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**CONTINUOUS EDUCATION AND TRAINING OF SHORE
STAFF IN A NATIONAL SHIPPING COMPANY.**

WHY ? AND HOW ?

by

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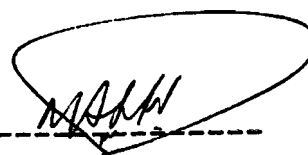
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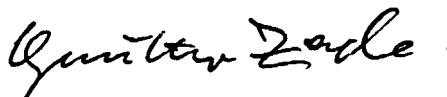
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***CONTINUOUS EDUCATION AND
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IN A
NATIONAL SHIPPING COMPANY.
WHY ? and HOW ?***

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allah, the
Beneficent, The Merciful

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ABSTRACT

There is no doubt about the importance of the existence of national shipping in any state, since it plays an important role during peace and hostilities; both economically and politically. This could be easily concluded from the various subsidies or protections that different states contribute to their shipping industry in order to maintain a reasonable size of merchant fleet.

Shipping is a very capital intensive industry. In some countries such capital is not available with private investors. Therefore, governments realizing this and at the same time feeling the need for a national shipping, may set up a state owned shipping company.

If these companies aim to fulfill the government's objectives effectively, they must perform efficiently. To achieve this efficiency, personnel must be continuously updated in the latest shipping technologies and trained to use those which are applicable to that company.

This paper is focused on the shore staff and tries to show that development and up-dating of shore staff is as important as having qualified and competent sea personnel, as effective planning, good cooperation and monitoring is necessary for efficient operation.

In achieving this, the role of national shipping in the national economy and its political aspects are highlighted first. Then, changes in shipping management in recent times are elaborated while constraints and economical and social factors affecting shipping are enumerated. Later, the need for motivating of human resources, the key factor to efficiency, are discussed. This is followed up by showing how training and education could enhance personnel performance and competency. And finally one of the courses proposed is developed completely, as an example, using the topics in the Annex -1.

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INTRODUCTION

The half-baked rousseauism in which most of us has been brought up has given us a subconscious notion that the free act is the untrained act. But of course freedom has nothing to do with lack of training. We are not to move until we have learned to walk; we are not free to express ourselves musically until we have learned music; we are not capable of free thought unless we can think.

-Northrop Frye (1963, P.42)

1.1, TRANSPORTATION AND DEVELOPMENT

There is a strong link between transport and development, although shipping as an essential element of the transportation network is more related to the international development. In order to achieve maximum rate of growth of real income, countries must trade with each other in such a way that each makes optimum use of its specialized forms of production. This can be achieved only when a free access to the world markets is available, since, limitations affecting

access to markets hampers the economic development of deprived countries. In addition to free access, adequate transit services between countries, operated efficiently and charging the lowest prices consistent with the long-term maintenance of those services are required.

In the absence of international trade all countries are supposed to be self-supporting in the sense that they can consume and invest in only that which they have produced. On the other hand international trade permits specialization in production, with each country producing those goods in which it has comparative advantage and importing those which it cannot produce or can produce only at prohibitive costs. The process of development also includes the establishment or expansion of domestic industries; they are also needed to facilitate trade in the production of those goods which can be economically produced beyond the needs of the home market. Although domestic industries supplying the domestic market are important, economic development is always associated with the expansion of the international trade.

Future development is likely to produce an increase in, and a changing pattern of trading, leading to both an increase in transport requirements and a change in the pattern of routes and types of facilities used. The major mode of transport currently used in international trade is sea transport especially in cases where the trading partners are non-contiguous. However, in considering transport requirements, the need for land transport between contiguous territories and for intermodal transport links in the case of landlocked countries must not be forgotten. Besides, rarely, goods travel from supplier to consumer entirely by sea and, as already mentioned, sea transport must essentially be regarded as one link in a transport chain which normally involves the use of two or more modes. In addition the role of air freighting must be taken into account.

1.2, SHIPPING AND ECONOMIC DEVELOPMENT

In the above section the role of transport generally and shipping in particular for development has been briefly demonstrated. Where transport of a particular type is provided, only trade which can use those transport facilities can take place. The trade of any country can be hindered if transport facilities of the right type are not available. However, the statement that there is a close relationship between the existence of a transport and economic development is not entirely true. Transport is of course, not the only determinant of the economic development but it is a decisive factor. Secondly, the casual relationship between the existence of a transport system and economic development is not one-way; in other words transport influences economic development but at the same time is influenced by it. Nevertheless, it can generally be said that the structure and speed of development of a national economy largely depends on the extent, and even more on the quality, of its transport system.

International trade is a prerequisite for economic growth and welfare and it is one of the decisive factors for stimulating industrialization and the growth of local markets for goods and services. Furthermore, trade fosters the development of advanced agricultural systems and techniques and increases the speed of development. In order to engage in international trade any country needs a functioning transport system, or ready access to a means of transport such as shipping. While, in general, all means of transport can serve to foster international trade activities, shipping is of the utmost importance, especially in the foreign trade of developing countries. While its importance for developed countries cannot be denied; especially in those countries where virtually all exports and imports are necessarily carried by sea because of the geographical location; it can still be claimed that shipping

is relatively of greater importance to developing countries. The main reason for this is that the structure of foreign trade of developing countries often leaves little or no room for intra-regional trade that could possibly be carried by land transport. Economies of neighboring developing countries show a high degree of similarity as to the types of cargoes exported, raw materials and semi-finished products, or imported, manufactured goods.

1.3, THE UNIQUE ROLE OF SHIPPING

In addition to its function in fostering development and foreign trade, shipping has a further unique role. It has a dual character being both a servant to international trade and an industry in its own right: a commodity in foreign trade and, therefore, a factor in the foreign exchange equation. Demand for shipping, as for any other transport service, is always a derived demand, the level of which depends on the type and quantity of goods traded as well as on the geographic trade structure. The fact that there is no original demand for cargo shipping services underlines the close linkage between trade and shipping. Yet, more important is the fact that shipping services are at the disposal of the trading community. Consequently, the shipping industry has not only reacted to trading requirements but has, in many cases, created the pre-conditions for the expansion of world trade based on an intensified international division of labor. An example of such development can be seen in the rapid growth of trade in bulk commodities over the last two decades, combined with similarly important changes in trading patterns. Reduction in bulk shipping costs based on the exploitation of the economies of scale in transport have resulted in a reduction of economic distance.

The decreasing cost of transport has helped to open up geographically distant markets and thus to reduce, if not eliminate, the locational linkages between production and processing of raw materials. However, it is not the existence of a shipping industry as such that pre-conditions the expansion of world trade, but rather the provision of services adequate to the different needs of various trading interests. Such adequacy is relevant to all facets of qualitative characteristics of shipping services, that is, the availability of ships physically suitable for the particular transport needs; the frequency of services offered to avoid undue interruptions in commodity flows; and, the pricing of such services in line with the ability of the goods traded to bear the costs of transport. Unless these criteria are met, shipping cannot fulfill its role as a catalyst in world trade. Experience has shown that countries which, for one reason or another, have not been provided with such adequate shipping services, or have been deprived of them, have faced considerable setbacks in their foreign trade and therefore foreign exchange, coupled with corresponding interruptions of their development process. Yet the most effective way of avoiding such disruptions and ensuring the availability of adequate shipping services has been found by most countries to be the maintenance of a certain minimum engagement in shipping.

National carriers can reasonably be expected to maintain a closer link with the particular trading interests of their countries than foreign carriers. Furthermore, by controlling substantial tonnage in the national foreign trades a country can exercise a countervailing power against practices of foreign carriers that are possibly detrimental to its interests in the trade concerned. This policy is vigorously pursued by the USA. However, these considerations do not justify limiting the role of shipping to that of a servant to trade, for such a perspective would incur the danger of concealing inefficiencies and consequently mis-

allocating resources. Yet they make it sufficiently clear that decisions to invest in shipping cannot be based solely on criteria of commercial profitability at firm level but have to take into account those of viability for the country's economy as a whole. From this it also follows that to compare investment in shipping with that in other sectors of the economy on the basis of direct returns on investments is neither feasible nor meaningful. Sufficient to add, however, that benefits from allocating resources to other sectors depend on the existence of a functional transport system, such as shipping and, conversely, the expansion of shipping activities in complete unison with the development of other sectors of the economy. For the comparative contribution of shipping (sea transport) in both debts and credits in the UK's services, see summary table below.

	£ million										
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Current prices											
Credits											
General government	72	104	110	139	215	241	318	330	381	439	435
Private sector and public corporations											
Sea transport	1,607	2,055	2,665	2,651	3,233	3,433	3,149	3,804	3,816	3,784	3,565
Civil aviation	410	480	625	780	1,049	1,203	1,455	1,755	2,210	2,359	2,471
Travel	576	726	898	1,218	1,768	2,352	2,507	2,797	2,961	2,970	3,184
Financial services ¹	529	601	785	1,025	1,303	1,391	1,539	1,588	1,601	1,971	2,145
Other services	1,094	1,330	1,645	2,044	2,710	3,283	3,754	4,202	4,818	5,348	5,782
Total credits	4,288	5,296	6,728	7,857	10,278	11,903	12,722	14,476	15,787	16,871	17,582
Debits											
General government	423	513	629	709	867	940	986	1,072	1,014	965	1,239
Private sector and public corporations											
Sea transport	1,688	2,160	2,776	2,562	3,155	3,345	3,162	3,677	3,675	3,944	3,908
Civil aviation	340	415	540	675	840	984	1,176	1,467	1,815	1,922	2,080
Travel	535	695	703	917	1,068	1,186	1,549	2,109	2,738	3,271	3,650
Other services	601	727	1,005	1,479	1,845	2,110	2,033	2,080	2,278	2,520	2,861
Total debits	3,587	4,510	5,653	6,342	7,775	8,565	8,906	10,405	11,520	12,622	13,738
Balance	+701	+786	+1,075	+1,515	+2,503	+3,338	+3,816	+4,071	+4,267	+4,249	+3,844
Constant prices (1980 = 100)											
Total credits	80	86	93	94	100	103	103	103	100	94	92
Total debits	84	89	91	90	89	88	88	96	100	98	98

¹ Financial services are shown as credit entries only. Similar earnings in the United Kingdom by overseas financial institutions, which are considered negligible, are included in 'other services' debits.

Table 1, UK Services Summary
Source: Central Statistics Office 1983, table 3.1

The overall linkage between shipping, trade, development and foreign exchange can best be appreciated further in the light of the current distribution of maritime transport in international trade relations. For, apart from providing a service to trade, shipping as an independent industry has a direct bearing on a country's development process. It helps to improve the foreign exchange situation, create employment, fosters technology transfer and economic integration and helps to safeguard the national sovereignty, particularly in times of political crises. Apart from these direct effects, shipping investment also contribute substantially to the diversification of the investing country's economy, as it requires a whole range of support industries and services. These include shipbuilding and repairs, supplies, equipment, insurance, telecommunications, etc.

THE ROLE OF NATIONAL SHIPPING IN THE NATIONAL ECONOMY AND POLITICAL ASPECTS

As previously mentioned in chapter 1, transport and communications are a vital prerequisite for any form of economic and political integration of states. Developments in shipping contributes decisively to the integration into the world economy. While this integration could theoretically be achieved irrespective of whom the services are provided by, only the existence of a national fleet and, consequently, the effective control over shipping services can ensure that the transport links needed to maintain the integration process are not unduly interrupted.

Therefore, some of the contributions which a national fleet can make towards enhancing national economic growth and advancing political objectives are briefly enumerated below.

2.1, BALANCE OF PAYMENT EFFECTS

There are a number of definitions on balance of payment. One of them is as follows: "*Balance of payment* is an account which includes systematic recording of all the economic transactions made during a definite period of time(usually a year), between the residence of one territory and the residence of other territories". The balance of payments is thus a double-entry account of a country in

which are shown all receipts of foreign earnings from the rest of the world on the credit side, and all the payments to the rest of the world on the debit side.

The structure of the Balance of Payments normally consists of:-

- 1-Merchandise Account, also called "visible account",
- 2-Service Account, also called "invisible account", such as transport and tourism,
- 3-"External Revenues" Account, such as capital revenues, receipts payable by government, receipts payments of business enterprises abroad,
- 4-Donations, Current and Capital, and
- 5-Capital Investments, Long-term and Short-term, and Monetary gold.

After this brief explanation related to the particular items of a country's balance of payments we shall highlight the contribution of shipping to the balance of payments. It is often argued that the existence of a national merchant marine is beneficial to the country's balance of payments and this is true. A national merchant marine enables a country to reduce the outflow of foreign exchange for imported shipping services and earns foreign exchange by selling its services to foreign residents.

The employment of home-flag ships will have a direct positive influence on the country's balance of payments in the following situations:

- 1-Import f.o.b.-transport on a home-flag ship,
- 2-Export c.i.f.-transport on a home-flag ship,
- 3-Cross-trades,
- 4-Time charter home-flag ships to foreign charterers,
- 5-Transport of foreign cargoes which transit via the country's ports and are transported by home-flag

ships, and
6-Transport of foreign passengers.

The employment of a home-flag vessel in transport of imported goods will result in *savings* of foreign exchange which would otherwise have been spent on import of shipping services provided by foreign carries.

It must be admitted that to evaluate the influence of shipping and related industries on a country's *balance of payments* one has to possess detailed statistics which are not readily available. It also should be emphasized that the actual role of the shipping industry for a country's national economy is much more complex than it seems from the analysis of key economic indicators. Direct and indirect economic consequences of the existence of national merchant marines are not easily quantifiable. Furthermore, economic and political aspects are closely related to each other in shipping which renders a sound economic analysis still more difficult.

2.2, MANPOWER EMPLOYMENT

Regarding employment of manpower in shipping industry, as it is a capital intensive industry, it may not be the most preferable field of investment in a country whose primary aim is the creation of employment opportunities. While the capital intensity of shipping is not disputed, a number of factors have to be taken into account to put the issue into the right perspective.

First, a differentiation must be made among the various types of shipping since their employment effects vary considerably. Capital requirements per job directly or indirectly linked to liner shipping are much lower than

those for bulk shipping, due to much higher labor requirements for shore-based administrative and support services. Similarly, the quality of labor requirements differ greatly. While such a difference does not exist with regard to ship-based personnel, quality requirement, particularly for management personnel, is lower in liner shipping than in bulk shipping.

Second, the linkage effect of shipping to the other activities would create a cumulative positive effect on the economy and contributes to the expansion and diversification of manpower employment opportunities in the economy of a country. In fact, the employment opportunities that a shipping industry could create due to its impact on the other economic sectors, as a result of its needs for a wide range of services and ancillary activities, would be much more than what it could create in its own field.

2.3, EXPORT PROMOTION

Raising the welfare of its population with an effort to broaden and diversify its economy through industrialization, to stimulate the rate of growth of its economy, is the common goal of any state. But, industrialization and diversification of production imply increased demand for capital and consumer goods and the need for expanding and diversifying exports. Such a possible development, in turn, should create increased demand for transport, especially shipping services. The existence of a national fleet which can provide physically suitable, uninterrupted, and fairly priced shipping services can further promote the trade of a country by linking that country with overseas markets and exerting a pressure upon the level of freight rates at which the national trade is carried.

A nation may have possible export potential in a special commodity, which because of the lack of shipping services, or because of high freight, cannot be exploited. The same argument may be extended to an existing market which cannot be expanded because it normally needs to lower the prices in order to expand an existing market. This is often difficult as the profit margin on the exports, especially on raw or semi-processed materials, is small. The lower price must therefore be achieved by a decrease in the freight element which, most of the time, constitutes a large proportion of the aggregated C.I.F. price. A small reduction in transport costs may be instrumental in causing a large increase in exports. Securing of promotional low freight rates for non-traditional export items would enable a country to compete more effectively in the international market. Therefore, it is in the national interest to provide services on new routes to promote exports, and this could be achieved by a national fleet more economically.

2.4, IMPACT ON RELATED INDUSTRIES

The shipping industry is one aspect of economic activities which is a very important logistic industry. Its establishment and development may have a positive effect in stimulating the growth of related industries. This is because of the backward and forward linkage effects that the shipping industry creates. Shipping needs a wide range of services and supporting activities. These include ship construction activities, shiprepairing yards, financing and banking services, insurance services, ship's supply and equipment etc. Shipping creates many other auxiliary activities connected with it which may be looked on as one of the fundamental requirements for building up an industrial society. And it is not surprising that nearly all of the industrialized nations are also nations with well estab-

lished shipping industries. One must recognize that there is a considerable difference between the fundamental interests of individual shipping companies and those of the state owned ones. Private shipping companies have only one common goal and that is maximum profit from their investment. Therefore they would reroute their investment if they find better opportunities for their rates of return outside shipping, irrespective of its effect on the other sectors of industry, hence national economy.

2.5, INFLUENCING CONFERENCES

The principle objectives of a shipping conference are:

- 1) To eliminate competition among its members, and
- 2) To strengthen its position vis-a-vis outsiders.

But these conferences, which are the most popular form of shipping cartels, can hamper the foreign trade of a country by imposing excessive tariffs. The element of monopoly power inherent in the conference system, which prevents free entry, together with the cost structure of liner shipping gives liner shipowners a considerable leverage in the rate policy they choose to follow. Hence, one way to overcome this problem is to have national ships in the conference in order to influence decisions so that the discrimination element prevailing in conference decisions will be exercised in a more favorable manner or at least is not detrimental to a state's international seaborne trade.

2.6, POLITICAL OBJECTIVES

A country which does not have a fleet of its own is entirely at the mercy of foreign shipowners for its foreign trade flow. Commercial profitability is a foreign, and to some extent national private, shipowner's major criteria. And if such a service to a given country proves unprofitable enough for various reasons (such as political chaos in

domestic affairs, revolution or war), the foreign or private ships giving the service to that country would terminate their services, endangering the economy of the country in question.

For this reason, considering *political and national security*, having a national fleet, of reasonable size, and able to meet the defence and transport needs, to secure supplies from, and to keep the links with foreign countries in times of hostilities and emergency is vital.

In conclusion, one might argue that establishing and development of a national shipping industry is comparatively disadvantageous, since shipping services could be provided more economically from some traditional maritime nations. The reason for this lies mainly in historical factors, such as the well developed shipping infrastructure which most traditional shipping nations possess, the economics of scale, the use of advanced shipping technology, and most important of all availability of **QUALIFIED MARITIME PERSONNEL**. Therefore, shipping in non-developed maritime nations may initially have very high costs and low earnings because of comparative disadvantage. However, shipping industry can play a decisive role in enhancing economic growth and advancing political objectives, as highlighted in chapter one and previous sections, provided it is efficient.

Some nations are recognizing this fact and therefore by setting up their own national fleet argue that the only way for exploiting their objectives, economic growth and political goals, is by protecting the shipping industry in its uneconomic infancy. Obviously this effectiveness can be enhanced by improving the fleet's efficiency; and the only way to achieve this is by *recruiting and maintaining qualified personnel, both ashore and on board, as well as up-grading and motivating existing manpower through education and training*.

3

SHIPPING INDUSTRY TODAY, A DYNAMIC ERA

3.1, ECONOMIC AND SOCIAL FACTS, CONCEPTS AND PRACTICES AFFECTING SHIPPING

In order to understand the implications of the technological changes in shipping, it is necessary to split them into two parts : economic and social facts and concepts.

The economic facts will address the questions of international registry(or FOC), competition in the advent of the code of conduct and the round the world traffic and zero stock gear policy. The social facts will group the question of manpower demand and in this connection the concept of post-industrial society will be treated and also the change in the labor market and legal constraints and obligations in manning ships.

3.1.1, INTERNATIONAL REGISTER(FOC)

The list of the countries which have established the international register is increasing year after year. Besides the traditional ones, Liberia, Panama and Cyprus, a lot of countries have established their international register in recent years and some of them are :

- France, with TAAF(Terres Arctiques Australes Francaises) registration, known as Kerguelen flag,

- UK, with Isle of Man,
- Gibraltar,
- Bahamas, and
- Norway, with NIS(Norwegian International Register) registration.

When the Greeks and later on the Norwegian shipowners started to register their ships under the international register in the early 1950s they were criticized by the then established maritime countries; and even their ships were boycotted in some ports because they were said to be sub-standard.

These allegations, often justified, were based on the fact that these shipowners were attracted by easy regulations of registration and the absence of sufficient control or any control at all, and the savings they were accruing due to non-payment of tax.

The Greeks and Norwegians were later followed by Americans and other shipowners established in Bermuda and Hong Kong for the same reasons of saving in tax. Since the early 1950s, there has been a sharp upward trend of the tonnage of the fleet FOC registered from nearly zero in 1950 to 130.2 million gross tons in 1991. Now nearly all the traditional established maritime nations are practicing a FOC policy, whether by using the existing open registries or by creating their own.

This move into the FOC, is explained as a way to cope with the high salary labor in these countries by use of lower salary labor from the less developed countries (LDC). But while some savings may be made on manpower costs, they are less substantial compared to the savings made from tax free arrangements and less stringent regulations which they are enjoying under the open registry systems. And this is the main reason for the FOC. The move into the open registry

has added a new dimension into the competition between shipowners.

But at this stage, one question may be asked : are we witnessing the implementation of a new version of the principle of freedom of the sea, not in sea trading routes but in terms of movement and location of the capital invested in shipping? In other words, anyone investing in shipping is free to choose any country in which he can officially, legally speaking, locate his business and from which he will man the vessels.

It is too early to give a complete answer either positive or negative and it is beyond the scope of this paper. Nevertheless, the countries adopting the FOC do not want to completely cut the umbilical cord with their citizen shipowners and try to have some contact with them for some reasons, such as strategic ones, through manning levels and such subtle arrangements. But a new pattern in the way of operating ships is emerging, when speaking about FOC, in contrast to a conventional pattern of shipowners operating under their own national laws in terms of manning, tax and salary and employment schemes.

3.1.2, THE 'ROUND THE WORLD' SERVICES OR GLOBAL STRATEGIES IN SHIPPING TRADE

Global strategies in shipping services are based on round the world (RTW) traffic, established on world-wide shipping services provided on a regular schedule. Unlike the traditional conference liners, they work outside conferences and operate in several conference market areas during a trip.

The concept has been applied by the defunct United States line and the Evergreen line. The principle is to start the

voyage from Far East, westbound to West Europe and North America through the Suez and Panama canals and to end it in Far East and to start another voyage the other way around. But, the usual way is going from the Far East, westbound to Western Europe and the United States east coast and back the other way around to the United States west coast and using the landbridges(railways) over the United States mainland. Recently, a German owned company, Senator Lines, was set-up on the same principle.

The service provided by these companies are based on the exploitation of the highly productive fully cellular container vessels. These vessels call only in the main selected ports; and such a exploitation creates a kind of discrimination between main and minor ports and a sharp competition between ports. The flow of cargo is thus affected. The cargo from the hinterland may be directly converged to the main ports or through the minor ports by means of a feeder system. The feeders are the small carriers and other coastal carriers who "feed" the main ports with the cargo from the minor ports.

The traditional conference liners are thus affected in the running of their business. They have tried to contend with this competition by some cooperative arrangements between themselves such as slot charter arrangements and the creation of consortia, and by streamlining their operations. The RTW services, as described above, have added a new dimension to the shipping business and call for a new approach to shipping services and as such affect the organization and the management of shipping business at the level of each individual shipping company.

3.1.3, COMPETITION

Shipping, being an international business, its ex-

ploitation is subject to international competition. This competition is undoubtedly necessary in order to have better services from shipowners and operators.

International competition is mostly dominated by the so-called cross-trade shipowners and relies on the market laws of demand and supply. The lowest bidder wins the market. This explains why the shipowners from the developed countries are attracted by open registers in order to gain the economic comparative advantage they have lost to the advantage of less developed countries because of high salary and tax. The advent of the RTW trade and other container-ship service lines modifies all patterns in the shipping routes and the importance of the ports. The ports are being split into major and minor ports, i.e. some ports became the main ports of call while the others are served by feeder systems.

This situation will be reflected in shipping business in such a manner that mainly for liner shipping certain shipping companies will be the main liners while others are playing the role of feeder liners. Beside this, the arrangement under UNCTAD code of conduct and other bilateral agreements concerning cargo-sharing will be of considerable importance as regards shipping services between countries. This international competition is viewed differently from one company to another and must be considered in setting the operating and manning policies.

3.1.4, CONCEPT OF ZERO STOCK GEAR

Zero stock gear concept is related to the time dimension of money. This means that the amount of money put aside for a given period must bring a profit, an interest at the end of this period; if not it is a loss of money. Money should circulate to bring the profit. This idea applies to

stock gear, it is understood that the money is used to buy the stock gear or spare parts is somewhat frozen all the time they are put in stores or warehouses. The period between the time of purchase and the time of utilization may extend from a few days to several years. In terms of money, the money will be kept sometimes for several years without making any profit on it.

The ideal would be to keep the stock gear at a reasonable level and keep the money in circulation. The idea is somewhat speculative and very disputable depending on whether it is looked at from an economical or safety point of view. However, this concept of zero stock gear is widely applied in the industry, mainly the manufacturing industry like auto-motive factories and household goods manufacturing factories. Besides them, there are also other traders of perishable and seasonal goods like fruit and garments. All those people who are the users of the shipping services and for whom the time of shipment and delivery is very important, rely on efficient transport systems and undoubtedly, the maritime link in this chain of transport is the most critical one because of the risks involved. Therefore, a shipowner must not ignore this aspect of the business when setting his policies.

3.1.5, POST-INDUSTRIAL SOCIETY CONCEPT

The use of the post-industrial society concept may be disputable since there is no uniformity in the technological development all over the world. But, shipping is by its nature an international business and today's communication technology has shortened the distances and tends to eliminate the traditional barriers between different cultures and nations. Therefore, the post-industrial society concept is most appropriate for the shipping community.

To understand the concept of the post-industrial society and its implications on the society and the shipping community, pre-industrial and social societies are elaborated briefly. The pre-industrial society was based on agrarian and artisanal activities. The work was performed by means of the human and animal force. And still there are several places in the world where the only source of energy is the muscular force. Characteristics of such a society is that the goods extracted from nature are consumed as they stand or after a little transformation. But this is not the case in the industrial societies.

This latter type of society started in England in the 18th century with the invention of Watt's steam engine and the subsequent industrial revolution. Afterwards it spread through Europe and North America, and later on progressively in different parts of the world. The industrial societies are not unlike the pre-industrial societies only extracting goods from nature, but also processing them and manufacturing new products. The main feature is the utilization of machines in the economic activities and other sources of energy than physical force like steam, water, electricity and oil. As a result, the relationship between worker and the work performed changed, completely.

As the industrialization was developing, the implications of man in processing and manufacturing goods became greater. The skilled craftsman of the pre-industrial era is now absorbed in tools; his conduct and behavior is bound with the shape of tools, power and limitations. The new skills needed for the new worker are derived from the constraints imposed by the tools and from the problem solving behavior of the old craftsman. Recently the progress in technology and sciences has led to better understanding of manufacturing process, due to new data computation and processing machines and communications technology. This evolution results in a new type of society as in North America, Japan

and Western Europe, the so-called "post-industrial society" or information society.

This society is characterized by :

- in economics : a shift from a manufacturing economy to service economy,
- in technology : the centrality of the new science-based industries, computers, electronics, optics and polymers, and
- in society : the rise of new technical elites and types of stratification.

Unlike the industrial society which is based on machine technology and whose major structural features are capital and labor, the post-industrial society is based on the intellectual technology and the major features are information and knowledge. Information refers to such basic data as payroll, records, bank clearances, production schedules, inventory analysis, census data and market research. Knowledge refers to reasoned, judgements or experimental results which are communicated to others in systematic ways.

As regards shipping, this change in the society calls for a new philosophy and approach to the problems of manning, training and management, and marketing and operation strategies. The management of the information will be a sizeable problem : the relevant information and time will be scarce items and the masterpiece for competition.

3.1.6, LEGAL OBLIGATIONS AND CONSTRAINTS AS REGARDS IMO/ILO CONVENTIONS

The great number of international conventions dealing with shipping adopted in the last 25 years shows the great attention given to the shipping sector activities during

this period. Maritime safety has been the main issue of these conventions and since the beginning of 1970s the protection of the marine environment has also become a main issue.

Most of the conventions are aimed at improving maritime safety and securing the protection of marine environment. The subject of maritime safety may be subdivided into three major sectors : constructional, operational, and carriage of cargo.

- 1- Constructional; under which fall the design, construction and equipment of ships,
- 2- Operational; may be defined as that sector of maritime safety which involves the human element and all those activities which are reasonably expected to be carried out in order to :
 - ensure safety of navigation;
 - prevent maritime accidents, thus protecting human life, property and marine environment when such an accident occurs;
 - minimizing the effects on the human life, property and on the marine environment when such accidents occur; and
 - render assistance and eventually rescue persons found in distress at sea.
- 3- Carriage of cargo; this section comprises measures aimed at securing :
 - safe stowage and carriage of bulk cargoes;
 - safe handling and carriage of dangerous goods; and
 - safe handling and transport of containers.

All these international instruments have stressed, as far as personnel are concerned, as related to maritime safety and marine environment protection, the role of education and vocational training since human factor is the major contributor for marine casualties. They have defined

the means to ensure that the minimum standards are met. A knowledge of these instruments and their implications on shipping, therefore, is vital for efficient operation.

3.2, CONSTRAINTS ON THE SHIPPING COMPANIES

In the preceding section, the changes, innovations and improvements which have occurred in the shipping industry as regards ship technology and ship operations have been mentioned briefly. Those changes which are technical, economical and social have brought some constraints on the shipowners and operators. Those constraints, as mentioned earlier, will be elaborated here and are the followings :

- adequate manning level,
- flexibility,
- good knowledge of the main factors of shipping and the markets,
- awareness of evolution in the shipping industry, and
- efficient management and control of the production means.

3.2.1, ADEQUATE MANNING LEVEL

The manning of a vessel not only interests the shipping companies but also other bodies such as governments, maritime safety administration, ship underwriters and classification societies.

Giving a satisfactory and common answer to all interested bodies regarding, what is the adequate manning level, is somewhat difficult to achieve. A shipowner will answer that the adequate manning level is the optimum economical manning to run the vessel thinking in terms of costs. But the

shipowners' activities are governed and regulated by the governmental and the maritime safety administration, ship underwriters and classification societies in terms of safety.

This leads to the question of, what is the adequate manning level while considering minimum safety and optimum economical operation for rational and efficient performance of the vessels.

The level of manning to run the vessel is determined by the number of different functions and the specific operational conditions under which those functions have to be carried out. The main functions in this regard are those related to navigation, propulsion, maintenance and cargo care. The operational conditions are widely diversified and depend on the trade types, routes, zones, the type and size of the vessels and the degree of the technology used on board.

The development in ship technology, increasing the efficiency and the reliability of the ship components has a great impact on the manning level in terms of reduction in number. But this reduction brings the problems of the competence and composition of the crew, as well as a need for an increase in the technical logistics and planning from ashore, which is the subject of the following section.

3.2.2, HIGH DEGREE OF FLEXIBILITY

As the degree of automation and integration in the ships is increasing, the number of crew is decreasing, maintaining the same safety standard. Along with the reduction of crew size, the relation-ship between the different functions on board ships and the nature of the function and the operational conditions also changes. This

change in the manning pattern is a continuous process which is related to the development of the ship technology to a great extent. This in turn brings about the problems of mobility of ships' crew, as a result of the reduction of workloads on personnel. But this mobility/flexibility requires better education and training.

Some of the maritime education and training centers in the developed maritime countries are aware of these problems and are offering polyvalent courses in an effort to solve them. Courses such as :

- bivalent deck-engine officers, and
- general purpose ratings.

However, this flexibility has to be looked not only in a horizontal way, i.e. deck-engine officers, general purpose ratings, but also in a vertical way : ratings-officers and shipboard and shore-based personnel. In other words, up-training of the shore-staff must be carried out in parallel with sea personnel, as good cooperation and understanding is necessary for an efficient operation.

3.2.3, GOOD KNOWLEDGE OF THE MAIN FACTORS RELATED TO SHIPPING AND THE MARKETS

Shipping is said to be the servant of seaborne trade and a link in the chain of transportation of goods. Therefore trade and transportation systems are two main important factors which influence the shipping markets. On the other hand economical development in the region determines the needs of the trade and consequently of shipping services (tramp or liner services). As a result the development of transportation in that particular region will influence the types of ships and cargo stowage, storage and packing and handling systems. Shipping, being an international business,

is also affected by the world economic situation as well as the specific economic condition in a particular region. The factors such as agricultural production, industrial production, demand for a particular commodity and other factors such as political crises, wars, strikes characterize a given market and, hence, influence shipping services.

In addition to the economical evolution, the development of transportation systems in that particular region will also influence the shipping services in terms of types of ships, cargo stowage, packing and handling equipment. Timely awareness of these factors will enable a shipowner to respond to the prevailing conditions and take advantage of the market needs.

3.2.4, AWARENESS OF THE EVOLUTION IN THE SHIPPING INDUSTRY

In the preceding section we have seen the importance of the economic and the transportation systems development on shipping services. In other words, these two factors determine the needs of shipping services, as well as the nature and quality of the services.

The consumer of the shipping services, shippers and other local population and the government of the countries served expect from shipping companies good services in terms of safety, security and preservation of cargo, timely delivery and most important of all fair freight. These shipowners and operators who can satisfy all these expectations are using the new shipping technology to their advantage. This awareness and willingness to use technological evolution is becoming more important as the world is moving into an era where services play an important role and competition gets tighter.

3.2.5, EFFICIENT MANAGEMENT AND CONTROL OF THE PRODUCTION MEANS

It may sound strange to speak about the management of the production means as a new constraint on shipowners since shipping companies are practicing it in their management for a considerable period. It could be possible but it is not the authors' opinion. In the section concerning zero stock gear, we have seen that the stock gear is somewhat considered as a waste of capital and consequently most traders rely on shipping services for receiving the goods/parts from their overseas partners and vice versa without keeping a considerable stock. In addition, a ship, unlike a fixed factory, is a moving asset where heavy work is often carried out , and also because of the effect of competition, the management of production means has to be re-thought and re-organized.

The production means for a shipping company are ships, containers and other handling equipment such as trucks and trailers, if any. These materials need to be commissioned. Without any plan the commercial operations of the ships can be impeded. This requires good management of the production means or materials administration.

Good management of production is oriented to the consumers and has key words like quality, reliability and punctuality. As such it will not only be a tool of rationalization and a possibility of increasing the turnover of the company's capital but an instrument of marketing. This imposes a new philosophy and approach towards the organization and conception of shipping. The idea is to avoid the discontinuity of giving services to the consumers/clients, and this could be achieved only through proper planning and deep realization of personnel from consequences of delays, both ashore and onboard, by awareness training.

3.3, RECENT CHANGES IN SHIPPING MANAGEMENT

The objectives of a shipping company, generally speaking, is to provide reliable and quality services and hence, consequently increase its market share (State owned companies in parallel have other goals which are briefly mentioned in chapter 2). The company should be able to select and maintain customers who are willing to pay for service of quality. In the long run all these factors will contribute towards maintaining the company as a profitable enterprise, generating enough profit to fulfill the company's expectations, to remunerate capital at risk and develop the business.

To achieve the above mentioned objectives, the company management must ensure that adequate tonnage, owned or chartered, is available and its fleet is properly manned, maintained, insured, and most important of all- available for employment. Nonetheless, ships are used as tools for providing the services and earning profit.

The profitability of a shipping business for a large part depends on how efficiently and effectively it is managed, both ashore and on board. Economic and technical developments in shipping have created extremely difficult and competitive conditions for those involved in the management of industry, both ashore and on board. The rate of technological obsolescence has more than doubled in the last 20 years, and there is little evidence of a slowdown in this trend. These conditions demand skills, motivation and good management practices in a shipping company for its survival and success. But during the last decades shipping company's organization/management has experienced remarkable changes and its chronology is explained briefly, overleaf.

3.3.1, SHIPPING MANAGEMENT FROM 1950s TO 1990s

During 1950s, as communications improved, most of the decisions made on major technical, supplies and crew matters moved from ships to the head office. This shift on the decision making process occurred with the development of the functional departments and became the standard style of ship management until the 1960s. At this time, increased running cost, low freights, and increased competition from the new maritime nations compelled some older ship owners to seek for a solution for reducing their costs in order to stay competitive. This was the period when systems such as General Purpose crew, Planned Maintenance, Spare Parts Control, and Stock control were introduced. These resulted in an improved mix of the skills in the crew to suit optimum technical and operational requirements. Significantly, the new systems showed the need for the sea staff to cooperate for the good of the ship as a whole and not just their own departments, that is, there was a requirement for team management.

The increase of technical knowledge, coupled with greatly improved communications and control techniques resulted in a growth in the size and development of the functional departments of many older shipping companies.

New technology, changes in shipping laws affecting the construction and equipment of ships, and greater emphasis on the safety and anti-pollution measures necessitated more staff to deal with modifying ships, and keeping sea staff informed. Similarly, the studies of work in ships and the resultant new systems (GP, Planed Maintenance, Etc.), needed extra staff and time for their development.

In this type of management officially there was no one to co-ordinate the various functions directly associated with the ship, although the operation departments of many

companies often acted in this role when necessary. Recognizing this need some companies appointed a coordinator for fleet manager, and this did produce some focus on the ship as a whole. Although recognized as a step in the right direction, the role of the functional departments remained the same and thus the coordinator could not communicate directly to the BOD(Board Of Directors). In the search for an improved organization which would rectify this situation, in the 70s some shipping companies turned towards the Matrix organization.

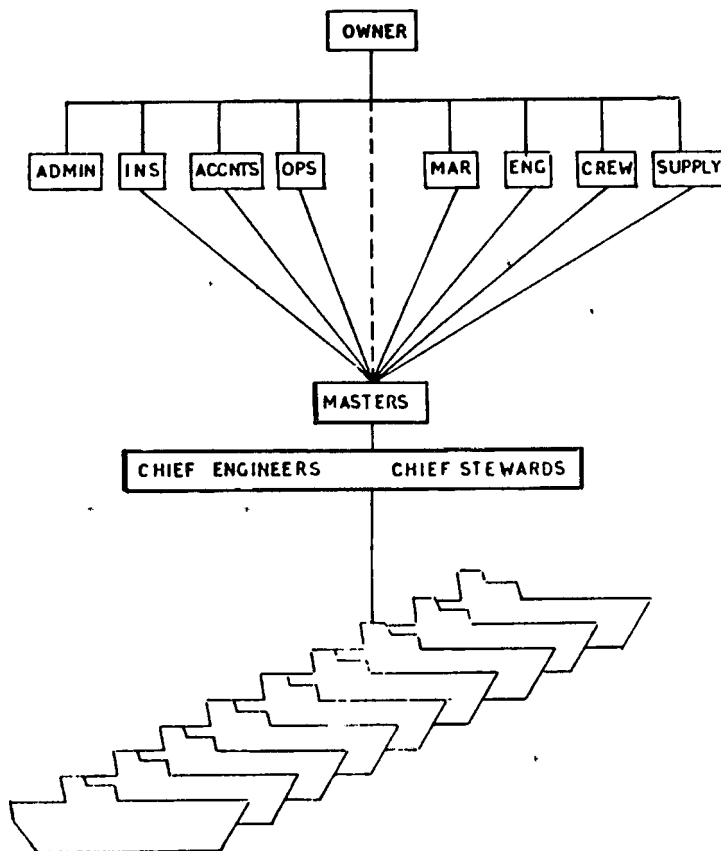


FIGURE 1, 1960s Functional Organization
Source: Managing Ships, J.M.Downard

This system provided greater focus on the ship and yet allowed accountability for both the functional and line managers. If for example each fleet consists of ten ships, within the Fleet Management, the functional managers (Crew, Technical and Supply), were responsible for ensuring that

their individual functions were carried out in all the thirty ships, while the Fleet Managers were responsible for ensuring that all the functions were carried out in each one of their fleet of ten ships.

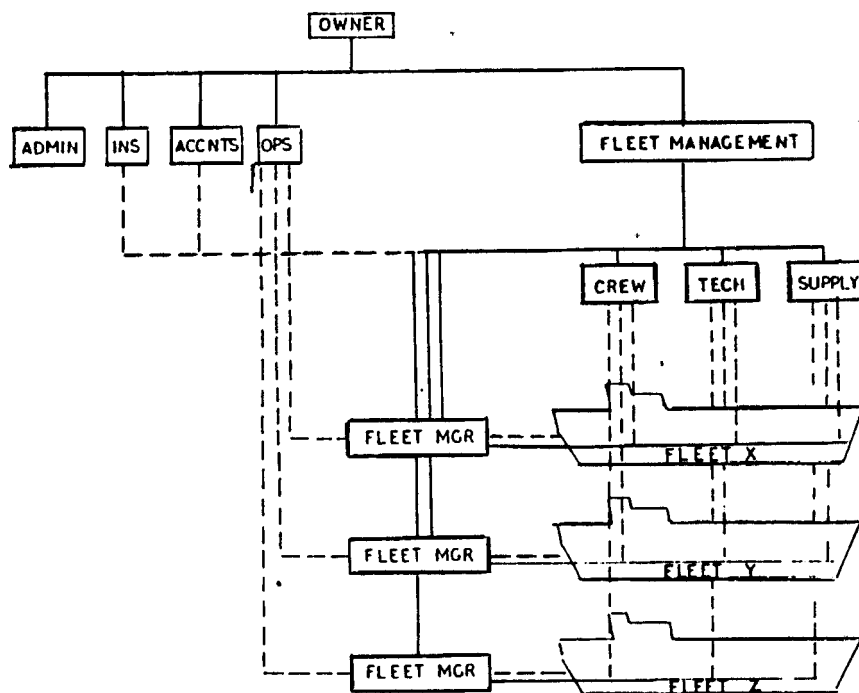


Figure 2, The 1970s Matrix Organization

Source: Managing Ships, J.M.Downard

Essentially there were two problems with this type of organization:-

(1) The number of ships allocated to each fleet manager was too many for him to have a close working knowledge of them,

(2) Although providing a focus for co-ordination, the Fleet manager's position still lacked real authority and effectiveness, because of the continued size and power of the functional departments. He managed by monitoring and questioning the action of the functional managers. If he did not agree with their actions he could challenge

them, but if the agreement could not be reached the matter had to be referred to their mutual chief.

It soon became apparent that the role of the coordinator was essential, but it was found that smaller groups of ships of about three or four, were more effectively coordinated or controlled than larger groups. To fill the role of this task the position of Ship Group Manager, or Ship Manager was created with overall executive or line accountability for the ships in his group.

In 1980s there was a movement of technical staff from the "Functional" to the "Line" side of the dual accountability organization structure. At the same time there was a tendency to merge the Crew and Supply departments into one "Services" department to support the fleet as a whole. Some companies also set up a fleet drydock department to deal with major repairs and modifications.

The purpose of this organization/management was to create a direct line association or chain of command between the BOD and Ship Master, through the Head of the Fleet and the fleet manager. Therefore sea staff were better informed, and to some degree more involved, but the shipping company organization was still a centralized one.

As costs continued to rise still more efficiency was sought. One way of achieving this seemed to be by greater utilization of ship's crew, particularly the senior officers, by greater delegation of authority.

It was recognized that full decentralization was impossible to achieve because: first of all it requires stable crew, particularly at the senior level, and secondly the trade for ships could not be sought by the sea staff, and major technical work and purchasing could not be satisfactorily

negotiated and arranged by them , because of their relative isolation. But much could be delegated to the shipboard management team. They can be accountable for all areas of costs and earnings which they can feasibly control, given the necessary support, information and advice. In matters over which they do not have full control, they can provide the shore staff with the necessary information and comments for decisions to be made jointly or separately.

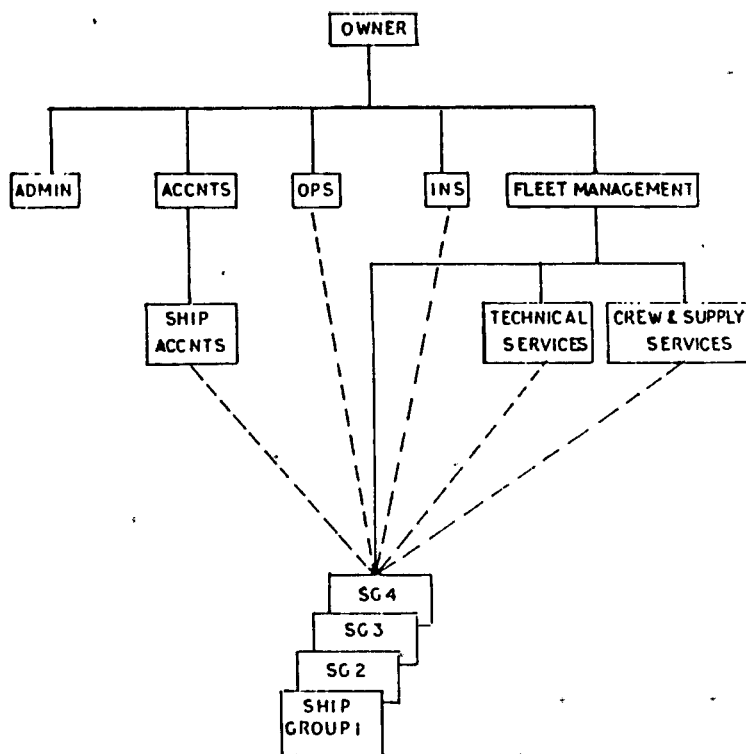


Figure 3, Ship Group Development
Source: Managing Ships, J.M. Downard

This system was used and evaluated by Stena company after acquiring UK ferry operator, Sealink. The program aimed at re-training 1400 sea staff in a new culture where financial control and accountability is meant to create more involvement and greater job satisfaction.

This resulted in a reduction of hierarchy levels between Master and BOD to two, Master has control of his own cash,

ordering supplies for ships is simpler and quicker, and involvement of ship's senior officers in drawing up next year's budgets with help from the Head office. Mr.Storey, Sealink ship management director claims: "As a result of this new system, the ferry fleet has reduced the amount of technical downtime from 6% (out of a total 18000 operation Hrs. a year) to 0.17% and the number of absenteeism is also down".¹

3.3.2, SHIPPING MANAGEMENT AND TECHNOLOGICAL CHANGES

As already has been mentioned, ship operations have undergone radical changes in recent years. This trend now seems to be accelerating as various high-technology developments in ship controls, communications, and data processing are introduced on board ships. Ship safety, the complexity of ship systems, and the international nature of shipping have always made shipping a rather conservative industry where things changed slowly and culture was traditional.

However, in the last thirty years shipping has been relentlessly drawn into the integrated transport system and has lost much of its unique insular characteristics. Shipping- in all its forms- must now adapt to intermodal and interface requirements. As a result, ships are increasingly built to operate as part of the larger transport system.

These changes have introduced many new demands on ship operating performance, cargo form and methods of cargo handling, ship condition control, and ship communications, as well as ship management. At the same time pressure to improve the operating efficiency of ships has increased. It is usually expressed in terms of fuel and manning efficiency, the two principal operating cost factors. On the other hand, we must recognize that fuel consumption and crew

reduction affect capital costs, operating costs, and revenues of vessel.

The principal factors influencing fuel and manning efficiency are shown in a simplified diagram below. It is important to note the interdependence and feedback effects of the different factors which must be considered by both designers and operators, to achieve the objectives of efficient ship operations management.

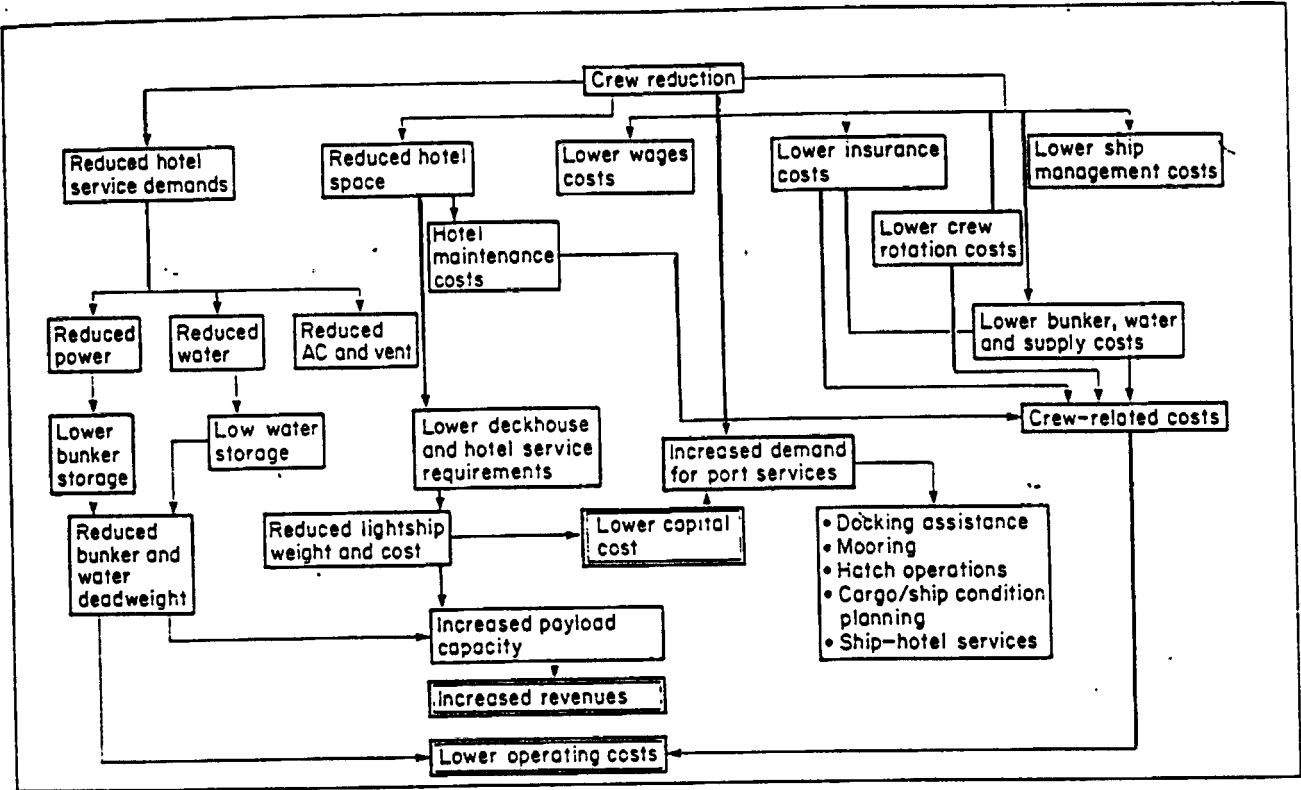


Figure 4- Interdependence of Operating and Capital Costs
Source : Marine Policy, Sep.1990

The impact of technological changes on ship operations and management has been profound and will accelerate as soon as economic conditions in the shipping industry improves. Technical changes have occurred in ship design, ship arrangement, hull form, propulsion systems, communication

transfer, etc.) and ship service functions under automatic control. Such a crew may be adequate for at-sea operations.

The only added assistance needed would be entering and leaving ports. Line handling and similar operations could be performed by ship docking/mooring crews dispatched to ships with pilots. In fact in the future docking may become part of the piloting/docking services supplied by ports.

It could be easily concluded that Engineers in the future have to be technical experts (maintenance personnel), not only on mechanical systems, but also on electronics. Operation of the systems will be reduced, because the automation takes over, allowing the deck (or dual purpose) officers to do most of the work. But the technical systems will become still more complex, and maintenance, error finding and repair will become the most important part of the work.

Consequently, at the same time the workload on the shore staff will be increased, requiring them to be more competent and better technically trained to be able to support the fleet effectively. It is therefore important that the education of seastaff are adjusted and office personnel are trained to the new conditions and the corresponding new requirements as early as possible.

With all these changes, those involved in the management of ships have restraints placed upon them and they must take account of these while trying to achieve the goals of the company. Among these restraints (laws, plans, budgets, authorities, responsibilities, and policy), national and international laws and regulations are the ones over which the management has no, or very little if any, control in drafting or changing them.

The principal laws affecting a merchant ship are the

shipping, safety, employment, environment and tax laws of the country whose flag she is entitled to fly, known as the National Laws. A ship always comes under the jurisdiction of the relevant national laws of the flag state.

Being international in nature, where appropriate, a ship must also comply with the laws of the countries which have adopted international conventions in advance of her flag state, or taken unilateral action in shipping matters, such as USA with her Anti-pollution and navigation rules or Australia with her Cargo gear and ballast water regulations. Hence, practically all ships operating internationally (whether from a state party or non-party) come under the provisions of the relevant conventions which are already in force.

The main sources of international laws are the international maritime conventions. The International Maritime Organization (IMO) is the main body in drafting conventions in the technical areas of shipping, viz. safety of life and ships, manning, safety of navigation, pollution prevention and intervention in pollution casualties etc. Other bodies such as ILO and UNCTAD are also involved in drafting conventions in areas such as social conditions of seafarers and commercial field of shipping.

To understand all these laws, rules, regulations etc. which are mostly technical in nature, and for their effective compliance it is necessary to have qualified ship managers who will guide well trained and efficient shipboard management teams by means of ship-shore communications and good reporting systems.

But those involved in shipping, historically, are reluctant to change their practice, therefore, at the end of 1988 when the idea of the Quality Management, or code of Good Management, was first introduced, by the so called group of

five (G5), very few in shipping business believed that it would be successful.

Oil pollution act of 1990 (OPA) introduced by the US following the Exxon Valdez spills has made a ship manager, along with the ship owner if they are different, liable and can be hauled into US courts to face unlimited liabilities, heavy fines, and even prison sentence.

Knowing this and at the same time feeling the ever increasing pressure from the insurance companies, resulted in many companies to conclude that one way to reduce the risk and to stay competitive was to go for the Quality Management practice, and certificate. This can be observed as the number of companies which are seeking Quality Assurance Certificates, is increasing.

In brief, finding and recruiting new sources of qualified labor, training up existing manpower, coping with the high turnover in personnel, maintaining ships while optimizing costs, managing technological changes, and gainfully employing its fleet are among the main problems which shipping management are facing today.

Therefore, shipping management today requires a dynamic atmosphere where new answers to problems can be constantly sought and innovative methods called on to tackle old issues.

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HUMAN FACTOR AS THE KEY TO PROGRESS

4.1. RESOURCES AVAILABLE IN A SHIPPING COMPANY

On 6th March 1987, "HERALD OF FREE ENTERPRISE" sank one mile out of the Zeebrugge port, Belgium, on her way to Dover. 38 crew (out of 180) and 160 passengers (out of 500) lost their lives, resulting in approximately \$40 million in damages and compensations, despite prompt search and rescue operations from Belgium and British organizations. The accident happened because the assistant bosun fell asleep and therefore failed to close the Bow-door on departure. The cause of the accident, as the court found, was due to lack of proper and clear instructions/standing orders.¹

It took only a few hours for some 260,000 bbl of oil to pour from the battered hull of the "EXXON VALDEZ" after running aground on Prince William Sound's Blight reef on March 24, 1989. It took six months, 17 million person-hours and more than a billion dollars to return beaches to an "environmentally-stable" condition.²

In Nov.1989 a vessel grounded on a coral beauty spot off Florida keys, USA. The vessel was impounded and taken to Florida port under arrest, despite the grounding being outside territorial waters. No pollution was caused, the reef apparently was only slightly dented. The ship had to pay \$2.3 million for damage to property and loss of use.³

187 lives were lost on "SCANDINAVIAN STAR" ,in April 1990, when she caught fire on her route from Oslo (Norway) to Frederikhavn(Denmark), despite search and rescue operations by neighboring countries. The cost is estimated to be about \$50 million.⁴

If any of the above mentioned accidents, occurred in a medium or small company, it could end up in bankruptcy or at least with red results in her balance sheets for some years.

4.1.1, HUMAN ERROR AND ACCIDENTS

Every day seafarers are involved in accidents which result in injury, and all too frequently, death, mainly as a result of incorrect and unsafe practices, potentially unsafe equipment and deficiencies in personnel training.

Lloyd's casualty statistics figure for 1990 shows that 188 ships, a total of 1,126,026 grt, were reported as total losses during this year and 389 persons reported dead or missing as a result of these losses.

But one might ask just how accurate are these safety statistics? In a recent paper⁵ given to the International Advisory Group on Maritime Statistics by members of the maritime department at the University of Wales, it was suggested that these figures published represented only one tenth of accidents and problems worldwide.

However, analyzing accidents and quantifying the results can be confusing and misleading. Figures are published on a regular basis by bodies such as Lloyd's Register and the British Department of Transport, covering ship losses and injury statistics respectively. The ship losses figures have been used, in the paper, to provide an approximate idea of seaman's accidental deaths and injuries worldwide.

Figures derived from statistics of the UK fleet, based on death rates per 1000 persons employed or per 1000 grt may not reflect worldwide trends, but the authors of the report contend that if figures are based on 1000 grt *LOST* this should give an acceptable figure for marine-related accidents on a worldwide basis.

Year	Seamen's Accidental Injuries	Seamen's Deaths	Lloyd's Register Deaths	Ratio of Estimated Deaths to Lloyd's Register Data
1983	262,915	4,296	671	6.4
1984	1,628,036	26,885	525	51.209
1985	481,670	3,430	619	5.541
1986	720,256	13,798	1,067	12.931
1987	93,484	6,708	3,841	1.746
1988	151,752	3,213	763	4.211
TOTAL	3,338,113	58,330	7,486	7.79
6 YEAR AVERAGE	556,352	9,722	1,248	7.79

Table 2; Estimates of Seaman's Accidental Injuries and Deaths, Worldwide (1983-88).

Source : Fairplay, 15th Nov.1990

Because the absolute numbers of seamen on British ships, who died in accidents, is comparatively small—from 7 to 84—substantial errors must inevitably be introduced. For this reason annual averages must be looked at, rather than those figures for any particular year in order to establish a trend. Obviously more precise calculations could be made if the data stretched back over fifteen years rather than ten and if information could be gathered from other fleets in addition to the UK.

Using the averages from the previous table and 1990 Lloyd's

figure, the worldwide estimates of seaman's deaths could be as much as 3,030(7.79 * 389) and seaman's accidental injuries as high as 173,105 (445 * 389). A word of caution must be added here that the number of total losses in 1990 (188) was the lowest since 1960, while the Grt lost (1,126,026) is an increase of almost 69% on the previous year's total.⁶

Each accident produces damage or cost which could consist for a part of, one or both types of "private costs" or "social costs". Private costs include, inter alia, cost of hull damage, cost of cargo loss or damage, cost of time loss, and cost of contract (commercial) loss. Social costs includes, inter alia, cost of lives lost or killed, cost of personal injury claims, cost of penalties (due to breach of a contract), and last but not least, cost of environment damage.

The UK P&I club's analysis of major claims shows that HUMAN FACTOR was to blame for nearly 60% of the claims exceeding \$100,000.⁷ Mistakes by either ship's crews or shore-based personnel were responsible for half the cargo claims and largely related to stowage/handling or lack of knowledge of specific carriage requirements for various commodities. Eight out of ten personal injury claims were caused by human error and language difficulties, even between officers and crew on the same ship (e.g. Scandinavian star accident), contributed to them. Language problems surfaced in the case of property damages as well, as they led to communication difficulties.

In a recent study conducted on behalf of the UK Department of Transport, the following was concluded : "out of 39 collisions studied seven happened due to carelessness/overconfidence and six due to lack of attention; fatigue was often cited as one of the main causes of collisions, and design problems of various types often featured in fires".⁸

Human error/failure in a shipping company can be divided into two categories :-

1)- Incompetent failure, which could end up in misusing of equipment or authority, and this happens when people are not skillful to perform their assigned duties.

2)- Competent failure, this happens when people are skillful enough to carry a performance but fail to do so by some other reasons such as:

- Ambiguous or bad relationship on-board ship or ashore,
- Bad communications: language, culture, different back ground,
- Poor operational procedures, manuals, standing orders,
- Excessive fatigue, wrong job description/manning,
- Poor physical fitness, lack of standards,
- Too high level of calculated risk, bonus,
- Excessive use of alcohol, drugs.

Therefore management of shipping companies should take steps that could minimize or preferably eliminate those factors which would contribute to human error/failure.

4.1.2, RESOURCES IN A SHIPPING COMPANY

To meet their goals, shipping companies have to obtain and utilize resources. This applies to a shipping company trading regionally as well as to a shipping company trading worldwide. The common factor for all is that there are limits to resources, and, regardless of the size or configuration of the company, there is always competition for those limited resources. One of the major functions of executives and managers is to allocate those resources in a fashion

most likely to enable the company to be successful- by whatever criteria it measures success.

The resources available to any company could be divided into three different categories; namely physical, financial, and human.

Physical. This includes natural resources as well as those that have been produced. Natural resources could vary from one company to another, they could include, inter alia, offices, ships, containers, and most of the items that appear on the company's balance sheet under "Fixed Assets". Generally, physical resources do not automatically renew themselves, and investment and expense are required to bring additional physical resources into the scope of a company. They are very important to the health of the company because they provide it with stability and strength.

Financial. This refers to the liquid assets of a company. They are the cash, stock, bonds, investment, and operating capital. Like physical resources, financial resources are important to the company's ability to react to opportunities for growth and expansion. They also reflect its overall financial stability and strength. This is determined by comparing the assets (physical and financial) with liabilities (debts) of the company. A positive outcome is referred to as "net worth". Net worth is the figure which banks, investors, and the public use to determine the financial health of a company.

Human. This refers to the people employed by a company. Measuring the value of human resources is difficult because it is hard to use standard and traditional measures such as fixed and liquid assets. As a result, human resources can not be depreciated as physical resources can, nor used to reflect the net worth of a company as financial resources are. Human resources, however, are just as important as

physical and financial resources. But, unfortunately, managers often over-look this fact, because human resources cannot be used to reflect the prosperity of the company.

4.1.3, PEOPLE AND THE SYSTEMS

Much that goes on in the world today may be described in terms of systems. There seems to be increasing recognition of the fact that very little of the more important kind of human activity takes place in isolation. The essence of any job is performance, which can be presented as a continual cycle of :

input > performance > output > input > performance > output.

This constant chain is the essence of how work gets done in companies, as one person's output becomes another person's input. The output-input is of various kinds. It can be an internal report, a phone call, inventory report, or some other action that constitutes part of the performance required of a particular job. So much interconnected and interdependent have these performances become that it is standard practice today to look beyond the immediate inputs and outputs of these performances and to ask about their consequences for the rest of the system.

A *system* can be defined by the machinery, the people and the procedures assembled and organized for the accomplishment of a specific task within a specific environment. The efficiency of the system is measured by the ability of the system to perform the tasks for which it was intended without experiencing losses due to system failures. System failures are those which have their origin in the physical apparatus of the system, in the people involved in the system's operations, in the procedures for operating the system, or in the environment in which the system operates.

When the system is functioning at its planned level, this output-input flow proceeds undisturbed. But what happens when the performance results in an output that is not up to standard? The performance of the next person who is expecting the standard input is affected adversely, because the input is different from the one anticipated. Internally, this can result in a loss of production (less freight revenue), lowered productivity (shipping services), and subsequent cost increases, or profit losses. When unsatisfactory performance produces output (shipping services), it also results in customer dissatisfaction, hence losing market share. Inadequate performance, in the form of substandard output, is one of the major reasons why companies must provide training.

There are system failures that can be broadly grouped and identified with either the ship, the environment, the office personnel, or the sea staff. These failures contribute to the creation of the undesirable event- unfavorable contract, accident, etc.- and the degree of loss after the event. Every one of these failures, and many combinations thereof, can be viewed as contributory to the loss. Thus, if a particular feature of the system appears to be affecting the failure rate, changes should be made in that feature or in another element of this system that compensates for it.

An effective attempt to reduce system failures, hence, enhancing efficiency will require the following :-

- 1- Recognition of the complexity of the problem. There are factors of the environment, the ships, office personnel, and sea personnel affecting efficiency, no single factor can normally be identified as a "cause" of failures.

- 2- Proper identification of remedies or countermeasures. An understanding of these factors contributing to the failure/loss is necessary, for the identification of effective remedies.

3- Selection of remedies on the basis of the improvement produced for the expenditure made. The resources available for efficiency improvement are not without limit, and it is therefore necessary to allocate the funds available for this purpose in a way that yields the greatest gain possible in terms of failure loss reduction. This procedure can be further divided into the following steps;

- Determining ways of finding the cost of failures, both from shoreside or shipside,
- Categorizing costs to their sources,
- Identifying the causes of failures,
- Analyzing the economic importance of causes,
- Selecting remedies appropriate to the causes, best effective and economical remedy by analysis of costs and benefits of each proposed remedy is selected,
- Evaluating effectiveness of applied remedies, and
- Making appropriate alterations in time, if and when remedies found out to be more effective otherwise.

4.1.4, RECOGNITION OF HUMAN RESOURCES

Some company chairpersons may pay little attention to employees in their annual statement to shareholders, according major emphasis to economic results. Also in day-to-day practice, within companies, finance and marketing will frequently take precedence over personnel matters, and on many boards of directors the personnel function is still inadequately represented. Part of the problem could be that many senior managers incorrectly flatter themselves that they are experts on personnel matters in addition to their own chosen line of specialization. It is only realistic to expect that in an economy where primary attention is given to economic performance and the return on capital assets, human resources will frequently take second place. Human resources may also be seen as a means, albeit frequently an

expensive and increasingly truculent means, for achieving economic ends. Increasingly however, companies favor a more positive attitude if the best results are to be achieved.

One measure that corporate executives and managers should consider when determining the importance of human resources is the cost of replacing valuable employees, for example, the cost of recruiting, hiring, relocating, lost productivity, training, and orientation. Another measure is the knowledge, competencies, skills, and attitudes of the members of the company. Managers need to place a value on these intangibles. In other words, a well-trained, highly skilled, and knowledgeable employee is more valuable to a company than one who is not. This value is ultimately reflected in increased productivity and efficiency, as well as in the employee's attitude towards work and the company.

In their 1986 report, the American Society for training and Development claims that in 1986 the expenditure on human resource development was \$210 billions, compare to formal education of \$238 Billions.⁹

Companies are aware of the value of human resources, but they fail to consider them in their asset portfolio. As a result, many do not recognize the importance of human resource development programs, nor do they realize that improved knowledge, competencies, skills, and attitude are necessary to improve the overall efficiency and effectiveness of the company.

Development of people refers to the advancement of knowledge, skills, competencies, and the improved behavior of people within the organization for both their personal and professional use. From a company perspective, however, it is not enough to simply increase the knowledge, skills, and competencies of the employees and improve their behavior. These company efforts (training, education) must result in

performance improvement that will enhance the company's competitiveness and efficiency. Performance improvement, therefore, is the ultimate goal of human resource development.

Human resource function (concept) as defined by Nadler (1986)¹⁰ begins by separating human resources into three broad categories : human resource utilization, human resource planning and forecasting, and human resource development. Each has a different purpose but all contribute and are essential to the development and improved performance formula.

Human resource utilization refers to the placement and utilization of human resources within a company. This includes promotions, appraisal, transfers, and compensation. Human resource planning and forecasting refers to the forecasting of future human resources and the appropriate planning for their recruitment, selection, training, and career advancement. Human resource development refers to the preparation through learning activities of human resources for: (1)-improving performance on their current jobs (training), (2)-improving performance for a future job or to enable one to accept more responsibility and/or new assignments (education), and (3)-individual enhancement that is not job-related, although it may have some impact on a present or future job (development).

The desired outcome of each area is the advancement of knowledge, competencies, skills and attitude acquisition, utilization, and improvement.

In conclusion, appreciating and utilizing the human resources in a shipping company is the key factor for its success, as any policy sought by the upper management can be executed effectively only through its people, ashore and on board ships.

4.2. : THE IMPORTANCE OF MOTIVATION

If we look at a group of employees who are performing the same job we shall note that some do it better than others. This is not only true of assemblers or other workers but also whether the group consist of secretaries, clerks, ship's officers or managers. Furthermore, if we measure their contribution to the company we will probably find the best person is contributing two or perhaps several times the productivity poorest is contributing.

These observations raise an important question : what are the causes of these differences in performance and subsequently, what can be done ? One answer that has been given is that the differences reflect varying abilities and skills on the parts of the individuals. People have had different amount and kinds of education, training, and experience and vary in degree of intellectual capacity to learn from this education, training and experience.

This first assumption may lead to a number of different strategies on the part of the companies for improving their employees' performance such as :

- 1- Selection of persons who have the abilities and skills which are necessary for performing the jobs.
- 2- Emphasis on training to develop the necessary abilities or skills on the part of the employees.
- 3- Changes in the content of jobs to make them consistent with the existing abilities or skills in the labor force. This option, however, is rarely available.

4- Transfer of persons from one department to another, especially when the job content is in evolution.

There is, however, another important assumption which can be made about the origin of differences in performance among persons doing the same kind of work, even among persons having the same qualification, and is related in their differences in their motivation. This second assumption needs a different organizational strategy for improving job performance.

The problem of getting people motivated when at work, to use their ability or skill in the actual performance of the job has been an important subject matter for scientific research during the last fifty years involving particularly psychology. There are many theories of motivation that managers can use to improve their understanding of why people behave as they do. However, none of the theories provide a universally accepted explanation of human behavior, as people are far too complex.

4.2.1, MOTIVATION ?

The basic element of all human behavior is some kind of activity, whether physical or mental. We can look at human behavior as a series of activities. The question arises as to what activities human beings will undertake at any point of time, and why. We know that activities are goal-oriented; that is, people do things that lead them to accomplish something. But individual goals can be baffling. Sometimes people know exactly why they do things; often, however, individual drives lie buried in the subconscious. For example, do you know why you did, what you did, today and what all your various activities were designed to achieve?

The primary task of managers is to get people to contribute activities that help to achieve the mission and goals of their companies or of any department within it. Clearly, to guide people's activities in desired directions requires knowing, to the best of any manager's ability, what leads people to do things, what motivates them.

Human motives are based on needs, whether consciously or subconsciously felt. Some are primary needs, such as the physiological requirements for water, food, sleep, and shelter. Other needs may be regarded as secondary, such as self-esteem, status, affiliation with others, affection, giving, accomplishment, and self-assertion. As it can easily be imagined, these needs vary in intensity and over time with various individuals.

The concept of motivation is difficult to define, as it is a general term applying to the entire class of drives, desires, needs, wishes, and similar forces. Henri Fayol¹¹ describes it as: *"Motivation refers to the degree of readiness of a person to pursue some designated goal, and implies the determination of the forces including the degree of readiness."*

Today it is generally accepted that an individual rarely behaves or responds in a situation as a result of a single motive, and that in many cases behavior is unpredictable because of this. Motivation is frequently affected by the interaction of such variables as physiological needs and previous experience, such that many means may attain a single end. For example, the physiological state of being thirsty arouses in us a 'need', a need for a drink. This need can be completely satisfied by drinking water, but, depending on the time of day, our surroundings and our past experience, we might decide that a cup of tea or a glass of coke would be far more attractive.

Let us look at another example of the different ways in which a goal might be achieved. Let us assume that you have an overwhelming desire to be rich. To achieve that you could:

- a) Study hard to become a successful businessman;
- b) Marry a very rich person;
- c) Start filling in the football pools; or
- d) Play the stock-market.

It is possible to suggest therefore that motivation is a very complex phenomenon, which does not readily lends itself to simple explanations and theories, particularly as far as the motivation to work is concerned.

4.2.2, MOTIVATION THEORIES

4.2.2.1, Hierarchy of needs theory

One of the most widely mentioned theories of motivation is the '*hierarchy of needs*' theory put forth by psychologist Abraham H.Maslow¹². Maslow saw human needs in the form of a hierarchy, ascending from the lowest to the highest, and he concluded that when one set of needs was satisfied, this kind of need ceased to be a motivator.

The basic human needs placed by Maslow in an ascending order of importance which are shown bellow consists of :

Physiological needs : These are the basic needs for sustaining human life itself, such as food, water, warmth, shelter, and sleep. Maslow took the position that until these needs are satisfied to the degree necessary to maintain life, other needs will not motivate people.

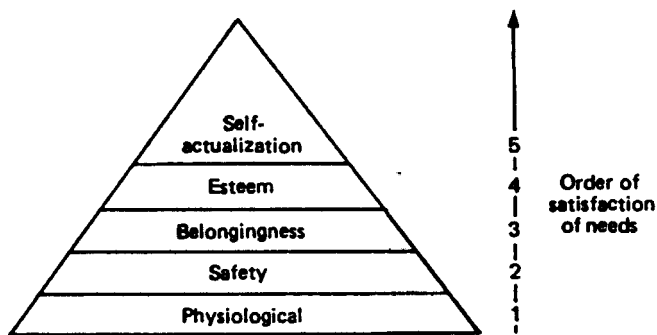


Figure 6, Maslow's Needs Hierarchy

Security, or Safety, needs : These are the needs to be free of physical danger and the fear of loss of a job, property, food, or shelter.

Affiliation, or Acceptance, needs : Since people are social beings, they need to belong, to be accepted by others.

Esteem needs : According to Maslow, once people begin to satisfy their need to belong, they tend to want to be held in esteem both by themselves and by others. This kind of need produces such a satisfaction as power, prestige, status, and self-confidence.

Need for Self-Actualization : Maslow regards this as the highest need in his hierarchy. It is the desire to become what one is capable of becoming, to maximize one's potential and to accomplish something.

To follow through Maslow's ideas, employees need to be motivated by establishing the level at which their unfulfilled needs are operating and their incentive schemes are geared to that point. The development of autonomous work groups, job enrichment schemes, and even giving a job a new

title to increase the prestige of the job holder, are examples of how this can be done. Maslow also suggested that needs and motives were subject to change, particularly through change in environmental circumstances. Changes in the state of the economy, for example, may activate financial and security needs in the individual, and temporarily lessen the drive to satisfy some of the higher order needs.

4.2.2.2, The Hygiene-Motivator theory

Maslow's need approach has been considerably modified by Frederick Herzberg¹³ and his associates. Their research purport to find a two-factor theory of motivation. In one group of needs are such things as company policy and administration, supervision, working conditions, interpersonal relations, status and personal life. These were found by Herzberg and his associates to be only dissatisfiers and not a motivator. In other words, if they exist in a work environment in high quantity and quality, they yield no dissatisfaction. Their existence does not motivate in the sense of yielding satisfaction; their lack of existence would, however, result in dissatisfaction. They were consequently referred to as "HYGIENE" factors, which are roughly equivalent to Maslow's lower-order needs.

Figure 7, Herzberg's Hygiene-Motivator Theory

<i>'Hygiene factors'</i>	<i>'Motivator'</i>
DISSATISFACTION	SATISFACTION
Company policy and administration	Achievement
Supervision	Recognition
Work conditions	Work itself
Salary	Responsibility
Status	Advancement
Relationship with colleagues	Growth

In the second group, Herzberg listed certain satisfiers- and therefore motivator- all related to job content. They included achievement, recognition, challenging work, advancement, and growth in the job. Their existence will yield feelings of satisfaction or no satisfaction, which are equivalent to the Maslow's higher-order needs.

4.2.2.3, The Expectancy theory

Another approach, one that may believe goes far in explaining how people are motivated, is the *expectancy* theory, proposed by Victor H. Vroom¹⁴. He holds that people will be motivated to do things to reach a goal if they believe in the worth of that goal and if they can see that what they do will help them in achieving it, in simplest term; "everything that is done in the world is done, in hope". Putting it in other words, people choose, from a range of plans, one that they expect will maximize their chances of achieving an attractive outcome.

Vroom uses a number of terms in a very specific way to describe his theory. His concept of '*force*' is basically equivalent to motivation, and is shown to be the sum of the products of *Valences* x *Expectancy*.

$$\text{Force} = \text{Valence} \times \text{Expectancy}$$

'*Valence*' is the strength of an individual's preference for a particular outcome, and '*Expectancy*' is the probability, ranging from 0 to 1, that a particular action will lead to a desired outcome.

4.2.2.4, Reinforcement theory

Psychologist B.F. Skinner¹⁵ developed an interesting- but controversial- technique for motivation. This approach, called '*Positive Reinforcement*' or '*Behavior Modification*', holds that individuals can be motivated by proper design of their work environment and praise for their performance, and that punishment for poor performance produces negative results.

Skinner and his followers do far more than praise good performance. They analyze the work situation to determine what causes workers to act the way they do, and then they initiate changes to eliminate troublesome areas and obstructions to performance. Specific goals are then set with workers' participation and assistance, prompt and regular feedback of results is made available, and performance improvements are then rewarded with recognition and praise. Even when performance does not equal goals, ways are found to help people and praise them for the good things they do. It has also been found highly useful and motivating to give people full information on a company's problems, especially those in which they are involved.

This technique sounds almost too simple to work, and many behavioral scientists and managers are skeptical about its effectiveness. However, a number of prominent companies have found the approach beneficial. Emery Air Freight corporation, for example, observed that this approach saved the company over \$500,000 a year by merely including employees to take pains to be sure that containers were properly filled with small packages before shipment.¹⁶ Perhaps the strength of the Skinner approach is that it is so closely akin to the requirements of good management. It emphasizes removal of obstructions to performance, careful planning and organizing, control through feedback, and the expansion of communications.

4.2.3, SOME MOTIVATIONAL TECHNIQUES

After looking at most of the theories of motivation, we may ask, what they mean to a company? While motivation is so complex and individualized that there can be no single best answer, but some of the major motivation techniques could be identified.

MONEY : Whether in the form of wages, bonuses, incentive pay, or any of the other remunerations that may be given to people for performance, money is important. Further, money is often more than money in that it can be a reflection of other motivators. Economists and most managers have tended to place money high on the scale of motivators, while behavioral scientists tend to place it low. However, if money is used as a kind of motivator, following points must be remembered;

First, money is likely to be more important to people who are raising a family, for example, than to people who have 'arrived' in the sense that their money needs are not so urgent.

Second, it is probably quiet true that in most kinds of companies, money is used as a means of keeping a company adequately staffed- by offering competitive wages- and not primarily as a motivator.

Third, money as a motivator tends to be dulled somewhat by the practice of making sure that salaries of company employees in the same rank/level are reasonably similar. However, this is understandable, since people usually evaluate their compensation in the light of what their equals are receiving.

Fourth, if money is to be an effective motivator, people in various positions, even though at a similar level, must be

given salaries and bonuses that reflect their individual performance. The way to ensure that money has meaning as a reward for accomplishment and as a way of giving people pleasure from accomplishment is to base compensation as much as possible on performance.

PARTICIPATION : One technique that has been given strong support as the result of motivation theory and research is the increase in awareness and use of participation. There can be no doubt that only rarely are people not motivated by being consulted on actions affecting them. There is also no doubt that most people in the center of an operation have the knowledge, both of problems and of the solutions to them. As a consequence, the right kind of participation yields both, motivation and knowledge, which are valuable for a company's success. Participation is also a means of recognition. It appeals to the need for affiliation and acceptance and above all, it gives people a sense of accomplishment.

QUALITY OF WORKING LIFE (QWL) : One of the most interesting approaches to motivation is QWL program¹⁷. These represent a systems approach to job design and a promising development in the broad area of job enrichment, combined with a grounding in the socio-technical systems approach to management. This technique tends to solve the problem encountered in many job enrichment cases where workers have mistakenly not been asked what would make the job more interesting for them.

As a result of this program a number of changes may be suggested in the design of the jobs and in the entire working environment. The recommendations may extend to such matters as reorganization of the company's structure, means of improving communications, problems may never have surfaced before and their solutions, better service quality control, and other things that might improve company's

health and productivity -increased market share with competitive freight.

4.2.4, THE IMPORTANCE OF MOTIVATION

It is recognized that in such a capital intensive activity as shipping and in such a competitive international activity as the shipping markets, the acquisition of the right ship at the right moment in the right condition is one essential factor for a good result. Furthermore, the ability to secure good clients is another essential factor and the effectiveness and efficiency of the operations a third important one.

As regard these last two factors, the effectiveness of the ships in providing satisfaction to the clients and the efficiency of the operation can only be achieved through trained and motivated personnel.

Human performance is not only a decisive element for achieving efficiency, but it is also the overriding factor which determines the safety of merchant shipping. Equally important, it has a tremendous bearing on protection of the marine environment. The safe movement of more than one billion tonnes of oil as well as other dangerous cargoes of all sorts shipped at sea each year ultimately is in the hands of competent people operating and navigating the world fleet.

However, competency is a prerequisite and also much of it depends on the motivation of the employees, both ashore and onboard ships, to acquire the necessary knowledge and then to put it into practice. Therefore, it is the responsibility of the shipowners and ship operators, through their attitude and initiative (policy) to consider their own responsibility

for positively influencing "Human Factors" through TRAINING and MOTIVATION of their most valuable assets.

Subsequently, ongoing in-house training programs seem necessary and has been widely accepted by major companies as a means to give their employees the confidence and ability to strive for more responsibility and better achievements. Successful companies recognize the great importance of continuous education /training and treat the cost as a vital investment, not as an expense to be used sparingly. IBM, for example, provides forty hours of education/training for every employee annually, regardless of his or her position or length of employment.¹⁸ Not only some successful companies invest in their employees' continuous education/training; they also provide time for 'civic dues'. For example, IBM grants employees time off for some to teach in universities and encourage others to use their expertise for the community good. Albeit it is hard to quantify exactly the payoff for the company, but all these factors would undoubtedly elevate the structure of the employees, and have positive motivational influence on their job performances.

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THE ROLE OF CONTINUOUS EDUCATION AND TRAINING IN A NATIONAL SHIPPING COMPANY

INTRODUCTION

T.W.Schultz¹ believes 'education is a major source of acquired abilities. Although the genes that a person possesses matter, the distribution of genes within large populations are about the same. The vast differences in the level of abilities between two large populations is a consequence of the difference in acquired abilities, which are treated nowadays as forms of *HUMAN CAPITAL*.'

The formation of human capital by education/training has been high on the research agenda of an increasing number of economists. It has been so because the effects of education/training on economic activities are pervasive. It is now well documented that the acquisition of abilities and advances in knowledge is in substantial part a product of deliberate investment, that such an investment enhances the value of human time, that the allocation of time is a major pervasive part of economic activities, and that the concept of human capital greatly extends the understanding of the productivity of labor. It is now known that investment in human capital is a substantial part of the explanation of

increase in national income that had heretofore been left out of accounting.

The distinctive attributes of education/training as human capital that consist of acquired abilities are worth mentioning.

- (a) An individual's stock of human capital can not be sold, nor can it be given to someone else. It goes with the individual wherever he or she may go.
- (b) To take advantage of human capital, an individual must do it in person.
- (c) The duration of the value of an individual's human capital can not exceed his or her life span.
- (d) In acquiring human capital the individual must invest some of his or her own time along with other resources.
- (e) It is efficient to invest in human capital during the period of youth because the value of time is less than when the individuals grow older and because there will be a greater number of years in which to benefit from the acquired capital.
- (f) Human capital depreciates over time as does physical capital. Some forms become obsolete in a short time because of changing circumstances. Other forms have a long life even as circumstances change. It is exceedingly important to distinguish between short and long life investments, especially so in the case of education.

As in the case of physical capital, not all forms of human capital turn out to be worthwhile investments. The choice is for the individual- or in the case of training for the company- to make. It matters whether or not the choice is made wisely. Therefore, the identification of training needs is a prerequisite of training action. This is a point that hardly needs emphasis, yet in practice the actual identification of those people, situations and events which demand training attention is a much more difficult exercise than it might appear to be.

5.1, TRAINING AND BEHAVIORAL CHANGES

One of the major reasons why companies must provide training is inadequate performance, in the form of substandard output/services. The other reason could be coping with 'changes'. Changes are imposed on the company by environmental influences of economic and social nature (e.g. enforcement of a new convention or law). Some changes are self-imposed by the company for its own internal purposes (e.g. setting up container services). The process of training can therefore never be static, never regarded as meeting tomorrow's requirements fully, even if today they seem very adequately met. It is unsatisfactory to have a training function which is sensitive to, or only partially aware of, those changes which are actually taking place, and those which are predicted to take place in the future.

Training, if it is well-planned, and effectively conducted should be seen as an investment by a company in its human resources. An investment is sound if the discounted rewards are sufficiently greater than the original money spent. In such a case there is an adequate return on investment. So, if we consider training as an investment, we would expect to get returns as a result of initial expenditure. To maximize the chance of this happening we should approach systematically the decision of whether or not to train.

There are numerous potential benefits to be gained by individuals and by companies from their training programs. Individual trainees can benefit in a number of ways. In relation to their current positions, trainees may gain greater intrinsic or extrinsic job satisfaction. Intrinsic satisfaction may come from performing a task well and from being able to exercise a new repertoire of skills. Extrinsic job satisfaction may be derived from extra earnings accrued through improved job performance and the enhancement of career and promotion prospects both within and outside the

company to which they belong. Benefits to the company include improved employee work performance and productivity; decrease in mistakes; and greater customer or client satisfaction.

However, the overall objective of training is to induce in the employee a behavioral change or modification which will have a direct impact on his perception of his job. Perceptual and attitudinal changes influence behavior and the quantity and quality of work. The changes which training attempts to stimulate/induce are:-

- (a) A greater sense of awareness of the purpose of the job,
- (b) The encouragement of greater sense of responsibility,
- (c) The development of new ways of thinking and coping,
- (d) Promotion of error/mistake free work, and
- (e) Encouragement of team work and team spirit.

It is thus to improve the quality and quantity of work-i.e. it improves productivity.

The short, medium and long-term effects of training can only be experienced to the full if training is not only managed professionally but also is linked clearly with the company's mission or purpose. The company's purpose can be described as a goal towards which the activities of all sections in the company are directed. From this goal more precisely defined objectives can be set and passed down the organization to form the basis of divisional, departmental, and unit objectives and ultimately objectives of individual employees. The methods used to achieve these company objectives and subsequently the company purpose form the basis of the company strategy.

Since training, as mentioned earlier, is to be considered as an investment, it would seem necessary to specify and quantify the elements of cost involved and the returns expected. Armstrong and Dawson(1987)² classified the costs

into three categories; the costs of learning, the costs of training, and the costs of not training.

The costs of learning includes :(a) the costs of wages paid to the trainee during the training period, whilst his/her performance is ineffective, and the cost of materials used during training.

The costs of training includes those such as : the cost of courses, cost of training staff wages, cost of depreciation of equipment used, and the costs of places used.

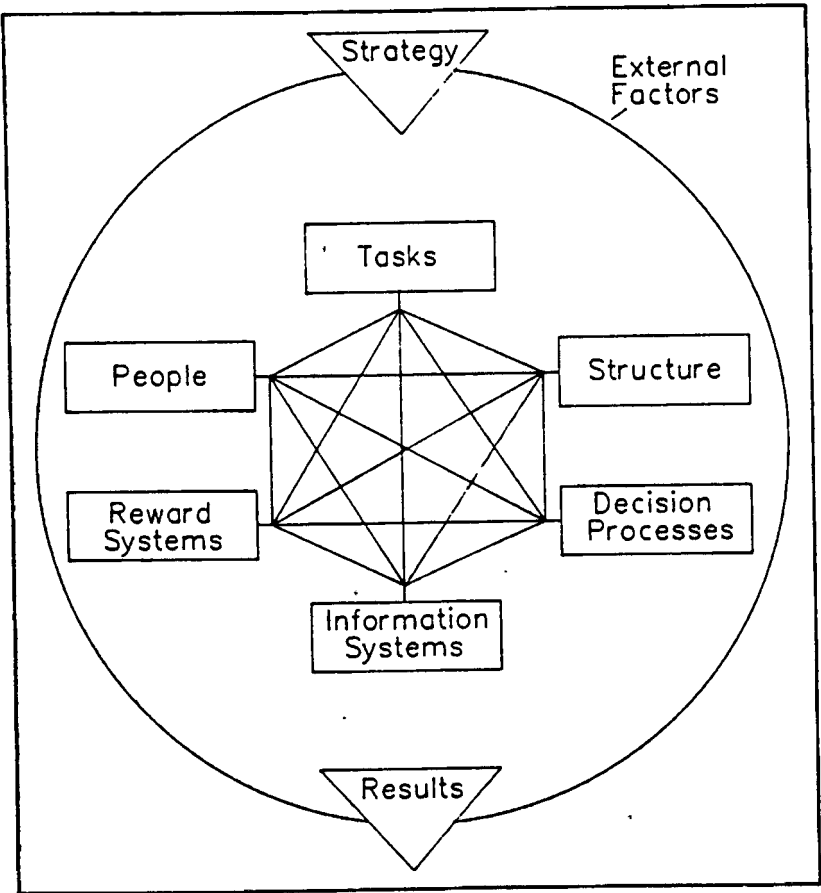


Figure 8, Strategy, Environment and organizational variables

Source : The Theory and Practice of Training, R.Buckley and J.Caple

The costs of not training can be readily quantified in some respects, but not so easily in others. The costs of not training are:

- (a) The costs incurred in appointing new employees who already possess the skill/knowledge/attitudes in which the employer would otherwise have trained existing employees. (This assumes that such a potential employees exist).
- (b) The costs of disposing of those existing employees who would be surplus to requirements, as a result of recruiting already proficient new employees to take their jobs.

The time horizon over which returns are expected will depend upon a number of factors including:

- (1) The magnitude of the costs involved, which will relate to the type of training,
- (2) The time period over which the costs are incurred, and
- (3) The possibility of the returns never being realized because the trained persons leave.

So, for instance, a different pay-back period may be considered when evaluating the investments involved in training a manager, or training a secretary. Clearly, many of the costs and benefits associated with the training investment are very difficult to quantify. Indeed some of the more significant costs may not only be difficult to quantify in money terms, but also difficult to quantify in respect of the probability of their occurrence (notably the opportunity cost of a labor deficiency). This is still a poor reason for not carrying out the cost/benefit analysis.

5.2, IDENTIFYING THE NEEDS OF THE COMPANY

Every organization has needs. These are defined as what

the organization must have to obtain its goals, while recognizing that there are constraints on the kinds and amount of resources available. Essentially all the organization can muster to meet its needs are the physical, financial, and human resources which it has or it can obtain.

As this dissertation is about the training needs/ programs, the focus is on the human resources but by no means can we exclude the relationship to the other resources; in fact these resources must be seen as interrelated and interdependent. We will be constantly referring to the resources as we go through the events that will facilitate the design of an effective training program. The objectives of this event are:

- to determine the nature of the problems,
- to assist in deciding whether learning-through training and education- is the appropriate approach to the identified problem.

As a result we must first have some assurance that there is an agreed upon problem, that training is the response to that problem, and that the response will not prove more costly than leaving the problem unsolved.

There is also the question of the individual and the organization. The needs of each do not have to be in conflict, though sometimes the situation is approached as if it is one or the other. The needs of both must be met if any performance change is to result that will be helpful to both.

Sometimes the purpose of learning is to bring about modification in individual behavior, while at other times the reason for the training is the improvement of collective behavior (that is, functioning as an organization).

5.2.1, WHERE DO NEEDS COME FROM ?

The needs of a company are a result of the everyday experience of existing. Some needs arise very quickly and become problems. Other needs emerge over a period of time and are amenable to short-range planning. Some of the sources that cause needs in companies, and for the individual within the companies, are as follows :

Service: There are some measures for service, but most of them are not quantified- as yet. The need can still arise in very explicit terms, such as increase in customer complaints, not meeting service schedules.

Regulations: International and national regulations are constantly changing. Each new regulation or any change in an existing regulation creates some kind of new need in a company.

Equipment: A change in the equipment being used or a new equipment (eg. computer network) being introduced can also be the source of a need for the training.

Output: A new company may be spun off as a subsidiary to the parent company. New relationships emerge, and old tasks reassigned, or services could be diversified, i.e. liner services added to previous services.

One way to point out company's needs is through company diagnosis and employee performance analysis.

5.2.2, COMPANY DIAGNOSIS

Diagnosis is a continuing process which all managers in a company are continually engaged in as they solve problems, even if they do not use this label for their activities.

HOW ARE WE DOING? Within the company somebody is asking that question. It sometimes comes out in terms of the "bottom line"- are we making a profit or a loss? This type of question is asked throughout the entire company, but in different ways. Sometimes this is done by a company at a gathering process. At other times, it is through staff meetings.

HOW CAN WE DO IT BETTER? The pressures of the competition dictate that the company that does not change is doomed to either die or to spend much of its resources in an attempt to survive. A need of a company is to constantly seek ways of doing things better in order to retain or improve its position. When this search arises, it is phrased in terms of money. In many situations it is possible to do better, but the cost could price the company out of the market. There are alternatives, and training may be one, but careful exploration is required. We must avoid the possibility that the cure would turn out to be worse than the illness.

WHAT PROBLEMS DO WE HAVE? A company always has problems. The job of a manager is to constantly solve the problems. It is not problems that are of concern, but the solutions. If, after identifying, selecting, and applying a solution a problem still remains, the company could be on the way to crisis, depending on the problem.

THE FUTURE. Companies must constantly be looking towards the future. there is no longer the luxury of slowly sliding towards the future, for that point is now being reached at a faster pace than ever before.

5.2.3, PERFORMANCE ANALYSIS

In conjunction with company diagnosis, we also need to

ask: what is the performance component? How does the need of the company relate to some kind of performance problem?

HOW DID THE NEED ARISE? A place to start is to identify how a need arises. More specifically, who says it is a need? The source of needs can either be external or internal to the company. There may be complaints from customers about late shipments, damaged goods, or incorrect landing of cargoes. At this point, agreement must be reached that, no matter what the source, it is a human performance problem for which training could be a solution. The need can also arise from an internal source. Reports can show that a line manager is having difficulty booking full cargo for his ships.

WHICH HUMAN RESOURCE AREA? Is it because of inefficient appreciation of who is doing the job, we may find that the wrong people are in some jobs. Perhaps the reward system is not related to performance.

Is it because the *engineering/environment* is not suitable? Has the employee been provided with the appropriate equipment to perform the tasks assigned? In most companies, people do not work alone. They work in relation to others in the company, including others at the same level. The employee may know the appropriate performance, but does not perform because of reactions from others in the same unit or department. Peer pressure can also be positive. Facilitating peer relationships and cooperate behavior can produce pressure to improve performance. If there had been a previous training, why did performance not change? Why does retraining need to be carried out?

5.2.4, ALTERNATIVES TO TRAINING

Given the previous discussion, it is obvious that some

alternatives may be more related to meet the need of the company than training. It is not that training should be considered as a last resort, but at least other alternatives should be explored. Some of the alternatives enlisted below.

Fire and hire. There are times and situations when a training program cannot bring about the massive change in job performance that somebody expects. This normally happens when the mind of the people are set in one direction and it would not be possible to change it in the required direction.

Internal mobility. Jobs are constantly changing. The trade changes, technology advances, and other factors that require organizational changes also bring about changes in individuals and jobs. With internal mobility, we find the need for a training program to prepare the employee for the new job.

Reengineer the job. Performance is a result of many factors. In some cases, by redesigning the work place we may be able to improve performance far beyond what could be accomplished by training.

Change equipment. If equipment is not consistent with the expected outcomes of the job (ie. using general cargo ships while competing in a container trade), it is unlikely that training will have any significant effect. Until a company is prepared to face the reality of needed capital expenditures, training may be sought as the solution to obsolete or improper equipment. Training may suffice as a temporary measure, but it is no substitute for the necessary replacement of equipment.

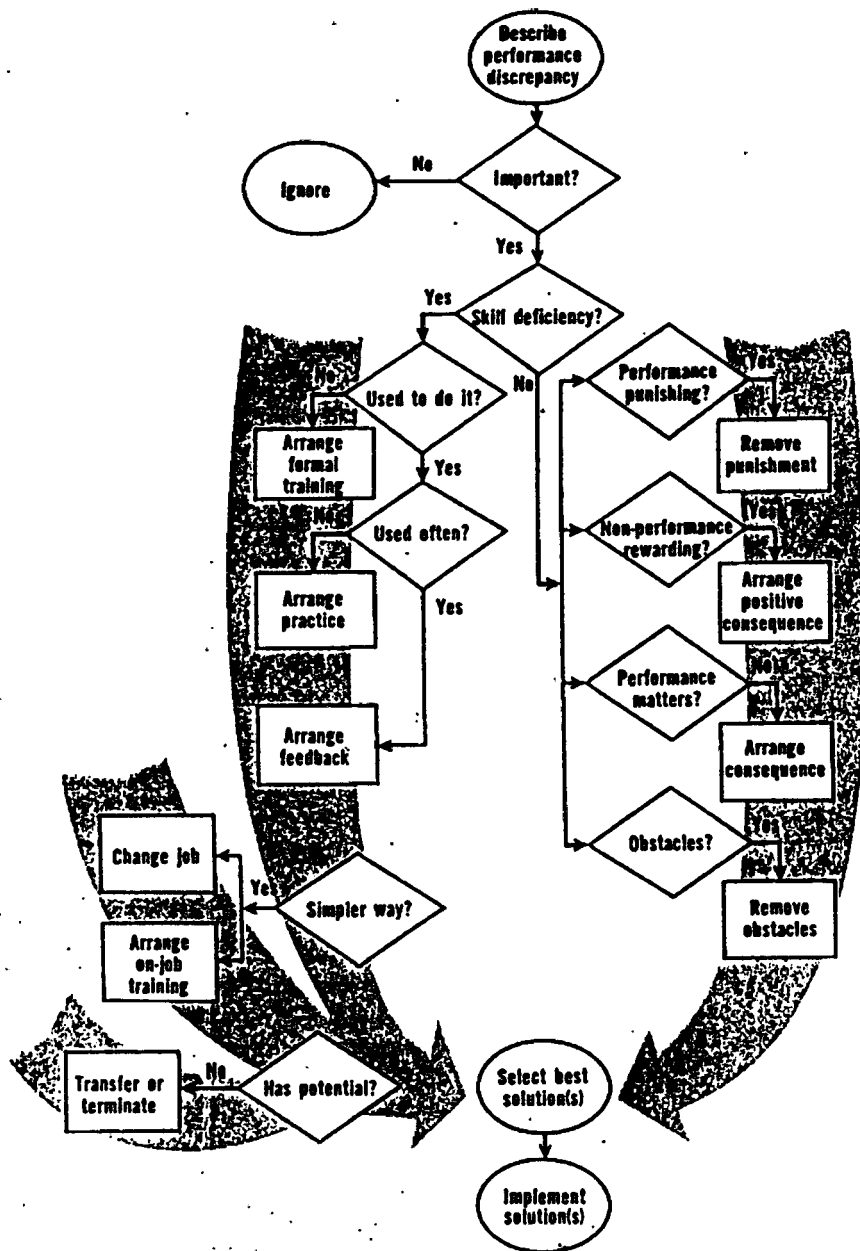


Figure 9, Performance discrepancy analysis diagram
 Source : Analyzing performance problems, R.F.Mager and
 P.Pipe, Pitman, California, P.60

Organizational change. Performance can sometimes be improved vastly by making an organizational change, rather than by training. Various kinds of organizational changes are possible. To make a unit more effective, it might be

desirable to have the unit report to a different level or group than before, such as from matrix organization to ship group organization as mentioned in chapter 3.3. This can improve performance of the individuals and the unit.

5.3, TRAINING AND MANPOWER PLANNING

Much effort has been devoted for a long time to planning of material resources and optimizing financial resources. Strangely enough, human resources, which are ultimately the most important and the least predictable asset, has not attracted the same level of attention and it is only recently that its use has benefitted from a scientific approach.

It is obvious that no organization can achieve its result other than through people; it is important that the right people are available with appropriate skills, whenever and wherever they are required and that , when they are in position, they perform well. It is also important that their skills should continue to be developed to meet the future needs of the organization and so that they do not become obsolescent in due course. To achieve these linked objectives is the central thrust of providing creative personnel at work.

The future needs for people, the 'demand side' of the manpower planning equation, stem from the corporate plan which , within environmental pressures and constraints, is establishing the future patterns of growth, diversification, divestment, rationalization, geographic dispersion, reorganization, new technology, etc. for the company. Each one of these will have a profound impact on the number and sorts of people required, and on the particular kinds of skill which will be needed. Manpower planning is about establishing

these needs and about developing and implementing plans which will ensure both that shorter-term needs are met and also that appropriate actions are being initiated to ensure a continuity in the supply of the right kind of people.

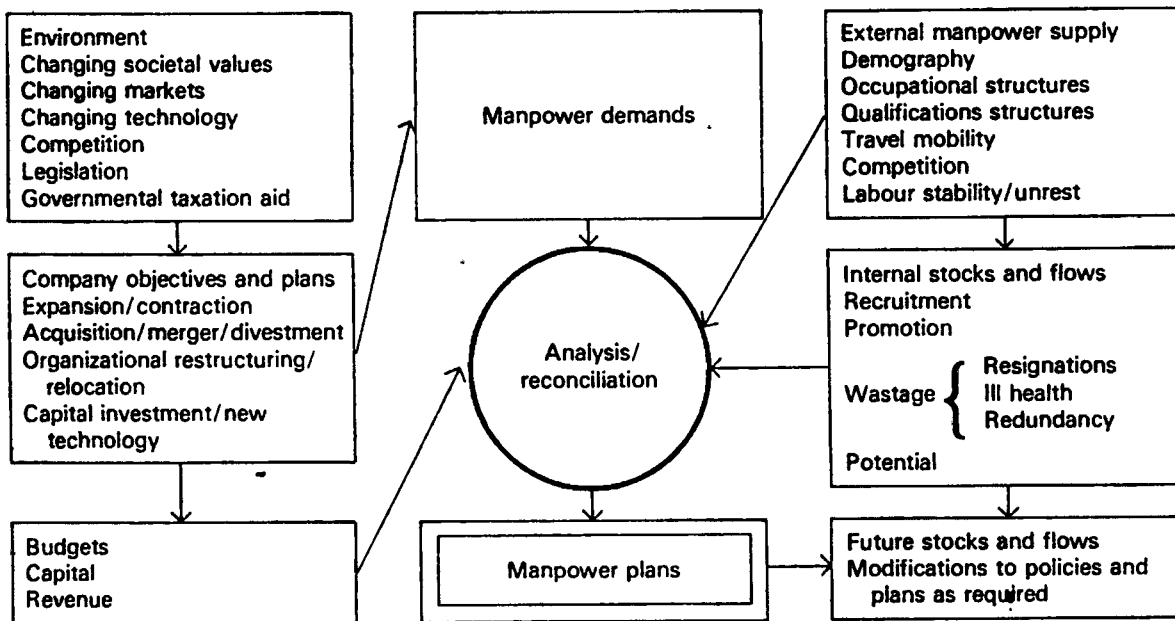


Figure 10, the Manpower Planning Process

Source : Management Skills, W.T.Singleton, MTP Press, England, 1981, P.189

The supply side of the equation have been divided by Singleton(1981)³ into five aspects; acquisition, conservation, utilization, development, and wastage.

Acquisition. This is concerned with making up any shortfalls which cannot be met by the growth and development of the existing employees.

Conservation. Once we have the people we need, how do we keep them and avoid unnecessary wastage? Personnel

policies are important. What should our pay stance be opposite the market to ensure that we attract and keep the people we need? Do we have a rational rewards structure? At what level should we set our working conditions and fringe benefits? What should our employee relations policies be to maintain harmony?

Utilization. It is not enough only to have the number of people we need; we must also stimulate their performance. Are the company, department and individual objectives clear? Do our structures and systems encourage performance or are they road blocks to be got around? Do we have an effective appraisal system for improving people's performance? Have we got/do we need a bonus for improving productivity? Should everyone be included?

Development. Not only do we need to develop people's performance within their jobs, but we need to equip them for changing technology and different working practices; we need to identify those with potential and develop them for more responsible positions; we need to cover succession and future needs for managers and general managers; and we need to develop more progressive industrial relations and the kinds of organizational structures which are appropriate to the evolving business needs.

Wastage. Some wastage is inevitable. People die, retire and become ill. Some become obsolescent and there is a need to have policies which will encourage those who will not learn new skills, to retire early. Some, inevitably, will become redundant and again there is a need for supportive redundancy policies for those who have to go. Wastage may reflect other efficiencies in our employment of people. We may have age profiles in some areas of our company which can put it at risk because too many will be leaving at about the same time.

The recognition that a training need exists is likely to come as a result of manpower planning exercise. This process may reveal the need for training in five situations :

- (a) To improve performance in existing jobs where it is not satisfactory (as a result of performance analysis);
- (b) To provide for future changes in the content of existing jobs (company strategy);
- (c) To provide training for new recruits;
- (d) To provide for actual, or intended, staff promotions;
- (e) To provide for the creation of totally new jobs.

It can be seen that there are two major routes into training : the present/reactive route and the future/ proactive route. There are a number of methods, means and procedures associated with these routes which can help to investigate performance problems and to identify training and development needs. Irrespective of the route into training there should be a clear link between the needs which have been identified and company objectives. Determining the content of training will normally require a series of analysis to ensure that the training which is to be introduced is fully relevant and that the potential problem of including redundant training is avoided.

Naturally, because of the time and expense involved, very careful thought must be given to the scope and depth of any analysis. Kenny and Reid (1986)⁴ suggest three approaches that are particularly appropriate to organization training: comprehensive analysis, key-task analysis, and problem-centered analysis.

COMPREHENSIVE ANALYSIS

As implied by the title, in this approach all aspects of the job are scrutinized. The intention is to produce a comprehensive and detailed list of record of every task and sub-task that make up the job together with the knowledge,

skills and attitudes which are needed to perform the task and sub-task effectively. This approach is costly and time consuming.

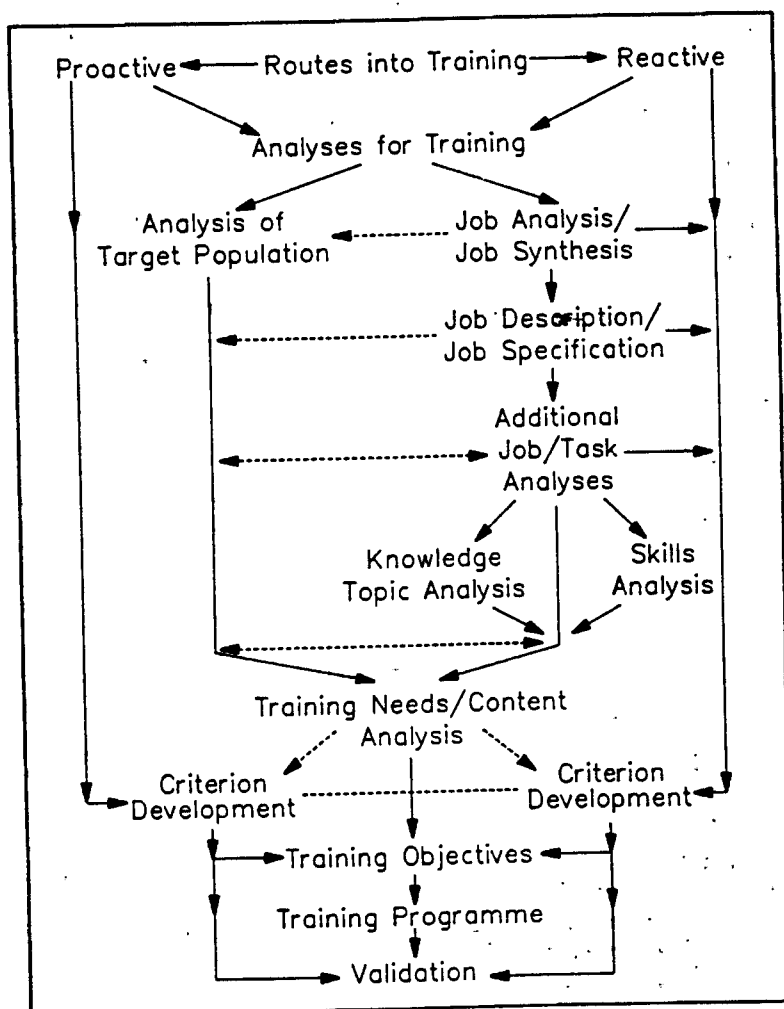


Figure 11, Stages/Steps leading to training needs/content and beyond

Source : Adapted from "Training interventions", J.Kenny and M.Reid,1986

KEY-TASK ANALYSIS

This form of analysis is concerned mainly with the identification of key or primary tasks within the job. it has particular relevance to managerial and supervisory

positions that consist of many tasks of which not all are critical for effective performance. It is also relevant to jobs that change in emphasis or content leading to a need to establish priority tasks and to identify the knowledge and skills which are required and to establish an acceptable standard of performance.

PROBLEM-CENTERED ANALYSIS

In this approach the attention is focused neither on the whole nor necessary on all of the critical or key tasks but on those aspects of current performance that are below standard. In cases such as these it will have been decided already that training is an appropriate way to overcome the problem or difficulty which has been identified and that a more extensive analysis is unnecessary because the performance of the job holders is quite satisfactory in other respects.

5.4, A SYSTEMATIC APPROACH TO TRAINING

When the decision has been made that the most appropriate way to overcome a current or anticipated shortfall in performance is through training, then a systematic approach to training should be used to illustrate the process which has to be followed if effective training is to be achieved. Buckley and Caple (1990)⁵ suggest fourteen stages which could be used as a number of sequential steps to training. However, depending on the nature of the project the trainer could start at any point in the model once terms of reference have been established. The way in which the trainer enters the systematic approach will depend largely upon how and why the training project has been sought out- that is, by which route the decision to involve training was reached.

STAGE 1 : ESTABLISHING TERMS OF REFERENCE

Before any work begins, exactly what has to be done must be specified and understood. This means that time, cost, manpower resources, physical constraints, etc can be clarified at the outset so that the resources available to the project can be seen in a realistic light.

STAGE 2 : FURTHER INVESTIGATION

When information obtained so far seems incomplete or, insufficient, or unconvincing, there may be a need to confirm previous findings by using one or a number of analyses such as job analysis.

STAGE 3 : KNOWLEDGE, SKILLS AND ATTITUDE(KSA) ANALYSIS

The information which has been confirmed or collected previously is used for analyzing the knowledge, skills and attitude associated with each task that makes up the job in drawing up a job specification. This form of analysis is essential to make appropriate decisions about the nature and type of training that may be required. Other forms of analyses such as task analysis, fault analysis and skills analysis which reveal more detail or which identify critical features of the job, may be undertaken at this stage. Obviously, the extent and scope of the analysis will depend upon the job being examined and how much further information is required to determine the extent of any actual or potential training requirement.

STAGE 4 : ANALYSIS OF THE TARGET POPULATION

Allied to the need to undertake analysis of the job is a need to assess the capabilities of, and to determine other features of the target population, that is, those for whom the training is to be designed. Findings are used for choosing solutions and strategies which might be appropriate to match the characteristic of the target population- such as age, experience, previous training and attainment.

STAGE 5 : TRAINING NEEDS AND CONTENT ANALYSIS

As a result of various forms of analyses which are likely to be undertaken, a substantial amount of data will be collected about jobs and tasks and the people who perform them. This should reveal an actual or a potential 'gap' which could be the basis for identifying the training need and the training content. In many circumstances it will not be possible to include everything and often it is not desirable to do so. There needs to be an identification of the 'need to know' and the 'nice to know' aspects of the job.

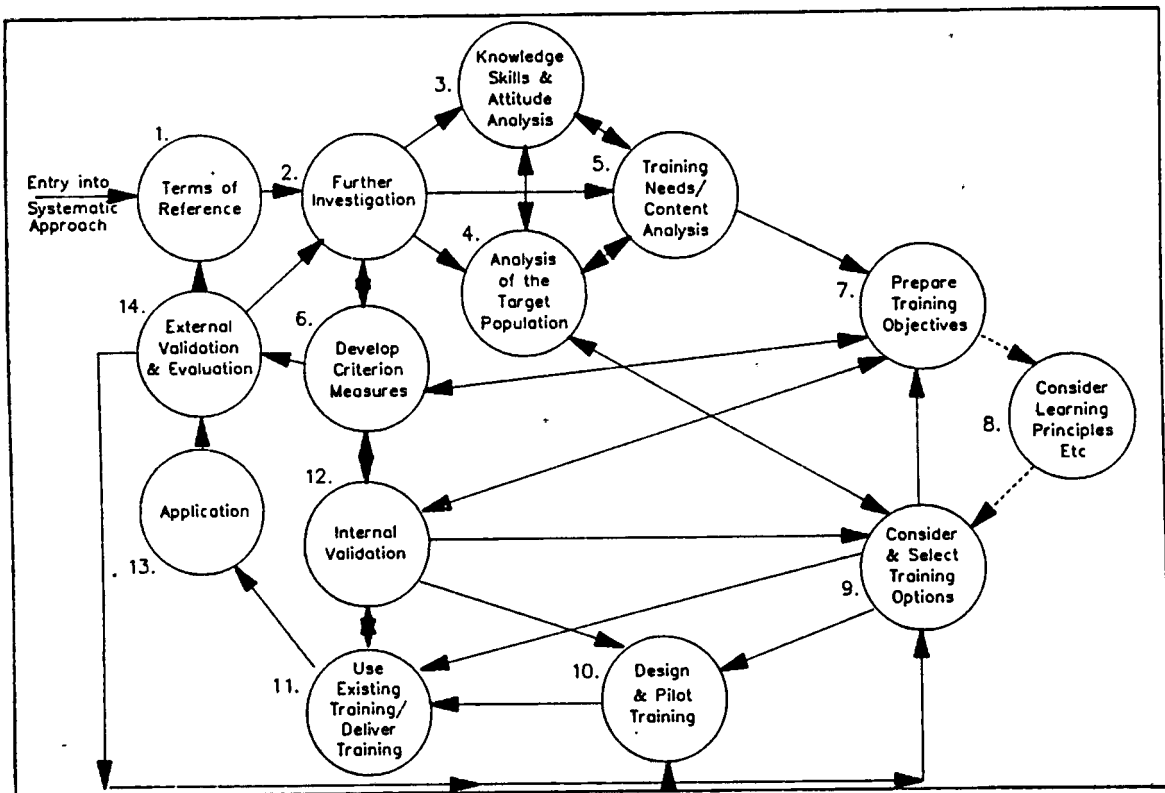


Figure 12, A Systematic Approach to Training.

Source : The theory and Practice of training, R.Buckley and J.Caple, Kogan Page, London, 1990, P.27

STAGE 6 : DEVELOPING CRITERION MEASURES

While various forms of analyses can indicate what the

content of a job should be, this is of no real value by itself. The standard or level of performance expected of a competent job holder has to be clarified to ensure that training can be designed to achieve that level. Contributions by the job holder, supervisors or immediate managers give the most reliable data to establish the performance criteria for the job.

STAGE 7 : PREPARING TRAINING OBJECTIVES

Written training objectives describe precisely what trainees are expected to be able to do as a result of their learning experience. Normally an objective is presented in three parts. The first part states the performance which is expected of the trainees to show that they have acquired the skills and knowledge which make up the content of their jobs. The second part describes the conditions in which the performance is carried out and includes details of the equipments, job aids, environment, etc. The third part lays down the standards of performance which trainees are expected to achieve by the end of their training.

STAGE 8 : CONSIDERING PRINCIPLES OF LEARNING AND MOTIVATION

Creating a suitable environment will ensure that the training objectives can be achieved. Factors such as methodology, physical arrangements, time of day, resources, etc. need to be considered. Recognition and the application of the learning and motivation principles- reinforcement, rehearsal, practice, etc.- form a rational link between writing objectives and the consideration and selection of training methods. In addition, this link helps to ensure that objectives are realized. The different ways in which people learn according to their differences in personality, age, experience, etc. must be considered since it will help to identify the most suitable learning styles. The training environment often can be modified and adjusted to take account of such styles.

STAGE 9 : CONSIDERING AND SELECTING TRAINING METHODS

Close attention needs to be given to constraints, target population, objectives and sometimes 'political' implications when deciding between such options as internal and external courses, various forms of open learning and on-job and off-job training.

STAGE 10 : DESIGNING THE TRAINING

The design of training involves the translation of objectives and strategies into a balanced program of instruction and learning. This does not necessarily mean a course; it could be a learning package, a video, computer-based training, etc, or it may include a number of different methods and strategies. In addition to the nature of the content, consideration has to be given to the principles of learning and learning styles. Furthermore, the design should not ignore pre-training and diagnostic tests, if they are relevant, to ensure that students have a common base before they begin training.

STAGE 11 : DELIVERING THE TRAINING

The selection of, or the systematic design and development of the training content is no guarantee of success; training programs have to be delivered properly. Although technically competent tutors to present training materials are vital, however, the skills which are used to present the training are very important too. Trainers must be able to use a range of teaching techniques depending on the circumstances. The use of various forms of open learning which might include computer-based training, video and learning packages also need the support of a trained tutor or supervisor. It is not sufficient merely to supply trainees with material resources and leave them to manage their own learning.

STAGE 12 : INTERNAL VALIDATION

Internal validation is the process of measuring

trainees' performance to see if they have achieved the objectives of the training. Information to make this assessment needs to be obtained in two ways. First, a series of tests, exercises and assessment instruments should be designed and used to examine objectively or to check on the progress of the trainees. Second, to seek the views of trainees on their training program including such factors as performance of their tutors or instructors, the learning materials and the environment.

Information from these two sources together with the tutors' end-of-course review should assist with the identification of areas of success and failure and suggest changes and modifications to the existing program.

STAGES 13 AND 14 : APPLICATION AND EXTERNAL MONITORING OF TRAINING

When the former trainees have had sufficient opportunity to put into practice what they have learnt during their training, the process of external monitoring- external validation and evaluation- should be introduced.

External validation is the assessment of whether the objectives of the training have met the needs of the trainees so that they are able to perform specific tasks, or the total job, to previously identified and acceptable standards. A follow-up study should be undertaken in the job environment to establish whether the training was designed with the job requirements clearly in mind. If it was, then all things being equal, job performance after training should be satisfactory. On the other hand, information gathered from such a study could lead to the amendments being made to training content or methodology.

Questions also arise in validation, but particularly the former, as to what aspects of a training course should be

assessed. Nadler (1982)¹ suggests possible aspects could include :

Content of training. Is it relevant and in step with the training needs? Is it up to date?

Method of training. Were the methods used the most appropriate ones for the subjects? Were the methods used the most appropriate for the learning styles of the participants?

Amount of learning. What was the material of the course? Was it new to the learner or merely a mixture of before? Was it useful, although not new to the learner, as confirmatory or revision material?

Trainer skills. Did the trainer have the necessary attitude and skill to present the material in a way which encouraged learning?

Length and pace of the training. Given the material essential to learning, was the learning event of the appropriate length and pace? Were some aspects labored and others skipped?

Objectives. Did the training satisfy its declared objectives? Was the learner given the opportunity to try to satisfy any personal objectives? Was this need welcomed? Were personal objectives actually satisfied?

Omissions. Were any essential aspects omitted from the learning event? Was any material included which was not essential to the learning?

Learning transfer. How much of the learning is likely to be put into action on return to work? If it is to be a limited amount only or none, why is this? What factors will deter or assist the transfer of the learning?

Relevance. The final question in a validation assessment may be concerned with the relevance of the total training approach. Was this a course/seminar/conference/workshop/tutorial/project/etc. The most appropriate means of presenting a learning opportunity? The question of evaluation would, in the defined approach suggested, be concerned with subsequent matters of application of training. The questions asked might depend on the period of time which had elapsed between the training event and the evaluation.

Application of learning. Which aspects of trainees work now include elements which are a direct result of the learning event? Which new aspects of work have they introduced as a result of their learning? Which aspects of their previous work have they replaced or modified as a result of the learning? Which aspects of their learning have they not applied? Why not?

Efficiency. How much more efficient and/or effective are trainees in their work as a result of the training? Why/why not? This question could also be posed to the learner's boss and his subordinates, but as in so many cases, it will be highly subjective evidence and the questioning will need to be extensive.

In brief, evaluation attempts to measure the overall cost-benefit of training and not, just the achievement of specified objectives. In other words, it attempts to measure cost benefits, social and individual benefits as well as the operational effectiveness of training. This aspects have been elaborated more in following section.

5.5, COST-BENEFIT ANALYSIS OF TRAINING

When training/education (hereinafter referred to as

"HRD") has been completed, it should have delivered something of value to the company. HRD begins as a response to a need or opportunity in a company. Cost/benefit analysis brings HRD back full circle to the needs, problems, or opportunities it was originally intended to serve. The specific task of analysis is to determine just what value has been returned to the company by HRD and whether, considering the costs of HRD, that value is worth the expense. Sometimes, these HRD values may be readily calculated in money terms. When training was initially intended to reduce operating costs, increased efficiency made operations more profitable, or otherwise directly addressed the bottom line, so evaluation can usually focus readily and directly on money-based results, and these benefits can be readily compared to the costs of HRD. If, for example, a training program for computer maintenance personnel resulted in more useable computer time for employees, the monetary benefits of such results could be fairly easily measured or estimated. If such benefits were worth \$100,000 and training costs totaled \$10,000, then a tenfold worth of training is easily gauged.

But not all HRD outcomes could easily be converted to familiar accounting calculations. Sometimes, the results of HRD may be very difficult to translate into monetary benefits, or their conversion may be misleading. A life-saving re-training program on board ships may, for example, have been credited with the saving of one person's life. To measure the monetary saving in lost time, death compensation, and so forth of the saved life in comparison to the costs of the training program might yield a net 'loss' to the training program. But in cases such as these, the value of life saved is not properly calculable in such terms. Rather, the company would make a subjective judgement that such a training is worth its costs, regardless of the apparent net loss in bottom line figures. Because much of the office-staff HRD does not readily lend itself to cash

calculations, evaluation must often include alternatives, more subjective and judgmental means of estimating the value of HRD payoffs.

5.5.1, STEPS IN EVALUATION

Evaluation of HRD outcome is further complicated by the fact that HRD renders value to a company by a relatively convoluted and uncertain chains of events, from creating new learning of skills, knowledge, or attitude, through changes in behavior of employees, to eventual benefits. Brinkerhoff (1987)¹ suggests that the complexity of evaluation can be partially resolved by dividing the basic question of- was it worth it?- into four related questions :

- What benefits have resulted from HRD?
- What is the value of each benefit (in money or other)?
- How do these benefits compare to the costs of the HRD program?
- To what extent has the initial HRD need or problem been resolved?

1. WHAT BENEFITS HAVE RESULTED FROM HRD?

This question leads directly to the outcome of training. Evaluation extends and documents each of these identified changes (products, information, and so on) to their point of ultimate value to the company, that is, to the point at which HRD results have value in and of themselves in the light of the goals and culture of the company. These final benefits of HRD are the last point in the chain of the logic of HRD outcome. However, the "ultimate benefits" vary, depending on the sort of HRD exemplified. For example, a manager's sensitivity program might intend to increase productivity or reduce employee turnover. Or a performance appraisal program might, attempt to increase employees'

satisfaction as its major, ultimate benefit. The point here is that the ultimate benefits intended for HRD are particular to the program's context. Therefore, ultimate benefits will vary from setting to setting and are a function of the particular value structure and culture of the company.

2. WHAT IS THE VALUE OF EACH OF THE BENEFITS OF HRD?

To be considered a benefit, a result of HRD must obviously have some value to the organization. Whereas the first key question dealt with identifying and describing (and thus raised the value question), this second question aims to quantify, or otherwise estimate the magnitude of, the value of HRD payoffs.

Sometimes the benefits of the HRD will lend themselves readily to conversions to money calculations. A 3% gain in services or in trans-shipment of cargo can, for example, be relatively easily translated into a specific gain in profitability. A 5% decrease in delay time can likewise be readily expressed as a certain cost saving. Typically, savings in time, effort, materials, and other inputs to the production process can be easily converted to monetary values, as can training results that have had an impact on quantity or quality of outputs. Where this is the case, evaluations can produce, after the costs of HRD have been calculated, cost-benefit comparison and ratios in monetary terms.

But it is more often the case that only some of the benefits of HRD can be so readily converted and quantified. A performance appraisal training program might have reduced the time managers spend in assessing and recording performance, thus making possible a money-expressed time-saving benefit. But that same program might also be responsible for an increase in employee morale and job satisfaction. Estimating the value of these "softer" benefits may be more

difficult (though not impossible). Moreover, in a culture that values such employee benefits highly, what would be the purpose of even trying to affix monetary values to them?

This recognition that not all HRD benefits lend themselves to familiar money-accounting procedures does not mean, of course, that attention should not be paid to the efficiency of such a program or should let the costs run too high. Rather, evaluation of these programs will focus on whether they are continuing to provide effective results (high learning rates and thorough transfer and durability of results), while maintaining or even reducing costs.

However, when the value of HRD results are evaluated for skill-training or other programs in which particular on-the-job behaviors are intended, being very specific about training results is crucial. Training value- value to the company-can only result from specific, observable, discrete performance changes. Thus, the performance changes must be very carefully identified. A management training program might, for example, have enabled five managers to conduct briefer staff meetings. The specific time savings from these shorter meetings (assuming meetings results are constant) can then be readily expressed as a savings by factoring in staff salaries.

3. HOW DOES THE VALUE OF THE PROGRAM'S BENEFITS COMPARE TO HRD COSTS?

Comparing the benefits of HRD to the costs will, of course, entail estimates of each of the costs and benefits. Attaching money costs to benefits may sometimes be done only partially and at other times may not be done at all. But some estimate, whether in money terms or not, must be made of the value of the benefits that HRD produces. Likewise, some estimate of HRD costs must always be made. In the case of the HRD side of the cost/benefit equation, program costs

will most typically be calculated in money terms, but they may also be expressed in other quantitative terms that have direct cost consequences, such as amount of time spent, amount of tangible resources consumed, and so forth.

Whereas the benefits of HRD may be difficult to convert to monetary values or it may even be unnecessary to attempt to do so, the cost of training can always be accounted for (for breakdown of costs refer to section 5.1).

Programs entail opportunity costs as well. Money spent on HRD is not available for purchasing capital equipment, increasing fringe benefits, or bolstering corporate and individual performance in other ways. Such opportunity costs are supposed to have been considered in the first place as a part of the decision to do HRD.

Once HRD costs and benefits have been estimated, their comparison is a relatively simple matter. When HRD costs and benefits have been expressed in monetary values and these values seem reasonably accurate, then the value of HRD can be expressed as a familiar cost-benefit ratio.

4. TO WHAT EXTENT HAS THE INITIAL HRD NEED OR PROBLEM BEEN RESOLVED

A HRD program is initiated to meet some needs in a company, normally as the result of manpower planning, therefore it is expected to deliver something of value to the company. But even when the HRD program has run its intended course, it is not really complete until the question "has training done its job?" has been asked and the answer sought out.

Several responses to the question, on completion of validation and evaluation of the program might be discovered. It may be that HRD has had a partial impact on the initial

problem or opportunity but that more training is needed in order to finish the job, or the need may have been completely met. Again, the need may have somehow changed, so that the initial goals HRD set out to address have to be modified, because organizational conditions, needs, and opportunities have changed since HRD was initiated.

This fourth question should result in a decision about the future of a HRD program being evaluated. That is, if HRD has done, or not done, the job it was meant to accomplish, then HRD ought to be continued, or terminated, as the case may be. The purpose of this question is to avoid "run-on" HRD, that is to avoid continuation well beyond the point it was needed. Proper attention to evaluation can help avoid the waste and lost opportunity of "run-on" HRD.

5.5.2, SOME CONCLUSIONS OF COST/BENEFIT

We can now conclude with a few points which may be of help in approaching cost/benefit problems, and in deciding what should be included in the analysis.

Estimates versus actuals

It is not unusual to take estimating more seriously than the measurement of actual cost and actual benefit. If data collection is difficult, either because of the cost of collection or because of uncertainty as to the origin of the benefits, i.e. to what extent they can attribute to training, then it is understandable that post training assessment of benefit may also have to remain in the form of an estimate, although with more substance than pre-training estimates.

Short, medium and long term benefits

It is convenient at times to speak of a training action

as providing short term, medium term or long term benefits, reflecting the length of time that one will have to wait in order to achieve implementation of new skills, knowledge and attitudes, and for consequent benefits to arise. In case of training secretaries to be able to use word processing instead of a typewriter, benefits will surface within a few days after completion of training, and hence arise in the short term. The benefits, if they continue indefinitely, will then extend into the medium and long term.

In the management training case, the creation of a good working atmosphere and the development of new ideas and schemes will not be achieved in under two years and is, therefore, to be seen as a benefit arising in the medium term, and extending into the long term.

Benefits, therefore, first arise in either the short, medium or long term: they may, and often do, continue for a further fixed or indefinite period into the future. This can have the effect of making the short term benefit look like a long term benefit. There is no need for misunderstanding, provided the terms are sufficiently well defined.

The hidden benefit

There is, however, another sense in which short, medium and long term training benefits are combined. If, for example, people are well trained with a view to benefits arising in the short term, rather more than these short term benefits may be achieved. The learning experience undergone produces some interest and personal satisfaction, which may remain with those people. It can provide a basis for future incentive, learning and responsibility in action. The training provided, in other words, does not merely produce a more efficient mechanical action : it also helps that person to grow and develop in knowledge and outlook and to become thereby better equipped to deal with such future new demands of learning and adaptation as may arise.

The cost of getting this benefit is zero. We are speaking of the cost of producing growth and development continuously in employees by means of training actions. Each training action, a course, a seminar, is for some specific purpose- an openly declared purpose, such as writing assistance or management training- for which there is a separate cost/benefit account. Thus the cost of the training is already met and the hidden benefit is a sort of free bonus, but a very valuable one indeed.

Approximation methods

We have referred to the questions of 'probability' and of 'order', and we suggest that there is considerable advantage in approaching some estimating of benefits in such a way as to make use of these concepts. This is particularly true when a true analytic approach is out of the question because of the cost of the data or because of the difficulties of setting up the correct model of the actions and interactions which arise from training. In such circumstances, it is impossible to estimate or monitor afterwards with conventional cost accounting techniques, exactly what the benefit is in financial terms; but it is possible to guess at the order of saving and benefits and at the probability of these occurring.

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6

SOME PROPOSED COURSES FOR DIFFERENT DEPARTMENTS

This chapter is divided in two parts, courses proposed and a complete syllabus for a Chartering Practice course. In the first part some courses for different departments within a shipping company are proposed. The context of modules in proposed courses might need to be adjusted, vertically and horizontally, after the target population and goal of the course are determined by methods already mentioned in previous chapter.

In the Annex I, some topics are mentioned which could be used as a source either for making alterations to the proposed courses, if needed, or for designing new courses.

6.1, COURSES PROPOSED

6.1.1, STRATEGIC MANAGEMENT COURSE

Duration	: 30 hours
Target Population	: Middle and senior executives
Objectives	: To give the participants an understanding of organizational objectives, formulation of policy, and decision making.

MODULE 1- ORGANIZATIONAL OBJECTIVES

- a) Defining objectives in the organizational context,
- b) Formulation of policy,
- c) Levels of authority, responsibility, and hierarchies,
- d) Conflict - assessment and resolution.

MODULE 2- FORMULATION OF POLICY

- a) Developing policy- short, medium and long term, Influences upon the development of policy,
- b) Framework of relationships within which policy is implemented,
- c) Relationship between corporate and functional policies,
- d) Development of strategies.

MODULE 3- DECISION MAKING

- a) Decision making process,
- b) Typology of various forms of decisions,
- c) Strategies, concepts, constraints and choice,
- d) Measurement of performance.

NOTE :- The three modules are necessarily inter-related and the approach suggested is largely one of comparative analysis. Such an approach depends less upon formal lectures than on extensive use of tutorial, case studies and exercises based on experiences.

6.1.2, CHARTERING PRACTICE COURSE

Duration : 40 hours
Target : Employees from commercial, financial, and
population legal departments dealing one way or another
with chartering activities.

Objectives : To assist participants to acquire an in-depth knowledge of shipbroking and chartering practice, including calculations, as well as enable them to acquire a thorough understanding of the main clauses of different charter parties, their underlying principles and their impact on ship operation and profitability.

MODULE 1- THE MARKETS

- a) The freight markets.
- b) Supply and demand mechanism and factors influencing the markets in a region, or worldwide.
- c) Information networks.
- d) Baltic exchange, BIMCO, etc.
- d) Forecasting and marketing.

MODULE 2- VOYAGE ESTIMATING

- a) Worldscale.
- b) Calculation of freight.
- c) Voyage expenses; bunkers, canal transit, port charges, freight taxes, weather effects.
- d) Additional premium, war risk and crew war bonus.

MODULE 3- GENERAL LEGAL POINTS AND CLAUSES

- a) Contract law.
- b) Common concepts.
- c) Some common clauses.
- d) Arrests, collisions, towage, salvage, etc.
- e) Brief comparison between standard charter party forms.

MODULE 4- SPOT CHARTERING

- a) Cargo size, charter party terms.
- b) Freight; evaluation, costs and breakeven point.
- c) Notice of readiness, arrived ship.
- d) Laytime calculations.
- e) Demurrage and despatch.

- f) Cargo liabilities, retention, short delivery, etc.
- g) Case studies.

MODULE 5- TIME CHARTERING

- a) General terms.
- b) Delivery and redelivery.
- c) The hire; fixture, payment, etc.
- d) Costs and damages.
- e) Vessel performance monitoring.
- f) Cargo liabilities; retention, short delivery, etc.
- g) Case studies.

MODULE 6- PC BASED SIMULATION EXERCISES

PC based simulation exercises to enhance the chartering skills of trainees who already possess some chartering experience, as well as to give the feel of a real life experience to those who lack it.

6.1.3, SHIPPING FINANCE COURSE

Duration : 30 hours
Target Population : Middle and senior executives
Objectives : To enable the participants to interpret the accounts as well as to evaluate their decisions so as to achieve the optimum utilization of financial resources.

MODULE 1- FINANCIAL STATEMENTS

- a) Contents of published shipping company accounts ; balance sheet, profit and loss accounts.
- b) Sources and applications of funds, the rationale and trend analysis of accounts.
- c) Depreciation of fixed assets.

MODULE 2- INVESTMENT APPRAISAL TECHNIQUES

- a) Payback methods, rate of return on capital employed, discounted cash flow, net present value, internal rate of return.
- b) Discounted cash flow criteria : depreciation, selection of discount rate, treatment of inflation, taxation concept.

MODULE 3- COST STRUCTURE OF SHIPPING COMPANIES

- a) Cost elements of direct and indirect elements of operating expenses.
- b) Point of incidence, standing charges, voyage estimates.
- c) Marginal costing, application of marginal costing for decision making.
- d) Brief detail of total costing system.

MODULE 4- FINANCING

- a) Working capital management, cash budgets and cash planning. Planning for optimum utilization.
- b) Project evaluation; payback method, amortisation and discounting, profitability index.
- c) Sources of finance for tonnage acquisition.
- d) Finance documents in shipping, analysis of financial statements.

MODULE 5- BUDGETARY CONTROL

- a) Foreign Exchange (F/E) management; sources of F/E earnings and expenses. F/E loans.
- b) Multicurrency options - RBI regulations.
- c) Budgets and budgetary control; different kinds of budgets (operating, capital, performance, zero based), budgetary control systems.

6.1.4, PLANNED MAINTENANCE FAMILIARIZATION COURSE

Duration : 40 hours

Target : Senior seagoing officers and superintendents population

Objectives : To familiarize participants with the fundamentals and merits of a planned maintenance system and the role it could play in reduction of running costs, generally, and of technical costs, specially.

MODULE 1- INTRODUCTION TO PROBLEM OF MAINTENANCE

- a) Chance failures; means to reduce, time to failure.
- b) Early age failures; causes, means to reduce them.
- c) Wear out failures; causes, time to failure.
- d) Kinds of maintenance; servicing, preventive, corrective.

MODULE 2- MERITS OF MAINTENANCE SYSTEM

- a) Purpose of maintenance; compliance with regulations, maintaining level of safety, reduction of technical costs.
- b) Major factors in reduction of technical costs; ship, crew, maintenance system, good control of repairs and maintenance costs.
- c) Choice of maintenance policy, criteria for a good maintenance system.

MODULE 3- PLANNED MAINTENANCE SYSTEM

- a) Environmental factors affecting system : ship's staff, classification societies, superintendent, manufacturers.
- b) Inventory list; coding system, spare parts availability, level of spares.

- c) Work card; location, description, periodicity, spares, hours.
- d) Maintenance schedule; maintenance plan.

MODULE 4- SYSTEM CONTROL

- a) Conditions' monitoring; performance of machine, Meger test, shock pulse noise, vibration and oil analysis.
- b) Reporting system; to and from ships, history.
- c) Repair and maintenance costs control; budgeting, data bank of costs, revenue losses, expenses control.
- d) Management of the system.

6.1.5, MARITIME FRAUD COURSE

Duration : 12 Hours

Target : Middle and senior executives in Legal and

Population : Operation departments.

Objectives : To give participants an understanding of maritime fraud with emphasis on its effects on the carrier so that they would be able to take some preventive measures towards eliminating/reducing fraud in their area of work.

MODULE 1- TYPES OF MARITIME FRAUD

- a) Documentary fraud; by seller, buyer, or both.
- b) Deviation fraud; accidental deviation, premeditated deviation.
- c) Marine insurance fraud, cargo fraud, scuttling, arson.

MODULE 2- TYPES OF MARITIME FRAUD,CONT.

- a) Charter party fraud, by charterer, by shipowner.
- b) Fraud prepared by agents.
- c) Fraud connected with port activities.
- d) Containerization and maritime fraud.

MODULE 3- ECONOMICS OF MARITIME FRAUD

- a) Incidence of maritime fraud.
- b) Tolerability of maritime fraud.
- c) Approach to cost.

MODULE 4- PREVENTION OF MARITIME FRAUD

- a) Limits of the current reaction.
- b) System of prevention.

6.1.6, HUMAN RESOURCE MANAGEMENT COURSE

Duration : 30 Hours.

Target : Supervisors and middle management.

Population

Objectives : To familiarize participants with a broad spectrum of human resource management theories and practices, so that they can use essential techniques in the efficient utilization of workforce.

MODULE 1- MANPOWER PLANNING PROCESS

- a) The role of Human Resource Development (HRD) within the company.
- b) Internal and external influences on human resource management.
- c) Manpower planning relationship to overall organizational planning.

- d) Sources of information, value of computerized personnel records.

MODULE 2- RECRUITMENT AND SELECTION

- a) Defining recruitment, attraction, selection and placement.
- b) Sources of candidates.
- c) Relative effectiveness of selection method- reliability and validity.
- d) Selection interview skills.

MODULE 3- WAGES AND PAYMENT SYSTEM

- a) Job evaluation - analytical and non analytical methods.
- b) Remuneration policy and administration.
- c) Wages payment system, salary structures, employee benefits, fringe benefits.

MODULE 4- PERFORMANCE APPRAISAL

- a) Objectives, methods, link with other personnel management practices.
- b) Promotion, transfer, training and development.
- c) Performance counseling and appraisal interview skills.

MODULE 5- HUMAN RESOURCE DEVELOPMENT (HRD)

- a) Identification of training needs, design of training programs.
- b) Motivation and commitment, some techniques.
- c) Introduction to methods of employees participation.
- d) Objectives and application of grievance and disciplinary methods.
- e) Objectives and methods of improving health and safety standards.

6.2, CHARTERING PRACTICE MODEL COURSE

The purpose of presenting this model course is to give an example of how the proposed courses in section 6.1 could be further developed and used for up-dating of staff in a shipping company. If this course is intended to be used, however, the actual level of knowledge and skills of the trainees should be considered, and any areas within the detailed syllabus which may cause difficulties because of differences between the actual trainee entry level and that assumed here should be identified. To compensate for such a difference, some items from the course may need to be deleted or the emphasis reduced, depending on the level of skill and knowledge already attained by the trainees.

Adjustment of the course objectives, scope and content may also be necessary if the trainees completing the course are to undertake duties which differ from the course objectives specified here. The time allocation for each item also may need to be adjusted, depending on target population, to achieve each specific objective.

OBJECTIVES :

This course intends to provide an in-depth understanding for shipping company staff who are dealing with, or likely to deal with shipbroking and chartering practices, including calculations, as well as enable them to acquire a thorough understanding of the common clauses of standard charter parties, their underlying principles and their impact on ship operation and profitability. The participants upon completion of the course, will be able to :

- assess the freight markets potentials,
- use the information networks, such as BIMCO, efficiently,

- evaluate the commercial and legal consequences of the clauses/terms during a fixture,
- calculate the breakeven point for an offer,
- prepare time-sheets and laytime calculations, and
- determine whether a time charter, voyage charter or any other mode of employment, is more favorable.

SCOPE :

This course is designed for 20-25 trainees who are at the appropriate level in a shipping company and are involved in chartering activities; commercially, financially, or legally. Senior nautical officers and marine superintendents should also be encouraged to participate in the course.

Module 1 covers the setting in which the freight markets exists; information network used; Baltic Exchange and others perform; forecasting done and marketing enhanced.

Module 2 covers the methods in which voyage estimation is carried out. In this respect Worldscale, calculation of freight and expenses incurred, are explained.

Module 3 highlights the contractual and legal aspects of charter parties (C/P), accordingly common C/P clauses and their importance are discussed while standard C/Ps are compared.

Module 4 deals with spot or voyage chartering and topics such as : freight payment, laytime calculations, demurrage and despatch, and cargo liabilities are elaborated.

Module 5 is dedicated to time chartering. In this respect; delivery and redelivery, the hire, costs and damages, performance monitoring, and cargo retention are covered.

Module 6 aims at enabling trainees to put into practice what they have learnt, or enhance their skills, through four PC based simulation exercises, by choosing the best vessel deployment among several possibilities available to them.

Staff requirements :

A minimum of 2-3 instructors would be required to implement the course successfully. Instructors must have an appropriate knowledge and experience for this topic, as well as teaching skills. At least one of them needs to be a solicitor with maritime law expertise.

Text books and References :

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- 7- Williams, H., Commentaries on Tanker Voyage Charter Parties. Oslo : Intertanko, 1989.
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- 9- Check Before Fixing. Denmark : BIMCO Publications, 1990.
- 10- Fairplay Maritime Computing Guide:
 - BIMCO Voyage Estimation System, Copenhagen : BIMCO Informatique A/S.

- Chartercalc, London : Shipping Commercial Software Ltd.
- Voyage Estimation and Profit Maximization, Piraeus : Computer Expert Systems Ltd.

6.2.1, COURSE OUTLINE

Module 1- The Markets (4 Hours)

- 1- The freight markets.
- 2- Supply and demand mechanism and factors influencing the market in a region, or worldwide.
- 3- Information networks.
- 4- Baltic Exchange, BIMCO, etc.
- 5- Forecasting and marketing.

Module 2- Voyage Estimating (4 Hours)

- 6- Worldscale.
- 7- Calculation of freight.
- 8- Voyage expenses; canal transit, port, bunkers, etc.
- 9- Additional expenses; war risk premium, crew war bonus, etc.

Module 3- General Legal Points and Clauses (8 Hours)

- 10- Contract law.
- 11- Common charter party concepts.
- 12- Some common clauses.
- 13- Arrests and seizures, collisions, towage, salvage.
- 14- Brief comparison between standard C/P forms.

Module 4- Spot Chartering (8 Hours)

- 15- Cargo size, C/P terms.

- 16- Freight; evaluation, fixing, costs and breakeven point.
- 17- Arrived ship, notice of readiness.
- 18- laytime calculations.
- 19- Demurrage and Despatch.
- 20- Cargo liabilities, retention, short delivery, etc.
- 21- Case studies.

Module 5- Time chartering (7 Hours)

- 22- General terms and phrases.
- 23- Delivery and redelivery.
- 24- The hire, fixing, payment, etc.
- 25- Costs and damages.
- 26- Vessel performance monitoring.
- 27- Cargo liabilities; retention, etc.
- 28- Case studies.

Module 6- PC Based Simulation (8 Hours)

- 29- Formation of groups and introduction to simulation exercise.
- 30- PC Based simulation exercises on deployment of vessels.
- 31- Preparation of reports by working groups.
- 32- Presentation of reports and class discussions.
- 33- Course evaluation and conclusion.

6.2.2, COURSE TIMETABLE

	SESSION 1 (Topics)	SESSION 2 (Topics)	SESSION 3 (Topics)	SESSION 4 (Topics)
DAY 1	1 and 2	3 and 4	5 and G.WK	G.Wk.
DAY 2	6 and 7	G.Wk.	8 and 9	G.Wk.
DAY 3	10 and 11	12	12	G.Wk
DAY 4	13	14	14	G.Wk.
DAY 5	15 and 16	17	18	18
DAY 6	G.Wk.	19 and 20	G.Wk.	21
DAY 7	22 and 23	24	25	G.Wk.
DAY 8	26 and 27	G.Wk.	28	29
DAY 9	30	30	30	31
DAY 10	32	32	32	33

Keys to the timetable:

- Each session consists of 1 Hour lecture,
- G.Wk. stands for Group Work,
- Numbers in the table correspond to the topics as in the course outline.

Note : The course could be conducted either in ten days (afternoons) as suggested above, or compressed in five days period, every day eight hours, depending on the availability of the trainees.

6.2.3, TEACHING SYLLABUS

LEARNING OBJECTIVES : The expected learning outcome is that trainees upon completion of the course should be able to describe/list/recommend/calculate the topics, as are appropriate and as listed below:

MODULE 1 : THE MARKET (4 Hours)

1- The Freight Markets;

- .1- The liner market, including container and car carriers.
- .2- The bulk carrier(dry bulk) market.
- .3- The tanker market.
- .4- The reefer market.
- .5- The passenger market.

2- Supply and Demand mechanism and factors influencing the market in a region, or worldwide;

- .1- General state of the world economy.
- .2- Sudden changes in demand for specific commodities.
- .3- Economic boom within special limited areas.
- .4- State of war.
- .5- Closure of important routes.
- .6- Crop failures.
- .7- Extreme congestion in important ports.
- .8- Oversupply of specific types of ships.
- .9- Unusually late or early closure of icebound waters.

3- Information Networks;

- .1- Order; requesting transfer of cargo.
- .2- Positions; availability of ships.
- .3- Market reports, their value and interpretation.
- .4- Freight negotiations.

- .5- Information networks, their merits, coverage, and means of communication.

4- Baltic Exchange, BIMCO, etc;

- .1- Baltic Exchange; functions and procedures.
- .2- BIFFEX.
- .3- BIMCO.
- .4- INCOTERMS and their role in chartering.
- .5- Computer applications.

5- Forecasting and Marketing;

- .1- Attitude in negotiation.
- .2- Marketing and relation to the customer.
- .3- Forecasting methods.
- .4- Organization of a shipping office.

MODULE 2 : VOYAGE ESTIMATING (4 Hours)

6- Worldscale;

- .1- Basic calculations.
- .2- Route policy/distance.
- .3- Assessment of port costs.
- .4- Transshipment areas.

7- Calculation of Freight;

- .1- Voyage calculation; distance, position.
- .2- Fixed and variable differentials.
- .3- Currency fluctuations, currency clause.
- .4- Comparing alternative voyages.
- .5- Comparing voyage with time charter.
- .6- Tariffs; rate of calculations and quotations.

8- Voyage Expenses;

- .1- Bunkers.
- .2- Port charges.

- .3- Canal transit dues.
- .4- Freight taxes.
- .5- Weather effect.

9- Additional Expenses;

- .1- Additional premium.
- .2- War risk premium.
- .3- Crew war bonus.

MODULE 3 : GENERAL LEGAL POINTS and CLAUSES (8 Hours)

10- Contract law;

- .1- General remarks about contract law.
- .2- The parties to the contract.
- .3- C/Ps and mandatory legislation.
- .4- Effects of C/P terms on third party.
- .5- Arbitration, evidence and the burden of proof.
- .6- Construction and interpretation of the charter agreements.

11- Common Concepts;

- .1- Parties to the contract.
- .2- The vessel; nomination, identity and substitution.
- .3- Vessels' trading limits.
- .4- Seaworthiness.
- .5- 'Lay' and 'Can'; their application.

12- Some Common Clauses;

- .1- The Paramount, New-Jason, both-to-blame ,Indemnity, War, Currency, Escalation, Bunker, Arbitration, Exception (Force majeure, Owner responsibility, etc.), Strike, Cesser, Lien clauses, etc.

13- Arrests, collisions, etc.;

- .1- Arrest of vessel.

- .2- General Average.
- .3- Collision.
- .4- Towage and Salvage.
- .5- Stranding.

14- Brief comparison between C/Ps;

- .1- Some standard and widely used charter parties are compared. The advantages and disadvantages of each is highlighted and the way some disadvantageous clauses could be overcome is explained.

MODULE 4 : SPOT CHARTERING (8 Hours .

15- Cargo size, C/P terms;

- .1- Vessel description and cargo capacity.
- .2- Nomination of ports, safe ports, safe berth, etc.
- .3- Deviation.
- .4- Cargo type and specification.
- .5- Cargo quantity.

16- Freight; evaluation, fixing, etc.

- .1- Fixing of freight.
- .2- Earned and payable freight, deadfreight.
- .3- Freight contracting.
- .4- Payment of freight.
- .5- Brokerage.
- .6- Costs and breakeven point.

17- Arrived ship, Notice of readiness;

- .1- An arrived ship?
- .2- Tendering notice of readiness.
- .3- Commencing laytime.

18- Laytime Calculations;

- .1- Time allowed.

- .2- Fixed time, time not fixed, reversible time.
- .3- Time counting and exceptions; SHEX, SHINC, etc.
- .4- Influencing of other clauses; i.e. strike clause, on time counting.
- .5- Workable hatches.

19- Demurrage and Despatch;

- .1- Laytime statement.
- .2- Demurrage and Despatch definition.
- .3- Demurrage and Despatch for detention.
- .4- Payment of Demurrage or despatch.

20- cargo Liabilities, Retention, etc.;

- .1- Owners' liabilities.
- .2- Charterers' liabilities.
- .3- Liabilities as against cargo owners.
- .4- Redress clause.
- .5- Short delivery of cargo; Oil, Grain, etc.

21- Case studies;

- .1- A dry cargo case study; e.g. Wheat/Barley from US gulf to Rotterdam, to illustrate how a shipowner decides what the minimum rate should be to cover breakeven point.
- .2- A tanker fixture case; e.g. VLCC trip from Persian Gulf to Rotterdam, to illustrate how a breakeven point Worldscale could be calculated by shipowners.

MODULE 5 : TIME CHARTERING (7 Hours)

22- General Terms;

- .1- Vessel specification.
- .2- Speed and bunker consumption, Maintenance.
- .3- Cargo limitations, Trading limits.

- .4- The period; length of period, overlap/underlap last voyage.
- .5- Bareboat charter.

23- Delivery and Redelivery;

- .1- When and where shall the vessel be delivered?
- .2- In what condition shall the vessel be delivered?
- .3- Allocation of costs at delivery and redelivery.
- .4- When and where shall the vessel be redelivered?

24- The Hire;

- .1- Fixing of the hire.
- .2- Payment of the hire.
- .3- Late payment - owners' security.
- .4- Deductions from hire/off-hire.
- .5- Off-hire claims.
- .6- The threshold rule.

25- Costs and Damages;

- .1- Allocation of costs.
- .2- Employment and indemnity.
- .3- Damage to the vessel; bad weather, collision, etc.
- .4- Repair of damages.
- .5- Insurance; freight, war risk. Breach of Warranty.

26- Vessel Performance Monitoring;

- .1- Adequate manning.
- .2- Masters' position and obligations.
- .3- Speed and fuel consumption.
- .4- Weather considerations.
- .5- Cargo gears.
- .6- Performance claims, off-hire.
- .7- Bunker clause; quality and use of ISO system.

27- Cargo Liabilities;

- .1- Owners' liabilities.
- .2- Charterers' liabilities.

- .3- Liabilities as against cargo owner.
- .4- Short delivery of cargo.
- .5- Cargo retention.

28- Case Study;

- .1- An example to illustrate how an owner makes a decision that whether a time charter or a voyage charter fixture is more beneficial to him.

MODULE 6 : PC BASED SIMULATION (8 Hours)

29- Group Formation;

- .1- A demonstration of simulation exercise is carried out and then trainees are divided into groups of 2 or 3 and encouraged to familiarize themselves with the system.

30- PC Based Simulation Exercise;

- .1- Several possibilities of vessel deployments are available to the trainees and each group must choose the best alternative, in their opinions, based on their calculations. This would enhance their skills in chartering. It would also be a good evaluation of what the trainees have learnt, and how they put them into practice, during simulation exercises.

32- Report Presentation;

- .1- Findings of each exercise are presented to the class by group's spokesman. The class then discusses the exercise as a whole and then the instructor delivers a summary. The process is repeated till all exercises are covered.

6.2.4, GROUP WORK

Trainees, due to their position may have acquired a wide range of experience in maritime affairs. Collectively, they will possess a wealth of knowledge, and this could be used to good advantage.

Better results would be obtained if, from time to time, the trainees participate in working groups to solve practical problems. The course contains a number of subjects suitable for this kind of treatment and the following procedure is suggested; the times indicated are arbitrary.

The instructor gives the entire class a short introduction of, say, 5 minutes to outline a particular subject and provoke discussion.

The trainees are then divided into working groups of five or six to pursue their assigned task for about 20 minutes.

Following this, the entire class assembles to listen to presentations from each group, which takes a total of approximately 15 minutes.

The class as a whole then discusses the issue and thereafter the instructor delivers a summary. The trainees are either given a copy of the key points or they take their own notes, this might take 20 minutes.

The groups might all be given the same task, or they might each be assigned a different part of the same topic. Some proposed group assignments are listed overleaf.

MODEL GROUP ASSIGNMENTS

MODULE 1 :

.1- Produce an outline for monitoring the market information (set-up, coverage, media), also enumerate the benefit of this network.

.2- Explain briefly to what extent computers could be used in gathering and filtering information.

.3- Describe a method by which a specified market could be forecasted.

MODULE 2 :

.1- Produce an outline by which the breakeven world-scale for a given route, could be determined.

.2- Enumerate important factors to be considered ,apart from a good rate, before accepting an offer, or choosing one over another.(Financial standing, final ship position, terms and clauses, etc.).

MODULE 3 :

.1- Explain the concept of seaworthiness in a charter party.

.2- Discuss how maritime lien could apply in different situations, i.e. bare-boat, liner, C/P, different countries.

.3- Enumerate the conditions which apply to the General Average (G/A) and the steps required to be taken for General Average adjusting and contribution.

MODULE 4 :

.1- Highlight the points to be considered when nominating port/s in a charter party.

.2- Make recommendations on the terms of the payment for a shipowner before he finally accepts a fixture, and explain the merit of each.

.3- Enumerate the factors which could contribute in an apparent short delivery of bulk cargo; grain and oil.

MODULE 5 :

.1- Define the term "Ballast Bonus" and explain its benefits, if any, to charterers and owners.

.2- How can the owners' interest be safeguarded against the failure of the charterer for payment of the last instalment of hire (last hire payment)?

.3- Recommend some steps which could be taken by a shipowner to avoid possible short delivery of cargo claims.

CONCLUSION

The time taken up by explaining, the time lost in treating the employee as a human being, will be caught up in the execution of the plan. People must know where they are going, and why .

- Frantz Fanon (1965,P.154)

It can generally be said that the structure and speed of development of a national economy largely depends on the extent, and even more on the quality, of its transport system. Although domestic industries supplying the domestic market are important, economic development is always associated with the expansion of the international trade which in turn largely depends on reliable and efficient shipping services.

The most effective way to ensure that shipping services are not disruptive and are adequately available, has been found by most countries to be the maintenance of a certain minimum engagement in shipping, by operating a national fleet. A national fleet also contributes towards enhancing economic growth and advancing political objectives through its effects on balance of payments, manpower employment, export promotion, impact on related industries, and influencing conferences.

Shipping being an international industry, is affected by national and international economic and social facts and concepts. Amongst them the most important ones are: international register, round the world services, competition, zero

stock gear concept, postindustrial society era, and legal obligations laid down by international bodies such as IMO and ILO. These factors in turn have brought some demands on the shipowners and operators such as; optimum manning level, high degree of flexibility, and technological evolutions.

Finding and recruiting new sources of qualified labor, updating existing manpower, coping with a high turnover in personnel, maintaining ships while optimizing costs, managing technological changes, and gainfully employing its fleet are among the main problems which shipping management is facing today. Therefore, successful shipping management requires a dynamic atmosphere where new answers to problems can be constantly sought and innovative methods called on to tackle old issues.

Among the resources available to a shipping company - physical, financial, and human - undoubtedly the human resource is the most valuable one, as any policy sought by the management can be executed effectively only through its competent and motivated personnel. But it needs education and training to prepare competent employees and motivation to create committed people. Therefore, successful managers are those who are aware of the merits of up-dating and motivation and use these levers wisely to enhance their organizations' efficiency.

Company diagnosis and performance analysis are the techniques which could be used to diagnose the needs of a company. Depending on the findings, the decision has to be made whether training is the solution to the shortfall/s or other alternatives could be used to rectify it/them? Thereafter a pre-training estimate (cost/benefit analysis) must be carried out to conclude whether or not the training approach is the optimal solution. If so, then in order for the program to achieve its aim/s, it needs to be carried out systematically.

What employees need to learn, beyond their immediate assignments, depends on what the employer wants them to contribute. As we saw in chapter four, leading companies want their employees to consider themselves members of the organization, as is the case in Japan's organizations, and to recommend and implement ways of making the company more successful.

In conclusion, we can say that the personnel of every shipping company consists of seagoing staff to operate, maintain and control their ships (the ship-board management) and shore-based personnel to establish, implement, verify and control policies, systems and procedures. Therefore, development of the shore staff, through training and updating, must be carried out, as competent and committed personnel ashore are absolutely necessary to see that ships are adequately manned, efficiently maintained, and gainfully employed. If the company is to survive and prosper in an ever changing environment, its human resource must be in constant state of development so that they are able to cope efficiently with the competitive market forces, technology changes, or new regulations.

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ANNEX-I, TOPICS OFFERED

MANAGEMENT

THE SHIP :

Design, Construction, Cargo suitability and trades, Cargo handling gear, Capacity (NT, GT, Grain, Deadwt, TEU, Volume displacement, Etc.)

REGISTRATION AND CLASSIFICATION :

Certification of surveys, choice of flag, International Ship Registers, Classification Societies, maintenance program for maintenance of class, class surveys, safety certificate, other surveys (on/off hire, pre-loading, etc.)

COSTS :

(a) Fixed costs = Capital cost, amortisation, debt servicing.

(b) Daily operating costs = Crew expenses, victualling, stores, lubricants, insurance P&I calls(including reserve for deductible), communication, superintendence. Also reserves for maintenance, repairs, ship surveys, drydocking, maintenance and surveys, etc.

(c) Voyage costs = Bunkers, port costs, canal dues, LDG/DCHG costs, preparation of voyage estimates, calculation of time charter equivalents, calculating the layup decision, use of world scale for tankers.

CREWING :

Master and his authority, using crewing agencies, dealing with unions, ITF activities, essential elements of crew

costs viz; basic wages, overtime, leave, traveling, etc.
Different crew nationality, mixed crew, communication.

BUNKERING :

Dealing with suppliers, dealing with bunker brokers, checking quality (analysis schemes), choice of bunkering port as part of voyage planning.

INSURANCE :

Hull and Machinery; war risk, how Lloyds of London functions, other insurance markets, institute warranties, institute time clauses, P & I clubs, strike insurance, pollution insurance. General average, when and why to declare it, the role of the average adjusters. Coping with casualties, limitation of liability. Salvage claims, Lloyds open form and salvage arbitrations. Cargo claims, Hague/Hague-Visby/Hamburg rules.

GEOGRAPHY AND METEOROLOGY :

Port and terminal facilities. General knowledge of continents, countries, ports, etc and their restrictions. Load line zones. The effect of wind and current on voyage estimating. Seasonal hazards such as TRS and ice. The use of weather routing services.

LAW :

The legal position of ship manager/owner. Reaction to cargo claims. Reaction to arrest in Rem and Mareva injunction. Reaction to late hire payment. Responsibility for cargo under time-charter.

SALE AND PURCHASE :

Specification, construction contracts, clauses, parties involved, markets, financing, mortgages, bareboat/lease financing, currency and exchange rates, valuations, second hand market, scrap value.

CHARTERING :

Chartering contracts/forms and their contents, chartering conditions, printed clauses, insert clauses, chartering market practice, financial elements of C/Ps. Laytime, voyage estimating, other documents(B/L, cargo claims, etc.).

CARGOES(dry cargo) :

Liner conferences, general knowledge of stowage factors, cargo characteristics, problems and cargo care. stowage plans, stability, compatibility, importance of high degree of hold cleanliness for certain cargoes. IMO dangerous cargo regulations and port restrictions when loading or carrying them. Environmental pollution. Out-turn disputes, tallying, draft surveys for bulk cargoes, hatch surveys, cargo damage.

CARGOES(tanker) :

Different crudes and their problems. Cargo heating, I.G. systems, segregated ballast, crude oil washing. Petroleum products, chemicals, including hazardous cargoes. Tank coatings and their compatibility with different cargoes. Liquefied gas carriage. Ullage and deadfreight.

REVENUE FACTORS :

General level of personnel experience, education and training and optimizing the same. General standard of coordination and administration of company resources, features, activities and operations. Freight/hire (market condition), marketing skill, timing sale and purchase and ordering new building. Using vessels, maximum capacity. Shortest ballasting. Way cargoes, backhaul cargoes, combination of cargoes. Longest time in performance (no off-hire/breakdowns). Optimum fleet scheduling. Chartering skill (negotiations performance). Preferential treatment.

FINANCIAL MANAGEMENT :

Capital structure of company, low cost of capital, leverage. Cost of capital, financial information system, profit planning and control, capital investment decisions. Budgetary control, investment appraisal

OPERATIONAL DEPARTMENT

CHARTERING :

SHIPPING MARKET : Tramp market, determination of tramp freight rates. Tanker market and determination of tanker freight rates. Liner tariffs and the conference system. Future markets, BIFFEX, BIMCO, etc.

CHARTERING CONTRACTS : Types/forms of voyage/time charter parties, their application for different trade. Bareboat charters and large scale maritime ventures. Customary terminology and abbreviations, clauses(printed /inserted) and their rationale. Berth-v-Port charters. Weather working days. Drafting of additional clauses. Analysis of charterers' and owners' rights, responsibilities and liabilities. Origin, rationale for and use of the World Scale.

CHARTERING MARKET PRACTICE : Offer and counteroffer procedure, legal, tactical and ethical requirements. Essential details contained in offers. Defaulting principals. Fraud avoidance. Breach of Warranty of Authority(with or without negligence). Professional negligence and indemnity insurance.

FINANCIAL ELEMENTS OF C/Ps : Freight and hire calculation and payment methods. Dangers of late hire payment and appropriate clauses. Voyage charters - dead freight,

demurrage, despatch, damages for detention, freight taxes. Time charter - performance claims, off-hire, delivery/redelivery. Commissions.

LAYTIME : Calculation, commencement and interruption of laytime. Importance of notice of readiness. Interpretation of statement of facts and production of laytime statements, calculation of demurrage (and despatch).

VOYAGE ESTIMATING : Making the calculation, comparing alternative voyages, comparing voyage with time charter, using BIMCO on-line services.

LINER SECTION :

THE CARGOES : Conventional cargo (break-bulk), palletisation, containerization, heavy lifts, IMO hazardous cargo regulations including port restrictions when loading/carrying them. Liaising with stevedores, tally clerks, ship planners, etc.

TARIFFS AND CONFERENCES : Construction of tariffs, rate of calculations and quotations to shippers, surcharges, methods of rating containers. Role of Liner Conferences, rating policies, loyalty rebate schemes, conference 'policing' systems, consortium agreements, non-conference operations, use of time-chartered ships, speculative operations. The U.N. Liner Code.

BILLS of LADING : Their importance in liner traffic, transferability (negotiability), 'clean' bills of lading and clauses, Hague/Hague-Visby/Hamburg rules, avoidance of fraud. Different types of B/L e.g. received for Shipment, Shipped on board, Through B/Ls, Combined transport B/Ls, Liner Waybills, House B/Ls issued by forwarders and NVOCCs, FIATA B/Ls.

CONTAINERIZATION & INTERMODAL TRANSPORTATION : Terms and expressions, FCL, LCL, Inland Clearance Depots, pre and post shipment carriage including methods of subsidy, moving cargo overland under Custom bond, Feederling.

AGENCY AGREEMENTS AND CARGO CLAIMS : Terms and conditions of agency, agents' duties, sales and marketing, container control. Freight collection including granting of credit, accounting with principals. Agents' involvement in handling cargo claims, role of owners' P&I Clubs, types of insurance carried by merchants.

COMPUTERS : Their application in liner trade, cargo selection, balancing of cargo flows, pro forma voyage control, etc.

OPERATION : Fuel economy, optimum speed, planning of sailing schedules, voyage instructions, bunkers, weather routing. Communication; reporting systems. Relation between operator and agents; pilotage, towage, salvage agreements. Stevedoring contracts.

LEGAL and INSURANCE :

OWNERSHIP STRUCTURE : Notion of 64 shares, co-ownership, registered ownership, beneficial ownership. Qualification for owning a vessel, obligations of ship's husband or manager. Importance of registration, evidence of title, open registers(pros and cons), procedures, registration of mortgages.

LEGAL ASPECTS OF C/Ps : (a)-Voyage charters- lay-time, demurrage, waiting time, arrived ship, canceling clause, notice of readiness. (b)-time charters- payment of hire and remedies for non-payment, delivery, redelivery and

offhire, responsibility for cargo, performance (speed and consumption), safe port warranty.

MARITIME ARBITRATION : typical charter party clauses, advantages of arbitration, procedures, arbitration acts-history and current laws, main arbitration venues with differences in procedures.

COLLISION LAW, SALVAGE : International conventions, apportionment of faults, measure of damage, salvage contracts, Lloyds open Form, salvage arbitrations.

ADMIRALTY JURISDICTION : maritime liens - methods of enforcement and priority rankings, action in rem and claims which justifies arrest, Mareva injunctions, Basic procedures for arrest.

LIMITATION OF LIABILITY : 1976 Limitation Convention; the right of limitation, the limits of liability, the limitation fund, scope of application. Carriage of goods limitations; package limitations, persons who can limit liability, claims which are subject to limitation. Methods of calculations and distribution, how limitation may be broken. Seaworthiness.

MARITIME FRAUD : Business ethics in shipping, minor fraud and default, Deviation and marine insurance fraud, C/Ps fraud, economics of maritime fraud, prevention of maritime fraud.

PRINCIPLES OF MARINE INSURANCE : insurable interest, utmost good faith, seaworthiness, the perils, institute warranties, sue and labor, salvage and subrogation, partial loss - actual and constructive. Particular average, temporary repairs, abandonment.

THE POLICY : Effecting the insurance, the London and other markets, premiums, franchises and excesses, institute time clauses(hull & freight), institute cargo clauses, war risk insurance. Voyage/time policy, valued/unvalued/open policies.

P & I ASSOCIATIONS : their role and constitution (mutuality), third party liability and negligence, strike insurance.

AVERAGE : General Average, York Antwerp Rules, conditions giving rise to G.A., who contributes, recovery of contributions, average adjustment, New Jason clause, particular average.

LAW of CARRIAGE : Hague/Hague-Visby/Hamburg rules, their application and their relationship with insurance. Common and private carriers, carriers' liabilities. Charter parties, different types of charter(demise, time, voyage). Bills of lading, role and function of a Bill of lading, B/L and international trade, clean and claused B/Ls, negotiability of a B/L, etc.

DAMAGE CLAIMS : Grounding/stranding, contact and ranging damage, heavy weather and ice, main machinery, tailshaft, boilers and economizers, collisions, fire, personnel accidents.

TECHNICAL DEPARTMENT

PLANNING & DESIGN :

PROPELLERS : Geometry, materials, diameter. Types; conventional, contra-rotating, controllable pitch, propeller in nozzles.

REDUCTION GEARS : Gearing configuration, coupling and clutches, lubricating oil systems, pitting and tooth breakage.

ENGINE DESIGN : Engine types, operational flexibility, reliability and maintenance of each type. Fuel consumption rates at the same specific power. Service intervals and lifetime of components, lubricating oil consumption, vibration characteristics of two-stroke low speed engines.

HULL STRUCTURES : Frictional and wave making resistance, hull modification for better performance, estimating of effective horse power. hull resistance and propeller characteristics, cavitation.

AUXILIARIES : Blended fuel, power take offs(PTO), turbo compound systems(TCS), exhaust gas turbo-alternators, system optimization. Stresses in boiler shells, auxiliary boilers, superheaters and uptake heat exchangers, mountings, fuel combustion, operation and maintenance of boilers.

BUNKERS :

FUEL OIL : Characteristic properties; kinematic viscosity, flash point. Contaminants; water, sodium, vanadium, sulphur, etc and effect of each on the ships' machinery, controlling fuel quality. Specification; fuel sampling and testing(onboard and ashore).

SHIPBOARD FUEL SYSTEMS : Viscosity of blended fuel, preparation of fuel for use, settling, purification. Fuel density limit, saving sludge by homogenization, emulsified fuel, oil fuel blenders, viscosity controllers, using additives, one-fuel ship.

LEGAL PROBLEMS : F/O standards, quality clause, delivery note, sampling, contractual purchase requirements, chartering stipulations.

MAINTENANCE :

PLANNED MAINTENANCE : Purpose, merit, machinery selection, maintenance policy, manning level. Documentation, inventory list, history card. drydocking, class survey and planned maintenance, alternative survey arrangements

CONDITION MONITORING SYSTEMS : Purpose, early warning, its effects on maintenance reduction, devices and systems. Oil analyzing, shock pulse analyzing, vibration analyzing. Diagnostic systems for diesel engines, SEDS, SIPWA, MIP, CPS

PERFORMANCE MONITORING : Ship performance measurement, fouling and corrosion effects, underwater-hull paint applications, paint specifications. corrosion control.

SPARE PARTS : Spare parts and safety, spare parts and reduction of off-hire time, description, stock control, costs associated with stock, optimal stock, purchasing and availability of spare parts, computer use in spare parts stock control.

DRYDOCKING : Drydocking intervals, pre-dock planning, reports from ships, work specification, planning a repair program, tendering and selection of yards, critical path analysis in drydocking, preparation before arrival at the yard, hull cleaning and painting, organization of work in hand, role of superintendent.

BUDGETING AND COST CONTROL : Technical cost centers, elements of cost control system, control activities, providing information, providing data and statistics, charts of accounts, prompt reporting, budget preparation.

HULL PROTECTION : Theory of corrosion, cathodic protection, calculating the mass of anodes required, different methods of monitoring paint condition, main components of paints, types of paints and their usage,

calculating covering capacity in M²/Ltr given the film thickness, estimating cost of paints per M², paint application, underwater hull surface finish, surface roughness and factors affecting it.

ADMINISTRATION DEPARTMENT

ENVIRONMENT : organization - people interaction, productivity measurement, quality of work life and its components, human resource management, motivation and commitment, unfair discrimination, the legal and social context of personnel decisions.

EMPLOYMENT : Analyzing and designing jobs; organizational objectives, functions, relationships. Human resource planning; quality of personnel, human resource and requirements, human resource forecasts, the role of information systems in human resource planning. Recruiting, screening, and selecting employees; the process, planning, sources and methods, affirmative action recruiting, ability tests, hiring and the law.

DEVELOPMENT : Individual and organizational development; new employee orientation, employee training, operative training, management development, in-house versus external training, evaluating training programs, organization development. Appraising employee performance; performance appraisal, legal issues in performance appraisals, developing performance standards, management by objectives. Career development; nature of careers, an integrated life, the career development program.

COMPENSATION : Pay and benefits; equity and compensations, comparable value, job evaluation, job grading, factor compensation system, components of the benefits package.

Variable compensation; expectancy theory and compensation, motivation theories, rewards that motivate the behavior. Motivational strategies for improving performance and productivity; requirements of effective incentive systems, guidelines for effective merit pay systems, long-term incentives.

MAINTENANCE AND SEPARATION : Communication and counseling; importance of communication, channels and structure, communication filters, counseling. Safety and health; occupational safety and health, worker's compensation laws, the safety program, the health program, absenteeism. Separation processes; turnover, retirement, layoff, discharge, on deputation to other organizations.

FINANCIAL DEPARTMENT

COSTING : cost accounting, direct and indirect costs, cost accounting systems, methods of cost apportionment, profit and output decisions, break-even concept and analysis, absorption and marginal costing, financial aspects of decision making, how marginal costing techniques assist managerial decision.

FINANCIAL STATEMENTS : Recording financial information, financial statements, accounting concepts and conventions, company accounts, source and application of funds, interpreting financial statements, accounting for the effects of inflation.

WORKING CAPITAL : Current assets and liabilities, hedging principle, cash and marketable securities, accounts receivable, inventory, just-in-time inventory control, short-term financing.

LONG-TERM FINANCING : Raising funds in the capital market, floatation costs, term loan and leases, bonds or long term debts, preferred stock, common stock, convertibles securities, warrants, options and futures.

FINANCIAL ANALYSIS, PLANNING, AND CONTROL : Financial ratios, financial analysis based on earning power, financial forecasting, financial planning and budgeting, computerized financial planning, alternative forecast methods, budgetary control, standard costing, overhead variances.

VALUATION AND TAXATION : Principle of taxation, depreciation allowances, creation of a tax loss, use of capital allowances, basis of valuation, bond, common stock valuation, valuation and earning relationship, expected rates of return.

FOREIGN CURRENCY : The foreign exchange market, covering forward, effects of currency choice on the contracts, effects of different charter terms, forward purchase of currency, mixed "baskets" of different currencies, exchange control problems.

PROJECT FINANCE FOR SHIP ACQUISITION : Terms of the building contract, changes to the contract specification, payment of interest, repayment of capital, buyers' and suppliers' credits, ship mortgage banks, security against repayment, bank guarantees, limiting the owners liability, fees and charges, use of the government aid as credit.