tr>
<td>7. Crew Management Fee (state monthly Lump Sum amount) (Cl. 5.1)</td>
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<td>8. Vessel's regular trading area (state port or area) (Cl. 5.2(d))</td>
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<td>9. Crew Overtime Expenses (state amount covered by the Lump Sum) (Cl. 5.4)</td>
</tr>
<tr>
<td>10. Crew Transportation Costs (state if for Crew Managers' Account) (Cl. 5.5)</td>
</tr>
<tr>
<td>11. Termination (state number of months Lump Sum payable) (Cl. 10.5)</td>
</tr>
<tr>
<td>12. Severance Costs (state maximum number of months Crew's wages) (Cl. 10.5)</td>
</tr>
<tr>
<td>13. Law and Arbitration (state 11.1, 11.2 or 11.3 of Cl. 11, as agreed; if 11.3 agreed also state place of arbitration) (Cl. 11)</td>
</tr>
<tr>
<td>14. Notices (state postal and cable address, telex and telefax number for service of notice and communication to the Owners) (Cl. 12)</td>
</tr>
<tr>
<td>15. Notices (state postal and cable address, telex and telefax number for service of notice and communication to the Crew Managers) (Cl. 12)</td>
</tr>
</tbody>
</table>

It is mutually agreed between the party mentioned in Box 2 (hereinafter called "the Owners") and the party mentioned in Box 3 (hereinafter called "the Crew Managers") that this Agreement consisting of PART I and PART II as well as ANNEX "A" and ANNEX "B" attached hereto, shall be performed subject to the conditions contained herein. In the event of a conflict of conditions, the provisions of PART I shall prevail over those of PART II and ANNEX "A" and ANNEX "B" to the extent of such conflict but no further.

Signature(s) (Owners) | Signature(s) (Crew Managers)
PART II
"CREWMAN" Standard Crew Management Agreement

Definitions
In this Agreement save where the context otherwise requires, the following words and expressions shall have the meanings hereby assigned to them:

"The Vessel" shall mean the vessel details of which are set out in Annex "A" hereto.
"The Crew" shall mean the Master, officers and seamen of the numbers, rank and nationality specified in Annex "B" hereto.
"Connected Persons" means any person connected with the Crew or with the performance of the Crew Management Services.
"Crew Management Services" shall mean the matters set out in Clause 3.
"Severance Costs" shall mean the costs which the Crew Managers are legally obliged to incur as a result of the early termination of a fixed term employment contract for service on the Vessel.

1. Marginal Headings

The Marginal Headings of this Agreement are for identification only and shall not be deemed to be part hereof or be taken into consideration in the interpretation or construction of this Agreement.

2. Appointment of Crew Managers

2.1 With effect from the date stated in Box 4 and continuing unless and until terminated as provided herein, the Owners hereby appoint the Crew Managers and the Crew Managers hereby agree to act as the crew managers of the Vessel.

2.2 During the period of this Agreement and subject to the terms herein provided the Crew Managers will be the employers of the Crew and in concluding contracts of employment with the Crew they shall have no authority to act on behalf of the Owners.

3. Crew Managers' Obligations

3.1 select and supply the Crew for the Vessel each of whom shall be suitably qualified;

3.2 ensure that all members of the Crew have passed a medical examination with a qualified doctor certifying that they are fit for the duties for which they are engaged and are in possession of valid medical certificates dated not more than three months prior to the respective Crew members leaving their country of domicile for embarkation, and maintained for the duration of their service on board the Vessel;

3.3 ensure that the applicable requirements of the law of the flag stated in Box 6 are satisfied in respect of the following:-
(a) the rank, qualification and certification of the Crew;
(b) manning levels where a full crew is provided by the Crew Managers;
(c) employment regulations;
(d) Crew's tax and social insurance requirements;
3.4 ensure that the Crew shall have a command of the English language of a sufficient standard to enable them to perform their duties safely;

3.5 instruct the Crew to observe all reasonable orders of the Owners, including, but not limited to orders in connection with safety and navigation, avoidance of pollution and protection of the environment;

3.6 ensure that the Crew's individual contracts of employment specify clearly that the Crew Managers are their employers;

3.7 ensure that no Connected Person shall proceed to sea on board the Vessel unless or until they have been selected and supplied by the Owners in accordance with sub-clause 3.1;

3.8 (a) insure the Crew and any Connected Persons proceeding to sea on board for crew risks which shall include but not be limited to death, sickness, repatriation, injury, shipwreck, unemployment indemnity and loss of personal effects, with a first class Insurance company, underwriter or protection and Indemnity association ('the Crew Insurers')
(b) provide evidence that they have complied with their obligations under sub-clause 3.8 (b) and (c) within 30 days following the commencement of this Agreement and after each renewal date or payment date of the Insurance.
(c) ensure that the Crew Insurers name the Owners as co-assured (unless advised by the Owners to the contrary);
(d) provide evidence that they have complied with their obligations under sub-clause 3.8 (b) and (c) within 30 days following the commencement of this Agreement and after each renewal date or payment date of the Crew Insurances, to the reasonable satisfaction of the Owners;

3.9 unless otherwise mutually agreed, operate their company drug and alcohol policy, the costs of which shall be borne by the Crew Managers.

4. Owners' Obligations

During the period of this Agreement, and subject to the terms and conditions herein provided, the Owners shall:

4.1 ensure that the applicable requirements of the law of the flag in Box 6 are satisfied in respect of the following:-
(a) safety and health;
(b) manning levels, where the Owners supply part of the Crew;
4.2 ensure that the Vessel does not contravene the restrictions referred to in sub-clause 5.9;

4.3 inform the Crew Managers prior to ordering the Vessel to any area excluded by war risks underwriters by virtue of the current London war risks layers, the Owners shall pay whatever additional costs may properly be incurred by the Crew Managers as a consequence of such orders including, if necessary, the costs of replacing the Crew. Any delay resulting from such an exclusion shall be charged to the Owners as a cost of reduction and reinstatement, as provided by sub-clause 5.9.1.83
(b) each time the result of the Vessel being ordered to a war zone shall be for the Owners' account;
4.4 provide the Crew Managers prior to any change of flag of the Vessel and pay whatever additional costs may properly be incurred by the Crew Managers as a consequence of such change;

4.5 provide at no cost to the Crew Managers:
(a) proper storage facilities for food for the Crew's consumption;
(b) fresh water;
(c) fuel and/or electrical power to run the equipment and facilities in the Vessel;
(d) in accordance with the requirements of the law of the flag in Box 6, or as mutually agreed, adequate accommodation, including on board entertainment and recreational facilities;

(e) sufficient line, ladders, towels, soap and washing powder together with laundry facilities;

4.6 reimburse the Crew Managers for any food consumed on board other than the food supplied under clause 3.4 (a);

4.7 (a) Insure the Crew and any Connected Persons proceeding to sea on board for crew risks, which shall Include but not be limited to death, sickness, repatriation, injury, shipwreck unemployment Indemnity and loss of personal effects, with a first class Insurance company, underwriter or protection and Indemnity association ('the Crew Insurers');
(b) ensure that all premiums and calls on the Owners' Insurances are paid promptly for payment;
(c) ensure that the Owners' Insurers on the Vessel shall name the Crew Managers as co-assured;

(d) provide evidence, to the reasonable satisfaction of the Crew Managers, of their compliance with their obligations under sub-clause 3.8 (b) and (c) within 30 days following the commencement of this Agreement and after each renewal date or payment date of the Insurances.

5. Crew Management Fee

5.1 The Owners shall pay to the Crew Managers for their services as crew managers under this Agreement a monthly lump sum amount as stated in Box 7 ("the Lump Sum") which shall be payable in advance, free of any owners' bank charges. The Owners shall pay each month's Lump Sum so that it is received in the Crew Managers' nominated bank account not later than the 1st banking day of the calendar month in respect of which the Lump Sum is payable. On the commencement of this Agreement (see sub-clause 2.1 (a) and Box 4), the Owners shall pay to the Crew Managers an amount in proportion to the rata to the Lump Sum to cover the period from the commencement of the Agreement to the 1st day of the next calendar month.

5.2 The Lump Sum shall include:
(a) all payments which are due or to be on behalf of the Crew in accordance with their contracts of employment, subject to any limitation on the part of the Owners;
(b) all costs incurred in providing insurance cover including any premiums;
(c) the cost of obtaining all documentation necessary for the Crew's employment and travel in accordance with sub-clause 3.8 (a);

(d) the costs of reduction and reinstatement of the Crew to and from the Vessel including hotel expenses and food while travelling, other than the transportation costs which are to be borne by the Owners in accordance with sub-clause 5.5.

All travelling expenses are based on the Vessel trading regularly to the point or area shown in Box 6. Should the Crew Managers have to pay any additional travelling expenses by reason of the Vessel not calling regularly at the above port or area, any excess travelling costs/expenses shall be charged to the Owners separately.

(e) all costs of Crew cleaning and maintenance of the Crew Vessel;
(f) the cost of crew mail and Crew communications from the Vessel;

(g) the cost of food for the Crew.

The Crew Managers and the Owners shall, respectively at the request of the other, in accordance with and in addition to the terms of this Agreement, take over and pay for any additional travelling expenses by reason of the Vessel not calling regularly at the above port or area, any excess travelling costs/expenses shall be charged to the Owners separately.

(h) the cost of protective clothing;

(i) all other costs and expenses necessarily incurred by the Crew Managers in providing the Crew Management Services.

5.3 In the event of lay up or extensive repair of the Vessel, the parties shall mutually agree the extent of down-manning required, together with the revision of the Lump Sum and re-arrangements. Consequent costs of reduction and reinstatement of the Crew shall be charged to the Owners' account. In the event that the parties cannot agree, the Agreement shall be terminated in accordance with Clause 9.

5.4 the amount of Crew overtime covered by the Lump Sum shall be as stated in Box 9. If overtime exceeds that amount the Owners shall pay for the excess at the rates set out in Annex B.

5.5 In the event of lay up, the Owners shall bear 392 of domicile at the cost of the commencement of the Agreement.


7. Crew Managers' Right to Sub-Contract

5.8 (a) The Lump Sum shall be renegotiated annually. Not less than four (4) themselves at the next reasonable opportunity of any member of the Crew

5.6 Any invoices submitted by the Crew Managers for expenditure properly

8.1 Force Majeure Neither the Owners nor the Crew Managers shall be under

5.9 The Crew Managers and the Owners will, prior to the commencement of this Agreement, agree on any trading restrictions to the Vessel which may result from the terms and conditions of the Crew's employment.

6. Replacement

The Owners shall have the right to replace the wear and tear of any of the facilities or equipment of the Vessel not to their satisfaction within three (3) months from the date of receipt of notice from the Owners, failing which the Owners may give the Owners

10.4 The termination of this Agreement shall be without prejudice to all rights

10.5 In the event of this Agreement being terminated by either party in

11. Law and Arbitration

* 11.1 This Agreement shall be governed by and construed in accordance with

11.4 If Box 13 in Part I is not filled in, sub-clause 11.1 of this Clause shall

12. Notices

12.1 Any communication may be sent by telex or facsimile, or delivered by

PART II

“CREWMAN” Standard Crew Management Agreement

5.6 Any invoices submitted by the Crew Managers for expenditure properly

5.8 (b) If the Owners: -

10.1 Owners' Default

10.2 Crew Managers' Default If the Crew Managers fail to meet their obligations under Clause 3 of this Agreement for any reason within the

10.3 Extraordinary Termination Either party shall have the option to terminate the Agreement with immediate effect by notice in writing in the event that the Owners shall fail to remediate any of the Crew Managers' obligations for whatsoever reason within the

10.5 In the event of this Agreement being terminated by either party in

1.2 Any dispute arising out of this Agreement shall be referred to arbitration at the place indicated in Box 13, subject to the procedures applicable

11.1 This Agreement shall be governed by and construed in accordance with Title 9 of the United States Code and the Maritime Law of the United States and should any dispute arise out of this Agreement, the matter in dispute shall be referred to three persons at New York, one to be

11.2 This Agreement shall be governed by and construed in accordance with Title 9 of the United States Code and the Maritime Law of the United States and should any dispute arise out of this Agreement, the matter in dispute shall be referred to three persons at New York, one to be

* 11.1 This Agreement shall be governed by and construed in accordance with English law and any dispute arising out of this Agreement shall be referred to arbitration in London in accordance with the Arbitration Acts 1950 and 1979 or any statutory modification or re-enactment thereof for

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11.4 If Box 13 in Part I is not filled in, sub-clause 11.1 of this Clause shall apply. 370

11.5 The address of the Parties for service of such communication shall be as

12.2 The address of the Parties for service of such communication shall be as

12.3 Where a dispute has arisen under this Agreement, either party may "tag" it for consideration of the arbitrators.

6. Replacement

The Owners shall have the right to replace the wear and tear of any of the facilities or equipment of the Vessel not to their satisfaction within three (3) months from the date of receipt of notice from the Owners, failing which the Owners may give the Owners

5.9 The Crew Managers and the Owners will, prior to the commencement of this Agreement, agree on any trading restrictions to the Vessel which may result from the terms and conditions of the Crew's employment.

6. Replacement

The Owners shall have the right to require the replacement without cost to themselves at the next reasonable opportunity of any member of the Crew

7. Crew Managers' Right to Sub-Contract

The Crew Managers shall not have the right to sub-contract any of their obligations hereunder without the consent of the Owners, which shall not be unreasonably withheld. In the event of such a sub-contract, the Crew Managers shall be held unconditionally liable for the full performance of their obligations under this Agreement.

8. Responsibilities

8.1 Force Majeure Neither the Owners nor the Crew Managers shall be under any liability for any act, neglect or default on the part of any of their agents or sub-contractors employed by them in the course of the performance of this Agreement.

8.2 Crew Managers' Liability to Owners Without prejudice to sub-clause 8.1, the Crew Managers shall be under no liability whatsoever to the Owners for any loss, damage, delay or expense of whatsoever nature, whether direct, indirect, consequential or other incidental loss or damage, including but not limited to loss or damage

8.3 Indemnity Except to the extent and solely for the amount therein set out in the Schedule to this Agreement, the Owners shall not be liable for any act, neglect or default on the part of any of their agents or sub-contractors employed by them in the course of the performance of this Agreement.

8.4 "Himalaya" It is hereby expressly agreed that no employee or agent of the Owners employed by the Owners shall, in the performance of his duties, be under any liability whatsoever to the Owners for any loss, damage or delay of whatsoever nature, whether direct, indirect, consequential or incidental to any act, neglect or default on the part of any of their agents or sub-contractors employed by them in the course of the performance of this Agreement.

9. Duration of the Agreement

This Agreement shall continue until terminated by either party giving to the other notice in writing, in which case the term shall expire at the end of a period of three (3) months from the date upon which such notice was given.

10. Termination

10.1 Owners' Default (a) The Crew Managers shall be entitled to terminate the Agreement with immediate effect if the Owners fail to remedy any of the Crew Managers' obligations for whatsoever reason within the

10.2 Crew Managers' Default If the Crew Managers fail to meet their obligations under Clause 3 of this Agreement for any reason within the

10.3 Extraordinary Termination Either party shall have the option to terminate the Agreement with immediate effect by notice in writing in the event that the Owners shall fail to remediate any of the Crew Managers' obligations for whatsoever reason within the

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ANNEX “A” TO
THE BALTIC AND INTERNATIONAL MARITIME COUNCIL (BIMCO)
STANDARD CREW MANAGEMENT AGREEMENT – CODE NAME: “CREWMAN”

Date of Agreement:

Name of Vessel:

Particulars of Vessel:
Date of Agreement:

Name of Vessel:

Details of Crew:

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Rank</th>
<th>Nationality</th>
<th>Overtime Rates</th>
</tr>
</thead>
</table>
APPENDIX C

LETTER PREPARED BY ISMA SECRETARIAT
5 March, 1997

Dear Mr. A. van Hooven,

Midocean Maritime Ltd.
Midocean House,
Summerhill Business Park,
Victoria Road, Douglas,
ISLE OF MAN IM2 4RL

Dear Mr. van Hooven,

Academic Research

The Secretary has been requested to assist Mr. Photis M. Panayides, a post graduate student at the Institute of Marine Studies at Plymouth University, in his research. The research will form the basis of a doctoral thesis and we are assured that any data provided will be held in the strictest confidence.

The form of the research will be a fifteen minute telephone interview which will be followed up by a questionnaire which it is understood will take no longer than 20 minutes to complete.

The study will investigate the marketing of professional ship management services and it is hoped will provide the basis upon which ship managers may enhance client relationships and ensure client retention. The secretariat's agreement to promote this study is on the understanding that the fruits of the research will be made available to ISMA members.

Mr. Panayides appreciates that addressees are busy. However, it is hoped that you may be able to assist as the participation of ISMA members is critical.

Yours sincerely,

R.E.F. Morriss
Secretary
APPENDIX D

ADVANCE LETTER TO KEY INFORMANTS (RESPONDENTS)
Dear Mr. Smith,

Within a week, I will be calling you from the University of Plymouth as part of a research study. This is a study of business relationships in ship management, and we are seeking to understand how you feel about your company's relationship with your major client.

We are writing in advance of the telephone call because many people appreciate being advised that a research study is in process, and they will be called.

Your name and number were selected from maritime directories. When I call your company, I will ask to talk with you directly. Your personal participation is important for the success of this study.

The interview should only take about fifteen minutes and all your responses will be confidential. If by chance I happen to call at an inconvenient time, please tell me and I will be happy to call back later. Your help is essential to the study's success and I greatly appreciate it.

If you have any questions, please don't hesitate to ask when I call. Or you can contact me by phone at 01752-262351 or by mail.

Yours sincerely

Photis M. Panayides
Researcher
APPENDIX E

LEAFLET DISTRIBUTED TO SHIP MANAGERS AT THE 7TH INTERNATIONAL SHIP MANAGEMENT CONFERENCE
A RELATIONSHIP APPROACH TO THE MARKETING OF PROFESSIONAL SHIP MANAGEMENT SERVICES

Relationship marketing in a professional ship management context involves the satisfaction of the clients’ needs by concentrating on the service encounter with the view of initiating, developing and maintaining long-term business relationships with individual clients. Research at the University of Plymouth aims to examine in depth the aspect of relationship marketing in professional ship management. The following general objectives have been set.

1. To establish the feasibility and viability of marketing the professional ship management service by applying relationship marketing;
2. To identify how ship management companies may utilise relationship marketing to enhance client retention;
3. To identify how ship management companies with different organisational characteristics may utilise relationship marketing most effectively;
4. To identify the extent and intensity of relationship marketing variables already present, and how a strategic approach towards their enhancement may be feasible;
5. To recommend strategies for effective marketing of the professional ship management service that will lead to client retention, differentiation and competitiveness.

FOR FURTHER INFORMATION PLEASE CONTACT:
Photis M. Panayides
Institute of Marine Studies
University of Plymouth
Drake Circus
Plymouth PL4 8AA
United Kingdom
Tel.: 01752-262351
Fax: 01752-232406
E-mail: ppanayides@plymouth.ac.uk
APPENDIX F

POSSIBLE ANSWERS TO REASONS FOR REFUSALS IN PRELIMINARY TELEPHONE CONTACT
Reason: *I am too busy*

Answer: I am sorry to have caught you at a bad time, the questions will only take about 15 minutes, but I would be happy to call you back. When would be a good time for me to call in the next day or two?

Reason: *I don't think I know enough to answer*

Answer: The questions are not difficult and do not require knowledge on specific aspects. They concern your beliefs and how you feel, rather than knowledge. Other people had the same concerns but once we got started they didn’t have any difficulty at all.

Reason: *I am not interested*

Answer: It is very important to get your opinions, otherwise the results will not be useful. I would really like to talk to you.

Reason: *I don't want to give away confidential information*

Answer: All the interviews are strictly confidential and there is no way that you or your company can be identified in the final results. Bearing in mind the importance of confidentiality in professional ship management, protecting your identity has been our major concern since the commencement of the study. I can assure you of the strictest of confidence throughout.
Who is sponsoring (paying for) this research?
This question might be asked if respondents think that the study is sponsored by a competitor organisation or by any other organisation that they would not like to have information revealed to. The researcher will assure that the study is privately funded and that no organisation contributes financially towards its completion.

What is the purpose of this research?
The purpose of this research is to provide an understanding of the ship manager-client relationships that may help ship managers in deciding upon marketing strategies that will assist towards the retention of clients. The research also forms part of a doctoral (Ph.D.) programme.

Who is responsible for this research?
The research is carried out by myself as part of my Ph.D. programme. This programme of study is directed by my supervisor Dr. Richard Gray.

How did you get my name (telephone number)?
Your name and telephone number were retrieved from maritime directories after a long process of careful selection.

Why don't you interview somebody else in this organisation? or Why me?
It is important for the success of the study to interview persons at the top of the management hierarchy in ship management companies. It is therefore very important that we achieve your personal co-operation. You are one of a small group of people, and you have been selected because of your position in the company.
How can I be sure that this is authentic?

I can give you my telephone number and you can call me back at the University of Plymouth. Or, alternatively you can call my director of studies.

Is this confidential?

We understand that secrecy and confidentiality is part of the ship management business. The research is designed to assure the strictest of confidence, and at no point will you personally or your organisation be identified.

Can I get a copy of the results?

I will be very happy to sent to you a copy of the results once this study is completed. I am sure you will find it very useful, especially in designing marketing strategies for client retention. Of course confidentiality will be maintained throughout, and no company or individual will be identified in the results.
In the 15 minute interview, the managing director stressed the importance of marketing in ship management and said that a systematic way of trying to retain clients is, in his words, "a very good way of thinking". He also stated that many companies (especially the big players), compete fiercely and try to attract clients from smaller companies. This, he said, is reflected in the very aggressive advertising campaigns being run by these companies, and that such campaigns are "not a great way of doing things". He stipulated that his company is affected by such campaigns, and that he and his personnel try hard to deliver customer satisfaction. It was obvious from the discussion that the clients of this company were shipowners with a small number of ships. The managing director said that his clients had 1-3 ships, and that they had turned to ship management because of the more economical nature of carrying out the ship management functions. With regard to the relationship with the major client, the managing director said that the relationship is satisfactory mainly because of his personnel trying to deliver satisfaction to the client, as a way of convincing the client to stay. This indicates that the personnel of this company exhibit a form of commitment to the client. As Morgan and Hunt (1994) state: "a committed partner wants the relationship to endure indefinitely and is willing to work at maintaining it" (p. 23). When asked in what ways would his personnel try to deliver satisfaction, the managing director said that satisfaction is down to two things. First, he said is the identification of the needs of the client and "establish right at the beginning of how to run the story". Secondly, it is the expertise and ability of personnel of how to do things properly. He also stressed that a company must be responsive to the needs of the client. This clearly indicates that this company is willing to make adaptations in order to accommodate the needs of their major client. However, the level of such adaptations in this company is associated with a cost, presumably the cost of making investments. As the managing director said "satisfaction comes with a cost and there must be a balance between the cost and the desired level of satisfaction". When probed about any conflicts experienced in the relationship, the managing director said that disagreements with the client occur frequently. For instance, if something happens to the vessel, or when a job is not done well, the company will receive criticism. The company will then try to establish the source of the problem and try to resolve it in a way that it will not happen again. This, he said, is the key for keeping the client if problems arise. Clearly the managing director's remarks indicate that he and his personnel believe in the functionality of conflict.

When probed about trust in the relationship, the managing director said that trust is a very important part and that "a shipowner needs to have a manager that must be part of his own (the shipowner's) thinking". He stated that the fundamental part of the relationship is that no conflict of interest is present and that the manager should be "tuned very closely to the needs of the client, so that the client can trust and co-operate". The fact that the respondent mentioned that the relationship is free of conflicts of interest, means that potential for opportunistic behaviour in the company is limited. Gundlach, Achrol and Mentzer (1995) indicate that less committed parties to a relationship are prone to opportunistic behaviour. This suggests that this company is committed to the client.

The managing director has been extremely co-operative and agreed to complete the questionnaire that would be sent to him.
The statements appearing in the next pages may refer to one of the attributes whose definition is given below:

**TRUST**
Confidence and faith that the word (verbal or written) of another party can be relied on, a willingness to rely on an exchange partner in whom one has confidence.

**COMMITMENT**
Dedication towards another party to ensure continuation of a valued relationship.

**CONFLICT**
Differences in the perception of issues, disagreements between the relationship participants on how things should be done, giving rise to problems in the relationship.

**CO-OPERATION**
Where parties to a relationship work together to achieve mutual goals.

**FUNCTIONAL CONFLICT**
Where conflicts or disagreements are viewed as “just another part of doing business” and are resolved amicably.

**PERSONAL RELATIONSHIP**
A relationship where the social bonds of friendship and liking for the other person exist between the individuals.

**CONTRACTUAL RELATIONSHIP**
A contractual relationship is characterised by the lack of social bonds and the prevalence of contractual norms and formal roles according to the contractual agreement.

**INVESTMENTS**
The various monetary and material investments that are put into a particular relationship.

**ADAPTATIONS**
Flexibility in business processes, policies and personnel in order to accommodate specific needs of the other party.

Please indicate which of the statements is best described by one of the attributes, by ticking the appropriate box on the accompanying sheets. For example, according to my interpretation statement 1 is described by the “Conflict/disagreement” attribute, hence, I have ticked the appropriate box. If you think that the statement is not described by any attribute, leave the box blank. Note that a statement may indicate the presence, presence at a low level, or absence of an attribute.
STATEMENTS

1. Disagreements with the client occur frequently
2. We are tuned very closely to the needs of the client
3. We considered opening an office close to the locality of the client
4. The client is part of our operations
5. We want the client to have input with ideas and plans that knit with our operations
6. Trust is fairly high, although not 100%
7. We installed an e-mail system dedicated for communication with this client
8. We have had several minor disagreements with the client
9. The company is willing to consider the views of the client and change procedures
10. The companies communicate on setting strategic objectives
11. We are dedicated to this client and wish to have him as a client
12. By and large there are no major conflicts between our companies
13. We have adapted our accounting reporting system to the needs of the client
14. We offer a standard package to owners and do not make specific investments
15. We are 100% dedicated to the client
16. We cannot always trust this shipowner, as shipowners play games themselves
17. Our company is cautious in this relationship
18. The company tries to highlight potential areas of disagreement and put forward proposals for tackling a problem
19. Unless we feel very strongly about something, we go along with the client’s wishes
20. We make investments as a matter of being in business, but not specifically for this or any other client
21. The company tries hard to foster a personal relationship with the client
22. We rely upon each other in a partnership manner
23. We face problems together and solve them together
24. We are very flexible in this relationship
25. No investments have been made for the particular client
26. We make investments in the relationship only if they are funded by the client
27. It is not always possible to treat clients on an individual basis
28. We are moulding around the client
29. We trust the client on a personal basis, but on a strict business basis we are wary
30. Our books are open for the client to see
31. There is 100% trust between us
32. We know them on a professional and personal basis
33. We have faith in the client
34. The company has set up offices where the ships of the client operate
35. In the past we have formed a joint venture with the client
36. This is a personal relationship
37. We are more than ship managers, we offer advice to the client beyond contractual obligations
38. At the end the client decides strategically but we are influential
39. We try to customise our systems and procedures as far as we can
40. We have to co-operate with the client, because we are the agents of the client
41. The company has to make on-going adaptations to satisfy the needs of the client
42. Trust is not a word that I would use to describe the relationship, we expect the client to fulfil his obligations as we fulfil ours.
43. One has to differentiate between trust and blind trust, it is controlled trust that exists in this relationship.
44. The company tries to work towards achieving the client’s objectives
45. We have made considerable economic investments specific to this relationship
46. The way we do business with one client cannot be compared with another
47. Clients are looked after individually
48. We have co-operated to the extent of joint vessel ownership
49. We have a partnership with the client
50. We are strongly dedicated to the client
51. Disagreements arise almost daily, but are openly discussed and mutually resolved
52. The company makes investments of a general nature that benefit the client, but no investments specific to the relationship have been made
53. We expect the client to fulfil his obligations, but that is not necessarily trust
54. We would like to continue the relationship with the client
55. Investments specific to the relationship are extremely rare
56. It is the contract that governs this relationship
57. Small disagreements always exist, but those are resolved with proper negotiation
58. Adaptations to the needs of the client have not been substantial
59. Selling ship management services does not necessitate investments specific to the relationship
60. The relationship is based on personalities
61. Implicitly, trust is very high
62. We have made specific investments at the beginning of the relationship with the client, but no major investments from there on
63. We did not have to make adaptations in our business processes, specific to the needs of the client
64. It was not considered necessary to make adaptations to our tailor made offering
65. Our business processes are in accordance to recognised quality standards, therefore major adaptations are not made
66. We are involved with the client
67. It is a partnership rather than a contractual relationship
68. We believe that the client is trustworthy
69. We participate in the management and resolution of problems
70. We have participated with the clients in a financial sense and we are willing to do it again
71. If the client does not offer an acceptable fee, the company will look elsewhere for business
72. You have to be co-operative otherwise you get a bad reputation
73. There have been no conflicts or minor disagreements whatsoever with this client
74. Small investments of a general nature have been made, but no large investments
75. The company faces major problems with the client
76. The company would trust the client to a fair degree
77. The company is loyal to the client
78. The company is willing to co-operate and help the client in whatever ways it can
79. There is little deviation from the predetermined processes laid down in our quality standards regarding business procedures
80. The strict procedural systems are maintained
81. We have made major investments specific to the relationship
82. We are cautious of the client
83. The relationship has a personal/friendship nature
84. We cannot trust the client 100%, you must always be alert to what is happening
85. Commitment should be always high, but sometimes that is not possible
86. There have been minor adaptations in the relationship with the client
87. The company has not as yet made any major investments in the relationship with the client
88. There has been close co-operation among our companies, to the extent of investing in business together
89. We have made minor modifications to accommodate the needs of the client
90. We have invested quite a lot in the relationship
91. In occasional cases we show flexibility
92. It is difficult to trust the client, sometimes they are looking to trip you
93. Conflicts arise as a matter of being in business and are mutually resolved
94. There is open co-operation between the companies
95. There have been no adaptations in this relationship
96. We did not have to make any investments to the relationship
97. The company has confidence in the client
98. We work together closely
99. We are not contractually, but morally committed to the client
100. Differences of opinion have never got to a bad stage
101. Trust towards the client is low
102. We are totally committed
103. We have a contractual commitment towards the client
104. We are not necessarily committed to the client
105. Problems are not always resolved amicably
106. The disagreements arising are a healthy thing
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<th>Trust</th>
<th>Commitment</th>
<th>Conflict</th>
<th>Cooperation</th>
<th>Functional conflict</th>
<th>Personal friendship</th>
<th>Contractual relationship</th>
<th>Investments</th>
<th>Adaptations</th>
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<td>Type</td>
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<td>Main business activity</td>
<td>Ship management only, Mainly ship management/also operating owned vessels, Mainly operating owned vessels/also ship management</td>
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<td>Number of years in the ship management business</td>
<td>To be specified by respondent</td>
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<tr>
<td>Total number of ships managed</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of ships under full management</td>
<td>To be specified by respondent</td>
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<td>Number of ships under crewing only management</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of ships under commercial management</td>
<td>To be specified by respondent</td>
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<td>Number of ships under technical management</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of employees ashore</td>
<td>To be specified by respondent</td>
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<td>Number of employees at sea</td>
<td>To be specified by respondent</td>
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<td>Number of seafarers employed through manning agencies</td>
<td>To be specified by respondent</td>
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<td>Number of ships owned</td>
<td>To be specified by respondent</td>
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Table J1: Ship management company organisational characteristics
### Client company: organisational characteristics

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<tr>
<th>Variable</th>
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<tbody>
<tr>
<td>Type</td>
<td>Traditional shippowner, Charterer, Bank/Financial institution, Oil major, Investor, Other</td>
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<tr>
<td>Location</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of years with client</td>
<td>To be specified by respondent</td>
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<tr>
<td>Main business activity</td>
<td>Tramp shipping, Container liner shipping, Cruise shipping, Ferry/passenger shipping, Pool participants, Other</td>
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<tr>
<td>Number of ships managed for client</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of ships under full management</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of ships under commercial management</td>
<td>To be specified by respondent</td>
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<td>Number of ships under crewing management</td>
<td>To be specified by respondent</td>
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<tr>
<td>Number of ships under technical management</td>
<td>To be specified by respondent</td>
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<tr>
<td>Percentage of revenue attributed to major client</td>
<td>To be specified by respondent</td>
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</tbody>
</table>

### Relationship characteristics

<table>
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<tr>
<th>Variable</th>
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</table>
| Trust          | 1. There is 100% trust towards the client  
2. Our company would trust the client to a fair degree  
3. Trust is not a word that I would use to describe this relationship |
| Commitment     | 1. We are strongly dedicated to the client  
2. Sometimes it is not possible to be dedicated individually towards the client  
3. We are not necessarily committed towards the client |
| Co-operation   | 1. There has been close co-operation among our companies to the extent of joint financial investments in business/ships  
2. Our company is willing to co-operate and help the client in whatever ways it can, even beyond contractual obligations |
| Conflict       | 1. There have been no conflicts or disagreements with the client whatsoever  
2. We have had several minor disagreements with the client |
| Investments    | 1. We have made major economic investments to satisfy the specific needs of the client  
2. We make investments in resources as a matter of being in business, but not for specific clients  
3. We have made investments at the beginning of the relationship with the client, but no investments from there on |
| Functional conflict | 1. Conflicts arise as a matter of being in business and are mutually resolved  
2. Conflicts are not always resolved amicably |
| Adaptations    | 1. We have made major changes in our business processes in order to accommodate the needs of the client  
2. We have made minor modifications to accommodate the needs of the client  
3. There has been no deviation from our service offering |
| Relationship type | 1. The relationship is characterised by personal friendship  
2. We offer advice to the client beyond contractual obligations  
3. The relationship is mainly governed by contractual obligations |

Table J2: Client company related organisational characteristics

Table J3: Relationship variables and dimensions
APPENDIX K

QUESTIONNAIRE
In completing the questionnaire, please ensure that you have answered ALL questions, as the research becomes invalid if a question is inadvertently left out.

If you have any questions contact:
Photis M. Panayides
Centre for International Shipping & Transport
Institute of Marine Studies
University of Plymouth
Drake Circus, Plymouth PL4 8AA
UK
Tel.: 0044-1752-232408/262351
Fax: 0044-1752-232406
E-mail: ppanayides@plymouth.ac.uk
This section deals with characteristics of ship management companies. Please indicate which characteristics apply to your company.

Q1. Is your company:

- An independent company
- A joint venture organisation
- A subsidiary company of a larger organisation
- Other
  If “other” please specify: .................................................................

Q2. What is your company’s main business activity?

- Mainly third-party ship management but also operating owned ships
- Mainly operating owned ships but also providing ship management services
- Providing ship management services only
- Other
  If “other” please specify: .................................................................

Q3. How many years has your company been in the ship management business?

No. of years: ..............

Q4. How many ships in total are under management in your company?

No. of ships: ..............

Q5. How many of these ships in your responsibility are under:

<table>
<thead>
<tr>
<th>Full management</th>
<th>Technical only management</th>
<th>Commercial only management</th>
<th>Crewing only management</th>
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<tbody>
<tr>
<td>No. of ships: ...</td>
<td>No. of ships: ...</td>
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<td>No. of ships: ...</td>
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* Commercial management may include the provision of services such as chartering.

Q.6 How many full-time employees are there in your company?

Number of employees ashore ........................
Number of employees at sea ................. of which .......... are supplied by outside manning agencies.
Q7. Does your company own ships as well as managing for third-parties?

Yes   ☐

No   ☐ GO TO QUESTION 9

Q8. How many ships does your company own?

No. of ships: ..............

Q9. What is your company’s approximate annual turnover? (from ship management activity and if applicable owned ship operation)

US$: ............... or GBR£: ...............
Q6. Please indicate the type and number of ships managed for the major client under full, commercial, technical or crewing only management.

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<thead>
<tr>
<th>Type of ship (e.g. chemical tankers)</th>
<th>No. of ships under full management</th>
<th>No. of ships under commercial management</th>
<th>No. of ships under technical management</th>
<th>No. of ships under crewing only</th>
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Q7. Approximately, what percentage of your revenue is generated by the client?

% of revenue: ...............  

CLIENT RELATIONSHIP QUESTIONS
The following attributes have been provided by you and your colleagues as describing the ship manager-major client (shipowner) relationship. Please indicate which of the following statements best describes the relationship between YOUR COMPANY and that of YOUR MAJOR CLIENT.

TICK ONE BOX FOR EACH QUESTION

Q1. Which ONE of the following four statements BEST describes the relationship between your company and that of your major client’s company?

- “Our company would trust the client to a fair degree”  
- “We cannot always trust this client, sometimes they are looking to trip you up”  
- “There is 100% trust towards the client”  
- “Trust is not a word that I would use to describe this relationship”  

Q2. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client’s company?

- “We are strongly dedicated to the client”  
- “Sometimes it is not possible to be dedicated individually towards the client”  
- “We are not necessarily committed to the client”  

Q3. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client’s company?

- “Our company is willing to co-operate and help the client in whatever ways it can, even beyond contractual obligations”  
- “There has been close co-operation among our companies to the extent of joint financial investments in business/ships”  
- “We co-operate with the client because we have to, as the client’s agents”  

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Q4. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client's company?

- “Our company faces major problems with the client”
- “There have been no conflicts or disagreements with the client whatsoever”
- “We have had several minor disagreements with the client”

Q5. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client's company?

- “We make investments in resources as a matter of being in business, but not for specific clients”
- “We have made major economic investments to satisfy the specific needs of the client” (e.g. in the order of setting up an office close to the client’s headquarters)
- “We have made investments at the beginning of the relationship with the client, but no major investments from there on”

Q6. Which ONE of the following two statements BEST describes the relationship between your company and that of your major client's company?

- “Conflicts arise as a matter of being in business and are mutually resolved”
- “Conflicts are not always resolved amicably”

Q7. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client's company?

- “We have made minor modifications to accommodate the needs of the client” (e.g. accounting reporting procedures)
- “We have made major changes in our business processes in order to accommodate specific needs of the client”
- “There has been no deviation from our service offering”
Q8. Which ONE of the following three statements BEST describes the relationship between your company and that of your major client’s company?

- “The relationship has a personal/friendship nature”
- “We offer advice to the client beyond contractual obligations”
- “The relationship is mainly governed by contractual obligations”

Q9. Approximately, how often does your company’s personnel have face-to-face meetings with personnel from the client’s company at:

**An operational/departmental level**

- Once a week
- Once a fortnight
- Once a month
- Every three months
- Twice a year
- Every year
- Other
  If “other” please specify: .................

**Senior management level**

- Once a week
- Once a fortnight
- Once a month
- Every three months
- Twice a year
- Every year
- Other
  If “other” please specify: .................

Q10. Approximately, apart from face-to-face meetings, how often does your company communicate with the major client’s company at:

**An operational/departmental level**

- Every day
- Twice a week
- Once a week
- Once a fortnight
- Once a month
- Every three months
- Other
  If “other” please specify: .................

**Senior management level**

- Every day
- Twice a week
- Once a week
- Once a fortnight
- Once a month
- Every three months
- Other
  If “other” please specify: .................
Is there anything else you would like to add with regard to client relationships in ship management? If so, please use this space for that purpose. Also any other comments you wish to make with regard to this study will be greatly appreciated and taken into account.

Your contribution to this research effort is very greatly appreciated. A report of the results will be sent to you as soon as the study is completed.

THANK YOU FOR YOUR CO-OPERATION!

Photis M. Panayides
Institute of Marine Studies
University of Plymouth
Drake Circus
Plymouth PL4 8AA, UK
APPENDIX L

QUESTIONNAIRE COVER LETTER
Dear Mr. Smith

Thank you for participating in the earlier telephone interview and for agreeing to complete the enclosed questionnaire.

As I have mentioned in our telephone conversation, the questionnaire will not take longer than 15 minutes to complete. Please find enclosed a stamped and addressed envelope for returning the completed questionnaire.

As you may recall, this study is concerned with marketing in the ship management business. As a top executive, your particular views are extremely important for the study's success.

You may be assured of complete anonymity and strict confidentiality. The questionnaire has an identification number in order to ascertain that it has been returned and that there is no need to sent a reminder letter. Your name and that of your company will never appear in any report.

The results of the research will be made available to you in a report, as soon as the study is completed. It is envisaged that the research will be of great use in determining appropriate marketing policies for ship management companies.

I would be most happy to answer any questions you might have. Please do not hesitate to write, call, fax or e-mail.

Your co-operation is most important for the completion of this three-year long study. For that I am most grateful and take the opportunity to thank you once again.

Yours sincerely

Photis M. Panayides
APPENDIX M

LETTER TO INDEPENDENT RESEARCH EXPERT
March 15, 1997

Dear Mr. Chapman,

I was pleased to hear that your accommodation requirements in your recent journey to Cyprus were satisfactory.

As I have mentioned in our telephone conversation, I enclose herewith a copy of my research questionnaire that will be sent to ship managers in the UK and Cyprus.

I would be very much obliged if you could comment on the contents of the questionnaire. Most importantly, I would like to receive your views on the sections dealing with the characteristics of the ship management companies and the characteristics of the client companies. With respect to these two sections there are two issues in particular that I would like to ask:

1. Are the range of choices given to ship managers in the multiple choice questions (e.g. Section 1: Q1, Q2; Section 2: Q1, Q4), accurate and realistic?
2. Are there any other important characteristics of ship management or client companies which I have inadvertently left out?

Please feel free to make comments anywhere on the questionnaire.

Please find also enclosed a stamped and addressed envelope for returning the questionnaire together with any comments. Because time is of the essence in this critical period of the research, I would be very grateful if you could return the questionnaire in the next couple of days.

Thank you very much for your assistance and I am looking forward to hearing from you soon.

Yours sincerely

Photis M. Panayides
Dear Mr Smith,

About two weeks ago I wrote to you seeking your co-operation in completing a research questionnaire. As of today I have not yet received your completed questionnaire.

I am writing to you again because of the significance placed on your co-operation for the successful completion of the study. Without receipt of the questionnaire, it will not be possible to complete this three-year long study.

As mentioned in our telephone conversation and in my first letter, this study concerns marketing in ship management. The questionnaire should not take more than 15 minutes to complete, and I will be happy to answer any questions you might have. Results of the study will be sent to you on completion of the research.

Please be assured that neither yourself nor your company will ever be identified.

In the event that your questionnaire has been misplaced, a replacement copy is enclosed. Please also find enclosed a stamped and addressed envelope for returning the questionnaire.

Your co-operation will be greatly appreciated.

Yours sincerely

Photis M. Panayides
### Hierarchical Cluster Analysis

Dendrogram using Ward Method

Rescaled Distance Cluster Combine

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Table P1: Number of cases in each cluster

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Table P3: Final cluster centres

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Table P4: Distances between final cluster centres
Table P5: Cluster membership

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Note: Convergence achieved due to no or small distance change. The maximum distance by which any changed is .000. The current iteration is 2. The minimum distance between initial centres is 2.646.

Table P6: Iteration history

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Note: Convergence achieved due to no or small distance change. The maximum distance by which any changed is .000. The current iteration is 2. The minimum distance between initial centres is 2.646.
APPENDIX Q

OUTPUT OF MULTIPLE DISCRIMINANT ANALYSIS
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<td>Ships under crewing management for client</td>
<td>3.0714</td>
<td>6.7763</td>
<td>14</td>
</tr>
<tr>
<td>Ships under commercial management</td>
<td>3.2143</td>
<td>8.8507</td>
<td>14</td>
</tr>
<tr>
<td>Ships under crewing management</td>
<td>39.1429</td>
<td>68.1885</td>
<td>14</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>63.2143</td>
<td>107.9011</td>
<td>14</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>1346.6429</td>
<td>2126.8628</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships under full management for client</td>
<td>5.1429</td>
<td>8.1416</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>22.0000</td>
<td>39.2389</td>
<td>14</td>
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<tr>
<td>Company headquarters</td>
<td>1.3571</td>
<td>.4972</td>
<td>14</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>170.9286</td>
<td>446.1205</td>
<td>14</td>
</tr>
<tr>
<td>Main business activity</td>
<td>1.6429</td>
<td>.8419</td>
<td>14</td>
</tr>
<tr>
<td>Client’s main business activity</td>
<td>3.6429</td>
<td>2.2051</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships managed for client</td>
<td>10.1429</td>
<td>8.3837</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>4.7143</td>
<td>7.0757</td>
<td>14</td>
</tr>
<tr>
<td>Exact number of ships managed</td>
<td>65.6429</td>
<td>79.8427</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships under technical management for client</td>
<td>.2143</td>
<td>.8018</td>
<td>14</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>1.2857</td>
<td>2.8937</td>
<td>14</td>
</tr>
<tr>
<td>Type of company</td>
<td>1.3571</td>
<td>.4972</td>
<td>14</td>
</tr>
<tr>
<td>Number of years in business</td>
<td>15.8571</td>
<td>8.6989</td>
<td>14</td>
</tr>
<tr>
<td>Number of years with client</td>
<td>11.7857</td>
<td>7.7179</td>
<td>14</td>
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</table>

Table Q4: Group statistics
<table>
<thead>
<tr>
<th></th>
<th>Wilk's Lambda</th>
<th>F</th>
<th>Df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual turnover</td>
<td>.988</td>
<td>.121</td>
<td>3</td>
<td>30</td>
<td>.947</td>
</tr>
<tr>
<td>Annual revenue derived from client</td>
<td>.855</td>
<td>1.695</td>
<td>3</td>
<td>30</td>
<td>.189</td>
</tr>
<tr>
<td>Type of client’s company</td>
<td>.965</td>
<td>.357</td>
<td>3</td>
<td>30</td>
<td>.784</td>
</tr>
<tr>
<td>Ships under commercial management for client</td>
<td>.967</td>
<td>.343</td>
<td>3</td>
<td>30</td>
<td>.795</td>
</tr>
<tr>
<td>Location of client company</td>
<td>.825</td>
<td>2.120</td>
<td>3</td>
<td>30</td>
<td>.119</td>
</tr>
<tr>
<td>Ships under crewing management for client</td>
<td>.915</td>
<td>.929</td>
<td>3</td>
<td>30</td>
<td>.439</td>
</tr>
<tr>
<td>Ships under commercial management</td>
<td>.972</td>
<td>.289</td>
<td>3</td>
<td>30</td>
<td>.833</td>
</tr>
<tr>
<td>Ships under crewing management</td>
<td>.984</td>
<td>.166</td>
<td>3</td>
<td>30</td>
<td>.918</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>.989</td>
<td>.122</td>
<td>3</td>
<td>30</td>
<td>.952</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>.992</td>
<td>.078</td>
<td>3</td>
<td>30</td>
<td>.972</td>
</tr>
<tr>
<td>Number of ships under full management for client</td>
<td>.920</td>
<td>.864</td>
<td>3</td>
<td>30</td>
<td>.470</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>.984</td>
<td>.162</td>
<td>3</td>
<td>30</td>
<td>.921</td>
</tr>
<tr>
<td>Company headquarters</td>
<td>.987</td>
<td>.129</td>
<td>3</td>
<td>30</td>
<td>.942</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>.945</td>
<td>.583</td>
<td>3</td>
<td>30</td>
<td>.631</td>
</tr>
<tr>
<td>Main business activity</td>
<td>.977</td>
<td>.237</td>
<td>3</td>
<td>30</td>
<td>.870</td>
</tr>
<tr>
<td>Client’s main business activity</td>
<td>.954</td>
<td>.481</td>
<td>3</td>
<td>30</td>
<td>.698</td>
</tr>
<tr>
<td>Number of ships managed for client</td>
<td>.956</td>
<td>.463</td>
<td>3</td>
<td>30</td>
<td>.710</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>.976</td>
<td>.250</td>
<td>3</td>
<td>30</td>
<td>.861</td>
</tr>
<tr>
<td>Exact number of ships managed</td>
<td>.986</td>
<td>.146</td>
<td>3</td>
<td>30</td>
<td>.932</td>
</tr>
<tr>
<td>Number of ships under technical management for client</td>
<td>.948</td>
<td>.548</td>
<td>3</td>
<td>30</td>
<td>.653</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>.926</td>
<td>.801</td>
<td>3</td>
<td>30</td>
<td>.503</td>
</tr>
<tr>
<td>Type of company</td>
<td>.965</td>
<td>.365</td>
<td>3</td>
<td>30</td>
<td>.779</td>
</tr>
<tr>
<td>Number of years in business</td>
<td>.894</td>
<td>1.190</td>
<td>3</td>
<td>30</td>
<td>.330</td>
</tr>
<tr>
<td>Number of years with client</td>
<td>.946</td>
<td>.567</td>
<td>3</td>
<td>30</td>
<td>.641</td>
</tr>
</tbody>
</table>

Table Q5: Tests of equality of group means
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Valid N (listwise)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual turnover</td>
<td>12226588</td>
<td>18622672</td>
<td>34</td>
</tr>
<tr>
<td>Annual revenue derived from client</td>
<td>26.2441</td>
<td>22.9013</td>
<td>34</td>
</tr>
<tr>
<td>Type of client’s company</td>
<td>2.2941</td>
<td>1.9467</td>
<td>34</td>
</tr>
<tr>
<td>Ships under commercial management for client</td>
<td>1.4118</td>
<td>5.1705</td>
<td>34</td>
</tr>
<tr>
<td>Location of client company</td>
<td>2.4706</td>
<td>1.5420</td>
<td>34</td>
</tr>
<tr>
<td>Ships under crewing management for client</td>
<td>3.5294</td>
<td>6.8810</td>
<td>34</td>
</tr>
<tr>
<td>Ships under commercial management</td>
<td>2.2353</td>
<td>6.8493</td>
<td>34</td>
</tr>
<tr>
<td>Ships under crewing management</td>
<td>32.0294</td>
<td>56.1100</td>
<td>34</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>58.0588</td>
<td>81.0566</td>
<td>34</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>1218.6765</td>
<td>1812.1262</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships under full management for client</td>
<td>7.1765</td>
<td>9.3630</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>23.2647</td>
<td>31.9766</td>
<td>34</td>
</tr>
<tr>
<td>Company headquarters</td>
<td>1.3235</td>
<td>.4749</td>
<td>34</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>146.6471</td>
<td>385.2901</td>
<td>34</td>
</tr>
<tr>
<td>Main business activity</td>
<td>1.7941</td>
<td>.9464</td>
<td>34</td>
</tr>
<tr>
<td>Client’s main business activity</td>
<td>3.2059</td>
<td>2.1002</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships managed for client</td>
<td>12.6471</td>
<td>12.8249</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>4.3529</td>
<td>6.6236</td>
<td>34</td>
</tr>
<tr>
<td>Exact number of ships managed</td>
<td>58.6765</td>
<td>72.9328</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships under technical management for client</td>
<td>.2941</td>
<td>.9055</td>
<td>34</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>1.1471</td>
<td>2.4263</td>
<td>34</td>
</tr>
<tr>
<td>Type of company</td>
<td>1.3529</td>
<td>.4851</td>
<td>34</td>
</tr>
<tr>
<td>Number of years in business</td>
<td>17.2059</td>
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<tr>
<td>Number of years with client</td>
<td>10.4118</td>
<td>7.2910</td>
<td>34</td>
</tr>
</tbody>
</table>

Table Q6: Group statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Within-Groups Variance</th>
<th>Tolerance</th>
<th>Minimum Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of ships managed</td>
<td>5767.159</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Number of ships managed under technical management for client</td>
<td>.855</td>
<td>.124</td>
<td>.001</td>
</tr>
<tr>
<td>Number of years in the business</td>
<td>65.461</td>
<td>.193</td>
<td>.000</td>
</tr>
<tr>
<td>Number of years with the client</td>
<td>55.336</td>
<td>.386</td>
<td>.001</td>
</tr>
</tbody>
</table>

Table Q7: Variables failing the Tolerance Test
Note: All variables passing the tolerance test are entered simultaneously
a. Minimum tolerance level is .001
<table>
<thead>
<tr>
<th>Function</th>
<th>Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative %</th>
<th>Canonical Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.000*</td>
<td>48.3</td>
<td>48.3</td>
<td>.816</td>
</tr>
<tr>
<td>2</td>
<td>1.342*</td>
<td>32.4</td>
<td>80.7</td>
<td>.757</td>
</tr>
<tr>
<td>3</td>
<td>.797*</td>
<td>19.3</td>
<td>100.0</td>
<td>.666</td>
</tr>
</tbody>
</table>

**Table Q8: Eigenvalues**

*. First three canonical discriminant functions were used in the analysis.

<table>
<thead>
<tr>
<th>Test of Function (s)</th>
<th>Wilks' Lambda</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 through 3</td>
<td>.079</td>
<td>53.249</td>
<td>60</td>
<td>.719</td>
</tr>
<tr>
<td>2 through 3</td>
<td>.238</td>
<td>30.181</td>
<td>38</td>
<td>.813</td>
</tr>
<tr>
<td>3</td>
<td>.557</td>
<td>12.306</td>
<td>18</td>
<td>.831</td>
</tr>
</tbody>
</table>

**Table Q9: Wilks' Lambda**

<table>
<thead>
<tr>
<th>Function</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual turnover</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Annual revenue derived from major client</td>
<td>.011</td>
<td>.072</td>
<td>.007</td>
</tr>
<tr>
<td>Type of client's company</td>
<td>-.018</td>
<td>-.142</td>
<td>.225</td>
</tr>
<tr>
<td>Number of ships under commercial management for client</td>
<td>.750</td>
<td>.081</td>
<td>1.322</td>
</tr>
<tr>
<td>Location of client's company</td>
<td>1.137</td>
<td>.364</td>
<td>.049</td>
</tr>
<tr>
<td>Number of ships under crewing management for client</td>
<td>.860</td>
<td>-.331</td>
<td>1.508</td>
</tr>
<tr>
<td>Number of ships under commercial management</td>
<td>-.068</td>
<td>-.110</td>
<td>.180</td>
</tr>
<tr>
<td>Number of ships under crewing management</td>
<td>-.039</td>
<td>.031</td>
<td>-.003</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>-.003</td>
<td>.040</td>
<td>-.054</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>.002</td>
<td>-.002</td>
<td>.004</td>
</tr>
<tr>
<td>Number of ships under full management for client</td>
<td>.759</td>
<td>-.236</td>
<td>1.700</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>-.095</td>
<td>-.004</td>
<td>-.075</td>
</tr>
<tr>
<td>Location of company</td>
<td>-1.158</td>
<td>-.129</td>
<td>.992</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>-.001</td>
<td>.000</td>
<td>-.002</td>
</tr>
<tr>
<td>Main business activity</td>
<td>.985</td>
<td>.915</td>
<td>.129</td>
</tr>
<tr>
<td>Client company main business activity</td>
<td>-.005</td>
<td>.043</td>
<td>.032</td>
</tr>
<tr>
<td>Number of ships managed for client</td>
<td>-.621</td>
<td>.138</td>
<td>-1.620</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>-.076</td>
<td>-.050</td>
<td>.011</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>.362</td>
<td>-.179</td>
<td>.952</td>
</tr>
<tr>
<td>Type of ship management company</td>
<td>-2.097</td>
<td>.462</td>
<td>-.381</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.003</td>
<td>-4.567</td>
<td>-.870</td>
</tr>
</tbody>
</table>

**Table Q10: Canonical discriminant function coefficients**

Note: Unstandardized coefficients
<table>
<thead>
<tr>
<th>Function</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual turnover</td>
<td>-.408</td>
<td>.672</td>
<td>-.895</td>
</tr>
<tr>
<td>Annual revenue derived from client</td>
<td>.248</td>
<td>1.601</td>
<td>.152</td>
</tr>
<tr>
<td>Type of client's company</td>
<td>-.36</td>
<td>-.286</td>
<td>.451</td>
</tr>
<tr>
<td>Number of ships under commercial management</td>
<td>3.998</td>
<td>.433</td>
<td>7.048</td>
</tr>
<tr>
<td>Location of client's company</td>
<td>1.671</td>
<td>.534</td>
<td>.072</td>
</tr>
<tr>
<td>Number of ships under crewing management</td>
<td>5.937</td>
<td>-2.285</td>
<td>10.412</td>
</tr>
<tr>
<td>Location of company</td>
<td>-.483</td>
<td>-.777</td>
<td>1.278</td>
</tr>
<tr>
<td>Number of ships under crewing management</td>
<td>-2.265</td>
<td>1.805</td>
<td>-.183</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>-.294</td>
<td>3.370</td>
<td>-4.570</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>3.108</td>
<td>-3.218</td>
<td>6.788</td>
</tr>
<tr>
<td>Number of ships under full management for client</td>
<td>7.147</td>
<td>-2.227</td>
<td>16.012</td>
</tr>
<tr>
<td>Location of company</td>
<td>-3.160</td>
<td>-.141</td>
<td>-2.500</td>
</tr>
<tr>
<td>Manning agency staff</td>
<td>-.573</td>
<td>-.064</td>
<td>.491</td>
</tr>
<tr>
<td>Main business activity</td>
<td>-.377</td>
<td>-.029</td>
<td>-.891</td>
</tr>
<tr>
<td>Client's main business activity</td>
<td>.966</td>
<td>.897</td>
<td>.126</td>
</tr>
<tr>
<td>Number of ships managed for the client</td>
<td>-.011</td>
<td>.094</td>
<td>.069</td>
</tr>
<tr>
<td>Location of company</td>
<td>-.525</td>
<td>-.343</td>
<td>.073</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>.887</td>
<td>-.439</td>
<td>2.332</td>
</tr>
<tr>
<td>Type of company</td>
<td>-1.048</td>
<td>.231</td>
<td>-.190</td>
</tr>
</tbody>
</table>

Table Q11: Standardized Canonical Discriminant Function Coefficients
### Table Q12: Structure matrix

Note: Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function

* Largest absolute correlation between each variable and any discriminant functional conflict

** This variable not used in the analysis

<table>
<thead>
<tr>
<th>Location of client’s company</th>
<th>Function 1</th>
<th>Function 2</th>
<th>Function 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client’s main business activity</td>
<td>.287*</td>
<td>.159</td>
<td>-.132</td>
</tr>
<tr>
<td>Main business activity</td>
<td>-.132*</td>
<td>.084</td>
<td>-.069</td>
</tr>
<tr>
<td>Number of ships under crewing management</td>
<td>.094*</td>
<td>.025</td>
<td>-.080</td>
</tr>
<tr>
<td>Annual revenue derived from client</td>
<td>-.079*</td>
<td>-.008</td>
<td>-.071</td>
</tr>
<tr>
<td>Number of ships managed for client under crewing management</td>
<td>-.007</td>
<td>.349*</td>
<td>.085</td>
</tr>
<tr>
<td>Number of ships managed for client under full management</td>
<td>.041</td>
<td>-.223*</td>
<td>-.168</td>
</tr>
<tr>
<td>Type of company</td>
<td>.012</td>
<td>.025</td>
<td>.085</td>
</tr>
<tr>
<td>Number of ships managed for client under commercial management</td>
<td>.032</td>
<td>.139*</td>
<td>.090</td>
</tr>
<tr>
<td>Number of ships under commercial management</td>
<td>-.087</td>
<td>.089*</td>
<td>.063</td>
</tr>
<tr>
<td>Number of employees at sea</td>
<td>-.045</td>
<td>.046*</td>
<td>-.034</td>
</tr>
<tr>
<td>Number of years in business**</td>
<td>-.202</td>
<td>.011</td>
<td>-.450*</td>
</tr>
<tr>
<td>Number of years with client**</td>
<td>-.300</td>
<td>-.067</td>
<td>-.305*</td>
</tr>
<tr>
<td>Number of ships under technical management</td>
<td>-.025</td>
<td>-.078</td>
<td>.298*</td>
</tr>
<tr>
<td>Manning agency</td>
<td>-.047</td>
<td>-.032</td>
<td>-.257</td>
</tr>
<tr>
<td>Number of ships under technical management for client**</td>
<td>-.026</td>
<td>-.163</td>
<td>.216*</td>
</tr>
<tr>
<td>Number of ships owned</td>
<td>-.039</td>
<td>.011</td>
<td>-.165*</td>
</tr>
<tr>
<td>Type of client’s company</td>
<td>.032</td>
<td>-.100</td>
<td>.159*</td>
</tr>
<tr>
<td>Number of ships managed for client**</td>
<td>.114</td>
<td>.052</td>
<td>-.144*</td>
</tr>
<tr>
<td>Number of ships under full management</td>
<td>.019</td>
<td>.069</td>
<td>-.106*</td>
</tr>
<tr>
<td>Annual turnover</td>
<td>.003</td>
<td>.052</td>
<td>-.104*</td>
</tr>
<tr>
<td>Location of client companies</td>
<td>-.046</td>
<td>-.024</td>
<td>-.100*</td>
</tr>
<tr>
<td>Number of ships managed</td>
<td>-.061</td>
<td>.030</td>
<td>-.086*</td>
</tr>
<tr>
<td>Number of employees ashore</td>
<td>-.042</td>
<td>.039</td>
<td>-.084</td>
</tr>
</tbody>
</table>

### Table Q13: Functions at group centroids

Note: Unstandardized canonical discriminant functions evaluated at group means

<table>
<thead>
<tr>
<th>Clusters</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.092</td>
<td>1.262</td>
<td>.221</td>
</tr>
<tr>
<td>2</td>
<td>1.291</td>
<td>-2.104</td>
<td>1.408</td>
</tr>
<tr>
<td>3</td>
<td>1.003</td>
<td>-1.003</td>
<td>-1.755</td>
</tr>
<tr>
<td>4</td>
<td>-1.585</td>
<td>-3.26E-02</td>
<td>5.072E-02</td>
</tr>
</tbody>
</table>

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Figure Q1: Canonical discriminant function plot for cluster 1

Figure Q2: Canonical discriminant function plot for cluster 2
Figure Q3: Canonical discriminant function plot for cluster 3

Figure Q4: Canonical discriminant function plot for cluster 4
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