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BUSINESS PLAN OF A UNIT ON THE
SHIPPING INDUSTRY

“ΡΑΡΙ LTD”

ΝΙΚΟΛΑΟΣ ΟΙΚΟΝΟΜΟΥ



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Παράρτημα Β: Βεβαίωση Εκπόνησης Διπλωματικής Εργασίας



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ΒΕΒΑΙΩΣΗ ΕΚΠΟΝΗΣΗΣ ΔΙΠΛΩΜΑΤΙΚΗΣ ΕΡΓΑΣΙΑΣ

(περιλαμβάνεται ως ξεχωριστή (δεύτερη) σελίδα στο σώμα της διπλωματικής εργασίας)

«Δηλώνω υπεύθυνα ότι η διπλωματική εργασία για τη λήψη του μεταπτυχιακού τίτλου σπουδών, του Πανεπιστημίου Πειραιώς, στη Διοίκηση Επιχειρήσεων για Στελέχη : Ε-MBA» με τίτλο «ΕΠΙΧΕΙΡΗΣΙΑΚΗ ΣΧΕΔΙΑΣΗ ΜΟΝΑΔΑΣ ΤΟΥ ΝΑΥΤΙΛΙΑΚΟΥ ΤΟΜΕΑ»

«BUSINESS PLAN OF A UNIT ON THE SHIPPING INDUSTRY» “ PAPI LTD ”
έχει συγγραφεί από εμένα αποκλειστικά και στο σύνολό της. Δεν έχει υποβληθεί ούτε έχει εγκριθεί στο πλαίσιο κάποιου άλλου μεταπτυχιακού προγράμματος ή προπτυχιακού τίτλου σπουδών, στην Ελλάδα ή στο εξωτερικό, ούτε είναι εργασία ή τμήμα εργασίας ακαδημαϊκού ή επαγγελματικού χαρακτήρα.

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Υπογραφή Μεταπτυχιακού Φοιτητή

Όνοματεπώνυμο.....ΟΙΚΟΝΟΜΟΥ ΝΙΚΟΛΑΟΣ

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C. INTRODUCTION

The purpose of this business plan is to present, analyze and understand the services and the procedures of the company named PAPI Ltd on the shipping industry. The company was founded in 2006 and its main responsibilities include carrying out inspections of the lifesaving launching appliances of vessels.

In this plan there will be described the field in which the company is active, the competition it has to deal with, the growth opportunities and the legislations related to the company. Furthermore, a SWOT analysis is presented and the full marketing mix plan underlying the business. Particular attention is given to investment projects of enterprises through the analysis of their economic opportunities and comprehensive analysis of the present financials of the firm.

This business plan is a great opportunity to understand how a business can be built from the start, evolve and cope with the difficulties of the crisis. In addition, we can realize how marketing and advertising can play a significant role in promoting the products and the services of the company and how can these tools help the firm establish a career in the maritime sector or shipping industry.

By analyzing the market, the obstacles and the competitors every new company can learn a lot and can achieve its goals better avoiding the threats and the dangers. Likewise, the key is to have a specific sales strategy that attracts more and more customers and a market strategy that is very competitive.

Maybe the most important thing of this business plan is the analysis of the productivity and the financial data of 2011, 2012 and 2013. The rise in productivity and profits can be seen through boards. In addition, the swot analysis presents the positive and negative features of the company and the opportunities and threats that it is possible to face in the future. Last but not least, the personnel plays a key role to the proper function of PAPI.

D. BACKGROUND

1. COMPANY DESCRIPTION - PAST AND PRESENT

In 2006, a new regulation IMO MSC.1/Circ.1206 Rev. 1, was implemented. Among others, a new service was required to ensure the safety of the crew and the seafarers in case of emergency while abandoning the ship. This new regulation forced ship-owners to have the life-saving launching appliances tested and certified on an annual basis. This proves that the life-saving appliances/devised would be in a good condition and would perform well if needed until the next inspection the following year.

A prerequisite, according to the regulation, was that the inspections carried out should be done by an independent, third-party who would be trained and certified by the manufacturer of these appliances, i.e. the lifeboat and davit winch makers. The third-party is a service company (supplier of the shipping companies) who may have the exclusivity to work for certain makers.

Since vessels trade worldwide, the manufacturers of the lifesaving launching appliances are fortified to set up a global network in order to meet the demands of their customers and have their products readily available whenever and wherever required.

The need for this service was recognised by the owner now manager, who then decided to establish a company and meet this demand. Hence, in 2006 PAPI Ltd was formed by a mechanical engineer/naval architect, with experience in the shipping industry and good knowledge of the safety systems on board the ships. PAPI Ltd offers annual and 5-yearly inspection, testing and maintenance of lifeboats, rescue boats, free-fall boats and davits for life boats and life rafts.

When the company first started, due to low budget and limited space, it started small, with the owner undertaking all jobs and soon acquired very skilled technicians that are

constantly trained and certified by several manufacturers. PAPI Ltd considers its people as assets and invests in their education and training in order to offer top quality services.

PAPI Ltd was firstly authorised by a Japanese manufacturer, Sekigkara Ltd, who has the largest share of sales of lifesaving launching appliances in the world's fleet, as a service company for the annual and 5-yearly inspections of lifeboats for Greek-based customers. The working procedure and the check lists used in the company are according to Sekigkara's guidelines.

This was a tremendous success for PAPI Ltd as a start, as it boosted its sales and helped the company to 'stand in its own feet'. Three years after the company commenced its operations, it got representations by more manufacturers from Korea DSB ENGINEERING and ORIENTAL, and China HXN and Behai.

Our manufacturers

Main country with a long history on shipbuilding is JAPAN. Throughout the years Japan has built a strong shipbuilding industry with values the excellent build quality, the durability and the easy engineering and naval architecture design. These values are an enormous asset for the ship owners where strong and easy maintained vessels are a must in order to operate on the hard sea environment. For this reason 8 Main manufactures built lifeboats and lifesaving launching appliances. Out of this the 2 with the largest share in the market are represented in Greece by PAPI ltd. In the future two more are needed in order to increase our market share.

These are the following:

Sekigkara Ltd is top manufacturer of lifesaving launching appliances with sales of more than 11000 "Segikara.co.jp" units in the global market of the vessels built since 1950 that

started its production. As a result the majority of the merchant vessels worldwide that have been built in JAPAN have this maker installed as the lifesaving launching appliance.

Their designs are easy and user friendly. They are able to operate under harsh working environments and be able to lower the lifeboats in case of emergency under all conditions.

Of course as per regulations their lowering mechanism has to be inspected and certified annually. Out of our experience is hard to find a malfunction on the system if the maintenance intervals are followed and the system is not neglected. For this reason many ship-owners choose this maker and this is good for PAPI LTD as this large quantity of vessels need also a workforce in order to be inspected and maintained which means sales.

Ishiha LTD is another top brand having constructed more than 10000 “nishi.co.jp” number of units. It was sold to Nishi in 2005 in order to become a large unit of lifeboat manufacturer, the largest in Japan with a large percentage of market share. It also located in south part of Japan and provides Ishiha products to the shipyards and also exporting to Korea which not very far away. There is a ferry service very close connecting Japan to Korea which reduces the cost of container transportation through mainland.

Nish is the second top brand of Japanese makers having constructed 7000 “nishi.co.jp” number of units. On 2005 it acquired the Ishiha in order as described above to become one large factory. Their products are also synonymous to the quality and long lasting materials. The fiber resin polymer is thick making the boat strong to impacts and very safe compared to the competition where cheaper quality materials are used. It has been observed that 20 years old boats hold better to stresses at fully loaded tests compared to other brands that have deflections or even cracks (personal experience on board MV URSUS with two boats one Chinese and one Ishiha).

HXN is a recently new player in the market of lifesaving launching appliances. It was acquired in order to gain access to the Chinese market. We have seen only two vessel equipped with this maker so far. Their factory is expanding rapidly and their new premises are impressive with capability to produce good products at large quantities. It is strongly believed that these brand will have a share in the global market soon.

WEST MARINE is a davit maker based in Singapore but with detailed cranes specific for offshore units but also for commercial vessels trading worldwide. Similarly to the HXN, WEST MARINE manufacturer is also new in the field and the East Marine Engineering based in Singapore but the factory is in China. It is chosen by Singaporean shipowners building vessels in china

Dsb is a large Korean manufacturer that can provide both lifeboats and davits as a complete system. Many new vessel are equipped with these products and is the second largest provider of Korea for the time being

Beihai is a large Chinese maker with many exports to Japan, and Korea. One of our customers has 16 vessels built with this maker who produces the whole set (lifesaving launching appliances as davits and winches and lifeboats).Beihai has been established in 1990 and since then it is considered as the second largest Chinese maker of lifesaving appliances.

PAPI Ltd has also been certified by the majority of Class-members of I.A.C.S. (International Association of Classification Societies): Lloyds Register, Bureau Veritas and Korean Register and Flag Approvals (Greek Merchant Marine Approval). The company is planning to be certified by the following class societies in the near future: RINA, ABS, DNV and NKK.

Apart from the full range inspections, PAPI Ltd carries out load testing using its own water bags (weights) that are certified and recognised by all classification societies of IACS

Cranes department

PAPI Ltd has made a joint venture with the cargo gear company, in order to enter the field of cargo crane lifting appliance inspections. This way, when there are common customers, it is possible for the engineer to combine the inspections in order to save time and travelling cost. The co-operation has proved to be successful as the feedback from customers is positive. On this department, the person in charge is Mr Nemontis, who has a great experience in the field of cranes.

NDT department

In order to face the increased competition from our rivals, we have also created another department that is dealing with the ultrasonic measurement of the vessel structure and completion of reports stating in full detail the structural safety of the vessel meets the classification standards of societies. The person in charge for this department is Mr Voliotis.

At present, PAPI Ltd is located in Chalandri, at a small office under rental. The aim is to expand further, acquire more skilled personnel and be certified by more well-known and reliable manufacturers. At a later stage, the aim of the company is to offer more services related to safety to ship-owners and seek any opportunities that may arise with joint-ventures and co-operations with reputable companies in the market.

2. DISTINCTIVE SKILLS, UNIQUENESS, PROTECTION

The values that the Greek shipping industry, and especially bulk shipping has used to build upon should be taken into account. Trust is the first and most important among them. The worldwide shipping business has developed its own culture, based on trust and reputation of its members (Harlaftis & Theotokas, 2004). Thus, after the well-trained

and motivated personnel, reputation is considered as the next most important factor that could create conditions of trust to the companies.

As the main product of PAPI is its people, extra attention is given to its employees as they represent the company and shape opinions to a great extent. Success factors of the company are considered the high quality of work carried out compared to the competition. The personnel are highly educated and well-trained. On the contrary, in competitive companies there are persons performing this job less skilled and less educated. When meeting customer, our strength is highlighted and we try to promote it as much as possible.

Also the manager personal contacts with key persons on the shipping industry and the co-operations with the cargo gears and fire-fighting companies have made the company progress successful.

Another value of Greek ship-owners is to employ Greek service engineers even to a slightly higher cost compared to the locals as the Greeks communicate in the world of shipping with the same mentality and manner making the co-operation much easier and efficient. For this reason they are willing to sacrifice the extra cost of a ticket provided that the service they require to a higher standard is met by the service provider.

This is a unique skill of Papi ltd making to be distinguished amongst the competitors and is based on strong business relationships of the service engineers and the co-operating shipping companies. There are cases where specific service engineer is required for a job and requested by the shipping company. As a result this makes Papi exclusive in this Nish market with the high quality engineers that are employed.

Through a bonus system and proper business politics and relations inside and outside the company the manager try to protect the company policy exclusivity and business progress. All the engineers work on a highly satisfying working environment in order to protect the assets of the company as all engineers posses qualifications and considered as assets.

E. MARKET ANALYSIS

Shipping is a major component of international trade as 90% of goods are transported over the sea. The merchant shipping industry generates approximately US\$380 billion in annual income, representing 5% of the global economy (Shipping Corporations 2010). The four major segments of the shipping industry are bulk carriers, tankers, container ships and specialized cargo ships.

The shipping industry has historically been highly cyclical, experiencing significant volatility in vessel values, freight rates and shareholder returns. It is highly affected by changes in the international economic and political environment. Increasing regulation, volatility in financial markets, risk of piracy, technological breakthroughs and environmental concerns have added to a very challenging business environment.

Greece has a long history in shipping dating back to the ancient times and influenced by the country's geography. It has a long tradition in the shipping industry and controls about one-fifth of the world's dwt capacity (ISL, 2005). In Greece, there are a total of 718 ship management companies out of which PAPI Ltd co-operates with 78 (about 11%). The overall number of Greek vessels has gone down by 137 vessels in the last year but only by 78 over the last two years. This is partly due to the Greek situation, the decline of the international trade and the fact that some owners are consolidating or leaving shipping at present.

The overall number of Greek vessels is affected by three main forces:

- 1) the rate of new building deliveries, which is slowing down
- 2) the rate of vessel scrapping, which is growing
- 3) the sale and purchase of second-hand vessels.

Currently, conditions in shipping are very poor across all sectors (LNG and offshore excluded), the volumes of S&P activity have reduced, scrapping has increased and the rate of new-building deliveries, although still very positive, is waning. Consequently, it is to be expected that these difficult market conditions shall have their continuing effect in 2013/2014 in terms of the number of Greek vessels.

1. INDUSTRY DESCRIPTION, SCOPE AND TRENDS INCLUDE A REVIEW OF THE BUSINESS SYSTEM AND MARKET ANALYSIS WITHIN EACH SECTION.

Since mid-2008, the world economy, the banking industry and shipping have been in continuing difficulties. The slow-down of the global economy and international trade has led to a slowdown in demand for shipping across almost all sectors. This came at the worst time for shipping; since the good market of 2003-2007 had laid the foundations of a huge ordering book which more than doubled ship carrying capacity.

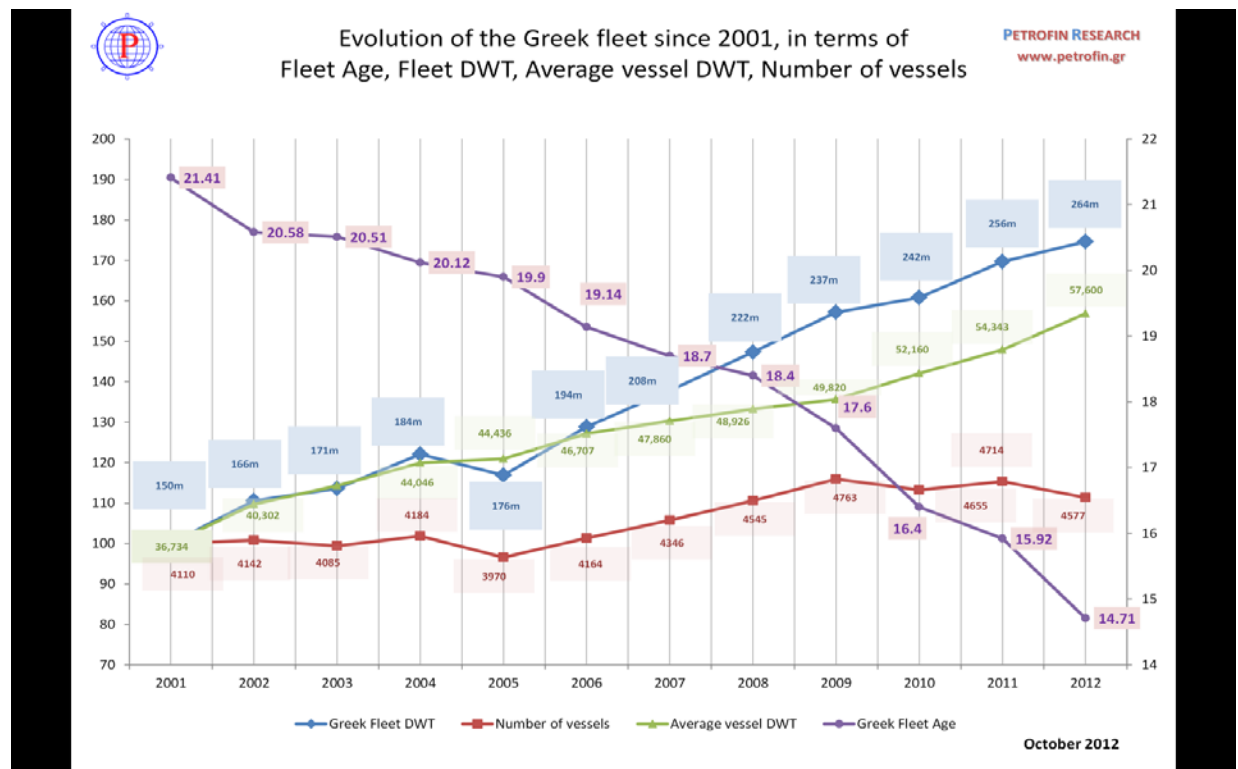
Most companies are running their fleets with negative cash flows. Freight rates recently reached very low levels with most vessels in both dry and wet sectors barely covering their operating costs.

Greek Shipping

Greek Shipping has long maintained the global leadership in the international shipping industry and has a major contribution to global transportation and logistics. In order to maintain its leading position in an increasingly complex and more competitive business environment, the Greek Shipping Industry has had to evolve in order to face the new challenges that have emerged over the years.

According to the latest Petrofin Research ©, (see graph 1), the total number of Greek companies in operation in 2009 was 773, whereas the 2012 figures show 718, 1 7.1% decrease. However, between 2005 and 2009 the number had risen from 690 to 773 companies.

Graph 1

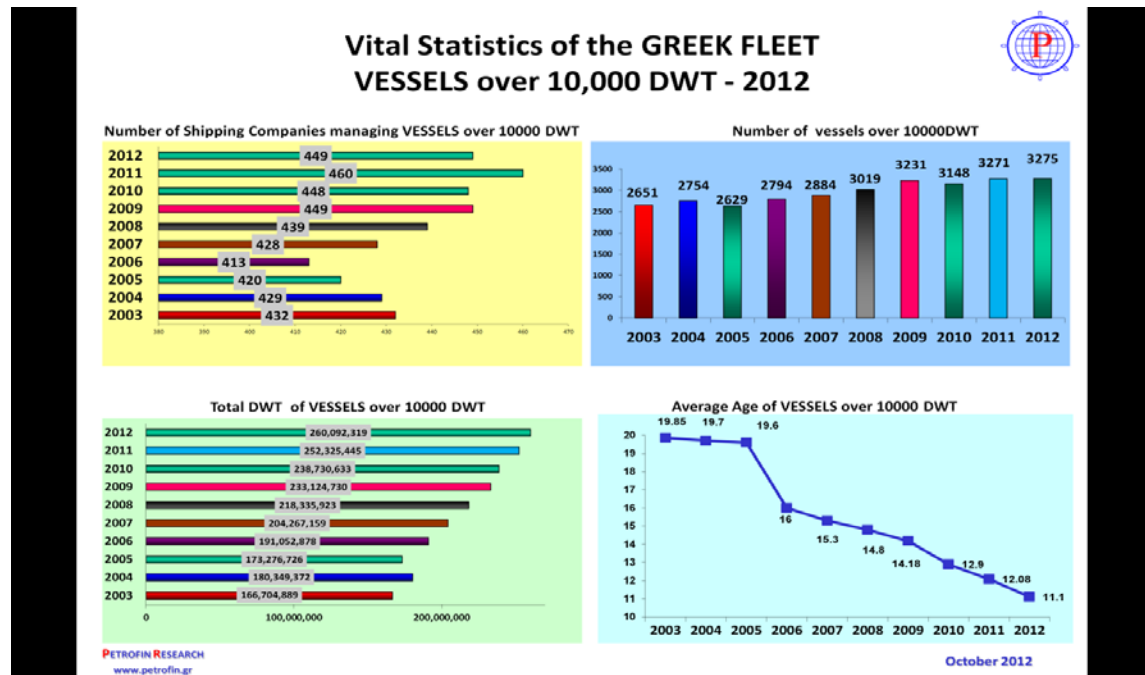


It should be pointed out, however, that the majority of the departing owners have been small owners with 1-2 vessels. This is expected in crisis years, as their vessels find difficulty to find employment and to continue trading, the costs of maintenance are too high and become uneconomic. Consequently, with scrap prices still high, small owners have chosen to dispose their last tonnage and await for a better future opportunity to enter in the market again.

On the contrary, the largest size groups, consisting of 16 vessels and more, have increased over the last three years from 66 to 72, showing that larger owners have done

better during the crisis. Their share has risen over the past decade and now accounts for 65% of the total, whereas the smaller sector even though it has shrunk to 10.7% in 2012, still accounts for 43.4% of the total number of Greek shipping companies.

Graph 2



Greek ship-owners in some cases have diversified their interests but overall they have maintained their control of a significant slice of the world fleet. The top 30 owners now own almost 53% of the Greek fleet, strengthening their position even further. The change is upwards for both top 50 and top 70 fleets. Interestingly, the trend has accelerated in the difficult years of 2009 onwards. How have they been able to do so?

To a large extent, Greek ship-owners are well known for their ability to adjust and cope in difficult times because of their specialized know-how at the operations management level. Cost-cutting, flexible solutions and proactive thinking have helped. But most important of all, the majority of the ship owners in Greece have been supporting their fleets by using their liquidity reserves and/or sale of older vessels.

Another factor that has helped the Greek ship-owners has been the low US Dollar interest rates and the support from the banks, as this is also in the banks' own interests.

The latter, have restructured a very high percentage of loans by adjusting the loan installments.

In addition, via their investment strategies, which are based on timing, they succeed in accumulating profits from the sales and purchases of vessels. These are used for expansion through new purchases or for financing losses during periods of extended crises in the freight markets.

Among reasons Mr. Dimitris Koukas, director of Optima Shipbroker, gives for why Greek dry bulk owners will “prevail, even expand” is their identity as “the most committed nation shipping-wise”. He adds: “They will keep investing, and there are still quite a few cash-rich Greek owners. Some have burned their fingers, but most of the more traditional owners did not get carried away six or seven years ago.” According to Mr. Koukas, Greek owners have a more complete set of survival skills that enables them weather the present dry bulk recession better than most of their competitors. They have weathered many crises in the past and come out stronger. On this basis they know what to do to survive.”

Future Trend

The most difficult question to assess is how long the current conditions will last. The market fundamentals for ship owners in the bulk carrier sector look relatively good, with long-term demand for iron ore, coals and other bulk products showing growth. However, the oversupply and high fuel prices mean that there will be challenging years ahead.

Many analysts try to predict when the market will improve. The recovery date has been slipping from 2012 to 2013 and now from 2014 onwards.

2. MAJOR CUSTOMER PROFILE

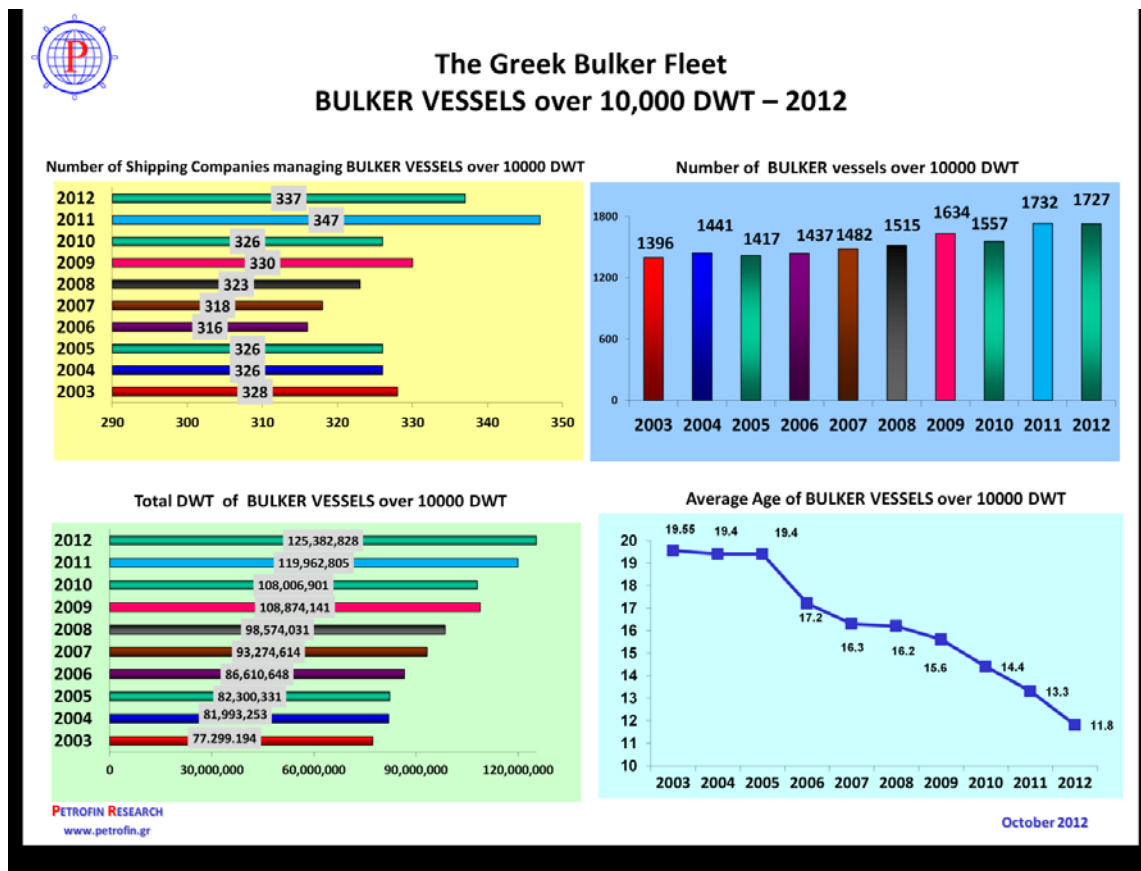
The Greek industry focuses mainly on the following vessel types: **tankers, bulkers and container vessels.**

For PAPI Ltd, all the 'healthy' Greek-based shipping companies are potential customers, independent of their vessel type. However, the main customers and the target market of the company are Greek-owned **bulker** vessels. This is the most popular sector in Greek shipping, dominating the market with 47.56% of the whole fleet. This percentage has been rising steadily over the last years. Greeks are committed to dry bulk shipping and their preference is focused on medium to large bulk carriers. (see graph below)

A tramp shipping community, most Greek ship-owners have had an involvement in the dry bulk trades, where 337 owners (347 in 2011) owners run 1727 vessels (1732 vessels in 2011), over 10,000 DWT totaling 125,381,828 tons DWT (up from 119.96m DWT in 2011) and an average age of 11.8 years (13.3 years of age in 2011). The corresponding figures for tankers are 754 vessels (751 vessels in 2011), over 10,000 DWT totaling 98.04m DWT (97.08m DWT in 2011) run by 92 owners (95 owners in 2011) and an average age of 8.88 years (9.08 years in 2011). In comparison, the container fleet of over 10,000 DWT vessels is rather small at 243 vessels (up from 204 last year), totaling 12.67m DWT (up from 10.88m DWT in 2011) and run by 25 owners (23 last year) with an average age of 12.55 years (UP from 12.1 years – the only sector that has aged imperceptibly).

Lloyd's List Intelligence data for 2011 shows it has a particularly high share of trade in and out of ports in the eastern Mediterranean and Black Sea, but the highest concentrations of tonnage are serving the Far East and Asian markets and South America.

Graph 3



3. TARGET MARKET - MARKET PENETRATION

The vast majority of the Greek shipping companies obtain their advantage from their ability to operate their ships competitively in the bulk shipping markets. A survey of the current Greek-owned fleet by Petrofin Research shows that out of a total 449 companies

managing vessels of more than 10,000 dwt in size, 337 are operating bulkers. That is a small drop since last year, but the second-highest number in the last decade. Not surprisingly, the Greek-controlled fleet is active on all the major dry bulk trades and is well spread around the world in terms of position.

For Papi Ltd, companies which operate in the dry bulk shipping markets are on the top list and because of the background of the company's founder is in bulk carriers, it facilitates the penetration in this market.

4. PREDOMINANT SALES TECHNIQUES

At PAPI Ltd, the preferred sales technique is direct selling. Direct selling is a way of selling where products and services are marketed directly to customers; thus no sales agents or distributors are used. The director of PAPI Ltd, Mr. N. Konomou, who has excellent communication and social skills is meeting customers on a daily basis, building business relationships with Technical Managers of shipping companies and increasing his company's awareness.

This sales technique has proven to be very successful since the salesman is able to offer a higher level of service and personal attention to the customer and identify his needs through discussion. The customer can get instant, detailed information on the products and services and reveal his thoughts/problems that he may have with his current supplier. Direct selling is the main marketing channel for a small company, like PAPI Ltd. Sales are achieved through word of mouth from satisfied customers. For PAPI Ltd, the reputation and the brand name of his owner is of paramount importance for the future and success of the company.

Another sales tool that PAPI is using is brochures and advertising leaflets, which are distributed in various maritime exhibitions such as Posidonia every two years. In 2012, PAPI co-exhibited with another supplier in the world's biggest maritime event,

Posidonia. This proved to be a great success for PAPI as it aided in building brand awareness and building stronger bonds with existing customers.

Social media is an important part of the business world. When you think of social media, you tend to think Facebook and Twitter. What PAPI is using for networking and for staying in touch with contacts is LinkedIn. Although LinkedIn is for the individual, it also benefits the company in various ways. It acts as a forum for discussion and debate and offers networking opportunities.

Another electronic platform that we currently use for increasing our visibility in the worldwide market, is ShipServe. ShipServe is the world's largest maritime search engine for buyers and suppliers to find efficiently what they are looking at and build trusted relationships. PAPI Ltd has a basic listing on ShipServe, promoting its services in thousands of shipping companies globally.

Also the Greek based platform of INFOMARINE where all the Greek shipping companies and suppliers are listed is also used. This is particularly useful as superintendents use this in order to find suppliers that their vessels need.

5. PROBLEMS, OBSTACLES AND OPPORTUNITIES

Shipping is one of the most vibrant sectors of the Greek economy. It is the only sector in which Greece is a world leader and in a highly competitive market, whereby 95% of the world's trade is undertaken by ship. In this competitive market, Greek ship-owners control about 22% of the world's tanker and dry cargo fleet. (pwc.com/gr)

(A particular regime ("Law 89") applies to Greek offices of foreign shipping companies, which are exempt from any taxes and duties already in force. Greek tax law has been, traditionally, favorable to shipping. As a main obstacle is the tax that is threaten to be imposed to the shipping companies in Greece by the current Prime Minister. This is a dreadful scenario for Greece as the majority of the well-known companies have a plan B to leave the country in less than 48 hours.)

PAPI Ltd is in a rather fortunate position. Despite the worldwide financial crisis and the problems outlined above, the company has performed well over the last year. The problems that have risen the last two years are two: delays in payments from customers and increased competition. The first causes a liquidity problem if not regularly monitored, the second causes lower prices and, in turn, lower quality services.

PAPI is seeing this crisis as an opportunity to build strong business relationships and keep the quality of its services high so that customers remain satisfied. At the same time, it has an optimistic view in the future and has plans for expansion and growth to better accommodate its customers' needs. The future is bright for PAPI.

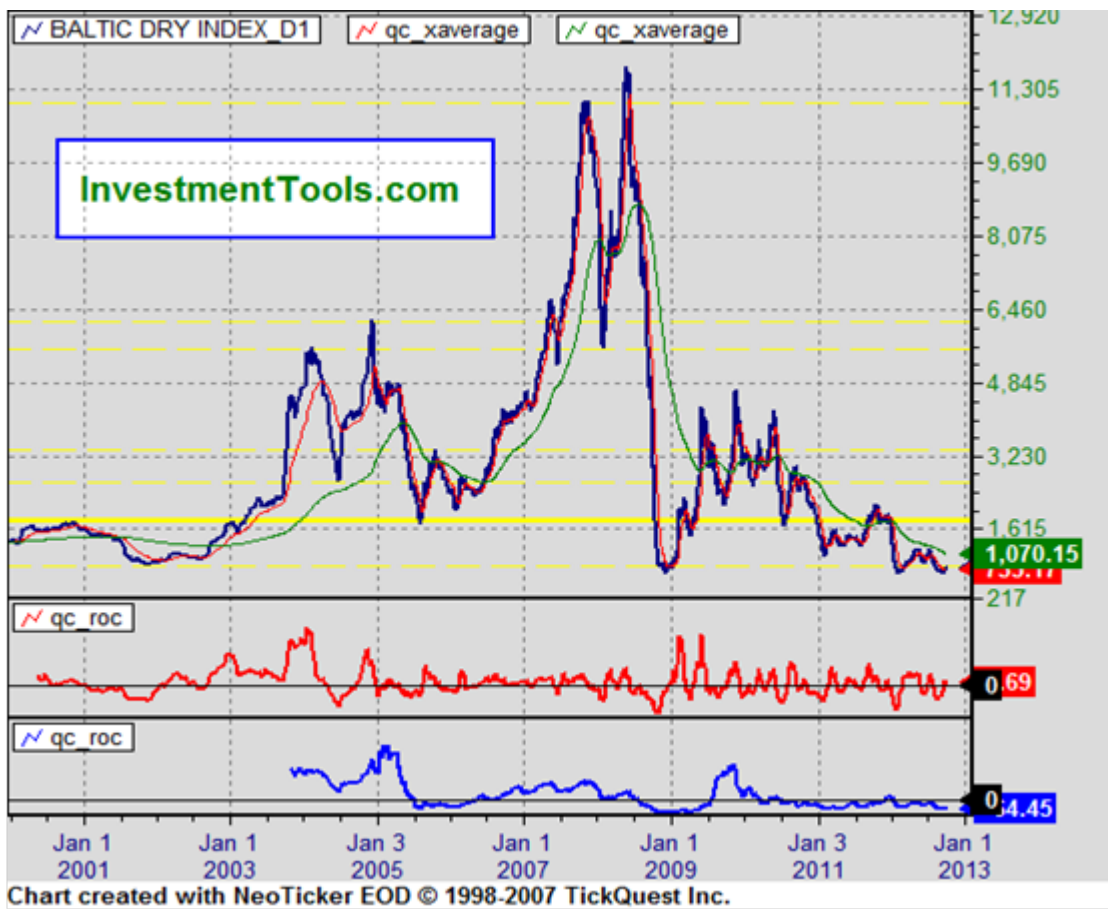
6. MARKET RESEARCH - GENERAL AND SPECIFIC INCLUDE RECENT FINDINGS AND IMPORTANT DATA AS WELL AS INTERPRETATION OF THIS INFORMATION.

The Baltic Dry Index (BDI) is a number issued daily by the London-based Baltic Exchange. Not restricted to Baltic Sea countries, the index provides "an assessment of the price of moving the major raw materials by sea. Taking in 23 shipping routes measured on a time-charter basis, the index covers Handysize, Supramax, Panamax, and Capesize dry bulk carriers carrying a range of commodities including coal, iron ore and grain.

The index measures the demand for shipping capacity vs the supply of dry bulk carriers. The demand for shipping varies with the amount of cargo that is being traded or moved in various markets. BDI acts as a barometer for shipping costs of dry bulk commodities, including coal, cement, iron ore, grain and other major raw materials. Changes in the Baltic Dry Index can give investors insight into global supply and demand trends. This change is considered a leading indicator of future economic growth (index rising) or contraction (index falling).

It is often assumed that when the Baltic Dry Index rises, the increase is indicative of a stronger demand for commodities, as companies are growing. When the shipments increase, economies tend to do well. When the Baltic Dry Index tends to go downwards, that means producers don't believe the demand is high and the companies are slowing down their production. Because the information is real-time, it cannot be manipulated as the amount of ships is fixed.

Graph BDI since 2006





It is obvious, by looking at the graphs above, that between 2006 and 2007, the BDI increased more than 400% and in 2008, it reached a peak, at 11500 units, the highest point in history. This is mainly due to the significant growth of the global economy and the demand for manufactured products. At that time, Greek ship-owners were lead to invest in the second-hand market and place orders for new buildings. The demand was so high that the prices of the new buildings reach their all-time high and the shipyards were sort of space, engines, labour and steel. As a consequence, smaller, less known shipyards such as Korean and Chinese saw a tremendous increase were full!

But, as of November 31, 2008, the index was at its lowest level since January 1987. This is a clear signal of crisis and since 2008 exports and imports have never been the same.

Two factors caused this large drop. First, demand had fallen so much that too many ships were left to carry too little raw materials. Ships were at sea without cargo. And second, credit markets had sunk so much that ships could not find trade financing necessary to take on cargo.

Shipping rates have not been recovered since 2008. The BDI is still falling so it signals economic danger. During the past four years, some shipping companies have been forced into bankruptcy and others are struggling along with high debt. If demand increases again, the cycle will reverse again. As we are now in the fourth year of the down cycle, the downstream should end this year. 2013 is expected to be the start of the new cycle, with potential upcoming in the industry and shipping rates to go up in the next 2-3 years.

7. COMPETITION - STRENGTHS AND WEAKNESSES

In 2006, when the regulation came into force, there were only 6 companies which were provided the life-saving appliances service. Many thought that the inspections and tests would not be mandatory or would be performed by the ship's crew. The flag administrations have made some adjustments in order to make the regulation slightly more flexible for the shipping companies. Other than that, the rule is still under the shipping law and SOLAS (Safety Of Life At Sea) so all ship-owning companies are obliged to follow the regulations.

By 2008, the following companies had been registered at the Greek Merchant Office (YEN) and had legal licence to conduct inspections on the lifesaving launching appliances:

1. Bedemar
2. Codalt Blue
3. Kyriaks and associates

4. Internaktiki
5. Okeanik
6. Martech
7. Watercraft
8. Viking Hellas
9. Papi
10. Tenme

Within two years, the companies have been doubled and the estimate is that the number of companies providing this service will increase further. The aim is, therefore, for PAPI to be able to withstand the increased competition that is eminent in the near future. As assets, the company considers its know-how and the manufacturers' representations, which are limited to a certain number of companies.

Competitors in Greece

1. INTERNAKTIKI

Internaktiki was established in 1975 near Piraeus. It is the biggest player in the field of safety equipment & services in Greece. The company is privately-held, has 11-50 employees and has owned headquarters in Piraeus

Strengths: internaktiki was a ex owner of Watercraft Hellas a lifeboat builder. As a result their knowledge was the best for the new regulation. They managed to obtain the best manufactures very early closing the remaining positions to its

rivals. Internaktiki currently has all the major manufactures of lifeboats and davits.

Weaknesses: As a big company it does not have the personal relations. It is a classic big company with fixed pricelists and certain rules and services that it can offer. It has acquired also personnel less skilled and with not a very good background as foreigners. This is a great weakness as Greek companies support Greek shipping companies that employee Greeks.

It has only lifeboats and davit inspection services in the field of merchant marine industry. It has also another division that deals with leisure yachts as a dealer of spare parts in Greece.

2. BEDEMAR

Bedemar Co is a marine technical bureau which has been established in 1989. It is the second largest company in the field of Life Boat & Survival Systems, offering annual and 5-year services and tests of lifeboats and launching appliances. Bedemar is authorized by 28 Japanese, Chinese, Korean and other Lifeboat and Launching Appliance Makers.

The company is offering, apart from Life Boat Inspections, N.D.T Services and Safety & Fire Fighting inspections. Bedemar is also offering safety-related products as a trader.

Strengths: Has all the major classification societies, and also divisions in NDT and safety and fire fighting making it a flexible company that can provide many services that may even be combined if necessary. It can reduce the travelling costs by sending only one person to carry out the necessary jobs.

Weaknesses: not a very big player in the field and not very well established in the market although it is operating many years.

3. CODALT BLUE

Cobalt Blue was established in 2002 and soon expanded its services with 5 branches worldwide (Belgium, China, Romania, Singapore and USA). The company is offering the following services: Lifeboats, Liferrafts, Fire Fighting, Immersion Suits, Life Jackets, CO2 Systems, Foam Systems, Portable Gas Detectors, Emergency Escape Breathing Devised etc.

Codalt Blue has various class approvals, and certifications from a number of small Lifeboats & Davits makers.

Strengths: very good global player with very competitive prices and quite a significant number of manufactures that it represents.

Weaknesses: no experience, poor quality services though agents worldwide. There are cash flow problems as the company has to pay immediately the agents and the cobalt blue receives payment at a later stage. They have a reduced flexibility on payment terms, which has a result the loss of customers.

4. OKEANIK

This is a new company in the field, carrying out inspections on Lifeboat and Launching Appliances and Load Testing. Recently Oceanic has added more services related to safety, such as ultrasonic thickness measurements, non-destructive testing, cargo gear and gangway load testing.

The company is certified by all major classifications societies.

Strengths: new company with ultra low prices

Weaknesses: not very good at lifeboat inspections and with accidents already in its history. low quality of services due to low prices and not skilled personnel not well paid. Due to its rapid growth has bad quality of work in many cases.

5. KURIAKS

Strong player at the beginning with a large share of inspections carried out mainly in china by the Greek ship-owners. He is representing only Chinese makers and his business is located in china for all vessels calling china ports. Not with a very good reputation.the company divided in 2008 and broke into two producing the Martech. He is now no longer dealing with this activity and has turned his scope of business to the ship repair in china mainly.

6. Martech

Good small and flexible company made by the partner of kuriaks. He has a standard client base and works with them not trying to attempt a deep penetration into the market. He has other company activities with largest profit so he is focusing on those.

7. Watercraft

Big company that has been sold the the Norwegian Nor safe group. Very good products and R&D department in Greece . they have supplied damaged old cargo vessels trading in Greece and leisure crafts. They are a closed group having only their licence and the co-manufactures that they co-operate.

8. TENME

Very old company with all sorts of services provided. They are into strong competition with OKEANIK who was working as an ex-employee. As a result the two companies collide and they are into a race to lower the price in order to gain customers one from the other. This has as a result all the other companies including papi to be influenced. He has divisions as FFE, NDT, consulting, plans and others.

9. Viking

Old partner of watercraft before the sale of the company. They have good contact and manage very good personnel. They are a strong player especially on the Greek market as they are focusing here due to their past and their connections. They have a good number of good representations in Greece. Limited number of employees high administrative costs and 3 share holders.

F. MARKET STRATEGY

1.SPECIFIC GROWTH STRATEGY FOR AT LEAST 5 YEARS

The idea of expanding the business in the future is at the moment the target of PAPI Ltd. As referred above, opening a new office in China is maybe the best way to promote and establish the company in the field even more and create new business opportunities. This plan will almost eliminate the travelling costs from Greece to China and back, because the customers will have only the financial burden of transportation inside the country.

Opening a new office takes a lot of time, because the suitable people must be chosen very carefully and someone trustworthy should be in charge. The managing director will supervise everything in both countries, but it is impossible to be around all the time, so he should choose his associates strategically and wisely.

The next step after opening a new office in China is increasing the services provided by inspecting also life rafts. Life rafts are at least partially collapsible, in contrast with life boats, which are solid. Typically, life rafts are stored in their collapsed state, and they need to be regularly inspected to confirm that they are in good working order. Nevertheless, every company that carries out inspections on life rafts must have a place that works as a life rafts service station, where mechanics can examine and repair the

life rafts correctly. To do so, some assets must be purchased or rented and the proper changes must be made to form the appropriate space. This can be achieved either by getting a loan or by the company's cash; the idea of a loan is preferred, because the liquidity of the company is of great importance.

At first, the new asset will be used for examinations of projects undertaken by the company, but after that there will be the opportunity to turn it into a life raft service station where there will be carried out multiple inspections. The advantage of that is that there are only a few places like this and PAPI could have the chance to create an oligopoly ensuring chunk market and increase its profits by almost 120%.

Another project that runs now and will continue running in the future is the effort of the company of getting authorized as service station by more makers. The aim of the firm is to achieve being a service station of at least 17 makers of the lifesaving launching appliances. Only then there will be less fear of the future of PAPI and the company will have a stable productivity.

Another plan that by the moment examines is to become authorized to install and inspect all the fire launching appliances of the vessels. Then, the engineers will have the power to carry out both jobs simultaneously reducing the cost to half as the same engineer will stay on board longer to perform all jobs required.

2. ADVERTISING

Promotion and advertising are two similar concepts, yet they are not completely the same. Promotion is more about how the company can introduce its products/services to the market and become popular with its own resources. On the other hand, advertising is how the company can promote itself and attract more customers by using other resources like newspapers or magazines and international exhibitions.

2.1 PUBLICATIONS

An easy way to advertise the procedures of the company and show customers why they should prefer this company and not a competitive one is by publishing articles in shipping magazines and newspapers. In the articles are referred the procedures, which the inspector follows when he evaluates and inspects the life-saving launching appliances of the vessels, how can the crew keep the vessel in best shape, explain the regulation and present their opinions on various issues of the field.

PAPI at regular intervals publishes articles in all kinds of shipping and maritime magazines such as “Shipping and Marine”, “Safety4sea” and “Inside Marine Magazine”. It is estimated that 5% of PAPI’s customers have communicated with the company through these articles in magazines and ask more information about the procedures of inspections. The cost of publishing is really low and the company has various credits about its publications. This helps not only the status of the company, but also the members of PAPI, who can add these publications to their CVs and create a very competitive background in the market.

2.2 INTERNATIONAL EXHIBITIONS

Soon after the beginning of the company the managing director decided that the best way to advertise its products and make it popular to ship-owners internationally was by taking place in “Posidonia” exhibition, which is the world's most prestigious maritime event. Posidonia, the international shipping exhibition, has long been established as one of the major calendar events of the shipping industry, and Posidonia 2012 attracted the most influential personalities from the Greek and International shipping community and major companies and organisations active in all sectors of the shipping industry. The international exhibition Posidonia first took place in 1969 and has been taking place every two years ever since. Posidonia week commands the attention of the world’s shipping media. The press room buzzes with show news, industry announcements and interviews with leading shipping personalities. Exhibitors promote product launches, corporate developments and new deals to a global audience. So, it is the best place for

PAPI to advertise its services, communicate with future clients and explain its procedures.

In Posidonia, exhibitors like PAPI can showcase the latest technologies, equipment and services to this unique gathering. And with the leaders of all industry sectors coming together under one roof, companies can continue to widen the opportunities for high level networking and for debating key issues in the seminars and conferences. Discussions and decisions reached during Posidonia set the standards and define the issues for world shipping in future years. The solid business case for exhibiting is business actually done during and after each Posidonia, because there is interest in PAPI's products and services from Greek and international buyers. Greek owners and their executives are responsible for 35 per cent of the world's new buildings and operating a fleet of more than 4,000 vessels.

Over the years, PAPI had the opportunity to meet the majority of Greek owners, introduce them to its services by explaining the unique benefits and create friendly bonds. Statistically, the participation in Posidonia has shown to be profitable for the company, despite of the participation costs. Not only is it a great opportunity to come closer to Greek ship-owners, but also there is a chance to meet international ship-owners and expand its activities in countries like USA, China and Japan.

3. SPECIFIC SALES STRATEGIES

Every company has a specific sales strategy plan in order to win competition, expand its services and procedures and attract more and more customers every year. Hence there are three main sale strategies that PAPI uses to promote the work of the company and attract more customers.

3.1 WORD OF MOUTH

The best way to sell the company's products is by making customers advertise it by the word of mouth. When customers are satisfied by the services and the behaviour of the inspector, then they spread the word and suggest the company's services to other ship-owners. This is one of the most important sale strategy tools, because it is the best commercial for the company. It has helped PAPI find customers who are, in business terms, too hard to find and keeps the popularity of the company really high by being a subject of discussion and often of impression.

This is one reason that PAPI's employees try really hard to keep customers more than satisfied of the services provided and the company can actually double the profits by approaching a customer and closing a deal with him. If this customer suggests PAPI at least to one other shipping company, then the firm will have accepted double profits by trying to convince just the first customer. That's why word of mouth is the most useful and powerful sales "weapon" of the company and PAPI's salesmen focus on promoting it and doing it perfectly.

3.2 DIRECT CONTACT

Another way to sale the companies services is to go straight to the customer and try to convince him why is your company important to them and what are the benefits of hiring your company instead of others. This plan has helped PAPI a lot to find new customers and close more deals.

To do so, the salesmen of PAPI follow a specific methodology. At first, they contact the customer company and arrange an appointment, where they present PAPI's services, the benefits of cooperating with the company and the proposals they have for this particular client. By using persuasive strategies and polite manners they try to persuade the ship-owner to become a client of PAPI and depending on the situation they try to get the best of it and book more than one inspections. Even managing director tries to be

there in these appointments to show the customer that he is very important and valuable for the company and they will take care of him and his vessels.

Direct contact has turned to be very profitable for the company, because almost 40% of customers come from this kind of sales strategy.

3.3 MORE MANUFACTURERS - MORE CUSTOMERS

Each company that manufactures lifesaving launching appliances works with some companies that know how these appliances operate, are able to test them, understand if something is wrong, fix the problems they have and order the appropriate parts. PAPI works already with 7 manufactures as a service station and they recommend and often close deals for the company. Cooperating with big makers sometimes helps PAPI ensure a better price on specific parts for its clients and attracting more and more customers.

So, a sale strategy of the company running at the moment is to be authorized by as many makers as possible in order to make bigger profits. Furthermore, the company's relationship with manufacturers is bidirectional; they need each other to earn more money, manage both to attract more customers and close more deals.

The plan of the salesmen is to show the makers of appliances how capable the personnel of PAPI is, what steps are followed during inspections and why is it profitable for them to work with PAPI. They also make presentations of the company's background and the achievements it has until now including the authorizations and licences and they show the company's future plans and purposes.

G. THE MARKETING MIX PLAN

The marketing mix is a term coined by Neil Borden in a 1948 article called, "The Concept of the Marketing Mix." It describes the various elements that together make up the strategic marketing plan for a product. In 1960, American marketer E. Jerome McCarthy introduced the four classifications of product, price, promotion and place to refine this concept. It is an acronym that is very easy to remember and now this acronym has become very popular as 4 P's of Marketing. According to this the demand of the product can be categorized into 4 groups. The marketing mix is the set of controllable tactical marketing tools that the firm blends to produce the response it wants in the target market. The marketing mix consists of everything the firm can do to influence the demand for its product (Principles of Marketing 2nd edition, pg. 109).

The later addition of physical evidence, people, productivity & quality and processes extended this framework to eight Ps to accommodate the unique characteristics of services marketing. These are the most important elements that must be considered and implemented to achieve a proper operation of the business.

- **Product** - Anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need (Principles of Marketing 2nd edition, pg. 110). This area covers everything to do with the creation, development and management of products (Principles of Marketing, 3rd edition, pg. 25). This group also covers the non tangible aspect of the product like after sales service, guarantees etc.

- **Price** - The amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefits of having or using the product or service (Principles of Marketing 2nd edition, pg. 110). Pricing is very important and essential part of marketing mix. The price of the product or service may portray it being a quality item or a desirable one i.e brand name (Principles of Marketing, 3rd edition, p.26). Pricing of the product is used to get competitive advantage in the competitive market.

- **Place** - Place includes company activities that make the product available to target consumers. (Principles of Marketing 2nd edition, pg. 110). Place in the marketing mix is concerned with distribution channels, market intermediaries and consumer service levels. It gives the insight to the approach and availability of product and service to the consumers.

- **Promotion** - Promotion means activities that communicate the merits of the product and persuade target customers to buy it (Principles of Marketing 2nd edition, pg. 110). It becomes crucial to understand which advertising or public relations media would play a greater role (e.g., radio, newspaper, postcard racks) since that WILL VARY depending on the product/service and also on the target segment.



7 ps of marketing mix

Services are radically different from products and need to be marketed very differently. So the classical 4 P structure of the Marketing Mix needs to be modified suitably to incorporate the 8 Ps for services marketing, which was previously known as the 7 Ps only.

Services can range from financial services provided by the banks to technology services provided by the IT company or hospitality services provided by hotels and restaurants or even a blog where an author provides a service (information presentation, interesting reading etc) to his audience. Services marketing are dominated by the 7 Ps of marketing namely **Product, Price, Place, Promotion, People, Process** and **Physical evidence**.

- **People** - People are a core ingredient in service provision. The human factor has destroyed a lot of fairly successful businesses. Recruiting and training the right staff is required to create a competitive advantage. Customers make judgments about service provision and delivery based on the people representing the organization. This is because people are one of the few elements of the service that customers can see and interact with staff requires appropriate interpersonal skills, attitude, and service knowledge in order to deliver a quality service. Sometimes a customer decided to use/not use service only because of sympathy/antipathy to its staff.

- **Process** - This element of the marketing mix looks at the systems used to deliver the service. All services need to be underpinned by clearly defined and efficient processes. This will avoid confusion and promote a consistent service. In other words, process means that everybody knows what to do and how to do it even in dangerous, unpredictable cases. “The policies and procedures adopted, the degree of mechanization used in service provision..., the customer involvement with the process of service performance, the flows of information and service, the appointments and waiting system, the capacity levels available” – these are parts usually implied by the Process in service

marketing mix.

- **Physical Evidence (Physical Environment)** - Physical evidence helps to understand where the service is being delivered from. This element of the marketing mix will distinguish a company from its competitors. Physical evidence can be used to charge a premium price for a service and establish a positive experience. Customers will make judgments about the organization based on the physical evidence. Physical evidence includes, according to Cowell, physical environment (furnishings, color, layout, noise) the facilitating goods that enable the service to be provided and other tangible clues like labels or packaging.

While everyone knows about the 7 Ps of services marketing, the **8th P of Services marketing** has emerged in research very recently. The 8th P is **Productivity and Quality**.

In integral services management, improving productivity is a requisite in cost management; but quality, as defined by the customer, is essential for a service to differentiate itself from other providers. It has been recognized that overall profitability of a firm may be greatly impacted by focusing on not only at the top-line by improving sales but also focusing on the bottom-line by lowering over-all cost of delivering services. In services management, often the variable costs are a lot more than fixed costs, and so incremental costs, if managed properly can have a huge impact on productivity. So for services, a firm may greatly benefit through proper re-engineering of processes and remodelling the same if required to improve productivity at each stage.

It has also been established in research that process improvements deliver better standardization and hence better quality in services. Quality perception is a crucial differentiating factor on services management and for long term sustainability of the same. Business Process Remodelling can lead to major process efficiency improvements which again can impact overall quality as is actually delivered by the firm and is also perceived by the customers.



8 ps of marketing mix

1. PRODUCT

Many people, who don't work in a shipping company or a vessel, don't understand easily the services of PAPI, which are the company's product and the source of profit. As referred above, due to a regulation which was implemented in 2006 there was a need of a new kind of company whose services would include inspecting the lifesaving launching appliances of vessels and carry out some tests to assure the safety of the crew and the

vessel's passengers in case of emergency. PAPI is the company that gives vessels the cruising licence.

So, the main products/services of the company are as follows:

- ✚ Inspection/ certification of lifesaving launching appliances as per MSC/CIRC 1206
- ✚ 5-yearly dynamic & static load test using owned certified water bags
- ✚ Gangway test/ inspection and certification including load test
- ✚ Mooring winch test and certification
- ✚ Training of crew on board
- ✚ ISM / ISPS audits
- ✚ SVDR inspection and certification by COMAS ELECTRONICS
- ✚ Fire plans
- ✚ Original spare parts

The most important and profitable service is the inspection and certification of the lifesaving launching appliances, because without this certificate the vessel can't leave the port and that costs millions of Euros/dollars to its ship-owner. Also, the training-of-crew-on-board service is really attractive for customers, because the cost of training of crew by PAPI is lower than the cost of training by the company that manufactured the appliances.

Another service which is really attractive is the design of fire plans of a vessel. The mechanic stays in the vessel for a short period and finds the best fire plan for the ship. When the plan is ready, he has to show and explain it to the crew and train them into implementing it correctly. This service is very lucrative for the company, because most customers combine it with the tests.

Along with the services provided by the NDT department (they are explained below), PAPI has 18 services, a fact that makes the company very flexible and shows why although the crisis, PAPI is still profitable. The variety of services the continuous

enrichment of them is what keeps customers satisfied, dedicated and with unstoppable collaboration.

Description of NDT DEPARTMENT

During the last years and as the competition grow, a new department was formed to work parallel to the inspection of the lifesaving launching appliances. This will help the sales of the initial service provided to the shipping industry. The competition was growing fast from companies that were carrying out non-destructive testing services NDT. For this reason and in order not to stay behind it was decided by the management to have a new division that will expand the service provided to the shipping industry, have an ever more technological profile and hire persons that after the proper training will be able to help on both departments. In order to proceed with the expansion, a larger office was needed and new personnel that will be able to follow the company policy and increase company profit. This department, to work effectively, needed licensees from the major classification societies and hardware.

Licensees:

Each license costs about 2500,00 euro from major classification societies, as follows:

1. Bureau Veritas (BV)
2. Det Nosk and Veritas (DNV)
3. American Bureau Society (ABS)
4. Lloyds register (LR)
5. RINA
6. NKK

And also the following

7. Germanischer Lloyds (GL)
8. Russian Register (RM)

After gathering the proper classification and the suitable personnel the only thing left was to select the provided services of the NDT department. Focusing on the needs of the market and the services provided by the competitors Managing director and his employees chose these services that would help the company make a difference in the field and show the uniqueness of the employees' work. The services are as follows:

- ✚ Ultrasonic thickness measurements
- ✚ Anchor chain measurements
- ✚ Steel repair estimation
- ✚ Condition surveys
- ✚ Pre purchase inspections

In addition, there are some more services that complete the procedures of a correct vessel inspection concerning the cargo gear testing. Except load tests, rocking and grab tests are also served. The condition surveys and reporting ensure the proper transfer of cargo and lower the chances of accidents.

2. PLACE & TIME

For companies operating in the maritime sector by inspecting vessels, place does not play a special role, because employees have to travel all over the world, in order to operate their inspections. However, due to the fact that most shipping companies and ship-owners are located in Athens, PAPI Ltd has placed its office in Chalandri, where managing director meets with customers. Furthermore, once a month all of PAPI's employees perform meeting where they plan new strategies of expanding the company's services and talk about inspection results.

Most vessels travel every day all over the world, hence PAPI's team must visit them wherever it is possible, often in a port, in order to carry out the inspections. Sometimes, the inspectors must travel 3 – 4 times a week from China to Brazil, a procedure which requests a lot of time and high travelling cost. So, to avoid high cost PAPI Ltd tries to arrange many appointments in the same country so that multi-tasking can be achieved

saving time and cost for the company and the customers. This is possible by proper programming and correct preparation of the forthcoming inspections and be in co-operation with the shipping companies.

3. PRICE

The key feature of the company at the moment is its very competitive prices and the value for money services. The prices are the same for all customers whether they are from Greece or abroad. There are services that have low cost and some more specialized services that make the difference in profits. A normal inspection or certification of the lifesaving launching appliances of a vessel as per MSC/CIRC 1206 costs from 2000€ to 6000€ plus the costs of the additional services delivered by the customer.

Since the creation of the NDT department the profits have increased vertically, mostly because NDT services are more expensive than the rest of the services. The final price is formed by the sum of services cost and the travelling cost. Until now, the final price of PAPI is very competitive despite the fact that travelling costs and accommodation costs are included.

4. PROMOTION

Nowadays, the best way to promote a new business is by the internet and the social media, hence PAPI Ltd has created some profiles and a website in order to introduce its services.

9.1 INTERNET

Firstly, PAPI Ltd has a well designed website, where possible clients can be informed for the services provided, the manufactures, the departments, the procedures that should be followed and the national certifications of the company. In addition, clients can contact easily the members of the company and learn more details about their qualifications, the tools they use for their inspections and the cost of each service.

In only few months, PAPI Ltd managed to become very popular in the maritime sector and started undertaking the inspections of major manufacturers of the lifesaving launching appliance. Greek ship-owners were the first who trusted the company and in short time PAPI's client's rise to Singapore, Usa, Monaco and others .

A high-tech website represents the style and the profile of the company, so management invested a lot in order to get the best result. The cost for the creation and the maintenance of the website amounted to 3000 €.

9.2 SOCIAL MEDIA

PAPI's IT department has created profiles in Facebook, Twitter and LinkedIn, where customers can get in touch with PAPI, learn about its services and make their order. The strength of Facebook and Twitter is that they work as advertising tools and have helped PAPI become more popular in the maritime sector. By becoming friends in Social Media with most of the shipping companies, PAPI learns all the newsfeed of each company, including their moves and their needs in safety systems.

9.3 BROCHURES

Every year more than 4 maritime exhibitions are held across the world where PAPI is always present via its brochures and advertising leaflets. They include all the information needed such as the services, the company profile, the makers, the tests and the communication details. It is estimated that 30% of PAPI's customers come from the brochures, because they trust it services by reading them.

In the website and in the brochures the following services are mentioned:

- Inspection/ certification of lifesaving launching appliances as per MSC/CIRC 1206
- 5-yearly dynamic & static load test using owned certified water bags
- Gangway test/ inspection and certification including load test
- Mooring winch test and certification
- Training of crew on board
- ISM / ISPS audits

- SVDR inspection and certification by COMAS ELECTRONICS
- Fire plans
- Original spare parts

Furthermore, the NDT Department offers the following services:

- Ultrasonic thickness measurements
- Anchor chain measurements
- Steel repair estimation
- Condition surveys
- Pre purchase inspections

Last but not least, the manufacturers which have authorized PAPI as a service nation are mentioned thoroughly.

5. PROCESS

In order to understand the services of PAPI, we must analyse the procedures of the company. These are:

5.1 DESCRIPTION OF WORK FOR SAFETY

PAPI has a certain procedure to carry out the work that has to be done and be able to meet the SOLAS regulations, customers' needs and the manufacturer's requirements.

The MSC Circular 1206 (see appendix 1) describes the work that has to be done, the inspection items that should be checked and the operation tests during the annual inspection of the vessel lifesaving launching appliances. The following steps should be followed. In order to carry out the inspection a standard procedure is followed in certain steps such as:

➤ **Step 1**

First the davits are secured by a secondary mean of safety such as chain or rope. By this way, it is impossible during maintenance of the brake system the davits to move out of their stowing position.

➤ **Step 2**

Secondly a detailed inspection of the davit structure is carried out in order to find cracks, thinned or corroded areas that should be repaired. In case of any findings, the company's superintendent or office's representative and master are informed. The repair is carried out either on the spot with vessel means under our supervision or a shore qualified team undertakes the necessary renewals or welding that must be carried out. In case that there is a time-constraint, then a remark is written on the official report stating the importance of the defect and a time limit for the repair. It is possible when the wear is just above the limit to postpone the repair for the next dry-dock were all the necessary facilities are available.

➤ **Step 3**

Thirdly the brake system of winch is opened and thoroughly inspected. The hand brake is removed and the thickness of the brake pads is measured by a vernier calliper. Results are then compared with the manufacturers wear limit. All measurements are written in the report on the remarks column. In case the brake linings are on the limit then a set of new original ones (if they exist) are placed. These are either located on board or ordered (owners supply) or provided by our company.

Then the governor brake is inspected in detail in order to measure the lining or the pads and the same procedure is followed. All measurement and repairs or renewals are written on the report.

The gearbox is then opened and the condition of the housing, bearing, gears is examined. Also the oil condition and quantity are also checked and replaced if necessary with the recommended, by the manufacturer, grade of oil.

After the inspection, the gaskets are replaced if necessary and the faces of the metals that come in contact cleaned. A layer of silicon is applied in order all contact surfaces to be waterproof. New bolts are also used when needed.

➤ **Step 4**

The lifeboat is inspected in detail from the hook release system to the hull and the other general parts of the lifeboat. The checklist that is used gives in detail the procedure and the items that are inspected.

Great importance is given on the simultaneous release system when it exists for the safety of the crew on board. This must be adjusted through the control wires in order to release the hooks together.

The equipment of the lifeboat and the general overall condition is also inspected. Any deficiencies are rectified on the spot or a remark is written on the report if it is not of major importance that affects the safety of the crew on board.

➤ **Step 5**

After the final inspection and the completion of the checklist an operation test is carried out in front of master (and class surveyor if he is on board) in order to verify the correct working condition of the lifesaving launching appliance.

After the successful operation test, the report is completed with the remarks or repairs if any. At the last page of the report a full set of pictures presenting the maintenance procedure described from step 1 through step 5 is presented as documented proof.

➤ **Step 6**

In case the manufacturer has provided our company with special numbered forms, then these are filled on board. In addition the forms are signed by the service engineer and one copy is handing over to the captain of the ship. The other two copies are for the service provider and the Sekigkara Company. Similar procedure is followed if other manufacturer has the same policy. HXN does not have this policy.

5.2 HARDWARE

The necessary items for inspection are: a specially-designed machine called ultrasonic gauging instrument that is able to measure the thickness of the metal plates above the paint, two machines are needed in order to carry out the job safely per vessel for the two personnel that will attend. If again due to cost saving one engineer will attend again two instruments are needed. Cost per every instrument is 3000,00 euro. A good computer with large monitor for making drawings of the vessels and a special program for designing and producing drawings for vessels is also necessary. Now the work is currently done by a simple computer and we outsource the items that cannot be processed by us.

5.3 PROCEDURES OF WORK FOR NDT

Upon receiving an attendance request for ultrasonic thickness measurements, the responsible level II operator completes the “survey card” with all the information required for the vessel and the shipping company, such as:

- Vessel’s name and type
- I.M.O. number
- Port of registry
- Date and time of survey
- Duration of vessel’s stay at the location
- Vessel’s location
- Type of survey requested
- Classification Society and year of build
- Vessel’s condition (i.e. ballast, loaded, tanks gas free, etc.)
- Way of approaching the vessel (if applicable) etc.

5.4 EXECUTION OF THE SURVEY

- Each major class job (IS/RCH) is to be carried out by at least two qualified operators working together.
- Thickness measurements of less extent may be carried out by one operator.

5.5. PRE-ATTENDANCE PROCEDURE

At the pre-survey stage our company's policy described below:

- Registration of the vessel in N.D.T. Services department records.
 - All necessary plans for the survey are requested from the owners such as:
 - 1) General arrangement.
 - 2) Mid ship section.
 - 3) Shell expansion.
 - 4) Profile and deck plan.
 - 5) Capacity Plan.
 - 6) FWD construction.
 - 7) Aft construction.
 - 8) Tanks/Holds construction.
 - 9) W.T. bulkheads.
 - 10) UR S31 & UR S19, if any.
 - 11) Any other drawing required.
 - 12) In case of lack of original drawing on board we have to consult the attending surveyor and owner representative. Reevaluation of specific structural members may require from Classification Society Head Office.
- ★ Notification of vessel's classification in case those necessary drawings are unavailable from Owners. Before measurements start, available drawings are presented to the Class Surveyor for his concurrence.

- ★ Preparation of sketches of the areas to be surveyed for onboard use during survey.
- ★ Equipment is tested for correct measurement indications. Use is made of the maker's test box and instructions.
- ★ Check for spare parts (cables, batteries, probes etc.) to be carried onboard.

5.6 ONBOARD PROCEDURE

Upon arrival of our U.T.M. operator onboard there are standard steps to be followed:

- a) Opening meeting on board with the owner's representative and attended Class Surveyor.
- b) The equipment checklist is completed.
- c) The safety checklist is completed.
- d) The survey card is completed during each survey.
- e) Thickness Measurements procedure:
 - ✓ Cleaning of the spot to be measured from paint or rust by chipping hammer if it considered necessary.
 - ✓ Apply grease.
 - ✓ The readings recorded are the average of multiple readings.
 - ✓ Record of thickness at the exact location on the prepared construction drawings.
 - ✓ Repeat the above step for all measurements required to be taken by the Class Surveyor.
 - ✓ Re-test measuring at regular intervals for proper functioning and correct measurement indication.
 - ✓ In case of pitted/corroded areas,
- f) The thickness measurements taken and recorded are presented to the Owner and Class Surveyor on a daily basis.

- g) In case that substantial corrosion deviation from original thickness or deformation or cracks is found the Owner's representative and Class Surveyor are advised for further instruction.
- h) Upon completion of the aforementioned procedures and with the Owner and Class Surveyor's consent, the onboard survey is completed.

5.7 REPORTING

The results of thickness measurements taken of hull structures are reported by using the electronic proper U.T.M. forms for its classification society. Where excessive diminution of the structure is found during the survey then this is to be brought to the attention of the Owners and Surveyors, also where the diminution of the structure is zero or minimal then this also to be brought to the Surveyors, attention such that the extent of the measurements may be given further consideration.

During the survey process a draft report is to be submitted to the classification society Surveyor on a daily basis for verification and confirmation of the thickness survey while the complete measurement report is to be submitted to the attending surveyor prior to the completion of the survey.

In the report the following are indicated:

- ✓ Name of the vessel.
- ✓ IMO.
- ✓ Class identity number.
- ✓ Port of registry.
- ✓ Gross tons and dead weight.
- ✓ Date of build.
- ✓ Classification society.
- ✓ Date that the measurements were carried out.
- ✓ Place that the measurements were carried out.
- ✓ Type of survey.

- ✓ Type of measuring equipment.
- ✓ Location of the readings.
- ✓ Thickness as gauged.
- ✓ Original thickness.
- ✓ Percentage of wastage and limits.
- ✓ Name of the operator.

Finally the report is signed by the operator and is submitted to the Owner and attended Class Surveyor when the survey is completed.

All projects are classified and are presented in form. These records contain the following information:

- ✓ Name and type of ship.
- ✓ Class and/or IMO number.
- ✓ Company.
- ✓ Date of commencement and finish.
- ✓ Place of measurements.
- ✓ Type of survey.
- ✓ Names of the persons involved and
- ✓ Dates of U.T.M. report preparation.

5.8 DESCRIPTION OF CRANE TESTING

In order to meet the increased business demand and based on the common customers that PAPI and Crane bureau have, an agreement between the two has been made in order to help each other and provide a better service. Based on this agreement only two persons, from each company, can make both inspections in order to save on air fare tickets.

The person attending for the crane testing has to follow the procedure described below:

- Wear safety belt, helmet and equipment as shoes and gloves.
- Have a notebook and a camera in order to take evidence of the inspection.
- Inspect in detail all lifting appliances.
- Start with the metallic structure as foundation brackets and proceed on the same way to the top.
- Check all the handles and stairs where crew is climbing.
- Inspect crane cabin for proper condition
- Make detail inspection of brakes and hydraulic machines on the crane engine room.
- Check all pipes, electrical connections and limit switches.
- Make operational test on the crane.
- Inspect the slewing bearing by rotating the crane.
- Inspect the rollers on top and their foundations
- Inspect the wires for condition and grease

After repeating above inspections for all cranes involved, the service engineer has to prepare a detailed inspection report to the shipping company. Also he has to sign and stamp the necessary cargo gear booklets that will be presented to the dock authorities prior the loading or discharging the cargo using the vessels cranes.

6. PHYSICAL ENVIRONMENT

The physical environment of PAPI mostly includes the base office which is in Chalandri of Athens, but the office is only the tool of the sales department of the company, because the actual work takes place on customers' vessels.

The environment in the office is very friendly, the furniture are of light brown color and there are flowers on desks to promote a cozy sentiment. During a business meeting with a possible customer coffee and appetizers are served, in order to make the customer feel comfortable and open to a discussion.

The personnel of PAPI are always well dressed, mostly in suits, during the hours they spend in the office. During the inspection time the engineers wear work suits, have their tools clean, included in a toolbox and use polite manners in their communications. These people along with the salesmen are the most important face of the company. Salesmen meet with the ship owner and have to show the best picture of the company and the engineers – inspectors meet the crew of the vessel, interact with them and are called to face and fix the problems of the vessel.

It is very important that the tools being used for every inspection have to be of the latest technology; this helps a lot in sales strategy but also into carrying out the inspection correctly. So, for the company it is not very crucial the physical environment of the office, but the behavior and the appearance during the working hours.

7. PEOPLE

The most important feature of PAPI Ltd is its high qualified and well trained employees. They all have the required licences which give them the ability to work as inspectors of lifesaving launching appliances on vessels. Each one of them is unique for the company but they all contribute equally in profits. Each employee is head of a PAPI's department, such as NDT and Cranes department, but they all cooperate so that the best result can be achieved. Let's see some more specific details about PAPI's people.

Mr. N. Konomou:

He is a mechanical engineer/ naval architect, who has worked in the shipping industry for more than a decade. His experience lies on two shipping companies; one small with 6 vessels and one large with 22 vessels Mr Konomou has gained a general knowledge on how the market works from the inside and what the shipping company requires with

respect to service and products offered. He is the sole manager of the company PAPI Ltd.

Mr Macronis

He is the most well-trained service engineer of the company. He has more than 5 years' experience in shipping. He is a mechanical engineer from TEI with more technical knowledge and practice-oriented. Macaronis is a talented, hard-working and trustworthy person.

Mr Voliotis

He joined PAPI recently (August 2012) to manage the NDT department. He is responsible for sales, promotion and technical support of the NDT department of the company. He is a mechanical engineer and has graduated from University of Patras. His strengths are his social skills and the strong bonds with a considerable number of Technical Managers and other contacts.

Mr MIstakas

He is a naval architect that has been in the company for over a year. He is a service engineer for the safety and for the NDT department when the need arises. Mustakas has a good will and tries hard to achieve his aims. He is the youngest in the team, less experienced than the rest.

Mr Neamontes

He is a mechanical engineer totally responsible for the crane inspection department. He has a very good knowledge of the company and the shipping industry with 10 years' experience. He is considered as a master on the field of cranes due to his relation to a large international organization of crane surveyors.

Mr Alex polychronos

He is a mechanical engineer very responsible and properly trained that works on both departments i.e he is a service engineer for lifeboats and deputy manager of UTM department when mr voliotis is absent.He has good working skills and manners. As a result the shipping companies like the way of his working procedure on board that has always good results. He is in the company for over two years.

Mr nikoloas bdokakis

He is new in the company and he will be caring out both jobs including FFE when he completes his training period. He is intended to take over the china branch and work from there directly. He has agreed to remain in this position for a period of 3 months on a rotation basis. He is mechanical engineer and he has university background. He has already shown good character skills and is eager to learn fast and offer his service to the company

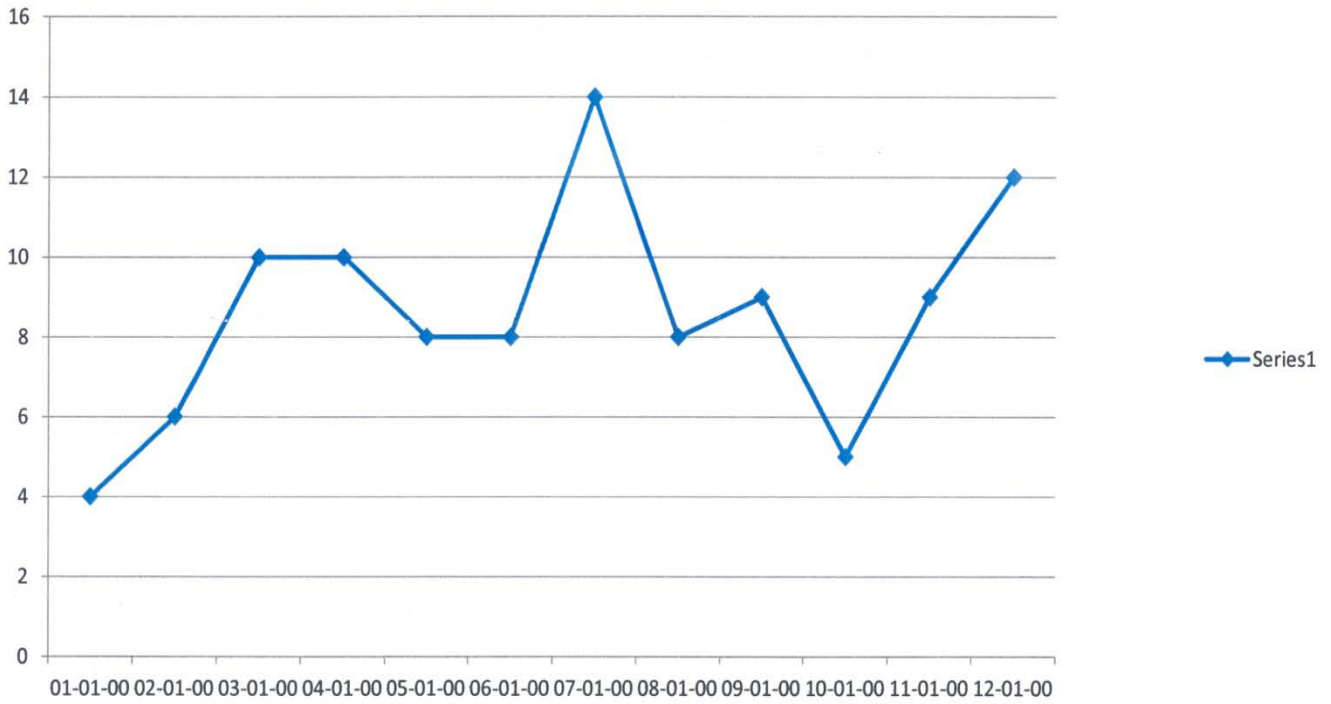
Mr antonis boulgaris

He is also new in the company. He is working on the NDT department in order to relief Mr voliotis from being continuously abroad. He takes care of all that ahs to be done in the NDT department as a service engineer. He has over 10 years experience in the field and has worked with mr Voliotis in the past having very good reference.

8. PRODUCTIVITY & QUALITY

The aim of the company's owner, since the opening of the firm was to keep having a rise to the amount of work and of course the earnings. Through analyzing the statistic numbers of the previous three years, we will realize how much the undertaken projects have risen and what does that mean. Analyzing the past helps the company find any mistakes made and correct them, but also make plans for the future by trying to perform even better next year.

The first board being analyzed contains the data of 2011. On the horizontal axis are the months of the year 2011 and on the vertical axis the amount of inspections and projects in general that were carried out this year.

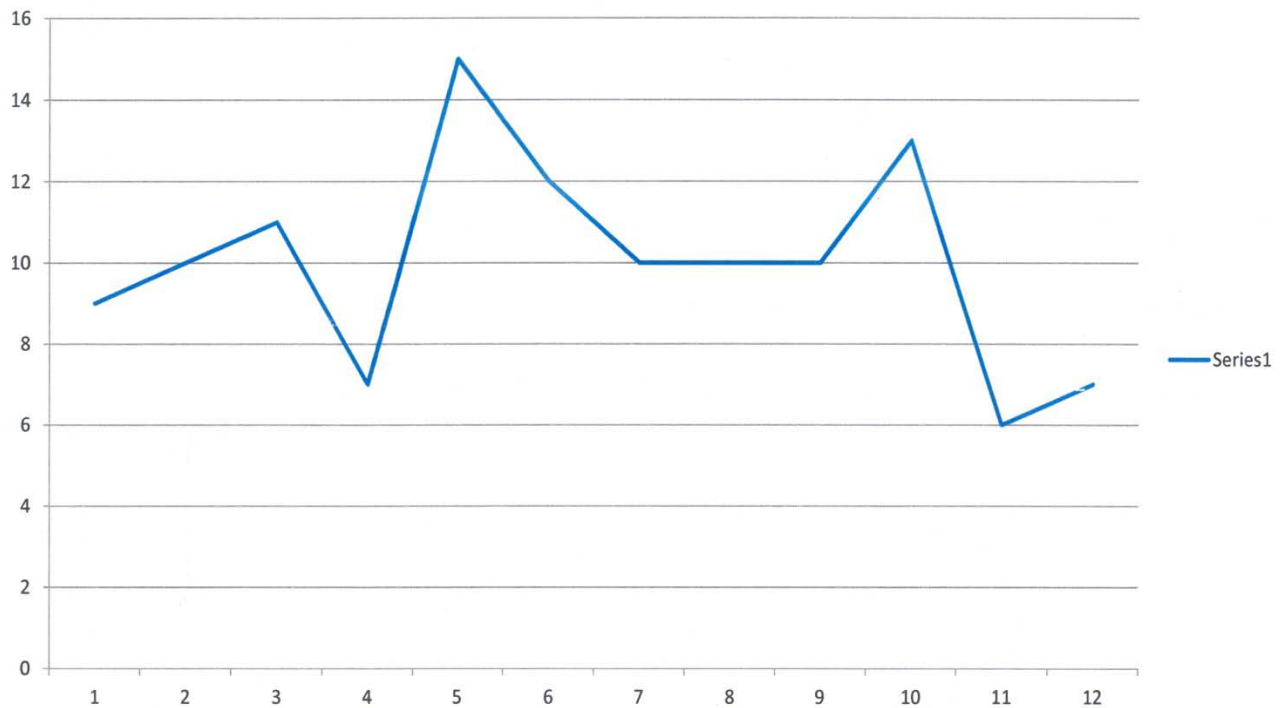


Statistic board of productivity during the year 2011

The general image is that through the year 2011 there was an increase in the inspection that PAPI's employees carried out. From 4 in January the inspections reached 10 in only two months; that's a 60% increase of the work and by extension the profit. March and April were steady months, but there was a small decline of work for two months (May and June) by 2 units. However, in July the company undertook 14 projects, which is the pick of the whole year. After that we can see a "collapse" of productivity in August, but there are inserted holidays in all sectors, so the working days are fewer.

In September things are a little better but in October the drop continues, where the company carried out only 5 inspections. Fortunately, the two following months were very productive and PAPI achieved to gain back the high numbers by performing 9 inspections in November and 12 in December. The company's course through the year was not steady, but at the end in December, it managed to come close to the year's pick,

which was in July. So, 2011 was a sufficiently productive year. By adding all the inspections per month and divide by 12 months has as a result the average inspections per month for the year 2011: $104/12 = 8.66 = 9$

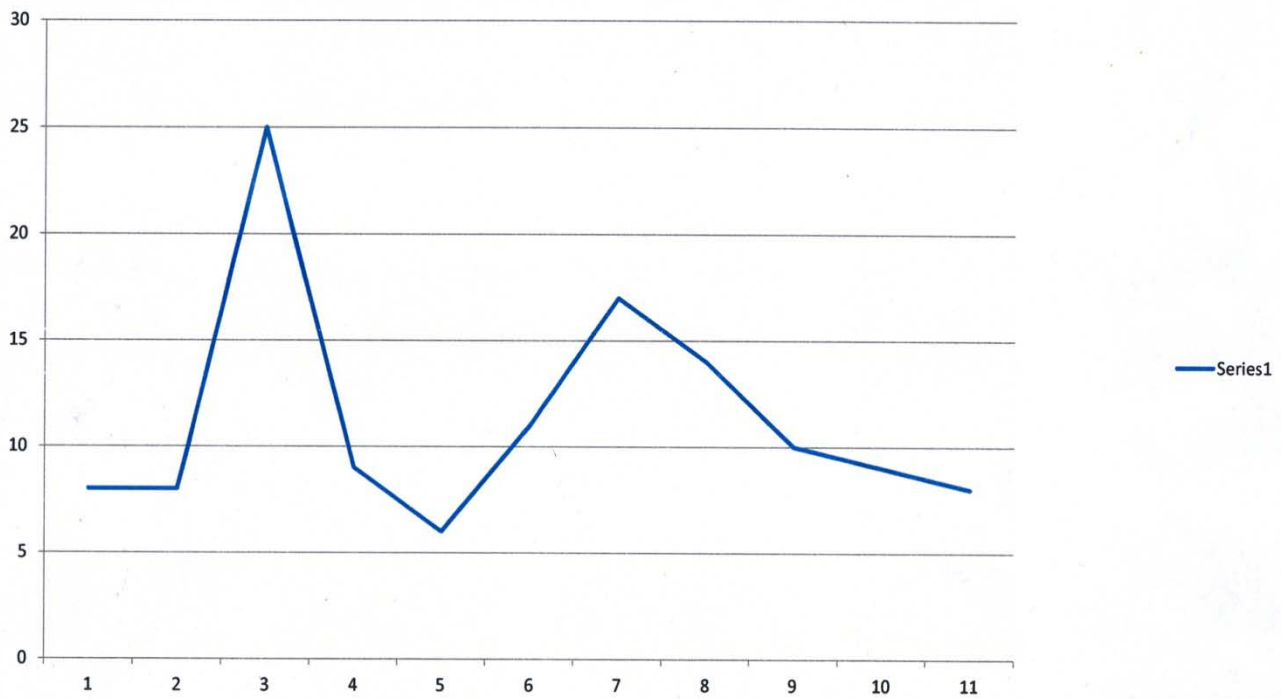


Statistic board of productivity during the year 2012

Following the end of the previous year, the January of 2012 started really promising and the company performed 9 inspections. This upward trend lasted until March where 11 projects were undertaken by PAPI's members. Unfortunately, the company didn't manage to stabilize the amount of work in 2012 and the unsteady course of the previous year (2011) continued. So, in April PAPI carried out 7 inspections on vessels, an amount that seems disappointing for 2012, but was really good for 2011.

Nevertheless, the company reached the top in May where 15 inspections were carried out, almost double of those performed in April. To realize how profitable that is keep in mind that an inspection can cost a customer from 2.000 € to 8.000 € so, the profit of that month for the company ranged from 30.000 € to 120.000 €.

Furthermore, in June PAPI had scheduled 12 inspections and in July 10 inspections. Despite the decline in productivity in August 2011, in August 2012 the course of the company was stable at 10 inspections and not declining. However, two months later, in November, there was a large drop of services served and only 6 inspections were made. The year may have ended disappointingly with only 7 inspections, but the performance of PAPI during its period was extraordinary and very profitable. By adding all the inspections per month and divide by 12 months has as a result the average inspections per month for the year 2012: $122/12= 10.1 = 10$



Statistic board of productivity during the year 2013

The last diagram shows the productivity of the company within the year 2013. The first noticeable thing is the still existing variation in productivity observed over the past two years. First, in January and February the situation is stable and the company carried out more than 7 inspections each month. Then, an incredible increase can be seen and the amount of inspections in March is more than 3 times higher than in February. That

month it is estimated that the company conducted 25 inspections, the highest ever made by the company (the company pick).

On the other hand, the next two months the amount of projects that PAPI undertook is really low; in May only 6 inspections were made. Of course, it is logical that after a pick the employees and the owner are so tired and cannot perform equally, have made a great profit so they want a period of relaxation in order to be productive again. Indeed, from the half of May till July there is an important increase in the amount of inspections but not for long, because the remaining following months of the year the productivity is dropping slowly and equals the beginning of the year 2013. Still, 2013 was a very promising year and PAPI made great profits considering the crisis and the whole situation of the field. By adding all the inspections per month and divide by 12 months has as a result the average inspections per month for the year 2013: $132/12= 11$

Someone could wonder about the variation and the ups and downs of the productivity, but we should consider some facts to understand it. There are always new changes in the company like the opening of NDT department, hiring more employees and other things leading to these results. Furthermore, the crisis is a period where high picks can be achieved and exactly after that there can be also some low picks. There are always rapid changes forming the situation of the company like bankrupting shipping businesses and loosing employment for financial reasons.

So, the numbers showed in the diagrams are really good, the company has an upward route through time and proves that PAPI is capable of fighting crisis and create business opportunities that lead to profits.

H. OPERATIONS

1. SERVICE DELIVERY - CAPACITY TECHNIQUES, COST FACTORS, LOGISTICS, QUALITY CONTROL ECONOMIES OF SCALE

The assignment of the work depends on the Technical Manager of the shipping company. The technical manager and his assistant are gathering offers from the relevant service companies, which are based in Greece but also from the local suppliers where the vessel is located.

Then, depending on the nature of the job and how old the vessel is, they are deciding which service provider to use. In general, the tendency until 2012 was to use Greek service providers. They were more suitable for the nature of the job/inspection and better for the interest of the shipping company. After 2012, many old vessels will be proceeding for scrapping and new will be coming into operational mode. As a result, less items were found for rectification that was an asset for the Greek service providers and also the air tickets become very expensive. Due to the economic world crisis and the increase of the taxes of the airlines in Greece, less flights are arriving and departing from Eleftherios Venizelos Greek international Airport. As a result the fares become very expensive making the Papi and the rest of the service providers of all nature that involve use of aeroplanes more expensive compared to the local service providers.

2. ORGANIZATION CHART

The following diagram presents the company's structure and the personnel involved direct and indirect.

ACCOUNTS	GENERAL MANAGER	SECRETARY
SAFETY	NDTS	CRANES
TECHNICAL SUPERVISOR	TECHNICAL SUPERVISOR	TECHNICAL SUPERVISOR
SERVICE ENGINEER 1	SERVICE ENGINEER 1	SERVICE ENGINEER 1
SERVICE ENGINEER 2	SERVICE ENGINEER 2	SERVICE ENGINEER 2
SERVICE ENGINEER 3	SERVICE ENGINEER 3	

As presented above, the general manager of Papi is Mr konomou. Technical supervisor of Safety is Mr Makronis, of NDT Mr Voliotis and of Cranes Mr Neamontes.

Service engineers are all the above, Mr Mistakas and Mr Poluxronos Mr bdokakis and Mr Voulgaris .

Total number of service engineers: 8

In addition there is a port captain mr thanasis konomou as a operations for the correct traveling and coordination of the company and a sectary for the reporting filing and reply to messages. Accounting department is outsourced.

3. SWOT ANALYSIS

3.1 HISTORY

SWOT analysis came from the research conducted at Stanford Research Institute from 1960-1970. The background to SWOT stemmed from the need to find out why corporate planning failed. The research was funded by the fortune 500 companies to find out what could be done about this failure. The Research Team were Marion Doshier, Dr Otis Benepe, Albert Humphrey, Robert Stewart, Birger Lie.

It all began with the corporate planning trend, which seemed to appear first at Du Pont in 1949. By 1960 every Fortune 500 company had a 'corporate planning manager' (or equivalent) and 'associations of long range corporate planners' had sprung up in both the USA and the UK.

However a unanimous opinion developed in all of these companies that corporate planning in the shape of long range planning was not working, did not pay off, and was an expensive investment in futility.

It was widely held that managing change and setting realistic objectives which carry the conviction of those responsible was difficult and often resulted in questionable compromises.

The fact remained, despite the corporate and long range planners, that the one and only missing link was how to get the management team agreed and committed to a comprehensive set of action programmes.

To create this link, starting in 1960, Robert F Stewart at SRI in Menlo Park California lead a research team to discover what was going wrong with corporate planning, and then to find some sort of solution, or to create a system for enabling management teams agreed and committed to development work, which today we call 'managing change'.

The research carried on from 1960 through 1969. 1100 companies and organizations were interviewed and a 250-item questionnaire was designed and completed by over 5,000 executives. Seven key findings lead to the conclusion that in corporations chief

executive should be the chief planner and that his immediate functional directors should be the planning team. Dr Otis Benepe defined the 'Chain of Logic' which became the core of system designed to fix the link for obtaining agreement and commitment.

1. Values
2. Appraise
3. Motivation
4. Search
5. Select
6. Programme
7. Act
8. Monitor and repeat steps 1 2 and 3

We discovered that we could not change the values of the team nor set the objectives for the team so we started as the first step by asking the appraisal question, for example, what's good and bad about the operation. We began the system by asking what is good and bad about the present and the future. What is good in the present is Satisfactory, good in the future is an Opportunity; bad in the present is a Fault and bad in the future is a Threat. This was called the SOFT analysis.

When this was presented to Urick and Orr in 1964 at the Seminar in Long Range Planning at the Dolder Grand in Zurich Switzerland they changed the F to a W and called it SWOT Analysis.

SWOT was then promoted in Britain by Urick and Orr as an exercise in and of itself. As such it has no benefit. What was necessary was the sorting of the issues into the programme planning categories of:

1. **Product** (what are we selling?)
2. **Process** (how are we selling it?)
3. **Customer** (to whom are we selling it?)
4. **Distribution** (how does it reach them?)
5. **Finance** (what are the prices, costs and investments?)

6. **Administration** (and how do we manage all this?)

The second step then becomes 'what shall the team do' about the issues in each of these categories. The planning process was then designed through trial and error and resulted finally in a 17 step process beginning with SOFT/SWOT with each issue recorded separately on a single page called a planning issue.

The first prototype was tested and published in 1966 based on the work done at 'Erie Technological Corp' in Erie Pa. In 1970 the prototype was brought to the UK, under the sponsorship of W H Smith & Sons plc, and completed by 1973. The operational programme was used to merge the CWS milling and baking operations with those of J W French Ltd.

The process has been used successfully ever since. By 2004, now, this system has been fully developed, and proven to cope with today's problems of setting and agreeing realistic annual objectives without depending on outside consultants or expensive staff resources.

3.2 WHAT IS THE SWOT ANALYSIS

A **SWOT analysis** (alternatively **SWOT matrix**) is a structured planning method used to evaluate the **strengths**, **weaknesses**, **opportunities**, and **threats** involved in a project or in a business venture. A SWOT analysis can be carried out for a product, place, industry or person. It involves specifying the objective of the business venture or project and identifying the internal and external factors that are favourable and unfavourable to achieve that objective. The technique is credited to Albert Humphrey who led a convention at the Stanford Research Institute (now SRI International) in the 1960s and 1970s using data from Fortune 500 companies. The degree to which the internal environment of the firm matches with the external environment is expressed by the concept of strategic fit.

Setting the objective should be done after the SWOT analysis has been performed. This would allow achievable goals or objectives to be set for the organization.

- **Strengths:** characteristics of the business or project that give it an advantage over others.
- **Weaknesses:** characteristics that place the business or project at a disadvantage relative to others
- **Opportunities:** elements that the project could exploit to its advantage
- **Threats:** elements in the environment that could cause trouble for the business or project

Identification of SWOTs is important because they can inform later steps in planning to achieve the objective.

First, the decision makers should consider whether the objective is attainable, given the SWOTs. If the objective is *not* attainable a different objective must be selected and the process repeated.

Users of SWOT analysis need to ask and answer questions that generate meaningful information for each category (strengths, weaknesses, opportunities, and threats) to make the analysis useful and find their competitive advantage.

INTERNAL & EXTERNAL FACTORS

SWOT analysis aims to identify the key internal and external factors seen as important to achieving an objective. SWOT analysis groups key pieces of information into two main categories:

1. internal factors – the *strengths* and *weaknesses* internal to the organization
2. external factors – the *opportunities* and *threats* presented by the environment external to the organization

Analysis may view the internal factors as strengths or as weaknesses depending upon their effect on the organization's objectives. What may represent strengths with respect

to one objective may be weaknesses (distractions, competition) for another objective. The factors may include all of the 4PS; as well as personnel, finance, manufacturing capabilities, and so on.

The external factors may include macroeconomic matters, technological change, legislation, and sociocultural changes, as well as changes in the marketplace or in competitive position. The results are often presented in the form of a matrix.

SWOT analysis is just one method of categorization and has its own weaknesses. For example, it may tend to persuade its users to compile lists rather than to think about actual important factors in achieving objectives. It also presents the resulting lists uncritically and without clear prioritization so that, for example, weak opportunities may appear to balance strong threats.

It is prudent not to eliminate any candidate SWOT entry too quickly. The importance of individual SWOTs will be revealed by the value of the strategies they generate. A SWOT item that produces valuable strategies is important. A SWOT item that generates no strategies is not important.

4. STRENGTHS

PAPI Ltd has a variety of strengths which have established the company in the maritime sector and put it among the best in the inspection of lifesaving launching appliances.

4.1 HIGH QUALIFIED – EDUCATED PERSONNEL

The most important tool of the company is its high qualified and well educated employees. They all have the qualifications needed in order to perform successfully the inspections of the vessels.

First, in order to have the permission to perform inspections, every employee has to pass a 15-day training program in Japan successfully. Only then the employee has the

certifications needed to work for PAPI Ltd. In addition, most of the personnel have marketing and communication skills, so that they can sell the company's services across the world easily.

The environment in the office is very friendly and management tries to keep his employees united by eliminating the competition among them, because this helps them work better as a team and bring more profit to the business. This is why it is really difficult for management to find new members for his team that could be capable of working under pressure, long hours, can travel all over the world, have excellent knowledge of English and could be trustworthy.

4.2 THE BEST MANUFACTURERS

One of the most important advantages of PAPI Ltd is that it is authorized as a service station by the greatest makers of lifesaving launching appliances such as Japanese, Korean, Singaporean manufactures and Chinese. Being a service station for all these companies makes it easier for PAPI to find new customers. Furthermore, the company has flag authorizations by Greece, Liberia, Panama and marshal Islands. The Greek flag is very special, because most maritime companies are placed in Greece, where PAPI has its base too.

The reputation of the manufactures is what makes it more possible for customers to trust PAPI's members with their vessels.

4.3 BEST VALUE FOR MONEY

It is known that the company has not the best prices in the field and there are several other technical services companies with lower costs and prices of their products and services. But is it always the cheapest product the best?

The answer is definitely NO. That's why PAPI is a best-value-for-money company. It provides a variety of services in good prices; hence more customers cooperate with it. So, the price of the inspection is not very competitive but the services included in that price are, a fact that makes customers really satisfied by the company's work.

As it is referred in 3.4 PAPI not only conducts inspections, but also wants to help the customers repair the problems of their vessels to avoid any danger.

4.4 FOCUSED WORK ON THE CUSTOMER AND HIS NEEDS

This means that the inspector tries to find the problems on vessels and help the crew solve and repair them before he makes his report. That is not illegal and helps vessels with small problems carry on their voyage, by repairing them on the spot.

If all problems of the lifesaving systems are reported, then the customer (owner of the vessel) has to pay a great amount of money on fines. To avoid such cost, PAPI's inspector helps the crew to repair everything possible before the deposition of the report. The purpose of the inspection is not to fine the company (owner) but to repair the problems and provide a safe journey for the vessel and its employees. That is why PAPI has the reputation of being a company focused on the customer and his needs, which leads to more customers and more profits.

The fact that customers trust PAPI so much is maybe the greatest advantage of all, because a special bond is created between which makes both sides work harder; the employees help in repairing the vessel and the customers help PAPI with payment and liquidity problems.

5. WEAKNESSES

A company like PAPI has a lot of advantages, but also some disadvantages, because the maritime field makes it really difficult for new companies to gain the trust of shipping

companies. The competition, the payment, the distance and the time problems push the company into choosing new strategy moves, in order to solve them.

5.1 COMPETITION

As it was mentioned before in level E 6 the competition in the field is very high and makes it difficult for all companies to gain a great piece of the market. By 2008, 12 other companies were registered at the Greek Merchant Office (YEN) and had legal license to conduct inspections on the lifesaving launching appliances. Now, the companies in the same field are at least 20.

Some competitors have more experience and reputation in inspecting the lifesaving launching appliances than PAPI and they obtain the best manufactures. Some others have better prices or more services, such as fire fighting inspections. They can also reduce the travelling costs by sending only one person to carry out the necessary jobs. Others managed to expand their bases worldwide and have permanent personnel in China, U.S.A. and Japan. These are the ones with the best prices because they almost eliminate travelling cost.

Although PAPI is a small company compared to the titans of lifesaving launching appliances, it has managed to study the competitors and has planned a market strategy that now is ready to be implemented, so that it can gain some piece of the market pie. In the future, there are a lot of actions that must be done to lower in some extend the competition and establish a solid place in the field.

5.2 TIME PROBLEMS

Vessels can only be inspected when they stop in a port to get supplies. That means that the inspector must always be ready for a journey. But, what happens when all the members of the company are busy and there is no one who can travel to that specific port where the vessel is?

That's a difficult question for PAPI, because its members travel 4 to 5 times a month across the world to conduct inspections. Sometimes, it is possible to combine 2 or 3 inspections in the same port, it is impossible to make it. Unfortunately, PAPI has to deny jobs when there are time problems and there is no one available to conduct the inspection.

A quick solution would be to hire more employees, but it is not easy to find high educated and capable persons who are trustworthy at the same time. Maybe, it would be simpler if PAPI had permanent employees, who could be in stand by for an inspection in every continent and in big ports. This is one of PAPI's future plans, which will contribute a lot to its profits by undertaking more inspections and by lowering a lot the travelling costs.

5.3 PAYMENT

Unfortunately, most companies that work in maritime sector by inspecting the lifesaving launching appliances of the vessels suffer from liquidity problems, because of payment delays. Usually, most customers pay the company 1 year after the inspection and that fact leads to liquidity problems, because bills and employees must be paid normally.

Only the travelling costs and the accommodation of the inspector are being paid right away by the customer. The fees of the inspection are not paid sooner than 6 months from the inspection. Sometimes, by that time the customer may have bankrupted or refuses to pay and PAPI has an even bigger liquidity problem.

With standard customers it is very common to arrange the payments in 3 parts, because it is easier for both sides. PAPI's liquidity remains steady throughout the year and also customers can afford better small payments 3 times a year, than one big payment at the end of the year.

5.4 PROBLEMS OF DISTANCE

This weakness is connected with 4.2 (time problems) to a great extent. Most vessels are situated in Chinese, Japanese and American territory, but PAPI has its base in Greece. Hence inspectors have to travel at least 7 hours by plane, in order to carry out their inspections and repairs. It would be much easier for the customer to hire a company whose basis is in these countries and PAPI's saviour at the moment is its competitive prices that attract customers from abroad.

However, most of shipping companies are situated in Greece, so PAPI can compete to other international companies. But, this problem has to be eliminated in the future, because most competitors expand their services and open offices all over the world. One solution to this problem is to open an office in an Asian country, most preferred in China, in order to keep the travelling costs at minimum. This way the company will be very competitive abroad, because it will offer the services in lower prices than competitors abroad and there will be no serious travelling burden in the middle.

6 OPPORTUNITIES

The world of lifesaving launching appliances has the advantage of expanding constantly. There are always ideas that bring renovation on vessels and that's why companies such as PAPI Ltd have the opportunity to expand their services through the years. Here are some possible future opportunities for PAPI.

6.1 FUTURE DEVELOPMENT ON SAFETY SYSTEMS

At the moment PAPI can inspect lifeboats, davits and winches and also carry out 5-yearly inspections, but there are some more opportunities on safety systems. Management plans to expand his business some more and provide fire system inspections. This means that new services will be offered combining the inspection services with fire planning

services. This way, PAPI could have the full “control” of the vessel, because it will have the power to inspect almost every system of the vessel.

Another future opportunity is to expand in inspecting the life rafts. This project is already part of the future plans of the company. Building a life raft service station can contribute a lot to the company’s profit and attract more customers.

When a company has a variety of services the customers can choose and combine many of them and as a result the cost of the inspection increases. That means that PAPI would have more profits from each customer and by extension more total profits.

With technology constantly growing it is very often that new lifesaving launching appliances are built. The company’s employees should be trained to inspect every new system and the company should become authorized for every appliance available. That way it will have the proper variety of services and will be more competitive in the field. So, there are a lot of opportunities in this area and PAPI has a lot to do in the future in order to establish an even better place in the market.

6.2 GROWTH OF THE INDUSTRY WITH THE PASSAGE OF THE CRISIS

Unfortunately, the crisis caused a lot of damage in the maritime sector and a lot of shipping companies bankrupted and close over the years. This has made it difficult for all companies that provide lifesaving launching appliances to find new customers and be profitable. By extension PAPI has encountered many problems all these years to make a profit and expand, since many customers withdrew from the maritime area.

However, when crisis is over some growth of the industry is expected and all companies that are active in the field expect more upcoming opportunities and among them also PAPI Ltd.

6.3 INCREASING PRICES ABROAD

At the moment PAPI Ltd is a company with very competitive prices abroad, because the cost of the services offered is higher abroad which makes PAPI more attractive to customers. For customers in Asia is easier and less expensive to hire PAPI, which is based in Greece, rather than hire some local company. This is because the sum of travelling costs and the cost of PAPI's inspections is lower than the cost of inspection of any Asian company.

If in the future the prices abroad increase more then PAPI will have the opportunity to become a leader in the field of control systems security of the vessels. By attracting more customers PAPI will have the funds and the opportunity to expand in China and Japan by opening a new office there in order to be able serve all the customers on time. Furthermore, the company can provide more services and create a great service network.

7. THREATS

Apart from the opportunities created for a company, there are some serious threats which can cause great damage and even lead to the bankruptcy. These may involve either internal or external factors such as legal changes and falling prices abroad. Here are some possible threats that companies like PAPI may deal with in the future.

7.1 LEGAL CHANGES

The need for a service to ensure the safety of the crew and the passengers in case of emergency while abandoning the ship led to the implementation of a new regulation IMO MSC.1/Circ.1206 Rev. 1 in 2006. According to it ship-owners have to test the life-saving launching appliances and certify them in annual basis. However, ship-owner should not do the inspection with their employees, but they should hire an independent

company. So, due to this regulation a lot of new companies were created, among them PAPI Ltd, in order to serve all the vessels.

But what will happen if the regulation changes again? Could a change terminate the need of service companies like PAPI? Of course! No one can assure companies which implement inspections of life-saving launching appliances that there will be no changes in the regulations. A little change in the regulation could terminate the operation of these companies and bring in the field companies of different type or could “force” the existing companies change their basic services, their type and philosophy.

The owner of PAPI knows that there is a continuous threat for the future. If any change happens, then he could examine if the company has the possibility to survive in the field after vital changes and to what extent this will cost financially. This is a really tough decision for an owner of a service company, but every one of them knew that something like that could happen the minute they decided to open a company on this subject.

7.2 RISK OF ACCIDENTS

Perhaps one of the worst threats to a company that monitors and inspects the safety systems vessels is the risk of an accident. In case of an accident it is possible to determine whether the safety systems worked properly or not. If a system operated incorrectly, the company that has carried out the inspection faces serious legal problems. Even though the company eventually acquitted, its reputation would have been destroyed and likely bankruptcy cannot be avoided.

In case of an accident the first to blame is the maintenance of the vessel and by extension the company that committed the inspection. So, the company will begin to lose its customer’s trust and will suffer massive loss of customers. With a bad reputation the profits of the company will be really low and liquidity problems will appear soon. The litigation may last years and until then the damage to the company would be disastrous and its reverse would be impossible. This is why all inspections must be careful and

precise to avoid an accident that will cost a great amount of money to the customers, the viability for the company that carried out the inspection and even human lives.

PAPI tries to prevent accidents by helping the crew of the vessel and the ship - company fix and repair all the vessel's problems.

7.3 LATE PAYMENTS OR TOTAL CLOSURE OF A SHIPPING COMPANY

As mentioned above payment issues always concern companies operating in lifesaving launching appliances sector like PAPI Ltd, because the payment period ranges from months to a year. There is always the threat that a customer eventually will not pay the company and this risk has increased a lot during crisis. However, the danger nowadays is greater, because a lot of shipping companies necessarily bankrupt due to liquidity problems.

When PAPI carries out an inspection usually receives a cheque which expires in six months or a year and then the company gets paid. Nevertheless, by that time no one can assure the company that the customer will have the funds to pay or even that this customer will exist in the field. This is a serious risk which all companies like PAPI take and sometimes causes them financial damage, as the revenue is many times lower than the costs at short term.

7.4 FALLING PRICES ABROAD

We already examined what will happen to the course of the company if prices abroad increase in the future. That could be a great opportunity for PAPI to become a leader in the field. But what will happen if the prices abroad fall in the future?

Falling prices abroad is a great threat to the company because it automatically throws it out of the market. The businesses based in other countries like China and Japan will have lower and more competitive prices than PAPI. To compete them the inspection costs

plus the travelling costs of PAPI will have to equal the inspection costs of other companies abroad, because these companies are almost free of travelling charges.

First, the profits of the company will start having negative returns and in time PAPI will be no longer profitable but deficit. Therefore, the future of PAPI is judged by the stability conditions and rates abroad. However, there is a scenario in which PAPI doesn't care about rates that much. That can be achieved by opening a new office in an Asian country like China. Then, the travelling costs could be almost eliminated and PAPI could have its employees all over the world ready to travel and carry out the inspection.

I. FINANCIAL

In this chapter there will be presented and analyzed some past and present financial data of the company, the future requirements in funds and personnel, the future plans of expanding, the net present value and a profit and loss balance sheet.

1. FUNDING REQUIREMENTS

The company operates many years with profit. Most of it has been invested for training of the new personnel, salaries and obtaining new licensees. In order for PAPI to proceed to the next level and materialise its plans, such as owned offices and workshop, additional funds are required.

Also the new licensees need additional funding. This amount varies per manufacturer and the terms and conditions of the contract that is signed between the two parties. An amount of 300.000 euro is estimated that is needed in order to supply with needs. This amount is not possessed by the PAPI Company. Funding though a bank loan and/or

slow investment on the company that will take years are the possible ways the company will consider.

PAPI needs additional personnel. As the shipping companies grow into number and more inspections per year are carried out, more qualified personnel is needed. Two more persons will soon be necessary to fulfil the demand.

The new plans and projects of PAPI require big funds to be engaged and work correctly. Of course, these funds cannot be generated by PAPI, but from an external factor such as a bank loan. However, to avoid liquidity problems and afford the instalments, the money should be carefully divided and spared.

The bulk of money will be used to set the new office in China up and find the space for the life rafts inspections and FFE. It is estimated that for those two almost 200.000 € is needed. In the price are also included the cost of salaries for 6 months, the advertising part of the new services, the cost of training the new personnel and the cost of the new licences that all personnel must have.

At first, the setting of the new office will be difficult and the travelling costs to China and back will be a considerable burden for the company. Director's aim is to keep his services' prices steady as in Greece in order to attract more Chinese customers, because the competitors abroad have higher prices than PAPI. If the prices abroad fall then there will be no danger for PAPI, because the travelling costs will be eliminated, and if the prices abroad increase more then the company will be a real competitor to others.

A total loan of 300,000 € will be needed to cover all procedures and the new projects of PAPI; some money must be spent on promotion, new brochures and advertising in order to gain some more popularity and introduce customers to the new products. In addition, to complete the life raft service and FFE station project high tech equipment must be bought and the cost of them is estimated to be 100.000€.

2. FUTURE HUMAN RESOURCE REQUIREMENTS

The aim of the company is to grow in volume of sales and number of employees. In the next couple of years, two more service engineers will most probably be required for carrying out the safety inspections and one salesman to increase sales and personal relations with customers.

For the new office in China at least four persons with engineering knowledge will be needed and one person to promote the new procedures of the company including the new office and the life raft inspections and FFE. After a 6 month to 1 year period depending on the state of the company, some more persons will be needed if the volume of work has increased at least 30%.

In a long term period one more office will open in the USA where PAPI has no contact with customers at the moment, while the market there is really big. If that happens, then at least 5 more persons will be needed to catch up with the requirements of the customers and the market.

3. PAST FINANCIALS

PAPI is a company running 8 years now, so we must first present some past financials such as the breakeven point. Also, we will see in numbers the profits of the company the past three years.

3.1 BREAKEVEN POINT

The break-even level or break-even point (BEP) represents the sales amount—in either unit or revenue terms—that is required to cover total costs (both fixed and variable). Profit at break-even is zero. Break-even is only possible if a firm's prices are higher than its variable costs per unit. If so, then each unit of the product sold will generate some “contribution” toward covering fixed costs.

In economics & business, specifically cost accounting, the **break-even point** (BEP) is the point at which cost or expenses and revenue are equal: there is no net loss or gain,

and one has "broken even." A profit or a loss has not been made, although opportunity costs have been "paid," and capital has received the risk-adjusted, expected return. In short, all costs that need to be paid are paid by the firm but the profit is equal to 0.

The purpose of **break-even analysis** is to provide a rough indicator of the earnings impact of a marketing activity.

The break-even point is one of the simplest yet least used analytical tools in management. It helps to provide a dynamic view of the relationships between sales, costs, and profits. For example, expressing **break-even sales** as a percentage of actual sales can give managers a chance to understand when to expect to break even (by linking the percent to when in the week/month this percent of sales might occur).

The break-even point is a special case of Target Income Sales, where Target Income is 0 (breaking even). This is very important for financial analysis.

The breakeven point can be directly computed in terms of Total Cost as:

$$Q = \frac{TFC}{P - V}$$

Where:

- **TFC** is **Total Fixed Costs**
- **P** is the **price** of the service
- **V** is **Unit Variable Cost**

The statistics of the firm show that the TFC of PAPI is 20.000 € per month, the average price of each inspections is 4000€ and the unit variable cost is zero, because the travelling costs, the accommodation and the food of the engineer-inspector are covered by the customer. So the fraction is:

$$Q = \frac{20.000}{4.000} = 5$$

So, to offset the cost with the revenue there must be carried out 5 inspections per month and that means that in order to make some profit the company must undertake more than 6 inspections per month.

3.2 3 YEARS CASHFLOW AND P&L

In this chapter we will examine the cash flows of the previous three years 2011, 2012 and 2013. There will be presented both in forms of graphs and boards in details to be easily understood. In productivity and quality (F.8.) we analyzed the statistic boards of productivity for the past three years. Here, we will translate the productivity in numbers to present the financial nature of these statistic boards.

First, we must mention that the average profit of an inspection is 4000€, the fix costs are 5000€ and the salary costs are 15.000€ each month. So the total cash outflow is 20.000€ each month. Fix costs are the following:

Rent, phones, accounting department, tax ,insurance, and transportation costs including maintenance of the company car and motorbike.

Salary costs are the following:

2000euro x7engineers =14000euro and secretaty 1000euro = 15000euro

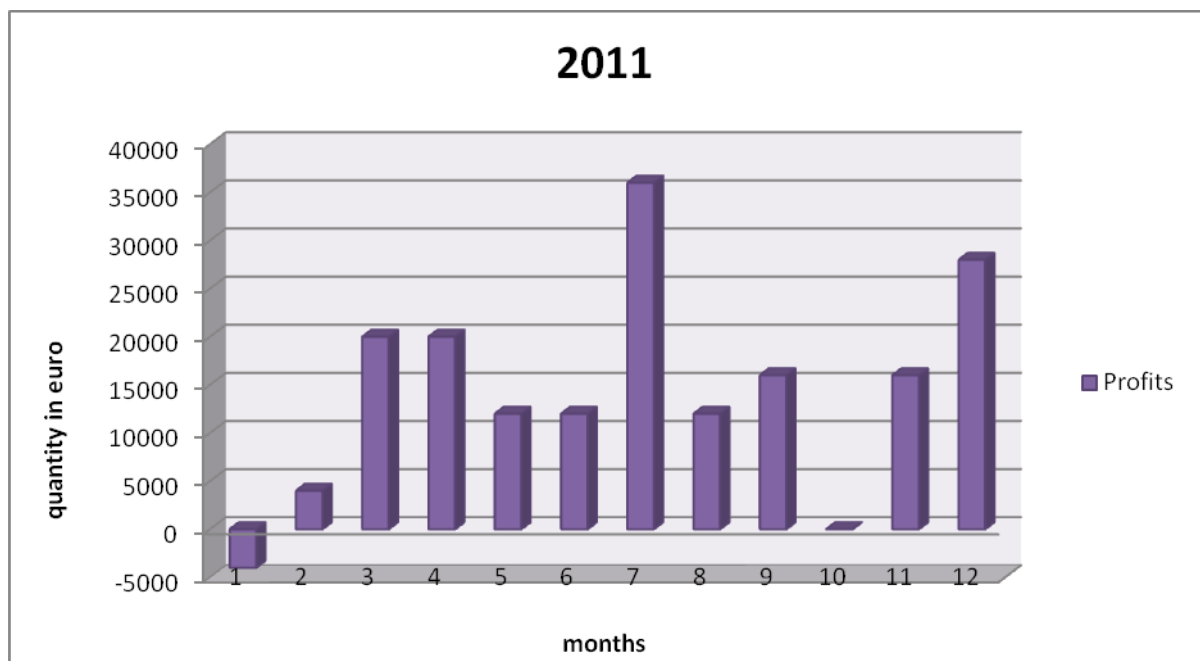
3.2.1 2011 financials

According to the figures of the statistic board of 2011's productivity arise subsequent:

Months	Income	Costs	Total
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1	16.000€	20.000€	-4.000€
2	24.000€	20.000€	4.000€
3	40.000€	20.000€	20.000€
4	40.000€	20.000€	20.000€
5	32.000€	20.000€	12.000€
6	32.000€	20.000€	12.000€
7	56.000€	20.000€	36.000€
8	32.000€	20.000€	12.000€
9	36.000€	20.000€	16.000€
10	20.000€	20.000€	0€
11	36.000€	20.000€	16.000€
12	48.000€	20.000€	28.000€
total	412.000€	240.000€	172.000€

In the graph below there are presented the elements of the board above. The horizontal axis represents the months and the vertical axis the amount of money in euro.



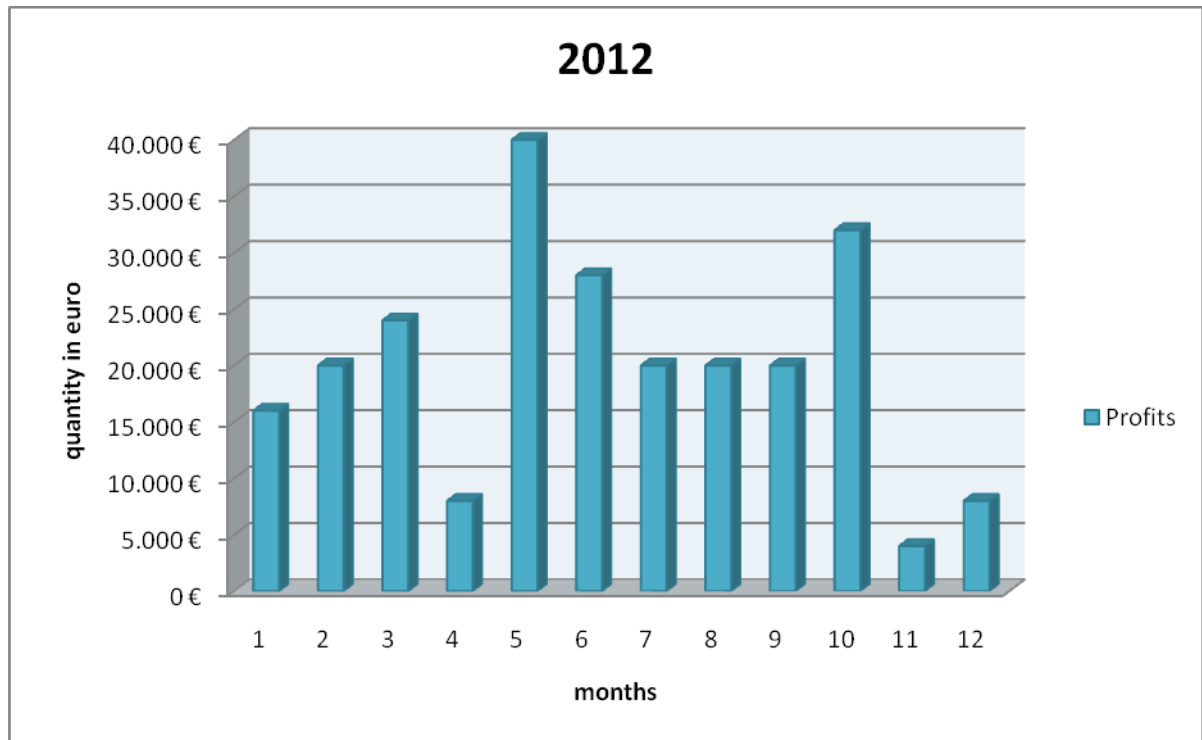
Statistic board of profits in 2011

3.2.2 2012 financials

Now, there will be examined the cash flows of 2012.

Months	Cash inflows	Cash outflows	Total
1	36.000€	20.000€	16.000€
2	40.000€	20.000€	20.000€
3	44.000€	20.000€	24.000€
4	28.000€	20.000€	8.000€
5	60.000€	20.000€	40.000€
6	48.000€	20.000€	28.000€
7	40.000€	20.000€	20.000€
8	40.000€	20.000€	20.000€
9	40.000€	20.000€	20.000€
10	52.000€	20.000€	32.000€
11	24.000€	20.000€	4.000€
12	28.000€	20.000€	8.000€
total	480.000€	240.000€	240.000€

In the graph below there are presented the elements of the board above. The horizontal axis represents the months and the vertical axis the amount of money in euro.



Statistic board of profits in 2012

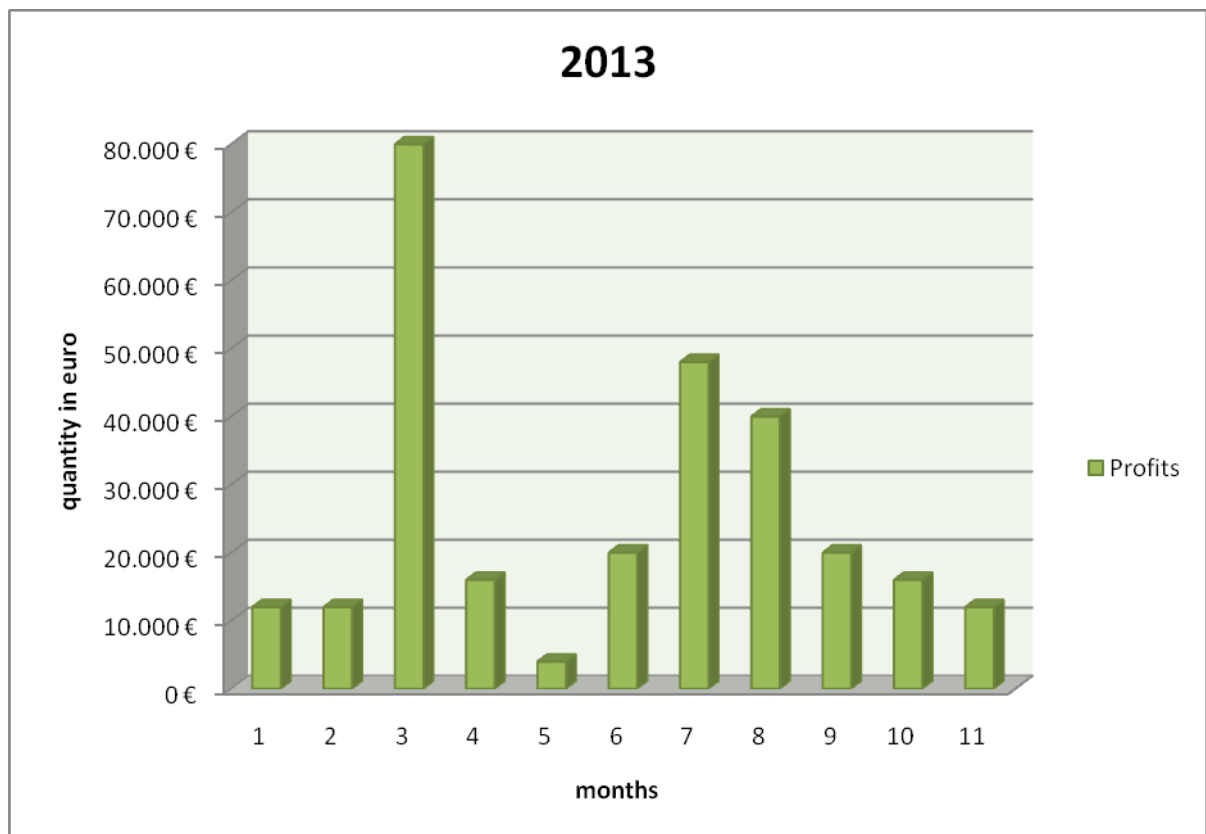
3.2.3 2013 financials

At last, here are the profits of PAPI Ltd during the eleven months of the year 2013.

Months	Cash inflows	Cash outflows	Total
1	32.000€	20.000€	12.000€
2	32.000€	20.000€	12.000€
3	100.000€	20.000€	80.000€
4	36.000€	20.000€	16.000€
5	24.000€	20.000€	4.000€
6	40.000€	20.000€	20.000€
7	68.000€	20.000€	48.000€
8	60.000€	20.000€	40.000€
9	40.000€	20.000€	20.000€
10	36.000€	20.000€	16.000€

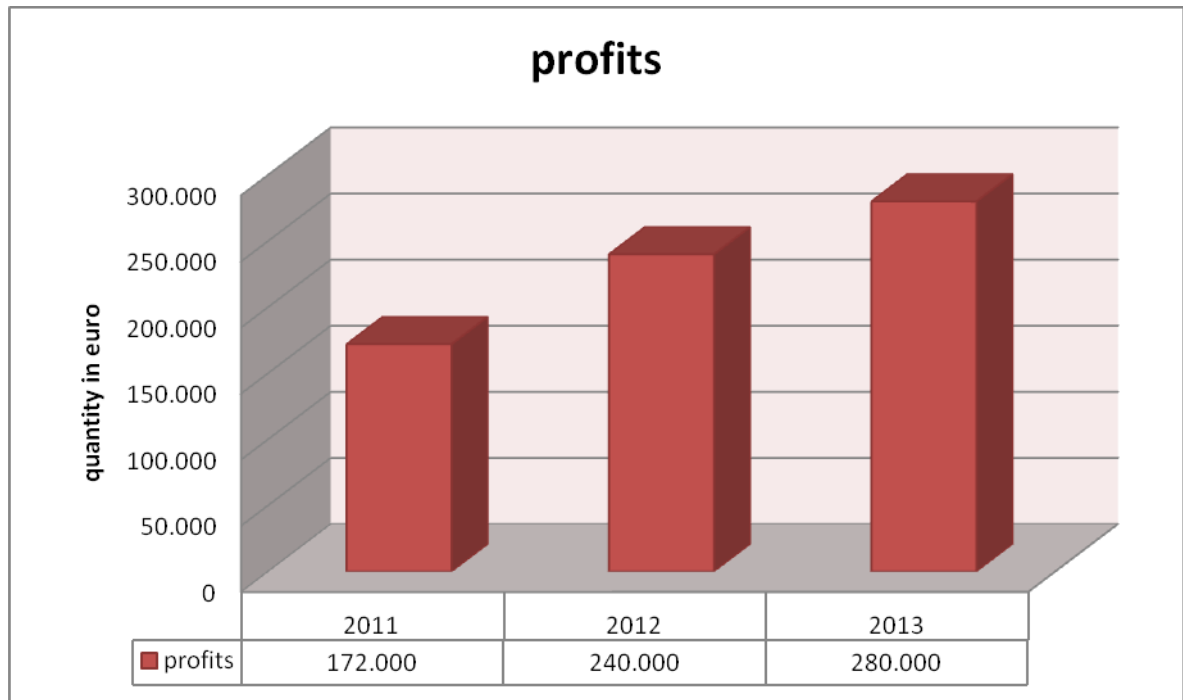
11	32.000€	20.000€	12.000€
12	20.000€	20.000€	0€
total	520.000	240.000€	280.000€

In the graph below there are presented the elements of the board above. The horizontal axis represents the months and the vertical axis the amount of money in euro.



Statistic board of profits in 2013

In the following graph there are presented the total profits of the years 2011, 2012 and 2013.



Total profits in euro for the years 2011, 2012 and 2013 in columnar

It is very clear from the graph that the profits of the company are increasing steadily through the years and the numbers are very promising for the future. In 2012 the company earned 68.000€ more than in 2011 and in 2013 earned 40.000€ more than in 2012. Hence there is an upward trend in both productivity and profits through time.

In the second graph below, we can see the profits in form of a row in order to understand better the upward trend. In that graph the variance between the profits of 2011 and the profits of 2013 is really visible.



Total profits in euro for the years 2011, 2012 and 2013 in a row

3.2.4 PROFIT AND LOSS BALANCE SHEET

In the following board we can see the financials analytically by inflow and outflow. The full description of the outflow, the gross profit and the net profit are presented.

Profit and Loss Statement

	2011	2012	2013
Sales			
Total sales	412.000 €	480.000 €	520.000
Cost of goods sold	0 €	0,00 €	0,00 €
Gross profit/net sales	412.000 €	480.000,00 €	520.000,00 €
Expenses			
Accountant fees	5.000,00 €	5.000,00 €	5.000,00 €
Advertising & marketing	3.000,00 €	3.000,00 €	3.000,00 €

Bank fees & charges	300,00 €	300,00 €	300,00 €
Bank interest	0,00 €	0,00 €	0,00 €
service engineers expenses	2.500,00 €	2.500,00 €	2.500,00 €
Utilities (electricity, gas, water)	2.500,00 €	2.500,00 €	2.500,00 €
Telephone	2.000,00 €	2.000,00 €	2.000,00 €
Lease/loan payments	0,00 €	0,00 €	0,00 €
Rent & rates	6.000,00 €	6.000,00 €	6.000,00 €
Motor vehicle expenses	3.000,00 €	3.000,00 €	3.000,00 €
Repairs & maintenance	1.000,00 €	1.000,00 €	1.000,00 €
Stationery & printing	1.700,00 €	1.700,00 €	1.700,00 €
Insurance	27.600,00 €	27.600,00 €	27.600,00 €
lower fees	3.600,00 €	3.600,00 €	3.600,00 €
various expenses	1.800,00 €	1.800,00 €	1.800,00 €
Wages (including PAYG)	180.000,00 €	180.000,00 €	180.000,00 €
Total expenses	240.000,00 €	240.000,00 €	240.000,00 €
Net profit before taxes	172.000,00 €	240.000,00 €	280.000,00 €

4. FUTURE FINANCIALS – RETURN OF INVESTMENT

In order to be in position to evaluate an investment plan there must be considered some financial data such as the net present value and the return of the investment. Then, the company will have all the data needed to examine whether the investment will be profitable or not and can decide what to do.

4.1 NET PRESENT VALUE

In finance, the **net present value (NPV)** or **net present worth (NPW)** of a time series of cash flows, both incoming and outgoing, is defined as the sum of the present values (PVs) of the individual cash flows of the same entity.

In the case when all future cash flows are incoming (such as coupons and principal of a bond) and the only outflow of cash is the purchase price, the NPV is simply the PV of future cash flows minus the purchase price (which is its own PV). NPV is a central tool in discounted cash flow (DCF) analysis and is a standard method for using the time value of money to appraise long-term projects. Used for capital budgeting and widely used

throughout economics, finance, and accounting, it measures the excess or shortfall of cash flows, in present value terms, above the cost of funds.

Determining the value of a project is challenging because there are different ways to measure the value of future cash flows. Because of the time value of money, an euro earned in the future won't be worth as much as one earned today. The discount rate in the NPV formula is a way to account for this. Companies have different ways of identifying the discount rate, although a common method is using the expected return of other investment choices with a similar level of risk.

NPV can be described as the “difference amount” between the sums of discounted: cash inflows and cash outflows. It compares the present value of money today to the present value of money in the future, taking inflation and returns into account.

The NPV of a sequence of cash flows takes as input the cash flows and a discount rate or discount curve and outputs a price; the converse process in DCF analysis — taking a sequence of cash flows and a price as input and inferring as output a discount rate (the discount rate which would yield the given price as NPV) — is called the yield and is more widely used in bond trading.

Each cash inflow/outflow is discounted back to its present value (PV). Then they are summed. Therefore NPV is the sum of all terms,

$$\frac{R_t}{(1 + i)^t}$$

Where:

t – The time of the cash flow

i – The discount rate (the rate of return that could be earned on an investment in the financial markets with similar risk.); the opportunity cost of capital

R_t – The net cash flow i.e. cash inflow – cash outflow, at time t . For educational purposes, R_0 is commonly placed to the left of the sum to emphasize its role as (minus) the investment.

The result of this formula is multiplied with the Annual Net cash in-flows and reduced by Initial Cash outlay the present value but in cases where the cash flows are not equal in amount, then the previous formula will be used to determine the present value of each cash flow separately. Any cash flow within 12 months will not be discounted for NPV purpose; nevertheless the usual initial investments during the first year R_0 are summed up a negative cash flow.

Given the (period, cash flow) pairs (t, R_t) where N is the total number of periods, the net present value **NPV** is given by:

$$\text{NPV}(i, N) = \sum_{t=0}^N \frac{R_t}{(1+i)^t}$$

PAPI plans to get a 300.000 € loan in order to start its future projects which are the office in China and the life raft service station. The discount rate for this investment is estimated to be 10%.

The net cash values (cash inflow – cash outflow) including the installments of the loan for five years (time required to repay the loan) are the following:

It is estimated that the average amount of inspections the first year will be 7 per month. So the inflow for that year is: $7 \times 4.000\text{€} = 28.000 \times 12 = 336.000\text{€}$, and

$$\text{Inflow} - \text{outflow} = 336.000\text{€} - 300.000\text{€} = 36.000\text{€}$$

For the second year there will be an average of 8 inspections per month and the inflow will be: $8 \times 4.000\text{€} = 32.000\text{€} \times 12 = 384.000\text{€}$, and

$384.000 - 300.000 = 84.000$, which is the inflow of that year.

The third year 9 inspections per month will be made. So the profits of these inspections will be: $9 \times 4.000 = 36.000\text{€} \times 12 = 432.000\text{€}$ and the **inflow will be 132.000€**.

The profits of the fourth year are stable and exactly the same as in the third year. In the fifth year the inspections will be at least 10 and the profits will be: $10 \times 4.000\text{€} = 40.000\text{€} \times 12 = 480.000\text{€}$ and the **inflow – outflow = 180.000€**.

In the following board we can see the flows of the investment:

t	Cash flows
0	-300.000€
1	36.000€
2	84.000€
3	132.000€
4	132.000€
5	180.000€

The cash outflows of every year is $20.000 \text{ €} \times 12 \text{ months} = 240.000\text{€} + 60.000\text{€}$ (instalments) = **300.000€**

To calculate the net present value, we must first calculate the present values of the cash flows above. So, if the net present values are the following:

$$PV_1 = \frac{R_1}{(1 + 0,1)^1} = \frac{36.000}{1,1} = 32.727$$

$$PV_2 = \frac{R_2}{(1 + 0,1)^2} = \frac{84.000}{1,21} = 69.421$$

$$PV_3 = \frac{R_3}{(1+0,1)^3} = \frac{132.000}{1.331} = 99.174$$

$$PV_4 = \frac{R_4}{(1+0,1)^4} = \frac{132.000}{1.464} = 90.164$$

$$PV_5 = \frac{R_5}{(1+0,1)^5} = \frac{180.000}{1.61} = 111.801$$

So, the net present value is:

$$NPV = \sum_{t=1}^{t=5} \frac{Rn}{(1+r)^t} = \frac{R_1+R_2+R_3+R_4+R_5}{(1+0,1)^5} = 403.287 \text{ €}$$

As referred above, in the cash outflows are also included the instalments of the loan so there is no need to subtract the initial capital from the NPV.

Therefore, the investment is advantageous, because **NPV > 0**

Based on the marketing mix already described in previous section of this plan we may observe the following that have as a result all the economic analysis described above with positive net present value:

- **PRODUCT:** a new service life raft and FFE in China to continue the successive route of Papi ltd in Greece for the Greek ship-owners.
- **PLACE:** a new station in China where the economy is blooming and there is a large market.
- **PRICE:** a competitive advantage that cuts out the transportation costs and flying time. There will be better availability and one person will be able to perform more inspections on a given time and increase the profit of the company while keeping the labour costs the same.
- **PROMOTION:** is the Chinese market that opens for Greek shipping companies that carry out all their repairs there.

- **PEOPLE:** more people will be needed to carry out the demand. This will boost the sales and increase the profits and also more inspections will be carried out from the same people (cut in time) and more services will be offered.
- **PROCESS:** Response time will be better as there will be less flying time. The procedures of the inspections will still be the same but the processes will be carried out more quickly, because the inspection will start sooner.
- **PHYSICAL EVIDENCE:** New branch and new people combined with new services is a physical evidence of the growth of Papi ltd in all areas that will be based also on better marketing.
- **PRODUCTIVITY & QUALITY:** Quality through division of responsibilities to the local area manager.

4.2 RETURN OF INVESTMENT

Return on investment (ROI) is the concept of an investment of some resource yielding a benefit to the investor. A high ROI means the investment gains compare favorably to investment cost. As a performance measure, ROI is used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. In purely economic terms, it is one way of considering profits in relation to capital invested.

In business, the purpose of the "return on investment" (ROI) metric is to measure, per period, rates of return on money invested in an economic entity in order to decide whether or not to undertake an investment. It is also used as indicator to compare different project investments within a project portfolio. The project with best ROI is prioritized.

ROI and related metrics provide a snapshot of profitability, adjusted for the size of the investment assets tied up in the enterprise. ROI is often compared to expected (or required) rates of return on money invested. ROI is not Net Present Value adjusted and most school books describe it with a "Year 0" investment and two to three years income.

Marketing decisions have obvious potential connection to the numerator of ROI (profits), but these same decisions often influence assets usage and capital requirements (for example, receivables and inventories). Marketers should understand the position of their company and the returns expected.

Return on investment may be calculated in terms other than financial gain. For example, social return on investment (SROI) is a principles-based method for measuring extra-financial value (i.e., environmental and social value not currently reflected in conventional financial accounts) relative to resources invested. It can be used by any entity to evaluate impact on stakeholders, identify ways to improve performance, and enhance the performance of investments.

For a single-period review, divide the return (net profit) by the resources that were committed (investment):

$$\text{Return on investment (\%)} = \frac{\text{Net profit}}{\text{Investment}} \times 100 \quad \text{or}$$

$$\text{Return on investment} = \frac{\text{gain from investment} - \text{cost of investment}}{\text{cost of investment}}$$

So, the ROI for PAPI is: $ROI = \frac{564.000 - 300.000}{300.000} = 0,88 \text{ or } 88\%$

J. EXECUTIVE SUMMARY

The purpose of this business plan is to present, explain and analyze the opening and the operation of a business called PAPI Ltd. It's a very useful tool for everyone, who considers opening a new company, because it focuses on the market analysis, the competition, the industry description and the major customer profiles. So, the purpose of the plan is to understand what areas should be considered before the opening of the business and what steps should be followed after the opening to monetize the company.

At first, the background of the company is being presented thoroughly to enable the reader understand the main objects, tools and services that are available. In addition, in this chapter we get to know the company, the main responsibilities, the departments and the manufacturers with whom PAPI works.

In the second chapter there is a complete review and analysis of the market conditions, behaviour, and trends in the maritime sector, a full description of the Greek shipping before and after the beginning of crisis. Furthermore, the major customer profile is presented and some sales techniques that PAPI's members use to attract customers. Likewise, we can see an extensive analysis of the competitors by presenting their strengths and weaknesses. This way, the company can fight the competition by studying the weaknesses of the competitors and trying to win more customers.

In the third chapter we can study about the marketing mix plan. It describes the various elements that together make up the strategic marketing plan for a product and consists of 8 P's: product, price, promotion, place, physical evidence, people, productivity & quality and process. These points help us learn more about the company, understand the procedures of the inspections, meet the people of PAPI see productivity in numbers for 3 years. Furthermore, here we can see the ways in which the company promotes its services. The 8 P's of marketing mix is a very useful tool for every company and plays a significant role in the design and control of the business.

The next chapter deals with the operations of the company and the key parts of the production. The swot analysis of the company is presented: the strengths, weaknesses, opportunities and threats of the company.

PAPI Ltd has a variety of strengths which have established the company in the maritime sector and put it among the best in the inspection of lifesaving launching appliances.

These are:

- i. High qualified – educated personnel
- ii. The best manufacturers
- iii. Best value for money
- iv. Focused work on the customer and his needs

A company like PAPI has a lot of advantages, but also some disadvantages, because the maritime field makes it really difficult for new companies to gain the trust of shipping companies. The weaknesses of PAPI are the following:

- i. Competition
- ii. Time problems
- iii. Payment
- iv. Problems of distance

The world of lifesaving launching appliances has the advantage of expanding constantly. There are always ideas that bring renovation on vessels and that's why companies such as PAPI Ltd have the opportunity to expand their services through the years. Here are some possible future opportunities for PAPI:

- i. Future development on safety systems
- ii. Growth of the industry with the passage of the crisis
- iii. Increasing prices abroad

Apart from the opportunities created for a company, there are some serious threats which can cause great damage and even lead to the bankruptcy. These may involve either internal or external factors such as legal changes and falling prices abroad. Here are some possible threats that companies like PAPI may deal with in the future:

- i. Legal changes
- ii. Risk of accidents

- iii. Late payments or total closure of a shipping company
- iv. Falling prices abroad

The swot analysis gives us a full picture of the company at the moment and estimates what could happen to the company in the future.

In the last chapter are being analyzed the financials of the firm. PAPI has some future projects that will need some funding, so first, we talk about the funding requirements and how they will be used for the sake of the company. Furthermore, for these projects some more employees will be needed, so we estimate how many more people the company needs and in which field.

Then, the financial analysis continues with some past data such as the breakeven point, which represents the sales amount that is required to cover total costs (both fixed and variable). The breakeven point can be directly computed in terms of Total Cost as:

$$Q = \frac{TFC}{P - V}$$

For PAPI the breakeven point is:

$$Q = \frac{20.000}{4.000} = 5$$

That means that to cover the costs the company must carry out 5 inspections per month. In order to have profits the amount of inspections per month must be 6 or more.

After the breakeven point we can see a full analysis of the 2011, 2012 and 2013 financials with both boards and graphs for each year explaining the profits of the company deducting the cash outflows from the cash inflows for each month per year. Then the total picture of the profits is shown in two different graphs, where we can see their upward trend. In 2011 the total profit of PAPI was 172.000€, in 2012 amounted to

240.000€ and at last in 2013 the profits were equal to 280.000€. So, we can see that there is a development of the business through time.

At the latter part of this chapter we are dealing with some future financials and more specifically the net present value of the investment projects that PAPI wants to develop in the next years. The **net present value (NPV)** of a time series of cash flows, both incoming and outgoing, is defined as the sum of the present values (PVs) of the individual cash flows of the same entity.

Given the (period, cash flow) pairs (t, R_t) where N is the total number of periods, the net present value **NPV** is given by:

$$NPV(i, N) = \sum_{t=0}^N \frac{R_t}{(1+i)^t}$$

So, the net present value is:

$$NPV = \sum_{t=1}^{t=5} \frac{R_t}{(1+r)^t} = \frac{R_1+R_2+R_3+R_4+R_5}{(1+0,1)^5} = 403.287 \text{ €}, \text{ which means that the}$$

advantageous, because is bigger than 0.

Finally, the return of the investment is the concept of an investment of some resource yielding a benefit to the investor.

$$\text{Return on investment} = \frac{\text{gain from investment} - \text{cost of investment}}{\text{cost of investment}}$$

$$\text{So, the ROI for PAPI is: } ROI = \frac{564.000-300.000}{300.000} = 0,88 \text{ or } 88\%$$

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