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DATA ANALYSIS ON MARINE AGREEMENTS

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TIIVISTELMÄ

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Tämän opinnäytetyön tarkoituksena oli kerätä ja analysoida tietoa tämän hetkisestä tilanteesta sopimusjohtajien kustannuksista, sekä tutkia huoltosopimusten palveluiden laajuutta ja hintaa Wärtsilä Finland Oy:n Marine Agreements osastolle.

Työn teoriaosuus keskittyy palveluiden tuotteistamiseen ja niiden markkinointiin. Tietoa kerättiin työhön kokousten avulla, joihin osallistui Wärtsilän eri osa-alueiden työntekijöitä. Tietoa kerättiin myös lähettämälle kyselyitä sähköpostitse sekä ottamalla yhteyttä puhelimitse työntekijöihin, jotka eivät voineet osallistua kokouksiin.

Tämän opinnäytetyön tuloksena syntyi tämä dokumentti, jossa tulee esille opinnäytetyön aikana syntyneet kehitysideat. Opinnäytetyön kirjoittaja teki työn aikana matriisit, joiden avulla Wärtsilä Finland Oy:n Marine Agreements osasto voi kehittää työprosessiaan.

Avainsanat tuotteistaminen, tuote, palvelu

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ABSTRACT

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The purpose of this thesis is to collect and to analyse data about the costs of contract managers and research the scope and prices of service agreements service for Wärtsilä Finland Oy Marine Agreements.

The theory part focuses on service productization and marketing them. Data was collected via meetings, which were attended by employees from different departments. Information was also collected by email and phone from people who could not attend the meeting for various reasons.

The result of this thesis is a file, which contains development phases and ideas that were created during the thesis. During the thesis matrices were made, which can be used to develop the work process of Wärtsilä Finland Oy 4- Stroke, Sales & Sales Support, Marine Agreements.

Keywords productization, product, service

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The appendices contain confidential information and are removed from the public version.

1 INTRODUCTION

1.1 Purpose of Thesis

This thesis has two purposes and both are done for Marine Agreements department. The first one is to research and collect different cost structures for Wärtsilä's segments, amount of equipment and various service units /networks /contract centres. The end result will be a cost matrix which will suggest a price for Contract Managers services. The matrix helps to calculate the Contract Manager's reservation to cover the cost of salary for Wärtsilä.

The second objective is to research and build Wärtsilä's cost structures and by doing that to develop a cost matrix for Wärtsilä's currently named ship energy efficiency and guaranteed asset performance.

The company will be introduced first and then there is the theory part which will be about productization of services and how to market them. These chapters will show how productization improves the services and makes it more appealing to the customer.

1.2 Company

Wärtsilä's present organization consists of three different sections: Marine solutions, Services and Energy solutions. The company has 200 offices in 70 different countries with over 19 000 employees. Wärtsilä aims to offer complete lifecycle solutions for energy and marine markets. Wärtsilä first delivers the project and after the project is complete they offer service agreements for an agreed time period.

Wärtsilä Marine Solutions supports its customer's business by offering them efficient, lucrative and environment friendly products and solutions. Energy Solutions are focusing on supplying ultra-flexible power plants up to 600 MW operating on various gaseous and liquid fuels, providing solutions for peaking, base load, reserve and load-following power generation and also balancing intermittent renewable energy. Wärtsilä Services offers lifecycle support for marine and ener-

gy solutions sections. Services support the customers through the lifecycle period with optimizing efficiency and performance of the product.

Wärtsilä has a strong research and development input. R&D department is pushing Wärtsilä into a more solid lead in the technology section of the business and is also making its competitiveness better at a global scale in the marine and energy business. They aim to give customers reliable, cost-effective and efficient technology and are also taking notice the needs of the customer. Wärtsilä protects its innovation and competitiveness by paying special attention to the control of intellectual property and to the company's development of internal key competences. They improve the clusters and networks which Wärtsilä uses to expand their skills, knowledge and capacity by making long term relationships with suppliers, engineer departments, universities and to license manufacturer.

1.2.1 Contract Management

The purpose of the contract management is to deliver long term contracts with Wärtsil's customers. Wärtsilä is committed to constantly improve their competitive and flexible solutions which enhance the customer's long-term profitability. They focus on high quality lifecycle management where the optimisation of daily operation and maintenance activities are the key elements. They continuously review and improve their management processes to ensure right competencies as they utilize the latest technology and expertise in their Contract Centres worldwide. Wärtsilä's goal for 2020 is 1200 installations under contract.

Here’s listed what contract business offers to the customer.

- Deliver services that offer clear customer benefits
- Customers on land and sea looking for pro-activeness, flexibility, cost effective, trouble free, optimised operation
- Handles a big number of installations of different scope and level
- Centralisation, digitalisation and modern way of delivering, which is crucial for staying competitive and enabling growth

1.2.2 Lifecycle Solutions

Here is listed what lifecycle solutions Wärtsilä offers. The services are divided into three sections. Optimised operations include optimised maintenance and guaranteed asset performance includes them both.

Optimised maintenance

- Assured maintenance cost
- Long term cost predictability and shared goals
- Remote operational and technical support
- Scheduled work and parts included
- Dynamic maintenance planning and inspections
- Condition monitoring and evaluation

Optimised Operations

- Optimised energy efficiency
- Ship energy efficiency management plan in compliance with marine pollution regulations
- Real-time advisory and monitoring
- Maximised uptime through optimised maintenance and remote support
- Performance improvement plan
- Includes Optimised Maintenance

Guaranteed Asset Performance

- Guaranteed operational reliability and uptime
- Savings in operational costs through improved and maintained ship efficiency
- Maximised uptime through optimised maintenance and remote support
- Performance improvement plan
- Includes Optimised Maintenance and Optimised Operations

1.2.3 Contract Centres

The Contract Centre has the core business competence in helping the Contract Manager and also acts as an integrator into Services organisation. The Contract Centre helps the manager with the following things if needed:

Operations Management Experts

- Operations Management Experts
- Guidance and Advisory of equipment operations
- Remote troubleshooting
- Remote tuning of the equipment
- Operations surveillance to achieve agreed performance
- Remote operations

Maintenance Management Experts

- Maintenance planning
- Parts coordination and inventory management
- Maintenance resource coordination
- On-site work progress monitoring and support

Mobilisation, Quality & Safety Experts

- Mobilisation management
- Quality & Safety management

- Competence management

1.2.4 Contract Centralised Expertise Activities

The lists below show the special services the contract centre offers to the customer.

Predictive services

- Fleet performance view and advices
- Asset prediction and advisory based on advanced analytics
- Risk analyses and advices
- Proactive safety analyses and advices
- Reliability performance advices

Optimised maintenance

- Efficient maintenance planning
- Dynamic maintenance
- Spare parts priority and on time
- Manpower and expert availability

Optimised Operation

- Optimised Operation of installation
- Optimised Performance of equipment
- Remote operations
- Ship Performance monitoring
- Propulsion and Power generation efficiency
- Hull optimised performance

Responsive Services

- Emergency online support
- Online engine control tuning

- Technical support
- Services PC concept

Centres helps customer with different problems. At the moment Wärtsilä has eight contract centres and more are coming up. The current centres are Vaasa, Global Contract Centre, Dubai Centre, Chennai Centre, Trieste Centre, Winterthur Centre, Quito Centre, Manaus Centre and Ft. Lauderdale Centre. /1,2/

Figure 1. Contract Centres

1.3 Present state

1.3.1 Contract Managers Cost

When making a contract, the price of contract manager is a default sum. This price is offered to the customer and then negotiated if it does not satisfy the customer or Wärtsilä for some various reasons, but contract manager is necessity in order to deliver a functional contract. The goal of this part is to make a matrix which would give a better guideline for the cost of Contract Manager.

1.3.2 Ship Energy Efficiency & Guaranteed Asset Performance

At the moment when Marine Service agreements department is at the point that they have to reserve a cost for their service package and make an offer to the customer. They do not have a fixed sum that they could get from a matrix that takes into consideration the number of ships, fuel type, number of engines or the type of engine. They always have to tailor the offer from experience and not check it from a matrix or a chart. The negations start from the same amount of money every time and they start slowly build up towards the real number which satisfies the customer and Wärtsilä. They have to take a note of how often the customer needs the service or if it is needed at all. The correlation of service and pricing does not know how to take notice of the customers need. This is why they always have to do the pricing different every time. The plan is to understand the customer’s business and tailor proposals to customer’s business.

2 PRODUCTIZATION

2.1 General Description of Productization

Nowadays a large part of the company's competitiveness is the ability to sell services. They are recognized better and more effort is put to their improvement. There are companies that sell only services and there are companies that sell tangible products and then also provide services for that product. Services can differ from each other a lot but their main features are immateriality, process behaviour and the customer's participation in the production of the service. Challenges, such as quality management, fluctuations in demand, inefficiency, growth and viability can be reduced by making the service a product. This also improves the competitiveness.

The process of making a service into product does not have a common definition. It can be called conceptualization or systematization. Sometimes it can mean that a service is standardized to be like a product, a fully standardized commodity. The goal of productization is to renew and improve the service business so that the quality and production will improve the benefit of the customer and viability of the company. Productization can also be used to improve the development of services even if the goal is not to standardize a service. Each productization process is unique and the form of the process depends on the strategy and goals of the company. There are many ways to do the productization, not only one way.

2.2 Improving Services with Productization

The objective of productization of a service is to create competitive, innovative and profitable business, which has chance to success in the international markets. Productization is one way to systemise the development of the service and execution so that its goals are met. The basis of improving services is the company's business strategy and the company's view how their resource and know-how can be implemented for the best viability and growth. A flourishing service business requires skills in service, industry and with the customers. When making strategic choices, it should start by getting information about the industry's circumstances,

customers need, trends and competitors. Designing and improving services is tied to the company's know-how and resources.

The main purpose of development is to create a background for services which attracts customers. It is often necessary to include customers to review and test the service in its development phase. It ensures that the development really does meet the customer's needs and expectations. The amount of participation needed by the customer depends on the nature of the company and its services. Reacting to customer's need often is not enough. The company should also detect the hidden needs of the markets and opportunities for the basis of the development before most of the customers has noticed them.

When improving a service, the development can be done in different layers with different goals.

- Improving the existing service
- Redoing the style and appearance of the service
- Expanding the service menu for current market
- New service for an existing need
- A totally new solution for a new need in the market

The development of new services and service innovations is a significant factor in productivity and competitiveness when talking about a company. Service innovation is a new or a significantly reformed service, which brings benefit for the creator and is repeatable for several customers. The novelty value of a service innovation can be affiliated with customers' benefit, customer encounters or way to produce services.

Productization can be used to create new service ideas and also to improve and make existing services more efficient. The goal of a transformation from a product into a service is to improve the competitiveness of the company by using definition, systemization, standardization and concretising. The point of systemizing a product is to simplify the selling and marketing process and reduce uncertainty in the development and production phase. From the customer point of view produc-

tization concretizes the service and brings more value. The service also becomes easier to evaluate and buy.

2.3 Service Definition

When starting a productization process, one must first define the most important features. What is the content of the service, how is the service implemented and what is its purpose? It is important to find out what the customer expects to gain from this service so that the service can be tailored to generate value for the customer.

Service content is built to match the benefit sought by the customer. Service content can be divided into core services and also to support and additional services. Core service is the most essential part of the service and the reason why customer wants to buy it. For example, the advertising agency's core service is to offer customers advertising planning and implementation.

2.4 Support and Additional Services

Support services are necessary for usability of the core service. In addition to the planning of the advertising they also offer billing, phone calls and other ways to support the customer. Additional services are financially beneficial perks that are given or sold to the customer, which gives more choices. Core services and their additional and support services are often called a service package. Support services that are essential to the services must be identified so it is possible to find all the steps and resources needed to produce the service. Enhancing the function can only focus on support services which shall not even show to the customer.

If the customer feels that every core service offered by different companies is the same, then additional services can be a great way to stand out from the competitors. Additional services often raise the image of quality in the eyes of the customer.

2.5 Service Process

In addition to the service content the plan how the service is produced and implemented must be defined. Unlike in production of goods, the customer is often included in the service production process and consumes the service during the process. Part of the process is shown to the customer and the other part is not. They can be named as backand front office.

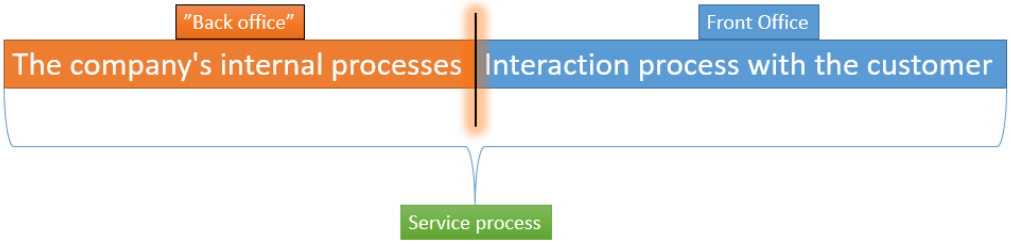

Figure 2. Service Process

When defining the service process it is suggested to first describe implementation steps as precisely as possible. This helps to figure out who is included in each step and for how long. When all the needed resources are identified, it is easier to build a more efficient schedule and to plan more ahead. It is also easier to estimate cost implications. In addition to customer interaction and internal functions companies need support functions for their service, which can include information documentation and verification. Also it contains billing. Support functions do not show to the customer but they have a huge effect on the fluidity, cost and result of the service. When defining a service, it is all about particularizing and systemizing the content by using company's strategic guidelines.

2.6 Service Standardization

Service standardization means transforming a service or a service process so it can be copied or repeated by a use of some kind of method or technology. Standardized parts can be shown to more than one customer. This makes the service production more efficient, profitable and uniform. Standardization can be focused on

service content or it can also be about processes of providing the service and consumption of the service. /3/

3 SERVICE MARKETING

To have successful service marketing it requires that the service organization actions are uniform and it has a common goal. Marketing services is a sum of different factors which requires a commitment to the company values, strategies and goals from the employees. The goal of the service organization is to define the customer's need of service and response to this need /4/.

When doing market planning the organization decides the market strategy, its goals and means to market the services. These means are called competitive tools. The marketing mix is a combination of different competitive tools which are used to separate from the competitor /5/.

3.1 Service Marketing Mix

The product is the first step out of seven steps. This is the most important because it is the core service. If this does not work, then everything will fail. When starting a new product, research about its upcoming competitors and substitutes. After this the marketing strategy must be built. Then the price must be considered. The price affects the satisfaction of the customer. Sometimes making the customer pay a higher price can make them feel better because the price is often on a par with quality and the other way around. The price is an important factor in service consumption.

The place where the service is provided is important. The closer the service environment the more likely the customer is to buy it. Closer the service then the less time is spent on travel. Promotion has a big part in the perception of the service. Promoting the service builds brand recognition. Excellent ways to promote are internet advertisement, endorsements and special events.

People that serve the service are a huge part of customer satisfaction. A good service can be bad if it is served by a person who does not like to serve it. Processes are important to consider to be able to deliver quality service. Services being immaterial, processes become more important to keep standards on point. Process

mapping ensures that the service is seen as dependable by the target segment. The final step is the physical evidence. As said before service is immaterial, and the customer depends on getting physical evidence to make them decide if they like it or not, For example, people would choose a restaurant with tidy workers rather than untidy ones. /6/

3.2 Competitive Tools

Basic competitive tools in marketing are product, availability, marketing communications and price. These tools strive to meet the customer's expectations, represents service cost, makes the use of the service possible to the customer and makes the customer aware of the service. Service features bring three new dimensions to the marketing mix which are processes, people and physical parts /5/.

Lämsä & Uusitalo/4/ divide the service product into three layers. The core service is the organization's main product which it offers to their customer. Additional services help the service company to stand out better from the competitors than with only the core service and it also improves the value of the service. Ylikoski uses the term support services for additional services that are obligatory for the core service and would be impossible to use without. The third layer is called "comfort service" by Ylikoski. As the name implies, the service brings more comfort when using the core service. Lämsä ja Uusitalo, however, use the term mental image. The mental image creates a picture for the customer and shows what kind of service it is. These two layers can be used to distinguish the core service from its competitors. Äyväri, Suvanto and Vitikainen on the other hand, state that the additional service can also be a way to compete with the competitors. In this case the additional service would be called a support service, which is not necessary for the core service but it brings a competitive edge. The service package bring opportunities to the pricing. When the price is for the package and not for the individual services then the customer benefits from it more. /4, 5, 7/

3.3 Service Environment

The environment has to be designed so that it supports the company image and also creates a desired picture of the service. Combining these two with the service provider provides the customer a picture of the service before the service event. The service provider can do home visits. This enables a good edge over the competitors. Often services can be provided via a remote service. By doing it this way the customer does not meet the provider. Examples of remote services are mail, phone and internet services /4/.

4 LEAN METHOD

The core idea of Lean is to get the best value for the customer and at the same time minimizing steps that do not create value. It means creating more value to the customer while using fewer resources. A lean organization recognizes processes that bring more value and focus on increasing it. The goal is to bring the best value to the customer while not having any unnecessary steps on the way. To accomplish this a Lean organization has to optimize the flow of services and products.

4.1 Principles of Lean

The value is specified from the perspective of the end customer. The next phase is to identify process steps that add value and cancel out steps that do not bring value. Once the steps that add value have been recognized, they are arranged into a tight order. This way the product will flow swimmingly towards the customer. Once the value has been specified, steps that bring the value and steps that are not bringing the value have been identified then the cycle is started again to find the perfect work cycle. /9/

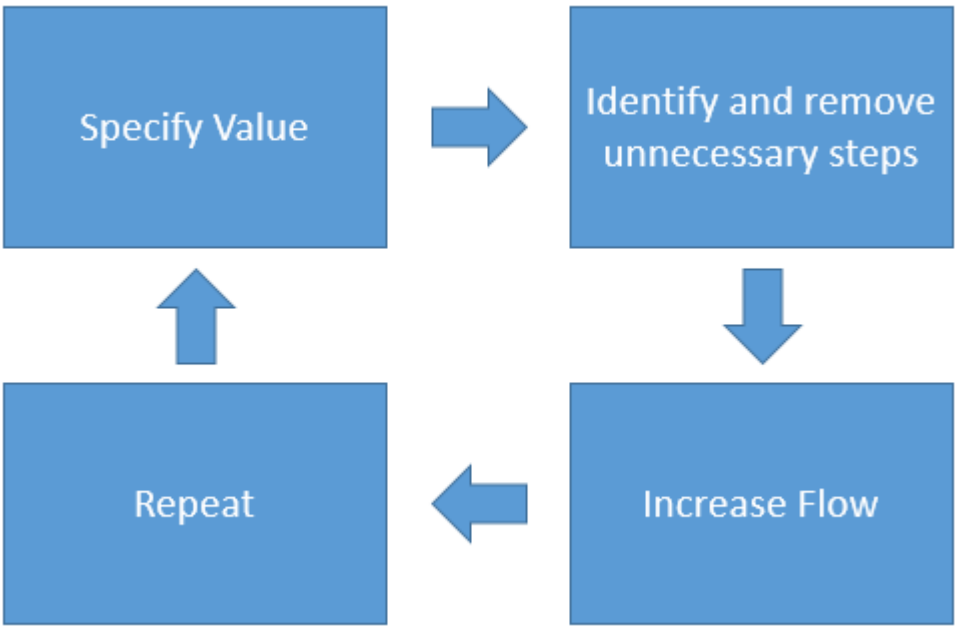

Figure 3. Lean Steps

5 DEVELOPMENT PROCESS

5.1 Topic Selection

In the first meeting the goal was to delimit the thesis subject that it would not get too extensive. The next meeting was about going through the subject with the representative from Vaasa University of Applied Sciences to more extensively limit the subject so that it is acceptable for both Vaasa University of Applied Sciences and Wärtsilä.

The topic was decided to be a two part. The first research topic is the contract manager's reservation to cover the cost of salary for Wärtsilä in which the thesis writer's responsibility was to research and collect different cost structures for Wärtsilä's segments, amount of equipment and various service units/networks /contract centres. The end result will be a cost matrix where the pre-determined various costs are listed, which in turn when selected a specific item will be taken into account when an agreement is calculated. The result of this part will affect the second part, because the cost will be taken into account in the second part matrix.

The second part is to make a cost matrix for Wärtsilä's currently named Ship Energy Efficiency & Guaranteed Asset Performance portions in which the thesis writer researches Wärtsilä's cost structures. Both topics are only done for Marine Solutions and not for Energy Solutions. The purpose of this section is to make a matrix that would help to take the customers' business more into consideration and to give a price to start the negotiations.

5.2 Data Selection

The data for this thesis was gathered from different people working in different sections of Wärtsilä and it started with a meeting with the thesis supervisors and two business controllers, where it was discussed how the information will be gathered, for example, who to contact next. One topic that was discussed was, what is possible to achieve at this point with the limited time with the thesis. After

this meeting the thesis writer was told to contact the controller from service business controlling for the contract manager's contracts for part one. For part two, the task was to find out ship day rates to have something to compare to.

5.3 Part 1: Contract Manager's Cost

The first meeting in this part was with the controller and her supervisor general manager of contract managers and with the thesis supervisor of the part one. It was discussed what data was needed to advance in the thesis and what kind of form would the data be in. At the end they could offer a list of installations that are under the contract and who was the contracts manager of that installation. Also it had information about which service unit and country the contract manager operated under.

After this data was received, a meeting was made with the thesis supervisors to analyse what could be done with this data. It was decided that it could be analysed by sorting the data according to the service unit. This way it could be found out how many contract managers, installations, products and customers one service unit has, also that how many contract managers use contract centres as a support. The contract managers that worked for both marine and energy solutions were also included in this analysis, because their total workload was to be taken into account.

First the service units were sorted out to find out how many contract managers each service unit had. Then listed list was made of how many installations, products and customer each contract manager had, as well as how many installations contract centre support had. After going through all of the service units and listing everything, it was time to start to calculate the averages. The results were how many installations, products, customer and contract centres support one contract manager had in average. Using this average price of the contract manager the average cost of contract manager per installation was calculated. For example, if the contract manager cost 100€ per month and the average number of installations the contract manager had was for example 5 then the cost would be 100€ divided by

5, so it would be 20€. This was done for every service unit and also on the global scale.

5.4 Part 2: Ship Energy Efficiency & Guaranteed Asset Performance

In part 2 the first thing was to contact the Director of Business Development, who then had data about ship day rates which could be used as basis for this research. The data had different kind of ships with different day rates. The first thing was to sort the data by the sizes and types of the ships. The following task was to sort them by day rate and calculate an average day rate for each ship category.

The data was sorted into four categories, Lean, A, B and C category. Lean would be for customers that really do not need so much of Wärtsilä's services or do not need them so much. B is more or less the present day way of handling the situation, with the default prices and services. A would be something between Lean and B and C would be something between B and C.

When the day rate data was sorted an Excel matrix was built, where the number of main engines, auxiliary engines, day rate, running hours and fuel type can be added. This matrix would then calculate in which type category the customer would fit. This Excel matrix was decided not to be so important at the moment so the idea was not scrapped but it was put aside for later use.

Next a table was made about the categories and this table is more basic. The table uses the amount of customer's main engines, auxiliary engines, day rate, running hours, fuel type and ship type. Then these numbers are compared to this table and seen which category it fits and then from there offer the category for the customer. Based on this a new Excel matrix was also create that had maintenance management services, remote operation and technical support, ship energy efficiency, guaranteed asset performance and other costs. These costs were provided by the thesis supervisor. In this matrix it can be chosen which services the customers want to have monthly, quarterly and every 6 months. This then would calculate the monthly fee for the service package.

6 CONCLUSION AND REVIEW

6.1 Data Collection

It was said that the data collection will be a long process, due to the complex work network, difficulties to get approvals for data transfers and because of busy work schedules. The first few weeks were going fine, but then the process slowed down a lot and it made it harder to perceive what the end result was going to be. Towards the end enough data was collected to finish the thesis.

6.2 Contract Manager Cost

The first data was received fairly quickly and the thesis was progressing in a good pace, but the contract manager related costs were hard to gain, because salaries data is very sensitive information. The end result was a file that shows installations per contract manager per service unit. This helps the service agreements department to find out the price of the contract manager services depending on where the customer is in the world and this price is then offered to the customer.

6.3 Ship Energy Efficiency & Guaranteed Asset Performance

The end result for this part was a matrix and instructions how to use the matrix. With the matrix the information available is about the number of main engines, auxiliary engines, day rate, running hours, fuel type, ship type, fleet and service scope to calculate the price for the service package. Wärtsilä was supposed to make this earlier but they did not have the resources for this project, this is why the thesis writer was hired to do this. This version is largely a prototype which will be later developed further and hopefully will be useful in future projects.

6.4 Future Development and Conclusion

I was not familiar with the department when I started the project, I only proceeded with the information I had and could obtain, but I think both topics are in a good development phase when this thesis was finished and from there they can be de-

veloped further with more time and knowledge about the company. This thesis was groundwork for further development.

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