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VALUE BASED PRICING AND MARKETING OF MARINE ENGINES

Examiners of the thesis are Prof. Tuomo Kässi and Associate Prof. Ville Ojanen. Supervisor of the thesis is M.Sc (Economics) Jyrki Koivisto.

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ABSTRACT

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Objective of the thesis is to create a value based pricing model for marine engines and study the feasibility of implementing such model in the sales organization of a specific segment in the case company's marine division. Different pricing strategies, concept of "value", and how perceptions of value can be influenced through value based marketing are presented as theoretical background for the value based pricing model. Forbis and Mehta's Economic Value to Customer (EVC) was selected as framework to create the value based pricing model for marine engines. The EVC model is based on calculating and comparing life-cycle costs of the reference product and competing products, thus showing the quantifiable value of the company's own product compared to competition.

In the applied part of the thesis, the components of the EVC model are identified for a marine diesel engine, the components are explained, and an example calculation created in Excel is presented. When examining the possibilities to implement in practice a value based pricing strategy based on the EVC model, it was found that the lack of precise information on competing products is the single biggest obstacle to use EVC exactly as presented in the literature. It was also found that sometimes necessary communication channels are missing and that there is simply a lack of interest from some clients and product end-users part to spend time on studying the life-cycle costs of the product. Information on the company's own products is however sufficient and the sales force is capable to communicate to sufficiently high executive levels in the client organizations. Therefore it is suggested to focus on quantifying and communicating the company's own value proposition. The dynamic nature of the business environment (variance in applications in which engines are installed, different clients, competition, end-clients etc.) means also that each project should be created its own EVC calculation. This is demanding in terms of resources needed, thus it is suggested to concentrate on selected projects and buyers, and to clients where the necessary communication channels to right levels in the customer organization are available. Finally, it should be highlighted that as literature suggests, implementing a value based pricing strategy is not possible unless the whole business approach is value based.

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Diplomityön tavoitteena on luoda arvoperusteinen hinnoittelumalli merimoottoreille ja tutkia mahdollisuuksia implementoida malli case-yhtiön merenkulkudivisioonan erään liiketoimintatueen myyntiorganisaatiossa. Teoreettisena taustana arvoperusteiselle hinnoittelumallille esitellään erilaiset hinnoittelustrategiat yleisellä tasolla, ”arvo” konseptina, ja kuinka arvokäsityksiin voidaan vaikuttaa arvoperusteisen markkinoinnin keinoin. Merimoottoreiden arvoperusteisen hinnoittelumallin teoreettiseksi kehykseksi valittiin Forbis’n ja Mehtan Economic Value to Customer (EVC). EVC malli perustuu elinkaarikustannuksien laskemiseen ja vertailuun kilpailevien tuotteiden kesken. Näin voidaan näyttää mitattavalla tavalla oman tuotteen arvo verrattuna kilpailijoihin.

Työn soveltavassa osuudessa EVC mallin komponentit merimoottorille tunnistettiin, nämä komponentit selitetään, ja esitetään Excelissä luotu esimerkki EVC-laskelmasta. Tutkittaessa mahdollisuuksia ottaa EVC-malliin perustuva hinnoittelu käyttöön organisaatiossa, huomattiin että isoin yksittäinen este tälle on puutteelliset tiedot kilpailijoiden tuotteista. Joskus myös tarvittavat kommunikaatiokanavat puuttuivat ja osalla asiakkaista ei ollut kiinnostusta käyttää aikaa elinkaarikustannusten tutkimiseen. Tiedot yrityksen omasta tuotteesta ovat kuitenkin riittävät ja myyntihenkilöstö on kykenevä kommunikoimaan riittävän korkealla tasolla asiakkaisen organisaatioissa. Täten voidaan suositella keskittymään mittaamaan ja kommunikoimaan vain yrityksen omaa arvolupausta. Liiketoimintaympäristön dynaamisuus (vaihtuvat alussovellukset, joihin moottoreita asennetaan, eri asiakkaat, kilpailijat, loppuasiakkaat jne.) tarkoittaa lisäksi sitä, että EVC-laskelma pitäisi tehdä jokaiselle projektille erikseen. Tämä vaatii paljon resursseja, joten ehdotuksena on keskittyä vain valikoituihin asiakkaisiin ja projekteihin, ja asiakkaisiin joiden suuntaan tarvittavat kommunikaatiokanavat oikeille tasoille organisaatiossa ovat saatavilla. Lopuksi on myös hyvä korostaa, että kirjallisuuslähteiden mukaan arvoperusteinen hinnoittelustrategia vaatii koko taustalla olevan liiketoimintastrategian olevan arvoperusteinen.

FOREWORD

This thesis was completed in the course of multiple years, with majority of the work done on the side of other projects and normal day-to-day tasks working in the company, and in parallel with finalizing studies in Lappeenranta. While this was straining at times, being able to draw from experience gained working as sales engineer enabled more in-depth analysis of the thesis topic. Particularly the model implementation part of the work is focused on the business viewpoint, and should I not have had the experience working in the business, this part would have been much more challenging to formulate.

The foremost thank you goes to my supervisor Jyrki who hired me to the company and enabled me to take on this topic. I wish to thank Tuomo Kässä's dedication for seeing the work through despite being already in retirement at the time when the thesis was finalized. Thank you to Petteri, Pete and Hans for sharing your valuable business insights. And last but not least, thank you Jyrki and Mikko for the many fruitful discussions we had on the topic of pricing and the business in general.

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LIST OF ABBREVIATIONS

B2B	Business to Business
B2C	Business to Consumer
CAPEX	Capital Expenditure
EBIT	Earnings Before Interest and Taxes
ECA	Emission Controlled Area
EVC	Economic value to customer
HFO	Heavy Fuel Oil
HSE	Health, Safety and Environment
MDO	Marine Diesel Oil
NO _x	Nitrogen Oxide
O&M	Operation & Maintenance
OPEX	Operational Expenditure
PV	Present value
R&D	Research & Development
RFQ	Request for Quotation
SCR	Selective Catalytic Reaction
SFOC	Specific Fuel Oil Consumption
SLOC	Specific Lubricating Oil Consumption
SO _x	Sulphur Oxide

1 INTRODUCTION

1.1 Background

Price levels in business-to-business industrial market places are often considered to be almost fully controlled by the market and the prevailing competitive situation. Therefore many companies feel they have lost control over any pricing power that they may have once had in a different market situation and they are not capturing the full value of their products and services. Even though this is a recognized problem, one of the most utilized pricing methods is the traditional cost-based pricing (or “cost plus”), where the end price is purely based on the seller’s cost level, with a margin added on top to cover for overhead costs and earn a profit. While this approach in pricing is considered safe for a company well aware of its own costs, it also often fails to capture a lot of value that the customer might be willing to pay for.

The case company is an established enterprise in the global power production industry. Its marine division offers power production solutions to the global marine market. For the majority of sales projects for new-build vessels, a cost-based pricing model is used via a common commercial configurator in the company intranet to derive the end price in the customer quotations. While this approach is safe and simple considering the vast amount of quotations created yearly, it is felt that in many cases competition and customers are able to push down prices and the company is not able to justify its somewhat higher price levels when compared to competition. This problem has been particularly recognized in a particular customer business segment (from here on referred to as “the Segment”) of the marine division. Due to the special nature of the field and applications in question, the sales organization within the company responsible for this segment wants to implement value based elements in its pricing in order to regain some control of the price levels in a highly competitive and difficult market place.

1.2 Objectives

Objective of the thesis was to study the possibilities of implementing value based pricing in the Segment's sales organisation. The problem was divided into two main streams. Firstly, one needed to recognize the sources of value provided to customers by the Segment's product and service offerings, and use this information to build a value based pricing model concept. Second objective was to create a roadmap for the Segment to implement value based pricing in practice in the organisation. This second stream consisted of studying the necessary prerequisites that are needed in order to successfully implement value based pricing. Objective was to find out which needed competences already exist in the organisation, which need to be developed or created, and which possible changes in the way of working would need to be implemented. It was also relevant to study whether the business environment of the Segment in general is suitable for value based pricing and what are the possible obstacles for pricing based on value.

1.3 Research questions

Based on the given objectives, the relevant research questions can be formulated as follows:

1. What is value based pricing?
2. Can value based pricing be utilised in the particular Segment of the case company's marine division?
3. What are the value components that need to be considered in a value based pricing model for the Segment?
4. Which competences needed for the implementation of value based pricing already exist in the Segment's sales organisation, and which need to be developed or created?
5. Which possible obstacles exist in the business environment that would prohibit pricing based on value?

1.4 Structure and constraints

This thesis consists of two main parts: a literature study and a company business segment specific analysis where a value based pricing concept was developed and the prerequisites for implementing such concept in practice were examined.

Emphasis of the thesis is on pricing, value based pricing in particular, and the issues related to implementation of value based pricing. Also some topics around environment analysis, pricing strategies, sales strategies and marketing strategies are touched on a general level; however the point-of-view is kept as close as possible to value based sales and items relevant to the Segment. Chosen concept for the value based pricing model is the *Economic Value to Customer* (EVC) concept by Forbis and Mehta, based on product life-cycle costs. The concept was clear and simple, and in fact the only quantitative value based pricing model concept found in the literature to present actual calculation formulas.

To limit the complexity of the pricing concept, it was chosen to consider only the 4-stroke marine diesel engines in the model. The range of products offered by the Segment is very wide, and as useful as it would have been to build a value based pricing concept for a total vessel solution, the scope of work would have been too large for the thesis. Most of the conclusions concerning the implementation of the value based pricing model are applicable to other parts of the product portfolio than engines as well, but the model as such concerns engines only. The selection of 4-stroke engines as the only product to be considered was based on the thesis worker's own personal work experience within the Segment as engine sales engineer, preparing technical and commercial material for customer quotations.

In terms of potential target customers that might be open to value based pricing, and with whom value based sales argumentation could yield the best results, it was seen already from the very early stages of the thesis study that the focus point should be vessel owners as opposed to vessel builders (shipyards). The reasoning for this is two-fold:

1. Vessel owners are the true end users of the product. Therefore they are the ones deriving value from using the product and also the ones paying for the costs incurred during the whole life cycle of the product.

2. The Segment strategy states that “value proposition is strongly geared towards asset owners” (Case company, 2009a. Not publically available).

1.5 Methods

A literature study on pricing, value based pricing, value based selling in general and value based pricing implementation was performed. Followed by the literature study, the value based pricing model concept (based on EVC concept) was developed. Necessary information for this was drawn mainly from company internal material and the thesis worker’s own experience in the Segment totalling more than three years working as sales engineer on engine quotations, and as member of a development team responsible for creating a new quotation system that was taken into use in the marine division in 2010. The created EVC pricing model concept was further discussed and validated during expert interviews conducted with sales personnel in the organization. Emphasis of the interviews was on studying the “as-is” situation of the sales organisation and collecting opinions on the feasibility of implementing value based pricing. Interviews were performed as semi-structured, with a preliminary topic list used as a rough guideline for the discussion. Based on received information and insights, the current situation in the Segment’s sales was reflected against the theoretical background from literature.

2 ANALYZING THE BUSINESS ENVIRONMENT

In order to make sensible decisions regarding sales strategy and pricing, a company needs to understand the environment they are operating in. Concentrating on microeconomic factors, the following chapters briefly describe how to make a present state analysis of the company's business model, products, product life cycle stage (concentrating on maturity stage), clients, competition, and market.

2.1 Business model

A business model is a description of the way in which a company operates in its chosen industry. The most essential parts of the business model are the descriptions of the product and/or service and the logics of earning profit and creating value. (TIEKE, 2005)

Relevant questions when analysing the business model and product characteristics include:

- What is the industry the company is operating in? Why are they involved in this industry?
- Describe the product and/or service?
- Describe the earning and value creating logics?
- Describe the goals of the product and/or service?
- What is the nature of the product: standardized product, partly customised product, fully customised product...?
- Is the product an innovation product, simple mass product or a differentiated product?
- What are the differences to the other similar products on the market?

(TIEKE, 2005)

2.2 The product

“A product is anything that can be offered to satisfy a need or want.” (Kotler, 1997, p. 9). A product can consist of physical goods, services and ideas. It must be remembered that owning physical products is not important as such, but the services delivered by these

products are the object of our purchase. This is often forgotten by manufacturing companies who pay more attention to the physical product and its features rather than the service it provides to fulfil customer needs. (Kotler, 1997, p. 10)

2.2.1 Product life cycle

Generally speaking, the product life cycle is the length of time the product is in the market. The life cycle model is a tool quite commonly used when determining product strategies. According to this model, the product life cycle consists of different stages the product goes through from the moment of introduction to the market to withdrawal from the market. These four stages in chronological order are:

1. Introduction
2. Growth
3. Maturity
4. Decline

In the introduction phase, product sales is slowly increasing, but profits are low or negative due to big expenses on R&D and marketing. In the growth stage, sales is increasing faster and the product starts to make better profit as production costs decline. In the maturity stage sales is still increasing but competition in the market prevents profit levels from rising further. The decline stage sees new customer needs and developing technology emerging, thus reducing sales and profitability and eventually leading to the withdrawal of the product from the market. The sales and profit life cycles are further depicted in Figure 1.

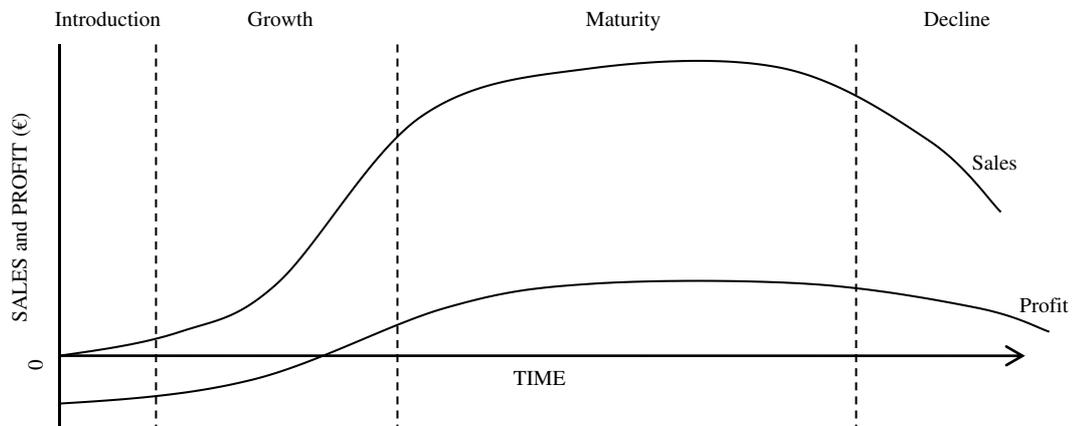


Figure 1. Sales and profit life cycles (Kotler, 1997, p. 346)

2.2.2 Maturity stage

The maturity stage is the stage where the product's rate of sales growth slows down and it enters a stage of relative maturity. Since this stage is usually longer than any of the other life cycle stages, most marketing management activities have to do with mature products. This stage can be further divided into three phases: growth maturity, stable maturity and decaying maturity. According to Parrish et.al. (2006), the characteristics of mature industries are increased competition, price deflation due to overcapacity and declining number of companies in the business. This usually leads to a situation where the industry is dominated by a few very big firms producing the majority of the industry's output. These market leaders may be further identified as being quality leaders, service leaders and cost leaders. The market leaders serve the whole market and make the majority of their profits through large volumes and low costs. In addition to the market leaders there are a number of companies pursuing a niche strategy by specializing and customizing and achieving their profits through higher margins. (Kotler, 1997, p. 355)

2.3 Client analysis

The following questions are relevant when analyzing the company's clients:

- who are the clients? Are there clearly different target groups? How many clients are there?
- How and for what purposes do the clients use the product for? Do different client groups use the product for different purposes?
- What is the added value or benefit to the client?
- Which added services do different clients need?
- What is the total cost of the product to the client?
- How do the clients perceive the price and price changes?
- Who are the most profitable clients?

Many companies make the mistake of believing that they can justify their high prices with product innovativeness or technical features such as reliability or performance. Clients do not base their buying decisions on technical features but achievable net sales increases, cost reductions, total costs of the investment compared to achievable benefits, payment terms and delivery risk. (TIEKE, 2005)

2.4 Competition analysis

Pricing in a competitive situation is significantly more difficult than pricing a unique product or service, where it is only relevant to assess the customer's price sensitivity and willingness to pay. In a competitive market also the competitors' reactions to one's pricing decisions need to be considered. Competition sets a frame of reference to pricing from both the company's and the customer's viewpoint. The pricing decisions a competitor takes can have major effects on established pricing practices on the market and create pressure to change pricing within the company. Usually the pressure is downwards. Relevant questions when analysing the competition are:

- What are the company’s existing and potential future competitors and what are their products?
- What are the competitors’ strategies and business principles?
- How do changes in pricing affect the competitive situation?
- What is the effect of the competitors’ pricing strategies on the company’s own business?
- What are the strengths and weaknesses of the competitors?
- What is the company’s business advantage compared to others?

(TIEKE, 2005)

2.5 The market

According to Kotler (1997, p. 13), “a market consists of all the potential customers sharing a particular need or want who might be willing and able to engage in exchange to satisfy that need or want”. The size of this market depends on the number of people who have the need or want, have resources and are willing to offer these resources in exchange for what they want. The term “market” is understood slightly differently within different professional groups: economists refer to “a collection of buyers and sellers who transact over a particular product or product class”. Marketers understand the “market” as only the buyers, sellers being the “industry”. Business people use the term to refer to different groups of customers. In this context, a market can be a need market, product market, demographic market or a geographic market. It can also mean noncustomer groups such as voter markets, labour markets, and donor markets. (Kotler, 1997, p. 13)

3 PRICE AND CUSTOMER VALUE

Price is the only element in the four P's of the traditional marketing mix, consisting of *product, price, place* and *promotion*, that directly creates profit to the company. No other type of change affects the profitability and demand of the company's products as quickly as changes in pricing. Increases in price also affect operating profit levels relatively more than reducing direct or indirect costs or increasing volumes. Additionally, according to a study conducted by McKinsey consultants, top companies are able to raise their prices more than their competitors in any market situation without losing market share. Pricing strategies used in most of these companies are based on client needs. (TIEKE, 2005)

Hinterhuber (2003) further elaborates the importance of pricing by pointing out that on average, a 5% increase in price leads to a 22% increase in earnings before interest and tax (EBIT); more than any other aspect of operational management. In comparison, a 5% increase in revenue increased EBIT by 12%, a 5% decrease in cost of goods sold increased EBIT by 10%, a 5% decrease in sales, general and administrative costs increased EBIT by 5%, and a 5% decrease in research and development cost increased EBIT by a mere 2%. On the other hand, as shown in an example by Nagle and Holden (2002, p. 215), a 15% price cut for a product that has a 20% sales margin at full price will lead to a 75% decrease in the profitability of the sale, requiring the company to sell at least four times as much volume to break even on that price concession.

Pricing is one of the most significant factors affecting the profitability of a company and one of the basic elements of business strategy. If the price level is set too high, the company may lose market share and if the price level is set too low, profitability may eventually suffer. Despite pricing being the single most effective tool to improve profitability, it is very commonly misunderstood and not very often used. (TIEKE, 2005)

If the company wants to affect demand using pricing as a tool, it must understand how the client uses the product, recognise the potential benefits, know the life-cycle costs of the product and thereby determine the value of the product from the client's point of view. (Uusi-Rauva et.al., 1999, p. 291)

Price is one of the factors displaying the value of the product to the client. If a company wishes to improve the quality impression of its product, it must show in the price. However, a bad quality product cannot be made a high quality product by simply pricing high but the quality also needs to be high. (Uusi-Rauva et. al., 1999, p. 290)

When assessing competing suppliers, industrial buyers usually compare the benefits of the suppliers' whole range of product or service offerings in relation to the price. The product or service offering consists of the core product, auxiliaries, and added services. However, different buyers value different benefits higher than others. Thus product and service offerings are not evaluated in equal terms between different buyers. The mentioned benefits may be functional, practical, financial or personal. The functional benefits have to do with the design features of the product. These are usually important to the technical personnel of the buying company. Practical benefits are connected to product features such as reliability and quality consistency which are important for production and quality control personnel. Financial benefits are things such as beneficial payment terms and potential cost savings which are of importance to industrial buyers and financial personnel. Benefits such as reduced risk, position in the organisation and personal satisfaction for a work well done are personal benefits which are important to everyone. (Uusi-Rauva et. al., 1999, p. 292)

Dutta et.al. (2002) point out that pricing is not simply of matter of tactics but it should be a strategic capability. Pricing ad-hoc will lead to irrational prices and frustrated customers. By investing in human, systems, and social capital, companies are able to build capabilities that are needed to "routinely set correct prices for all its goods and services that fit with its positioning, customers, suppliers and with evolving market conditions". (Dutta et al., 2002)

3.1 Pricing as a strategic capability

According to Lancioni (2005), "price planning is one of the most overlooked areas in industrial marketing". Product development, advertising strategy, and distribution channel formation are traditionally given more emphasis, this often resulting in industrial pricing decisions being made quickly without necessary knowledge of market and cost factors.

Pricing should be at the core of every business plan because it directly affects every aspect of the company's marketing strategy. (Lancioni, 2005)

TIEKE (2005) state that a rapidly transforming market situation, new products entering the market at a constant rate, developing technologies, and an ever more challenging international competition all add pressure for companies to develop their pricing in an active manner. Common reasons behind failed pricing decisions can be one or several of the following:

- The benefits the client receives from the product or service cannot be proven
- Price differentiation for different customers is not utilized
- Prices are not revised frequently enough to comply with changing markets
- The persons responsible for pricing may ignore the customers' perception of the just price of the product or service, the effect pricing has on the market and the pricing of competitors
- The effect of pricing on the operations of the whole company is not understood
- The real costs of the product or service are not known
- Information needed to make pricing decisions does not exist and they have to be made without proper market information or analysis
- Pricing strategies are not integrated in the overall corporate strategy
- Not enough time is spent on creating pricing strategies and models

(TIEKE 2005)

Building value-added into a pricing scheme requires that a pricing plan be developed, which will include all the components of the pricing process. Key areas are price timing, price execution, price control, price setting and price implementation. It is imperative that the prices charged reflect the value-added content of the marketed products and services. This value-added component in pricing is demonstrated in four areas: product availability, form utility, the level of research and development, and quality. Form utility refers to the ability of a company to deliver the required products and services in the required configuration. Obviously the ability to be flexible and have a fast response time should show in the value-added component of the sales price. (Lancioni, 2005)

Generally, the pricing plan should be coordinated with the other activities involved in market planning, such as analyzing marketing opportunities, researching and selecting target markets, designing marketing strategies, planning marketing programs, and controlling the marketing effort. Developing a plan requires that the company commits to a set of objectives, a course of action, an operational strategy, and a set of control and review procedures in order to manage the pricing process efficiently. The two most common obstacles for the formation of a pricing plan in a company are the assumption that it is too dependent on the other elements of the marketing mix, and the difficulty in establishing a pricing organisation within the company. (Lancioni, 2005)

The common opinion is that pricing cannot have its own independent plan and stand as a single managerial function, since it is highly dependent on the other elements of the marketing process. Therefore pricing should be coordinated with the other strategic choices made in the marketing process. These choices include, but are not limited to, choices regarding target markets, products, distribution channels, level of product quality and features, the end-users served, and the functions of intermediaries. (Lancioni, 2005)

The interdependency of pricing activities in a company can also be seen in the number of management groups that have a stake in developing and implementing pricing decisions. These include sales, marketing, senior management, finance, manufacturing, and in some cases, even customer service. As an example, when analyzing market responsiveness to a price change, the following questions need to be answered:

- How large is the product-market in terms of buying potential?
- What are the market segments and what market target strategy is to be used?
- How sensitive is demand in the segment to changes in price?
- How important are non-price factors, such as features and performance?
- What are the estimated sales at different price levels?

Obviously to be able to answer these questions, cooperation and interaction between the above mentioned groups is needed. (Lancioni, 2005)

To facilitate efficient price planning and ease communication between stakeholders within the company, many have opted to create a *pricing committee*. The tasks of this committee vary depending on the company, but generally they include developing pricing strategies, the administration of these strategies, addressing and analysing the competitive threats in the market, developing discount programs, new product pricing, and the administration and development of sales incentive programs. This committee is usually formed from several representatives from different departments in the company, who each has varying interests in the pricing process. These departments and interests are listed in Table 1. (Lancioni, 2005)

Table 1 Company departments and their main interests in the pricing process. (Lancioni 2005)

Department	Main interests in the pricing process
Finance	Return on investment, return on assets, profit margins, short-term time horizons, minimal allowance for cross-elasticity effects, new product profit margins
Accounting	Full cost recovery, cost-plus price setting, overhead cost recovery
Marketing	Competitive response, continual review and updating of prices, new product pricing
Sales	Price response strategies, creating deals for select customers, sales volumes, discounts
Manufacturing	Minimal product variations, volume purchases, standardised production quantities, limited new product introductions
Senior management	Overall control, growth, profitability

Lancioni (2005, p. 181), presents three prerequisites for the successful development of a pricing plan:

1. Right pricing mindset or commitment to the process
2. The existence of the appropriate action oriented management processes to develop and carry out the plan
3. A broad scope of understanding or insight into customer and market trends

The actual pricing plan is usually composed of the seven following parts:

1. A summary of the pricing strategies and recommendations of the company
2. An overview of the current market-pricing situation
3. A SWOT analysis of the markets the firm is a part of
4. The pricing strategy (s) that the firm is currently employing in its market segments
5. The pricing objectives that the firm has established to guide its overall pricing strategy
6. The pricing programs that will be used to accomplish the pricing objectives
7. The monitoring mechanism that will be used to review the results of the executed pricing strategies

(Lancioni, 2005)

3.1.1 Pricing strategies

According to Tellis (1986), “a pricing strategy is a reasoned choice from a set of alternative prices (or price schedules) that aim at profit maximisation within a planning period in response to a given scenario“. Nagle&Holden (2002, p. 149) define pricing strategy as a more integral part of the whole business strategy as “the coordination of interrelated marketing, competitive and financial decisions to maximize the ability to set prices in a profitable way”. They even argue that developing pricing objectives is a prerequisite to selecting target markets, creating product and service bundles, developing promotional messages, and designing price structures that will maximise the customers’ willingness to pay.

Pricing established products in the maturity stage

In the growth stage of a product the source of profit is typically the expanding market and rapid sales growth. However, typical products spend most of their life-cycle in the maturity stage where profits can no longer be extracted from the above mentioned sources. Therefore effective pricing will become the key to survival with the available options being far more limited than in the growth stage. Companies that are able to price profitably in the maturity

stage are those that have been able to create a strong competitive position already in the growth stage with product differentiation or a cost advantage. (Nagle&Holden, 2002, p. 189)

As the market moves from growth to maturity, price competition between suppliers increases. According to Nagle&Holden (2002, p.189-190), four major factors causing this can be identified:

1. Companies will defend their market shares to avoid sales from declining since they have made investments to produce a certain level of output.
2. Repeat buyers gain experience on the competing products and are better able to compare them, thus reducing brand loyalty and the value of brand reputation.
3. Competing products become more similar and directly competitive to each other due to imitation of the most successful product designs, technologies and marketing strategies.
4. New competitors enter the market.

Cost based pricing strategy

Cost-based pricing is a pricing strategy where the company uses its cost to derive the sales price. This is done by either calculating or estimating the cost incurred from delivering the product and then setting a certain sales margin on top of this cost. A risk related to this price setting method is the misvaluation of costs. If the costs are underestimated, the company will experience lower profitability or may even sell at a loss and if the costs are overestimated they may price themselves out of the market. Therefore a good knowledge of costs is required. Another risk is the loss of potential margin: not recognizing the actual value of the product may lead to pricing lower than customer would be willing to pay. (Kulmala, 2006). Additionally, according to Hinterhuber (2008), cost-based strategies do not take competition into account and are generally considered the weakest overall pricing approach, often leading to lower than average profitability.

Market based pricing strategy

Market-based pricing is a pricing strategy where “the producer estimates the amount usually paid for a certain offering in the market and by evaluating the features of his or her own product, places it on a certain point in the general price scale” (Kulmala, 2006). According to TIEKE (2005), market-based pricing is a fairly neutral strategy since the product is neither underpriced nor overpriced compared to the market. It can be said that a company uses a market-based pricing strategy if it has no clear pricing strategy.

Market-based pricing poses two major problems to the selling company. First, professional purchasers are rarely willing to share with the supplier the actual amount of money they are prepared to pay for a product and tend to hide true value of a product to their organisation and even mislead the supplier. Once purchasers realise that suppliers are flexible with their prices, they have a clear financial incentive to hide as much information as possible, which again prohibits sales people from forming close relationships with the customer, learning the true value of the product and understanding the customer needs. (Nagle&Holden, 2002, p. 7)

Competition based pricing strategy

Competition-based pricing is a strategy where prices will be set based on the competing products on the market. It assumes that the company, its products, image, position on the marketplace and cost structure are identical to the competition. The price need not necessarily be exactly the same as for the competing products, but can be set, for instance, to be 5% higher (or lower) than the competitor’s. A competition-based pricing approach is considered to be rigid and does not allow for adjustments based on the products’ and company’s unique strengths and weaknesses. (Shapiro&Jackson, 1978)

Value based pricing strategies

According to Hinterhuber (2008), “customer value-based pricing approaches use the value a product or service delivers to a predefined segment of customers as the main factor for

setting prices”. Value-based pricing is gaining increased recognition as the best overall approach to price products and services. The main strength of value-based pricing is that it takes into account the customer perspective. Other clear benefits include understanding the sources of value for customers; designing products, services and solutions that meet the customer needs; setting prices as a function of value; and implementing consistent pricing policies.

Value based pricing is suited especially well for high technology products because they typically present significant added value. This strategy can be used in situations where there is no competition at all and/or the product is significantly differentiated, typically in the early phases of a product life cycle. The higher prices are justified with the higher value provided; therefore this value needs be well known. (TIEKE, 2005)

On the other hand, value-based pricing does carry some disadvantages. First, the necessary data may be difficult to obtain and interpret. Second, value-based pricing may lead to relatively high prices and therefore long-term profitability needs to be taken into account when setting prices. Third, customer value as such does not bring benefits but it needs to be communicated. (Hinterhuber, 2008)

3.2 Value as basis for pricing

Anderson et.al. (2008), define value in business markets as “the worth in monetary terms of the technical, economic, service, and social benefits a customer firm receives in exchange for the price it pays for a market offering”. However, this definition does not consider other costs incurred from the offering apart from the price paid.

The customer’s reasoning when assessing supplier offerings was briefly described earlier in chapter 2. Kotler (1997, p. 38) elaborates this process further by defining *customer value*. It is argued that when comparing offers customers estimate the amount of value delivered and aim to maximize value within bounds set by search costs, level of knowledge, mobility and income. Whether or not these value estimates turn out to be correct will affect customer satisfaction and therefore the probability of a repeat purchase.

This concept of value can be further elaborated through Figure 2. *Customer delivered value* is the difference between *Total customer value* and *Total customer cost*. Total customer value is the sum of all benefits the customer expects to receive from a certain product. Value is created by different product attributes (such as reliability, durability or performance), bundled services (such as delivery, training, maintenance), personnel attributes (such as knowledge and responsiveness) and image. On the other hand, the customer incurs certain costs from the offering. This total customer cost is the sum of costs the customer expects to arise from evaluating, obtaining and using the product. This model suggest that in order to make its offering more attractive to the customer, the seller must either increase the total customer value or decrease the total customer cost and therefore be able to deliver higher value. However, industrial buyers do not always decide purely based on delivered value since they might be obliged to buy at the lowest price, they might have personal benefits at hand, or they enjoy personal relationships with the competing supplier. In these scenarios, the seller needs to display the effect of the product on the customer's long term profitability and not only consider the price, and perhaps attempt to contact another decision maker than the buyer within the customer organisation. (Kotler, 1997, p. 38-40)

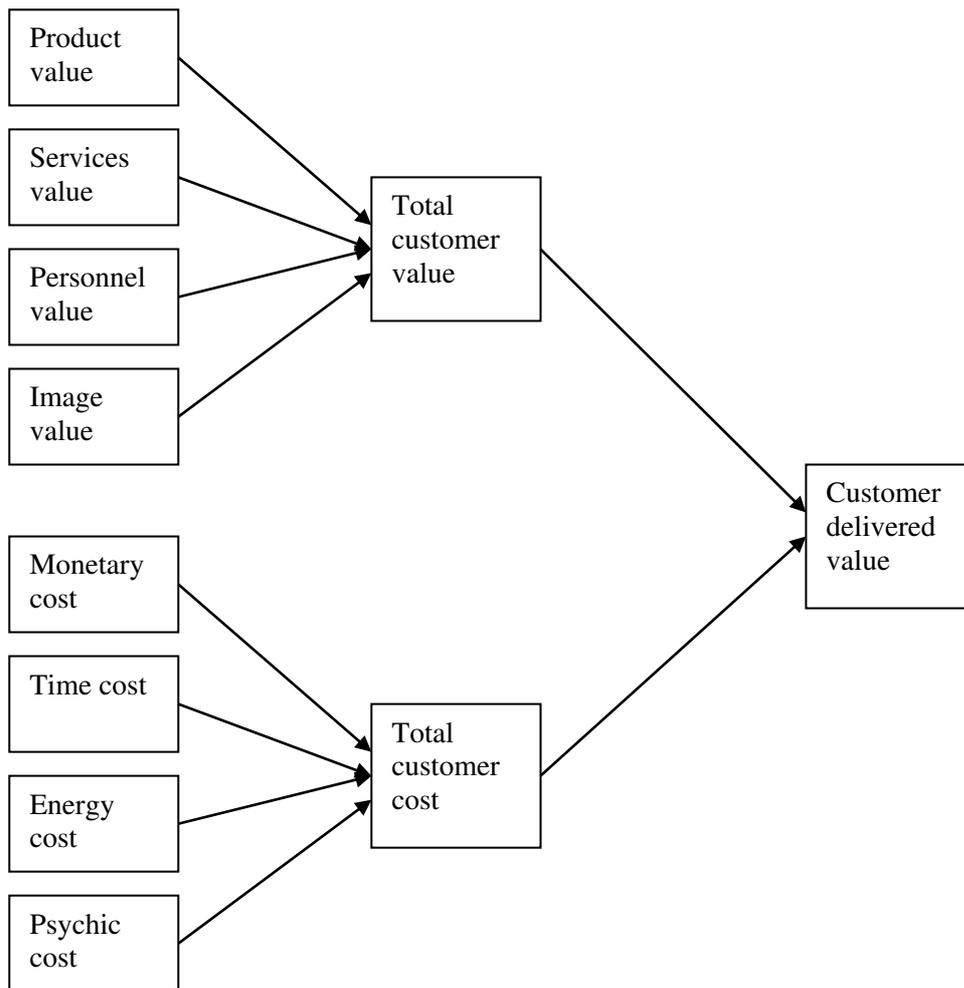


Figure 2. Determinants of customer delivered value. (Kotler 1997, p. 39)

Nagle&Holden (2002, p. 74-75) also present an alternative approach to defining value. They refer to *exchange value* or *economic value to the customer*, which is foremost based on the customer's alternatives at a particular moment in time. Drawing from this definition, a product's economic value to the customer is, then, the *reference value* (the price of the customer's best alternative) plus the *differentiation value* (the value of whatever differentiates the product from the alternative). Differentiation value may contain both positive and negative elements. Total economic value of a product is the maximum price a sophisticated, fully informed customer would be willing to pay.

Allowing prices to be negotiable can lead to a downward trend in prices and therefore decrease profitability. A non-negotiable value based pricing policy enables management to

make pricing decisions only once and cover multiple customers at the same time. Committing to these prices also eliminates the incentive for customers to negotiate and aim for a lower price. This consumes time for both parties. Pricing by policy may also prevent demand peaks and valleys caused by customers waiting for the optimal occasion to make contracts. (Nagle&Holden 2002, p. 201)

Representatives of different industries often state that non-negotiable prices cannot work in their field. It must be noted that a non-negotiable pricing policy does not necessarily mean a one-price policy. Fixed discounts can (and should be) offered for volume, long-term contracts, bundled purchases and other clear motives. Margins may also vary for different products and different customer segments. According to Nagle&Holden (2002, p. 201-202), “a fixed price policy means simply that the price for any particular offer sold to someone in a particular customer segment is non-negotiable”. It must be highlighted that for this kind of policy to work the prices must truly reflect value and this value has to be communicated efficiently in order to justify these prices. (Nagle, Holden 2002, p. 201-202)

3.3 Influencing perceptions of value

When applying value based pricing, the seller’s aim is to maximize the captured profit from the created economic value. Assuming that purchasers knew everything about the product, about their own needs and how the product would satisfy their needs, and that they wouldn’t believe they could influence the price through means of negotiation, then economic value would predict the customer’s purchasing behaviour. In the real world, many reasons exist for gaps between the customer’s willingness to pay and the actual economic value received. These gaps can be reduced through means of managing perceptions of value. The following effects are central when analysing the reasons for the existing gaps between price and value.

3.3.1 Reference price effect

Accurate economic value is only recognised by customers who are fully informed about their alternatives. However in reality, this is rarely the case; instead, customers are flooded with information without being able to utilise most of it in their purchase decisions. The reference

price effect means that “buyers are more price sensitive the higher the product’s price relative to the prices of the buyer’s perceived alternatives” (Nagle&Holden, 2002, p. 84). These perceptions of the available substitute products and their prices differ widely among customers and across different purchase situations. As a generalisation, it can be stated that customers new to a particular market are less aware of their alternatives and therefore tend to pay higher prices than the more experienced buyers. (Nagle&Holden, 2002, p. 84)

One important factor affecting the buyers’ reference price is their recall of past prices. This has significant implications when pricing new products and aiming to achieve repeat sales. Traditional marketing theories suggest a low initial price in order to build a market (penetration pricing), after which prices can be raised. This, however, may have adverse effects on repeat sales since the customer’s reference price will be lowered, making them more sensitive to the new higher price. Therefore it is suggested to establish a clear regular price for a product and offer discounts only on special occasions. (Nagle&Holden, 2002, p. 85-87)

3.3.2 Difficult comparison effect

The difficult comparison effect states that “buyers are less sensitive to the price of a known or more reputable product when they have difficulty comparing it to potential alternatives” (Nagle&Holden, 2002, p. 88). This means that customers tend to choose a product that they are already familiar with or that is commonly known to be of satisfactory value, even though better value products might exist in the market. This is also applicable in the business market where buyers often develop long lasting relationships with certain suppliers, often listed on a specific “approved makers list”. All the above implies that customers tend to minimize the risk of getting less value in case comparing the unknown alternative to the familiar one is difficult and/or expensive. Any tactics used to reduce this difficulty and/or expensiveness will also reduce the importance of past experiences and therefore increase the buyers’ willingness to try competing products promising better value. A good example of such a tactic is to offer lease as an option for customers buying expensive assets. This gives them the opportunity to make short term commitments while being able to utilise the full value of

the product, without the risk of directly purchasing an unknown brand. (Nagle&Holden, 2002, p. 88-90)

3.3.3 Switching cost effect

The switching cost effect is associated with the added cost of switching suppliers. The greater this cost, the less sensitive buyers will be to the cost of a product. This cost can be monetary or non-monetary (or both) and is usually related to the investments the buyer must make in order to use a specific product. These investments may be for example training of personnel or acquiring a new stock of spare parts when switching suppliers. The attractiveness of competing offers may even be limited by intangible investments such as personal relationships. (Nagle&Holden, 2002, p. 90)

3.3.4 End benefit effect

A single purchase is often just one of many purchases a buyer will make to achieve a larger benefit, the end benefit. The relationship of these two is the basis for the end benefit effect, which can be divided into two clear components: derived demand and price proportion. Derived demand effect means that the more sensitive the buyers are to the cost of the end benefit, the more sensitive they will be to the price of the products contributing to that benefit. Especially in business markets this has very important implications. The more price sensitive the demand of the company's product, the more price sensitive that company will be when purchasing supplies. To minimise the importance of price in the purchase decision, salespeople in b-2-b markets must be very familiar with the end benefit that drives their customer. (Nagle&Holden, 2002, p. 94-95)

When the purchase price of a product accounts for a large portion of the end benefit, customers are more sensitive to the price of the product. This is the proportioned price effect. The most important implication of this effect is the possibility to charge very high prices for products that are just a small part of much larger investments. (Nagle&Holden, 2002, p. 96)

3.3.5 Fairness effect

The “fair price” is a concept purely dependant on the context of purchase. The fairness effect states that buyers are more price sensitive when the product’s price is perceived as “unfair” or “unreasonable” considering the purchasing context. Usually the perception of “fair” is related to the likely profits that the seller is making. A high price asked only for the sake of a high profit can be perceived as “unfair”. To avoid customers from seeing price increases only as a result of higher demand at a particular moment of time, it is advisable to maintain the highest possible “normal” prices, which can then be cut in times of low demand, rather than having to increase prices in times of high demand. (Nagle&Holden, 2002, p. 99-100)

3.4 Market segmentation based on value perception

Traditionally, customers are segmented into “price sensitive” and “quality sensitive” when considering price-sensitivity. However, a deeper analysis may reveal more differences among customers and help create effective pricing and value communication strategies. The factors influencing price sensitivity can be divided into those that affect the perceived value of a product’s differences between suppliers and those that affect the perceived pain of the price. The perceived value of differentiation is affected by the following factors:

- The reference price used by the customer
- The difficulty of comparison
- The importance of the end benefit to which the product contributes
- The switching cost
- The effect of price on perceptions of quality

The perceived pain of the price is affected by the following factors:

- The size of the expenditure
- The proportion of the cost of the end benefit that the product accounts for
- The perceived fairness of the price
- The framing of the price as a gain or loss

(Nagle&Holden, 2002, p. 105-106)

Evaluating customers based on these two dimensions reveals four different segments, as illustrated in Figure 3.

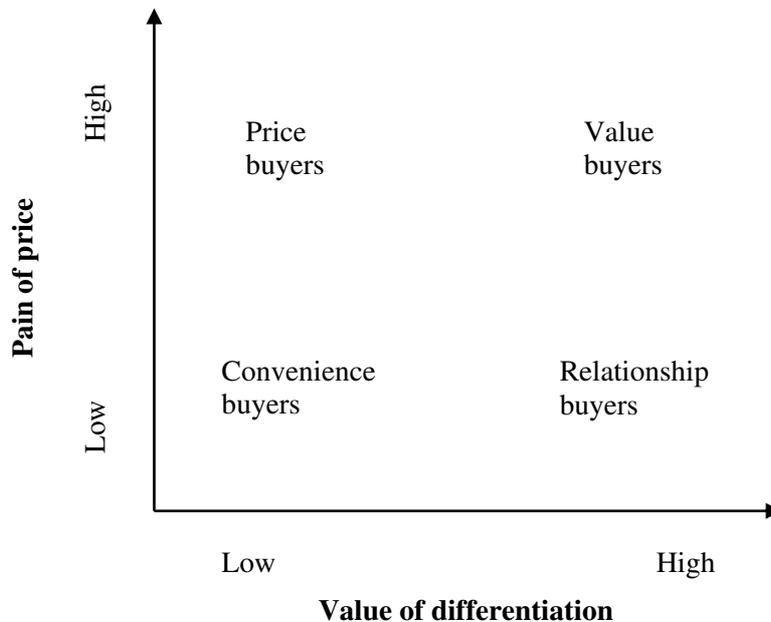


Figure 3. Customer segmentation by value perception. Nagle, Holden (p. 106)

Let us now discuss the characteristics of these four segments. It must be noted, though, that in many cases these segments are not necessarily different customers since the same customer may have different buying behaviour depending on the purchase occasion. (Nagle&Holden, 2002, p. 106)

Convenience buyers are not particularly interested in differences between brands and are also not interested in comparing prices between different vendors. They will buy any brand that is most readily available and therefore minimize cost of search and evaluation of price and features. This type of buying behaviour is typical when time is of the essence or the cost of the product is so low that it is not worth to spend time for searching. (Nagle&Holden, 2002, p. 107)

Price buyers seek to buy at a lowest possible price consistent with some minimum level of quality. They do not make feature-benefit trade-offs and are not willing to pay for the added value of additional features, service or supplier reputation. They have prior experiences based on which they believe they know their exact needs and what is worth paying for. Price buyers typically announce these needs in the form of a specification and then evaluate price offers that meet them. (Nagle&Holden, 2002, p. 106)

Relationship buyers have a strong preference for a certain brand based on the supplier's reputation or the client's past experience. They are similar to the price buyers in the sense that they do not believe a serious comparison of alternatives is worthwhile if the price of their preferred alternative is within a reasonable range. Relationship buyers may ask for competitive bids, but only to see if the price difference has grown large enough to justify further evaluation. Only a loss of trust will induce a relationship buyer to seriously evaluate potential alternatives. (Nagle&Holden, 2002, p. 106-107)

Value buyers will invest time, effort and money to evaluate alternatives on every purchase occasion. They are concerned about paying more than they need to (as the price buyers) and also about getting what they need (as the relationship buyers). Value buyers may purchase a high-priced brand, but only after a careful evaluation of the prices and features of the alternatives and agreeing that the added value is worth the added cost. Value buyers in the business market appreciate sellers who are able to recognize their needs and the involved trade-offs. (Nagle&Holden, 2002, p. 107)

4 VALUE BASED MARKETING

Nagle&Holden (2002, p. 213) emphasise that value based pricing is not merely a pricing strategy or a sales strategy but a marketing strategy that requires a different sales approach. Setting price structures, processes and levels that capture value are not the only activities closely related to value based pricing. The amount of value created and communicated sets the limit for the amount of value that can be captured profitably. Therefore value based pricing requires establishing value based marketing goals in order to create and communicate value. Three main value based marketing activities can be identified:

1. Using services to convert technical capabilities into customer benefits
2. Developing the value message associated with those benefits
3. Managing a sales, advertising, and distribution effort to deliver that message

The aim in creating and communicating a clear value proposition is to induce the customer to compare price and delivered value instead of just comparing competing prices. (Nagle&Holden, 2002, p. 161)

4.1 Creating customer benefits

The way any type of marketing increases value is by understanding the benefits needed by the customers and making sure the company delivers these benefits. Usually the problem for companies in getting the price they seek is not that they do not possess the necessary capabilities or technologies, but that they do not have the necessary knowledge of the customers' needs to fully make use of the potential they have. To create these needed benefits, a company must "take the basic product or service and add to it whatever is necessary to create an offering that represents a complete benefit for the buyer" (Nagle&Holden, 2002, p. 162). These additional components may be ancillary services, customer support, peripherals, and generally any information, access and complementary services or products needed to realize value potential. (Nagle&Holden, 2002, p. 161-162)

4.2 Communicating the value proposition

Communicating value is critical when implementing a value based pricing strategy. This type of pricing strategy will fail unless the customers actually perceive the value they are paying for. Therefore the value a company is offering needs to be communicated efficiently in order to reach sales growth and margin targets. While this is true for new and innovative products, it is also applicable for long established products. It is a common misconception that a customer who has used the product would automatically know what it is worth to them. It has been shown that buyers in various industries have preferences for a particular supplier's reliability, service, or differentiation but they did not understand the economic value associated with these preferences, neither quantitatively nor qualitatively. This leads to a situation where high-quality suppliers lose market to competitors who are able to offer a quantifiable price advantage in return for the qualitative, seemingly just "nice to have", advantages offered by the high-quality supplier. (Nagle&Holden, 2002, p. 163)

Value communication comprises of "advertising, personal sales, programs to induce trial, endorsements, and guarantees that communicate confidence in the promises made" (Nagle&Holden, 2002, p. 163). Buyers who are not aware of the monetary value a product or service offers usually tend to underestimate it. Therefore the purpose of value communication is to raise the awareness of uninformed buyers and induce them to pay a similar price compared to the more experienced and knowledgeable buyers. A good example for this type of value marketing is Caterpillar Corporation, who enjoy high loyalty among the heavy-equipment users who pay attention to tracking downtime and the lifetime costs of ownership. Of course not all of their clients can be influenced in a similar way but nevertheless CAT uses value based marketing as support for its pricing with nearly all the products by displaying the quantitative value of their products' differentiating features. (Nagle&Holden, 2002, p. 163-164)

To summarize, it can be stated that the purpose of value communication is "to influence the buyer's evaluation of the product relative to its price" (Nagle&Holden, 2002, p. 164). However the detailed nature of this communication differs between markets where sales is performed directly (most business-to-business markets) and markets where distribution

channels are used. In direct sales the message can be more complex and customer-specific whereas when using distribution channels the only contact to the buyer may be an advertisement or information on the packaging. (Nagle&Holden, 2002, p. 164)

The “Five C’s” of value based marketing can be summarized as follows in the chronological order of execution:

1. Comprehend what drives sustainable value for customers
2. Create value for customers
3. Communicate the value that you create (Tangible and intangible features)
4. Convince customers that they must pay for value received
5. Capture value with appropriate price metrics and fences

(Nagle&Holden, 2002, p. 164)

Anderson et.al. (2008), argue that in addition to demonstrating value during sales, suppliers must also be able to document the cost savings and incremental profits their products and services have delivered to the customers. Suitable measures by which these cost savings are tracked must be developed in cooperation with the customer. A tool for this type of documentation is *value case histories*. They are “written accounts that document the cost savings or added value customers have received from using a supplier’s market offering” (Anderson et. al., 2008). Four benefits can be achieved through documenting superior value:

1. Value case histories enhance the credibility of the value demonstrations for the company’s offerings, because the customer knows the supplier is willing to return later on to document the value.
2. Documenting enables customer managers to get credit for the cost savings and incremental profit produced.
3. Documenting enables suppliers to create value case histories and other marketing communications materials to persuade prospective customers of the value they might obtain from the supplier’s offerings.

4. Comparison between demonstrated value and value actually delivered enables suppliers to deepen their understanding of how their offerings deliver the greatest value.

(Anderson et. al., 2008)

4.3 Buying centres

As mentioned in chapter 7.2, value based pricing requires the value to be communicated to the persons or groups in the buying organisation who benefit from the value. Purchasers who refuse to acknowledge value are a common obstacle to setting prices according to value. Therefore the right person or group within the client organisation needs to be reached in order to extract maximum value or in some cases to accomplish any sales. Bonoma (2006) define a buying centre as a group of buying managers from different functions of the organisation who each take on a specific role in the process of formulating a purchase decision. The following roles can usually be identified:

- *Initiators* start the purchasing process. They are usually production workers or supply personnel in routine product purchases and for more complex purchases initiators may come from engineering, R&D, sales, customers of the buying organisation or consultants to the buying organisation.
- *Users* are the ones using the product or service. According to Nagle&Holden (2002, p. 206), they are easily identifiable but may not have much power in the purchasing process.
- *Purchasers* are usually representatives of the corporate purchasing department, who complete the purchase to specifications by negotiating or bidding.
- *Gatekeepers* are usually experts on the product or problem at hand. Their title may be “buyer” or “purchasing manager”. Their task is to keep up on the offering of different vendors. Gatekeepers influence the purchase process by allowing or preventing the seller from reaching the decision makers and therefore control which suppliers get to chance to sell and what information they are able to communicate. In some cases, the vendors are listed in an approved-vendors list which determines the companies that can and cannot sell to the purchasing company.

- *Influencers* are those who get to affect the decision on whether or not something is bought and what is bought. The more important the purchase, the more people will be regarded as influencers since more corporate resources and people will be involved in the process.
- *Deciders* have the final say on the choice of vendor and product to be purchased. In major purchases the role is most likely filled by several senior management representatives, one of which is acting as a champion. Deciders are most likely invisible to the seller, hidden by the persons filling the other roles.

(Bonoma, 2006)

According to Nagle&Holden (2006, p. 207), it is a common mistake to concentrate communication and sales effort on the gatekeeper or the user and underestimate the power of the other members of the buying centre on the decision. It is useless to attempt selling differentiating features to purchasing agents who do not care about them but support for the product must be created elsewhere in the organization before negotiating with the formal purchaser. Bonoma (2006) highlights that as useful as this kind of concept on buying centres is, it is difficult to apply since managers do not wear tags displaying their role in the process nor will they be willing to give that information just by demanding. As tools for recognizing different roles of the buying centre, Bonoma (2006) suggests methods based on behavioural clues and gathering psychological information. These methods will not be discussed in detail in this thesis.

4.4 Price negotiation

Negotiating over price is usually an uneven situation. Salespersons normally have much less power in terms of what they are selling compared to the purchasers in terms of what they are buying. Purchasers are better informed about the prices in the market and they are usually rewarded for saving money while salespersons are rewarded for making sales. More and more of the prices are negotiable and businesses, particularly in the business-to-business markets, have lost the ability to proactively manage their pricing. Even in situations where supply is scarce, salespersons and managers sometimes fail to raise prices for they assume that their customers would “not stand for it”. (Nagle&Holden 2002, p. 200)

Before the boom of the 1990's, market-leading companies did not use to negotiate prices. As competition got more severe and old pricing strategies ceased to work, a lot of companies in the business-to-business markets gave up designing and managing new proactive pricing strategies according to the new market conditions but instead allowed sales to set prices one deal at a time. This way they thought they could react more quickly to market conditions and limit discounts to situations where it was absolutely necessary. However, this replacement of price policies with price negotiation has given customers an economic incentive to become "bad customers" by not acknowledging value and claiming that all competing offers would be equal options. The possibility to discount also encourages sales to close contracts with price rather than by increasing the customers' willingness to purchase based on value. Further incentive to discount is often caused by reward systems purely based on sales figures rather than profit contribution. (Nagle&Holden, 2002, p. 200-201)

As a general fix to this issue, Nagle&Holden (2002, p. 201) encourage companies to regain control over prices. Three main points are mentioned:

1. Developing price structures that reflect differences in value rather than differences in a customer's negotiating power
2. Sales persons must learn to effectively communicate value instead of negotiating discounts
3. Managers must learn to manage nonnegotiable price policies while still responding to changing market conditions.

These steps will help companies that provide exceptional value to benefit from this value while still maintaining a win-win relationship with their customers. (Nagle&Holden, 2002, p. 201)

When negotiating with buyers, it is essential to know how the buying organisation will make the purchase decision. Knowing the type of buyer you are dealing with and understanding the different buying behaviours and the different buying agendas helps to win and retain profitable business. Four different types of buyers were introduced in Chapter 5. Let us go

through the factors affecting negotiations with the price buyer, relationship buyer and value buyer. (Nagle&Holden, 2002, p. 208)

4.4.1 Negotiating with price buyers

When starting the purchase process, price buyers are precisely aware of their needs and they select among suppliers based on price. In business markets, buyers begin by publishing required specifications and soliciting bids. The specification may be very stringent but the buyer will not make trade-offs between price and any additional features or services exceeding the specification. This strict focus on price greatly limits the supplier's chances of negotiating based on the value of the product. (Nagle&Holden, 2002, p. 208)

Typical of a genuine price buyer is a sealed bid. It is a purchasing process where the buyer commits in writing to a specification of an acceptable offer. Potential suppliers then submit bids within a certain timeframe. No opportunity to negotiate is given. However in most cases, some explicit negotiation takes place. The best, but also the most difficult, strategy in a negotiation with a price buyer is to try and focus attention on the value of the product and convince the buyer that the added value is worth the added cost. This is usually impossible when communicating with the purchasing department of the buyer but requires contacts to decision makers on a higher level in the organisation who can influence the buying behaviour of the company. (Nagle&Holden, 2002, p. 208-209)

When pursuing business with a price buyer, it is important not to drop prices to unprofitable levels in hope of future profits. Price buyers seldom change and these profits rarely materialise. Therefore business with price buyers should only be participated in when it is profitable. Price buyers react to low prices so a supplier can always go back later and offer a low price if it is strategically prudent and profitable to do so. Even though price buyers are usually very large customers, focus should be set on value buyers and loyal buyers since they provide the steadiest profits. (Nagle&Holden, 2002, p. 209-210)

4.4.2 Negotiating with relationship buyers

Relationship buyers value consistent product quality, performance and the supplier's ability to provide these products on a steady basis. They want to avoid untested suppliers for the uncertainty and risk related. Focus when negotiating should be put on past performance, the impact of the product on the company's performance, sunk costs and compatibility with future requirements. It is essential to commit to the customer's both current and future needs and position yourself as the trusted vendor and therefore minimise their incentive to look for alternative solutions. Negotiations with relationship buyers are usually friendlier and focus is on satisfying the business goals of both the supplier and the buyer as opposed to negotiations with price buyers, which can be adversarial by nature. (Nagle&Holden, 2002, p. 211)

From the point of view of market cycles, the relationship segment may be large when the market is in the growth stage. However, it tends to shrink in the maturity stage when more and more competitors develop good reputations and also the buyers become more knowledgeable. During recessions the relationship segment also contracts when even the loyal buyers tend to cut costs and some migrate to being value buyers. In this type of situation, it is suggested that the supplier should unbundle the cost of its service offerings and aim to produce cheaper but equally reliable products to retain business with formerly relationship buyers who have become more value conscious. When pursuing business with relationship buyers it must also be remembered that customers already loyal to competitors are unlikely to switch and these accounts cannot be won by price but service and security. (Nagle&Holden, 2002, p. 211-212)

4.4.3 Negotiating with value buyers

In most markets value buyers represent the largest group of buyers. They do not seek the highest quality nor the cheapest price, but aim to maximize the economic value received for the price they pay. For a company that is able to display superior value delivered these buyers represent an excellent opportunity for profits, however they are also the customers whose

business is challenging to retain in the long run since they continuously seek higher value and evaluate competing offers. (Nagle&Holden, 2002, p. 212)

The objective when negotiating with value buyers is “to capture the value of the differentiation on each individual sale” (Nagle&Holden, 2002, p. 213). It is critical to distinguish between situations in which a lower price is required, situations in which the buyer needs a commitment from the supplier, and situations in which the value of the benefits that the supplier can deliver needs to be educated to the buyer. Sales representatives need to be trained to understand how their customers value the products, to utilise economic value evaluation methods and to use relevant value based selling techniques and negotiation skills to communicate this value. (Nagle&Holden, 2002, p. 213)

4.5 EVC-concept

EVC is short for Economic Value to the Customer. It is a value-based concept which aims to display value and induce customers to buy based on this value rather than just the purchase price. Analysing value may bring significant advantages especially for products that deliver benefits over time or when the purchase price only represents a portion of the overall costs to the customer. According to Forbis&Mehta (1981), “EVC may be defined as the relative value a given product offers to a specific customer in a particular application”. It is the maximum amount a customer should be willing to pay. However, it must be noted that this statement is only true under the assumption that the customer has full information on the product and also the competitors’ competing products (reference products). EVC usually corresponds to the purchase price of the reference product, plus or minus any difference in value between the reference product and the supplier’s product. The EVC-concept is elaborated in an example in Figure 4.

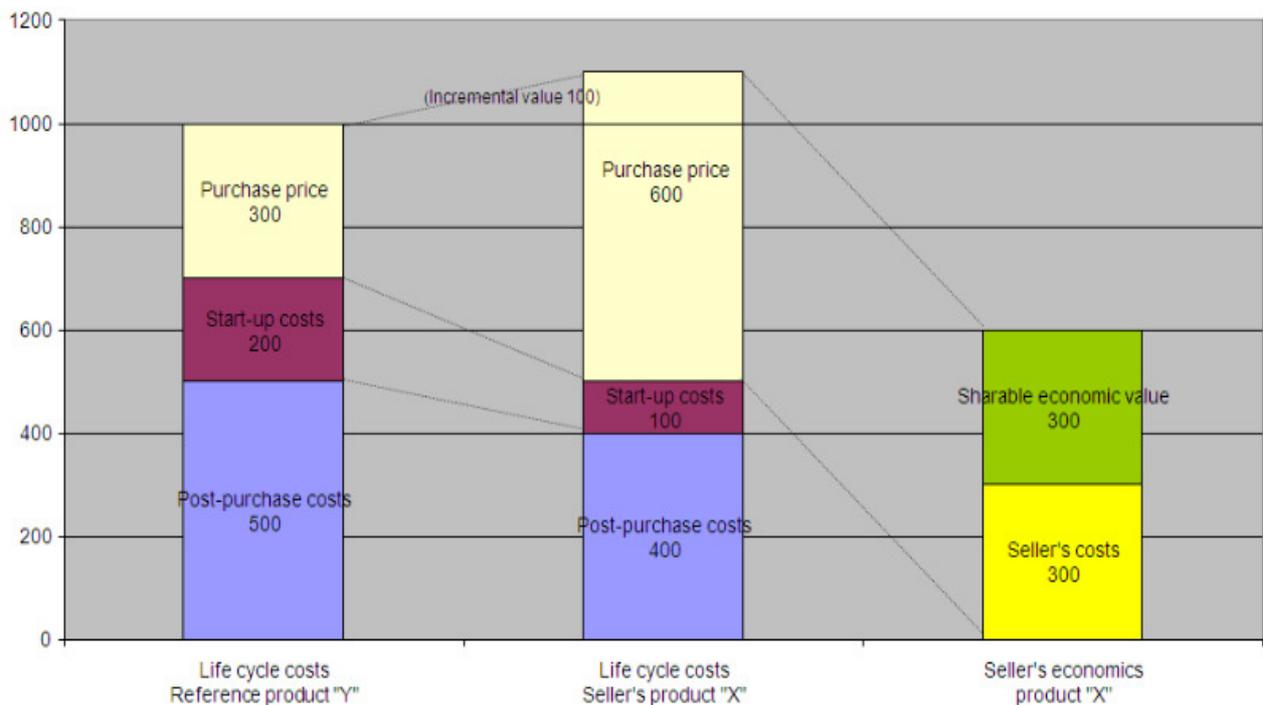


Figure 4. The EVC concept. (adapted from Forbis&Mehta, 1981)

Let us now define the terms used in Figure 4.

Reference product: a competitor's offering that fulfils the same need as the supplier's product. This is usually the product that the customer is currently using or the product they see as their first option when making an investment decision.

Life cycle cost: is the sum of a product's purchase price, start-up costs and post-purchase costs.

Purchase price: is the amount paid by the customer to the supplier at the moment of purchase.

Start-up costs: these are the customer's initial costs that are not included in the purchase price paid to the supplier and paid for by the customer themselves or paid to another supplier. This cost might comprise of expenditures such as modifications to the customer's existing system, losses in production due to additional down-time and initial technical training.

Post-purchase costs: post-purchase costs are ongoing costs incurred to the client after the product is purchased and in use. These costs include maintenance and repair, continued technical training, various finance-related costs such as interest charges on capital, operating costs such as labour, raw materials, power consumption, scrap rates, inventory costs and space requirements associated with the use of the product. Post-purchase costs are usually estimated over the product's entire life-cycle and discounted back to their present value (PV). When comparing products with different lengths of useful life, adjustments should be made in order to have a consistent basis for comparison.

Incremental value: incremental value is a monetary amount indicating the difference in the potential value between the supplier's product and the reference product. This value may derive from physical features of the product or other attributes such as delivery reliability, service responsiveness and brand name. (Forbis&Mehta, 1981, p. 235)

In the example displayed in figure 4, the two left-most bars represent the customer's economics, i.e. the life-cycle costs incurred by two different products: supplier's product ("X") and the reference product ("Y"). As we can see from the bar indicating the life-cycle costs of the supplier's product "X", it is \$100 more expensive for the customer (at a purchase price of \$600). This is however still acceptable to the customer due to the incremental value provided by product "X", worth \$100. The right-most bar represents the economics from the supplier's point-of-view. The cost for the supplier to make the product is \$300. Therefore the company must price their product above \$300 to cover their costs and earn a profit, but below \$600, for that is the maximum the customer is willing to pay. From a pricing perspective, this "pricing range" of \$300 can be divided into contribution margin/profit to the supplier and customer inducement. Therefore by pricing, for instance, at \$475 the company offers life-cycle costs that are \$25 lower than for the reference product "Y" (\$975 vs. \$1000), while still providing a superior product with incremental value worth 100\$. (Forbis&Mehta, 1981)

4.5.1 Considerations for economic value analysis

Forbis&Mehta (1981) mention two major considerations that need to be taken into account when making economic value analysis for the EVC calculation.

1. Identify the product that the customer views as best alternative and identify its cost

To be able to determine the correct EVC for a certain product, it is critical to select the same reference product as the customer will use, explicitly or implicitly in their respective evaluation. Otherwise it will be difficult to prove superior value. It must be noted that this need not necessarily be a physically similar product but one that fulfils the same function or customer need as the supplier's product. In a relatively stable competitive situation, it is usually necessary to calculate EVC against all competitive products. (Forbis&Mehta, 1981)

2. Segmenting the market

EVC for the same product may vary significantly from customer to customer. This is due to the differences in post-purchase costs and/or incremental value, which arise from varying customer and application characteristics. These differences may be very significant and may differ in unexpected ways among the different customer groups. According to Forbis&Mehta (1981), the following four variables are often among the ones where differences occur:

1. Intensity of product usage. Post-purchase costs vary greatly between heavy and light users.
2. Geographical scope of usage. Attributes such as reliability and expected down-time may have a different value depending on location.
3. Growth in the customer's business. It is argued that customers experiencing fast growth are more receptive to products that can cut their operating costs compared to slow-growth ones who may be content with their current equipment and unwilling to invest in more sophisticated technology.
4. Nature of the application. The EVC of seemingly identical products may differ depending on the application for which the customer is using them.

Since the EVC-concept is based on life-cycle costs, Thompson&Coe (1997) suggest segmenting the market based on those costs as one option to group the customers. This type of analysis may provide information that can be useful when estimating which customers might value the seller's product the most and which customer segments it would be more likely to reach target margins in.

4.5.2 Criticism and limitations of the EVC concept

Despite its clear advantages, the EVC-concept does carry some disadvantages and it has received criticism in certain areas. Thompson&Coe (1997) bring up three major points of criticism:

1. Value dimensions that are used in the evaluation of EVC are more often than not determined by the seller, not the buyer. This means that the estimated economic value may not represent the buyer's perception.

2. The EVC-concept does not provide the seller with a precise price that should be put on the product, but a maximum price which should be possible to reach given optimal conditions i.e. the customer is aware of the provided value and is motivated by this value when making a purchase decision.
3. The EVC-concept does not take into account any uncertainty regarding the estimates of variables used to measure economic value. Estimating economic value without taking into account these uncertainties may lead to errors in value assessments and therefore in setting the appropriate value-based price. Possible sources of uncertainty can be but are not limited to the following:
 - Fluctuations in the market price of the reference products
 - Possible existence of reference products not known by the seller
 - Limited information based on which to estimate life-cycle costs and incremental value of both the seller's product and the reference products
 - Variation between different customers in the life-cycle costs and incremental value for the seller's product and the reference products
 - Environmental uncertainty possibly affecting the life-cycle costs and incremental value incurred by the buyer whilst using the product
 - Variance in the seller's own costs

4.6 Implementation of value based pricing

As general guidelines for companies that have lost price integrity in the eyes of their customers, Nagle&Holden (2002, p. 202-203) suggest the following six actions as a starting point for working their way into a value based pricing policy:

1. Force low-priced customer to make trade-offs. Never accept the request for a lower price without demanding something in return. This might be for instance the customer accepting lower quality, lower level of service or other factors that lower the seller's cost in return for a lower price.
2. Commit to giving the best possible service to higher-than-average-paying customers and also let them know what they are getting in return for their money. This will reduce price resistance since the customer knows that their work will get priority or

they get other benefits. Committing to a higher level of service in return for a price premium may even lead to the customer agreeing to a price increase. Financial penalties for non-compliance are usually introduced into contracts with such commitments to reassure the client.

3. Walk away from low-priced clients who refuse to accept a lower product-service bundle. This is to protect the integrity of the price structure. Market share will drop but cases have shown that companies who have walked away from clients they can afford to lose have seen significant increases in profit and cash flow. “You can only take money, not market share to the bank!” (Nagle, Holden 2002, p. 203)
4. Fixed pricing should first be introduced on new products and retain negotiable pricing for commodity products. This works especially well in markets where technology constantly improves the product. As these new products become “commoditized”, their price should not be made negotiable but it should be reduced.
5. Sales force compensation should be based on making profitable sales, not just sales revenue.
6. Make price concessions temporary and up front in return for getting low-priced customers to the mean.

4.6.1 Managing the sales force towards value based pricing

Many managers have stated that the most common obstacle for the implementation of value based pricing strategy has been the unwillingness or inability of the sales force to adapt to such a strategy. Often this resistance is due to limitations in management support. Merely explaining the principles and demanding the sales force to apply them will not work in practice, but the process must be clearly described, the value based messages provided, and the sales force rewarded for generating profitability. (Nagle&Holden, 2002, p. 213)

When preparing for a value based sale, a sales person should always make sure he or she has the necessary information available to him prior to the negotiation. Therefore initial visits just for the sake of conversation and data collection may be useful. Discussing price without knowing the client’s value drivers is not advisable. Also, the buying centre participants need to be identified, the benefits they are seeking need to be determined and the information

required to influence them needs to be known. At the point in the negotiation when the question of price is brought up, the sales person should be ready to present an offer instead of reacting to the client's offer. A list of questions helpful for collecting information to base the negotiations on is presented in Appendix 1. (Nagle&Holden, 2002, p. 213)

In general, one of the most common reasons for business-to-business strategies to fail is that the sales force does not apply them. This may lead to the planners of strategy becoming hostile towards the sales organisation, which as a result becomes even less cooperative. Rarely is the source of this problem the sales persons themselves, but the way their performance is measured and compensated. (Nagle&Holden, 2002, p. 215)

Most companies reward their sales personnel solely based on the amount and frequency of sales while the profitability of sales is not a factor. This more than often leads to a situation where the sales person will be tempted to cut prices in order to receive contracts from large clients. This is natural since the compensation is based on a percentage of sales. The sales force will concentrate on large deals that can be closed quickly by slashing prices rather than attempting to hold on to the target prices, sell based on value, and as a consequence utilise more time per sale. (Nagle, Holden 2002, p.215)

To demonstrate the above dilemma, consider a simplified example where the sales person has to choose between selling to a high-volume customer (A), who demands a 15 percent price cut, and one that will only buy half the volume (B), but at full price. If the sales reward is based on a percentage of sales, he or she will undoubtedly go for the high-volume client. This type of volume maximizing is often beneficial for the sales person but not for the company. If the product has a 20 percent sales margin at full price, a 15 percent price concession will lead to a sales margin of only a quarter compared to the target. Compare this to the other option where selling to customer B would result in half the volume sold, but double the sales margin contribution compared to customer A. The example is illustrated in Table 2.

Table 2. Illustration of price concession affecting the achieved margin. (adapted from Nagle&Holden, 2002, p. 215)

	A	B
Target price per unit	1€	
Margin (%) at target price	20%	
Volume sold (units)	10	5
Price concession (%)	15%	0%
Total Net Sales (€)	8,5€	5€
Margin (€)	0,5€	1€

Whilst volume-based sales rewards often undermine the profitability of the company, it is necessary to introduce performance metrics that take into consideration the profit contribution of a sale instead of mere volume. Complex compensation schemes have been introduced in some companies. However this can also be achieved by simply setting the sales goals as usual, but binding them to the target prices. This way the sales reward can be adjusted accordingly when a sales person makes a sale below or above the target price. (Nagle&Holden, 2002, p. 216)

Where companies have switched to a compensation scheme rewarding value selling and profit, most sales representatives have embraced it. It has also lead to a change in the type of demands from the sales organisation to the management. Complaints about slow deliveries, quality defects, lack of innovative product features and the need for better sales support will increase and complaints about high prices decrease correspondingly. Since sales people are unable to sell value that does not exist, they will want to take steps to enhance the value the organisation can provide. (Nagle&Holden, 2002, p. 216-217)

4.6.2 Practical experiences of implementing value based pricing strategies

Hinterhuber (2008), states that despite being widely accepted as the best overall pricing approach by both academics and practitioners, value-based pricing has not been widely

implemented in practice. In their study it was found that pricing approaches based on competition (44%) and cost (37%) remained dominant while customer value-based approaches only accounted for 17% across the survey group.

Research on specific obstacles preventing companies from adopting value-based pricing approaches revealed five major obstacles, as indicated by a survey performed within a group of company executives across several industries and countries. The most common problem was *value assessment* (stated by 79% of the respondents), followed by *value communication* (65%), *market segmentation* (60%), *sales force management* (58%) and *top management support* (50%). Also other factors apart from these were mentioned by 65% of the respondents. (Hinterhuber, 2008)

Difficulties in making value assessments have been recognized as the most common problem in implementing a value-based pricing strategy. Hinterhuber (2008) aptly states that “if the company itself does not know the value of its products or services to customers, how does it know what to charge customers for value?”. The most effective way of overcoming this problem is continuous value measurement, for which five methodologies are suggested:

1. *Expert interviews* should be conducted to estimate customer value of new offerings by using laboratory tests or brainstorming sessions. Possible participants would be, but are not limited to, senior representatives from marketing, product management, key account management, pricing, sales, controlling, and finance departments.
2. *Focus group assessment of value*. Customers in limited groups can be asked to evaluate the importance and impact of new product offerings.
3. *Conjoint (or trade-off analysis)* is a type of research survey where customers are asked to provide their purchase preference ranking within a set of potential product offerings with varied levels of specific attributes. Statistical analysis is used to determine the value the customers place on each attribute. This type of analysis is the most common way to measure customer value. It allows capturing the value of tangible but also intangible (brand, reputation etc.) features of the product, however as a down-side, it fails to show the value of features that are not incorporated in the questionnaire design.

4. *Assessment of value-in-use* is performed by observing and interviewing customers while they are actually using the product. Such assessments are useful to obtain information on customer satisfaction and dissatisfaction as they experience them in their daily use and also enable to discover unmet customer needs or problems that would not necessarily be uncovered in laboratory tests or direct questioning.
5. *Importance ratings* are based on asking customers to respond to a questionnaire by indicating the importance of existing and new product attributes. Answers are then used to estimate the customer value of existing and new product offerings. When conducted thoroughly, this type of ratings can help the company to identify situations where they are over-fulfilling customer needs and correspondingly situations where more satisfactory solutions are required.

(Hinterhuber 2008)

Difficulties in value communication were found to be the second most common in implementing value-based pricing strategies. Communicating value is especially difficult in consumer markets where customers are overwhelmingly targeted with different kinds of advertisement and other sales tactics. (Hinterhuber 2008)

When communicating value, three levels of sophistication can be recognised:

1. *Communicating product features* is the most basic level of communication where customers are informed with the product features. Problem is that customers are not often interested in product features.
2. *Communicating customer benefits* is a more sophisticated level of value communication where customer benefits are communicated. The advantage of this approach is that customers do care about benefits; however sellers are not always aware which benefits are really meaningful to the customer.
3. *Communicating benefits in accordance with customer needs* is the most sophisticated level of value communication. The clear advantage is that the value message is received and remembered better since needed benefits are communicated rather than just features.

(Hinterhuber, 2008)

Difficulties in market segmentation was mentioned by 60% of the respondents as an obstacle to value-based pricing in the study conducted by Hinterhuber (2008). In a general context, it can be stated that marketing theory has not produced effective guidance for market segmentation. Hinterhuber (2008) proposes to take customer needs as the primary segmentation variable. This allows the company to take into consideration several different market segments instead of having to concentrate on the price-driven segment, where, mistakenly, all the clients are often presumed to lie in. The following is an example of a market segmentation based on customer needs:

1. Price-driven segment
2. Mainstream segment
3. Technically sophisticated segment

(Hinterhuber, 2008)

Difficulties with sales force management have been shown to cause value leakage at sales team level. As sales personnel attempt to reach their volume targets and qualify for bonuses they often grant discounts to customers without understanding the long-term consequences of these discounts. Five fundamental guidelines regarding sales force management are suggested to support a value-based pricing strategy:

1. Restricting the authority of sales personnel to set prices can enhance profitability. However, in circumstances where sales personnel have greater insight into customers' willingness to pay, where sales personnel possess outstanding negotiating skills, where a willingness to pay varies significantly among customers and where products are complex or perishable, sales personnel should be allowed greater power over setting prices in order to increase profitability.
2. Sales force remuneration systems should be based on rewarding for profitability, rather than sales volume or market share which is the traditional approach.
3. Fixed and variable remuneration systems should be introduced to enable a lower percentage commission when focus is on sales volume and conversely a higher percentage commission when focus is on sales quality.

4. Sales force training and development is essential to ensure sales personnel are comfortable in selling solutions (instead of just products or services) and are able to identify the subtle wishes of the customers.
5. Sales force monitoring is necessary to ensure target prices are maintained and to discourage excessive discounting.

(Hinterhuber, 2008)

Lack of support from senior management was recognised as an obstacle to value-based pricing by 50% of the respondents in the study conducted by Hinterhuber (2008). Senior management are able to support implementation of a value-based pricing strategy by means of lobbying, networking and bargaining.

5 CASE COMPANY BUSINESS ENVIRONMENT

The case company provides power production solutions for the marine and energy market. In the marine market, served by the company's marine division, installations are mostly different types of ships and floating or fixed offshore platforms. In the energy market the case company provides flexible power plants for decentralized power production. The company also offers spare parts and operation and maintenance services for all of its installations (Case company, 2009c)

The case company's marine division's offering comprises of power solutions for the marine market including ship design, diesel engines, generator sets, propulsion equipment and other equipment found on marine applications. The division's customers are companies operating within the merchant, offshore, cruise and ferry, navy, and special vessel segments. The marine division's customer structure is two-fold. It consists of both shipyards, that manufacture and sell vessels, and the actual vessel owners and operators. Yards and owners both have different interests and priorities. Shipyards are mainly concerned about product prices, delivery times and timeliness, project management and ease of installation, whereas the owners require reliability, operational efficiency and support, and availability of services. Also safety issues have become more and more important. The owner's decisions are also affected by freight rates, interest rates and the total cost of the ship. (Case company, 2009c)

The case company is the market leader in medium-speed diesel engines, with main competitors being the other traditional marine engine companies, but also arising competition from Asia. Apart from the broad power production product portfolio, the case company is capable to offer support for the whole life-cycle of the vessel starting from design to operational support services globally. (Case company, 2009c)



Figure 5. Example of a marine vessel.

5.1 The customer business segment

The target segment of this thesis is a particular customer business segment (from here on referred to as “the Segment”) within the case company’s marine division. The Segment is offering products and services for all vessels operating within the Segment globally. The segment industry is very sensitive to availability of capital because the related investments are very large. Also capital usage is of importance since the cost of down-time is significant. Another characteristic that describe the business in general in these days is the increasing amount of activity in remote and harsh operation areas such as the arctic regions. This of course causes growing concerns over reliability and safety issues for the vessel owners and operators. (Case company, 2008. Not publically available)

A typical value chain in the segment consists of different kinds of end-customers, vessel owners/operators, shipyards, and suppliers to the shipyards, such as the case company. The end-customers need vessels to perform various services for them. They sometimes own the vessels and facilities required for the various activities themselves, however in most cases

vessels are leased (marine lease agreements are usually referred to as a “charters”) from specialized vessel owner companies who operate the vessels themselves or have 3rd party companies operate them on their behalf. The vessel owners purchase the vessels from shipyards who in turn purchase equipment for the vessels from various suppliers. Sometimes vessel owners outsource the whole procurement process of a vessel to an engineering company, whose task is to provide a vessel that fulfils the specification set by the owner and complies with the requirements of the future mission profile and operating environment in the operating area. Important players in the market are also the vessel designers, who through their design work are greatly able to affect the final choice of equipment to be installed.

5.1.1 Segment clientele and competition

The Segment’s clients are the end-customers, designers, vessel owners and operators, and shipyards. The contractual client is almost always the shipyard that is building the vessel. On occasion the contract is made with the vessel owner, who might transfer the contract afterwards to the chosen yard. Apart from shipyards and owners, it is highly important for the case company to communicate with the designers and engineering companies that can have a major influence on the equipment selections. Engineering companies or other contractors may also be the contractual client for the case company.

In the market of 4-stroke medium-speed engines the competitors are few. In most projects competition comes from traditional established engine makers present in the market. In recent years also Asian competitors have started to gain market share as their products are slowly becoming accepted by the vessel owners. The Asian newcomers are characterised by a slightly less differentiated product portfolio, but very aggressive pricing. The market in general is very competitive in the present situation and very much a “buyer’s market”; contrast being clear compared to the time before the financial crisis in 2008-2009. Competitors, yards and vessel owners are all pushing prices down.

When compared to competition, the case company products are slightly more advanced in terms of technology, installation flexibility and fuel flexibility. For the future, as environmental regulations are becoming stricter, the case company has a wider

environmental product portfolio to offer. A major advantage is the case company's truly global service division.

5.1.2 The four-stroke diesel engine offering

As per the defined constraints for the study, 4-stroke medium speed engines were chosen as the product to be studied in the thesis. The medium speed engine range is usually considered to be limited to engines operating at speeds from 500rpm to 1200rpm. The engines are used to generate either mechanical power or electrical power on-board a vessel or other offshore facility. In the diesel-mechanic solution, the engine is connected to a propeller through a shaft-line with a gearbox in between. In the diesel-electric solution the engine is coupled to a generator to provide electrical power to various consumers on the vessel through an electrical power distribution system. As fuel, the engines can utilize heavy fuel oil (HFO), marine diesel oil (MDO), natural gas, or with sufficient processing equipment on board the vessel, even crude oil from a producing oil well can be used. A typical diesel-electrical solution is shown in figure 6. It is a medium speed diesel engine coupled to a generator and mounted on a common base plate.

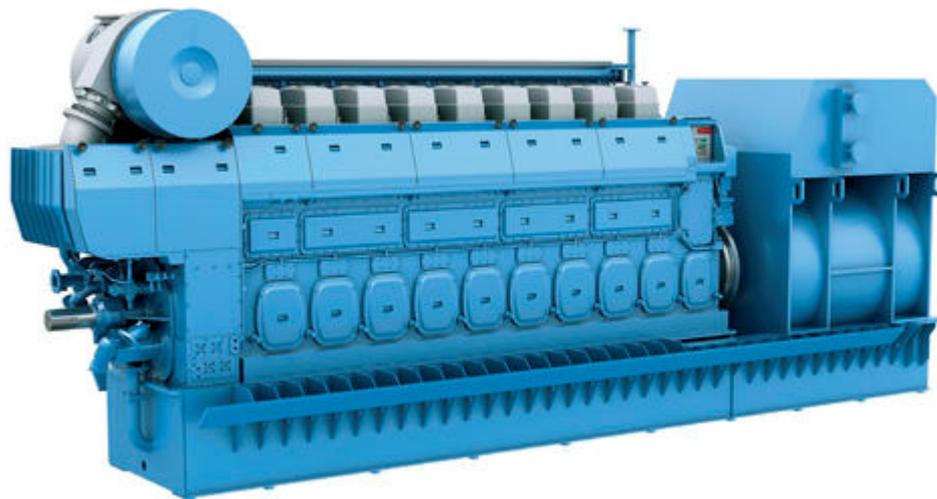


Figure 6. Diesel-electric generating set.

As additional products, the Segment offers auxiliary engine room systems that are needed to operate the engines. These can include but are not limited to exhaust systems, lubricating oil systems, fuel systems and cooling systems. Services that are usually included when an engine package is sold are project management, equipment and interface engineering, installation supervision and support for commissioning and sea-trials. In general, all products and services offered after the vessel has been handed over to the owner are the case company's service division responsibility, however part of these can sometimes be offered by the marine division to the shipyard as part of the new-build contract. These are usually training for the crew and spare parts for the first few years of operation. The life cycle support offered to the vessel owners by the case company service division comprises spare parts, technical and field service for the engines and operational & maintenance agreements.

The 4-stroke marine diesel engine is a product clearly in a stable maturity stage of the product life cycle. As suggested in the literature, the market is dominated by a few major companies with new-comers emerging from Asia and gaining market share as vessel owners are becoming more informed about the new competitors. This in turn reduces brand loyalty and the value of brand reputation of the more established products such as the case company's.

Four-stroke engines have been similar for decades with improvements over the years in such features as fuel consumption and emission levels. In terms of quality and technology the case company is considered to be slightly ahead of the field and can be seen as the quality leader in the market. The product is partly customizable but you could not call it an innovation product when compared to competition. The main differentiation is the possibility to offer life cycle support through the service division alongside the equipment delivery. Possible new innovations may arise in the future on product feature level when the need to fulfil new stricter emission standards becomes necessary.

5.1.3 Organisation and responsibilities in the Segment sales

Looking at pricing related responsibilities in the Segment's sales organisation there are three parties mainly involved. The *Sales Engineer* is responsible for making the cost estimate for the offered package, supported by the quotation tool, QMS. The responsible *Business Sales*

Manager determines the end-price that is offered to the customer for the package in question. Often also the Sales Engineer may do the final pricing decision if sales project is of a standard nature and is in an early phase. The *Network Sales Manager* owns the customer relationship and is responsible for the daily communication with the client, but has no formal pricing power. However through co-operation with the Sales Engineer and Business Sales Manager the Network Sales manager is of course an influencer in the pricing process.

For selected sales projects the case company's service division is involved in case they are trying to sell an O&M agreement with the vessel owner while the Segment is attempting to capture the equipment contract with the shipyard. The two parties do not have any formal pricing power over each other's offerings, however they do mutually support each other since if the other one is successful in their bid, naturally the chances of the other one to make the sale as well increase.

5.1.4 Strategic pricing in the Segment

Current pricing strategy in the Segment is almost purely cost-based, with the Business Sales function responsible for reaching certain target margins set by higher level management. The margin level is also the measure used daily as the variable to price the offers. This is a safe way for the case company to price its products as internal cost levels are quite well known. However in a mature marketplace effective pricing is very important and thus more sophisticated ways should be sought, especially in case the offering for a certain project is truly value providing when compared to competing alternatives from other companies.

Some differentiation exists in the pricing practices. Different sub-segments have somewhat different target margins and also differences in geographical areas can be seen. Based on recent history price data and past projects, different customers may also receive different prices for certain comparable offerings; however usually not in case they are competing for the same owner contract since owners quite often get to see the yard offers of the main equipment suppliers and seeing price differences may cause accusations of favouring certain clients over others and cause problems.

Apart from the defined target margins, there are also customer segment specific pricing strategies in place, however case-by-case tactics and an ad-hoc plans for individual sales projects are also used from time to time. There is no permanent pricing committee in the Segment to manage the pricing process or to follow up on market price levels in an active way. In addition to the clear cost-based pricing practice, market-based elements can be seen. This was clearly visible during the financial crisis when aggressive price competition in the field forced everyone to cut prices. Also in individual sales projects, market-based pricing is used when reasonable assumptions on the competitor's price level can be made, for example based on hints received from the customer.

Namely there are also some value based elements to be seen in the quotation tool used by Sales Engineers, as the estimated risk and complexity of a project affect the cost reservations that are made in the sales cost calculation. However, these are not used as tools to quantifiably defend the price when the customer demands a discount, but they are more used as measures to set the correct cost level internally. All in all, current pricing practices are more reactive than proactive. In fact, the goal when it comes to pricing is to steer conversation away from price when discussing with the client in the early phases of a sales project, and when a price needs to be presented, effort should be made to make it non-comparable with the competition in order for it to be more defensible (General Manager sales, 2009. Not publically available).

In terms of price, the sales process leading to a contract is one very typical for business-to-business large capital investments where iterative rounds of offering take place, during which the price is negotiated from a higher initial price down to a level where an agreement is reached. This kind of flexible pricing gives the customer incentive to hide information and sources of customer value, and encourages them to be "difficult" when it comes to price.

6 RESULTS AND DISCUSSION

In a mature market, pricing effectively becomes very important as brand loyalty and the value of brand reputation decrease. This brings forth a need for the price to reflect the true value of the offering and the value needs to be quantified for the price to be defensible. As the case company usually aims to support high target price levels, the sales organisation is already using value based techniques and value arguments to some extent to defend the price. Sales activities in general are however much concentrated on product features, not life cycle benefits. Communicating benefits that are in accordance with customer needs cannot be seen all around; the level of sophistication in value communication is usually somewhat lower (Sales engineer, 2009. Not publically available).

At present the market in general is still recovering from the financial crisis and demand is picking up slowly. The shipping industry experienced a significant boom from about 2005 up until 2008, much more so than any other industry at the time. In those times prices were much more easily defensible, however in times of deflation and lower demand, prices need to be more thoroughly justified. Looking at the examined Segment's industry in specific, it is highly capital focused. These two features of the market in today's situation lead to a need to have clear quantitative value measures available to support sales. In practice this means a value based sales tool and also general marketing material that is accurate enough in terms of value arguments. In the case company there is good basis to utilize life cycle value arguments since no competitor is able to support the client through the whole life cycle of the engine in an equal way.

6.1 Sources of value for the Segment clients

Key in order to implement a value based sales strategy is first to know the sources of value for the client. Due to the nature of the business with the two distinctively different clients, it is clear that sources of value need to be looked at separately from the point of view of the shipyards and the owners. Shipyards are naturally concentrating on the capital expenditure of the newbuild vessel and the vessel owner on the other hand pays attention to the operational expenditure as well.

Sources of value can easily be drawn from the customer's main issues, which were recognized in a study prepared within the Segment (Case company, 2008. Not publically available). From the shipyards' point of view, major issues are interface risks between the supplier equipment and the vessel and other suppliers' equipment, long commissioning times and low engineering capabilities. All of these combined result in potential delays in design and building time, which are in the vessel owner's interest as well since it may delay their charter from starting at the date agreed with their client.

For the vessel owners, key issues are unexpected downtime, high operational expenditures, and fulfilling the ever increasing end-customer requirements on health, safety and environmental issues (HSE) and on life-cycle environmental impacts. Unexpected downtime is caused mainly by poor availability of service, maintenance staff and spare parts, poor maintenance and breakdowns due to low reliability equipment. High operational expenditure can be caused by costly maintenance, which is emphasized by the often remote operating locations, and the sub-optimal technical solutions as yards are focusing on filling the minimum requirements only. Life-cycle environmental requirements force vessel owners to pay attention to CO₂, nitrogen oxide (NO_x) and sulphur oxide (SO_x) emissions and different emissions from the vessel to the water, such as bilge water.

Drawing from these customer issues, the Segment can offer value to its clients through reducing downtime and operational expenditures, complying to HSE requirements, and by reducing design and building times.

6.2 Segment clients segmentation and focus points

Clearly not all clients can be won over with value based pricing and value based argumentation. From a sales resource perspective, it is not effective to attempt making value based business with customers who are strongly price-driven and do not place importance on product differentiation. The purpose of segmenting the customers is to find out the ones with whom value based sales argumentation and pricing could be most effective. Other sales

strategies and tactics can be used with clients who are likely not to be won over based on value arguments.

When looking at the different sub-segments of the Segment, it can be seen that the fundamental customer needs do not differ much in between each other. Thus it is more fruitful to look at vessel owners and shipyards, since sources of value differ significantly for these two groups, and find out different segments within these two groups.

Some implications can be drawn from the segmentation presented in the Segment study (Case company, 2008. Not publically available). Owners are split into *Advanced Owners* and *Standard Spec Owners*. Advanced owners are operating specialized vessels in possibly rough operational areas such as the North Sea or Arctic areas or very remote areas. These are clients that are clear focus customers for value based sales. Requirements for the equipment are often demanding and high importance is placed on performance and operational reliability. Charters are also often longer than average for these owners, making it possible to make more accurate operational life-cycle cost estimates. Also environmental requirements are usually stricter. Advanced owners in one of the sub-segments are already among the most important clients for the case company and they recognize the advantages they receive from using case company engines, even though these advantages might not be communicated and guaranteed to them by the company directly, but recognition is based on experience using the equipment on existing vessels.

Standard Spec Owners are operating more simple vessels based directly on end-customer specified requirements or standard yard designs. A very common approach in these cases is to give a lot of responsibility to the shipyard, which is of course highly focusing on CAPEX and its only task is to fulfil the minimum equipment requirements. This is a very price driven segment and vessels are usually operating in easier environments such as the Gulf of Mexico with no high requirements. It is thus difficult to penetrate this segment without being able to influence the vessels designs directly.

The shipyards are split into *high engineering capability yards* and *low engineering capability yards*. High engineering capability yards are usually established yards for instance in Korea

who have high integration capabilities and are buying products, not so much solutions, with a very price driven approach. With these clients the case company does not have much possibility to price based on value since the yard does not need the engineering support and unless there is no specific approved maker's list, the yard will choose lowest priced spec fulfilling equipment. When dealing with high engineering capability yards it is important to be able to influence the owners who can affect the yard equipment selections.

Low engineering capability yards are possibly very new, yet unestablished yards that do not have much experience in shipbuilding. These yards are more likely to buy solutions and product bundles with more than one product per supplier. For the case company, this could mean that there would be a possibility to sell a package containing e.g. main engines, electrical and automation systems, power transmission, propellers, gear-boxes and transverse thrusters. The case company can provide clear value by decreasing the amount of required integration engineering work from the yard and thus reduce the risk of building delays.

6.2.1 Market segmentation based on value perception

Nagle and Holden suggest customer segmentation based on value perception, splitting customer into four distinctive groups. The dimensions affecting perceptions of value are the perceived value of differentiation and the perceived pain of price. Various factors affect these dimensions, as described in chapter 3.3. Let us discuss these factors and the two dimensions to derive implications on customer value perception in case of the Segment's client base.

The perceived value of differentiation is firstly affected by the reference price effect. In the case segment field, most buyers are established players and are well aware of the prevailing price levels in the market. They most likely have offers available from all the other competitors, and the case company offers from the past for similar scopes of supply. Reference products are limited as there are not many companies offering medium-speed marine engines. Some greenfield yards might be less aware of reference prices and it is possible to persuade them to pay higher prices. Also new Chinese vessel owners who do not

have experience of the business might be less aware of the general price levels and may be very open for life-cycle cost based argumentation since it will help their own business by providing them support with their investment calculations.

In terms of the difficult comparison effect, the case company is the “known and reputable” product that is subject to competition from lesser known brands. The case company has long relationships with many yards and owners, and many purchases are made on the basis of good reputation. Therefore with relationship buyers it is better to try and make the comparison difficult in order not to expose the case company to a direct, easy comparison with competition. In the new-build business with yards, this can be done e.g. with varying auxiliary equipment scopes and bundling several product groups from the portfolio in one offer and price (General Manager sales, 2009. Not publically available). The leasing strategy suggested by Nagle and Holden is not very feasible in the field because engines are usually installed in the engine room, which is located in the lower decks of the vessel, and thus removing the engines in midst of the vessel life-cycle is a very expensive and time consuming operation. A lease would only be feasible in case the contract was made for the whole life-cycle of the vessel, in which case it could be a worthwhile option to consider for selected projects, with conditions.

The end benefit effect in terms of value of differentiation for the vessel owner means that for instance a specialized vessel that has a dedicated task in the operation area often has a much more critical role because it may not be easily replaceable and poor reliability of equipment may cause danger to the other vessels and personnel. Therefore in this specialized segment the value of differentiation is higher because of the importance of the involved end benefit. An example of such application where the end benefit is crucial is an offshore service vessel which performs anchor handling operations for a drilling rig and must be able to keep position in all circumstances. The end benefit effect can be examined also from a financial point of view: when the operational expenses (and thus achieved day rate) are higher, the more value the vessel owner will place on performance and reduced down time.

Switching costs and effects of price on perceptions of quality are not major factors to affect value of differentiation. Switching costs may include training for crew if type of equipment

is changed, replacing existing spare part inventories, and costs incurred from differences in installation work, if looking at the topic from the shipyard point of view. Most buyers and clients in the field are experienced, therefore the effect of price on the quality perception can be considered minimal, if non-existent.

The other dimension affecting perception of value is the perceived pain of price. The first factor to have an influence on the customer's perceived pain of price is the size of the expenditure. When looking at the different engine products in the Segment portfolio and associated auxiliary equipment scopes, the factor from the smallest possible expenditure to the largest can be up to 100. In practice this can be seen as to have an effect on the perceived pain of price: the larger the expenditure, the more sensitive clients will be to higher pricing and will spend more time on evaluating competing alternatives in the market.

The proportion of the cost of the end benefit that the product accounts for can be observed from a few different points of view. First alternative is to consider the price of the new build vessel as the "end benefit". This approach is relevant when looking at the yard's perspective. Here the proportion of the engines depends on the size and complexity of the vessel. The larger and more sophisticated the vessel, the smaller proportion the engines will represent in the total price. Similarly, the day-rate that the vessel owners will receive from their clients can be seen as the "end benefit". Here the owner would consider the proportion of the operational cost of the engines compared to the total cost of operating the vessel. Again, engines are not the biggest expenditure and the proportion would be smaller for bigger and more complex vessel types. The most significant operational costs are crew costs at approximately 60% and insurance costs at approximately 12-13% (Koh, 2008. Not publically available). The third point of view would be to consider the profitability and lucrativeness of the end-customer's (vessel owner) business as the end benefit. This will have implications not so much in terms of cost proportion, but in terms of derived demand, which then again affects price sensitivity. When the end-customer's business is doing well, there will be higher demand for vessels on the market, and buyers will be less sensitive to vessel and equipment prices. Vice versa when the vessel owner's business is slower, price sensitivity will increase hand in hand with decreasing demand. As an implication of the end

benefit effect it can be seen, as literature suggests, that in projects where engines represent a smaller proportion of the whole vessel price, it is in general possible to achieve better prices.

The effect of perceived fairness can occasionally be seen when selling to relationship buyers (repeat customers), and customers who will have a preference to choose the case company already before starting the purchase process. With these clients there are possibilities to price relatively high as long as the price is perceived as “fair” and not too much higher than the second best alternative (Sales manager, 2009. Not publically available).

Looking at the definitions of the four distinctive customer groups, a rough segmentation of the Segment clients can be made. The segmentation is presented in Figure 7. Owners building based on standard specifications and engineering houses for large projects are typical “convenience buyers” in the Segment. In these cases there are usually no special requirements to the equipment and only the building specification needs to be met and the technical setup needs to fit the rest of the vessel design. Searching for the supplier providing the best value is not worth the time spent since the engines can be a fairly small money bag and the technical requirements not demanding.

Price buyers place low value on differentiation and spend time on getting the best price that fulfils the required specification. Experienced and established yards with high in-house engineering capabilities are typical price buyers. They have the capabilities to compare competing products in depth, seek for the best price and have little interest in possible added value that some product may offer on top of the actual required features.

The case company has several owners and yards with whom the business relies on established relationships. These customers already recognize the added value, and as long as technical fit is maintained and the price is perceived as fair, there are good possibilities to do continuous, profitable sales.

Value buyers place high value on differentiation, but also expect the price to reflect the provided value. These buyers will spend a lot of time and effort to search for the best value

proposition. Advanced owners and yards with lower than average in-house engineering capabilities are typical value buyers in within the Segment.

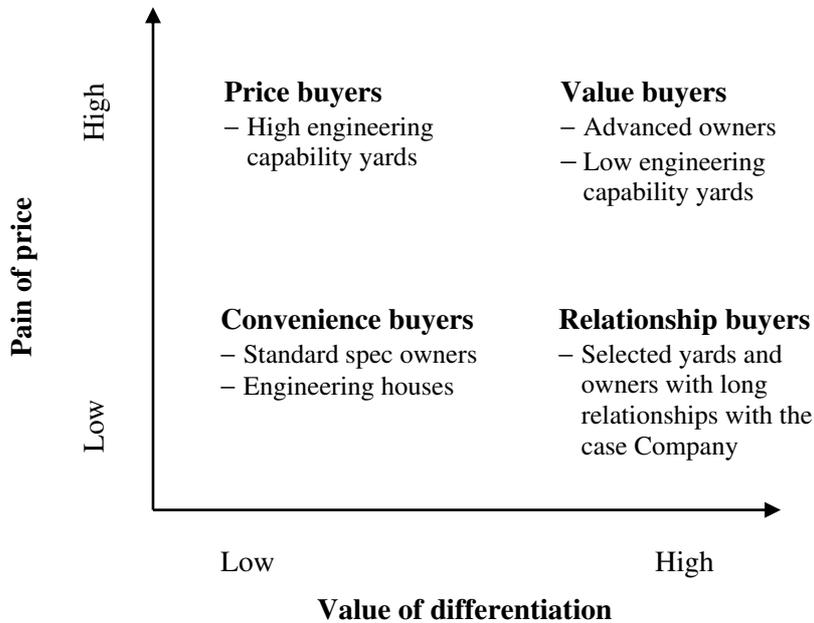


Figure 7. Segment clients segmentation based on value perception.

6.3 The value based proposition

According to the Segment’s strategy, “the value proposition is strongly geared towards asset owners” (Case company, 2009a. Not publically available). Therefore it is logical to concentrate on the vessel owner point of view and the value arguments that have most relevance to the owners. The value proposition should concentrate on quantifiable life cycle benefits, not product features. As per the internal study (Case company, 2008. Not publically available), the most important owner issues are high operational costs and unexpected downtime. Based on this, the main components of the case company’s value proposition should be a life-cycle cost calculation (a framework for which will be presented in chapter 8.4) and various performance guarantees to show commitment to the promised value. As needed, the value proposition can also include value case histories, as suggested by Anderson et al. (2008), and presentations of individual moneybags within the life cycle costs, such as

fuel consumption comparisons either to competing products or internally between alternative case company engine types being considered for the project.

Even though the case company proposition is focusing on vessel owners, the yards are most often the direct contractual client to whom the engines are sold, thus they cannot be forgotten. The shipyard's biggest concerns typically are purchase price, timely delivery of the equipment and risk of delays to the complete vessel delivery. The value to the yard is not so easily quantifiable, however through performance guarantees and value case histories some elements of value based selling can be applied also when selling and marketing to shipyards.

6.3.1 Performance guarantees

For all present new build projects, in addition to normal warranty, the case company gives guarantees for engine fuel oil consumption, lubrication oil consumption and engine power. Other case dependant performance guarantees may be given for selected clients. Also various "soft promises" are often given, such as detailed weight and dimension information, which play an important role for the shipyard and vessel designer, and guaranteed noise and vibration levels emitted by the engine, which must be taken into account due to working environment safety regulations.

To show commitment to the presented life cycle value, various other guarantees should also be given. The owners' issue of unexpected downtime can be addressed by at least the following different performance guarantees: spare part availability, service crew availability, and up-time guarantees. Spare part availability refers to the capability to respond to spare part purchase orders and being able to ship parts within a certain timeframe from receiving the request. This performance guarantee is mostly related to situations where unexpected maintenance (not part of planned maintenance) is needed and it is crucial to get the needed spare parts on site quickly. Similarly, service crew availability refers to the case company capabilities to have competent service engineers available to perform maintenance on-board the vessel when needed urgently.

The most relevant performance guarantee to convince the vessel owner in regard to unexpected downtime is the up-time guarantee. Most vessels and installations within the Segment are based on a diesel-electric system with multiple engines (often referred as the “power plant”) generating electrical power to the various consumers on-board. The power plant is usually set up for redundancy and overcapacity compared to actual power need. This means that one (or in some cases several) engines can be in stand-by, or under maintenance, at any given time without the vessel operation being compromised. Based on this philosophy, the case company should guarantee a certain up-time for the power plant as whole, meaning that obstructions to the vessel operation will be limited. Failure to meet the guaranteed up-time (more unexpected downtime than promised) should lead to penalties and on the other hand performing over the expected should result in a “bonus” for the case company.

The guarantee should be based on certain conditions. Original equipment manufacturer (OEM) spares should always be used, and maintenance should be performed in accordance to the maintenance plan provided by the case company. Case company guidelines need to be followed when operating the engines, and in case the operation and maintenance (O&M) is not performed by case company personnel, the customer’s crew should be trained accordingly and O&M should be performed under the case company supervision.

As customer trade-offs, higher levels of performance guarantees should be offered in exchange for larger case company scopes of supply. Scope of supply and the value of the equipment purchase contract, and the length and value of the O&M contract should be reflected in the guarantees. The philosophy should be: the more value for the case company, the more value for the customer in terms of guaranteed performance.

For the shipyards one of the biggest worries is delays in delivering the complete vessel to their customer. For equipment manufacturers it is very difficult to guarantee anything in this regard since they can only have control of delivery of their own equipment. Supplier equipment delivery time is normally guaranteed in the contract, with liquidated damages for non-compliance. Sometimes also the delivery times for various engineering and installation support documents are guaranteed in the contract. One way of enhancing the performance guarantee towards yards could be to introduce more detailed project delivery schedules,

which could be integrated to the builder's own master schedule in order to decrease risk of delays.

6.3.2 Creating value case histories

Lee (2008. Not publically available) has stated in a customer interview that the case company should focus on customer interaction and present detailed track records of performance in project deliveries and vessel operation. A value case presentation is different depending if the intended audience is a vessel owner or a shipyard since the value metrics are different. Reflecting on the owners' most important issues, the value cases should present at least realised life cycle costs, average down times (both planned and unexpected), and average response times to customer requests for spare parts and maintenance personnel. Way of measuring these metrics should be agreed upon with the vessel owner / operator, and in order to be able to reach reliable results, an O&M agreement or other kind of case company presence on-board the installation is most likely needed.

The value for the yard is more difficult to quantify, however some value case histories of more general nature could be created. "Success stories" should be documented and explained how the case company have contributed to an on-time vessel delivery for instance via timely support in design, engineering, equipment interfacing, commissioning and start-up of the installation at the shipyard. Although not presenting quantifiable savings, presenting "success stories" will help the customer to see the specific areas where the case company can best support and enhance its performance.

6.4 Value based pricing model concept

The main objective of this thesis was to develop a concept for a value-based pricing model which could be utilized in pricing, selling and marketing of case company marine 4-stroke engines. The EVC (Economic Value to Customer) theoretical concept by Forbis and Mehta was applied as basis to develop the concept. The development was done in five major steps:

1. Find the quantifiable value elements that form the life cycle costs of the marine 4-stroke diesel engine

2. Describe the value elements
3. Develop the calculation formulas and methods to quantify the value elements
4. Combine the value elements into a complete model concept
5. Validate the model

The model was built into MS Excel using example figures from a real vessel application; however the figures presented here are modified randomly in order not to reveal any sensitive information. The implementation of a value based strategy and a value based pricing model are further discussed in chapters 6.5 and 6.6.

6.4.1 Diesel engine purchase price

The first category in the EVC value elements is purchase price. This can be examined from two different viewpoints: the shipyard's and the vessel owner's. From the yard's point of view, the purchase price is simply the contract price at which they manage to negotiate the engine purchase from the supplier. The vessel owner on the other hand will mainly look at the purchase price of the whole vessel. In this context when the intention is to examine the EVC of the engines only, the purchase price of the engines should be seen as the price difference between the reference product (Case company) and the competing product(s). The cheapest alternative will thus be priced at "0" in the calculation, and the more expensive ones will receive a value based on their price difference to the cheapest alternative. This is logical also when looking at how yards often price vessels towards their clients in reality: the "base price" is based on a certain engine make, and there can be additional "optional" prices for different engine makes in case these are requested to be presented by the buyer. When comparing different equipment alternatives it should also be taken into account that there could be schedule impacts to the shipyard from selecting different makes (Koh, 2008. Not publically available). Being able to deliver the vessel sooner (or on the other hand in case there is a delay in the delivery) could have a quantifiable value impact to the vessel owner in some cases. This value, if possible to quantify reliably, should be taken into account in the purchase price component. Information on the above mentioned values and purchase pricing is in most cases not directly available to the case company, thus it is necessary to

either completely dismiss the purchase price component from the EVC calculation, or use best estimates.

6.4.2 Start-up costs

Similarly as the purchase price, the start-up costs can be examined separately from the yard's and the owner's point of view. For the shipyard who builds the vessel, the start-up cost constitutes the following:

- Detailed design and engineering
- Equipment installation, cabling and piping
- Interfacing to vessel systems
- Commissioning and testing

Due to lack of reliable information it is, in most cases, difficult to quantify possible benefits in value compared to competition in regards the above cost components. Yards generally tend to hide information from suppliers in order to retain negotiation power in the purchasing process. In some cases it is possible to present arguments of time saving in the above activities, however quantifying the value, much less guaranteeing it, is challenging since the case company as equipment supplier is not responsible and not in control of these activities.

For the vessel owner the start-up cost constitutes possible costs of training the operation crew and maintenance personnel. There may also be a switching cost involved in case the owner is changing engine brand, and thus has to renew spare part inventories as well. As a going, the case company is normally not privy to detailed information on these costs, therefore it is challenging to present other than soft argumentation on these potential sources of value.

6.4.3 Diesel engine post-purchase operational costs

After the vessel is delivered to the owner, the rest of the life-cycle costs are post-purchase costs, typically referred to as operational expenditure (OPEX). These costs are usually paid by the vessel owner directly. When calculating OPEX, it must be decided which investment calculation length should be used. Vessel life time is usually considered to be around 20 to

25 years in the industry, after which it is scrapped. However the owner's investment horizon is not necessarily that long. Vessel charters are rarely longer than 5 years at a time (Koh, 2008. Not publically available), and in some cases the second hand market is so lucrative that owners sell vessels already after some years of operation. In any case the investment horizon to be used in the calculation must be informed by the owner, or alternatively an educated guess based on earlier experience in the particular market can be used. In the example calculation prepared for this thesis, an investment calculation length of 25 years was used. Similarly, a discount rate must be selected. Five percent p.a. was used in the example calculation.

The following post-purchase cost components were identified:

- Fuel
- Lubricating oil
- Spare parts
- Maintenance work
- Environmental cost

These components will be described, along with proposed calculation methods, in the coming chapters.

Cost of fuel is normally the biggest engine related operational expenditure. It is common practice in the Segment industry that owners and operators do not necessarily pay for the fuel themselves, but this is provided by the vessel charterer as “complimentary”. Today's trend is however that more and more often the owner/operator is also accountable for the fuel used, and environmental values including fuel consumption are high on the agenda. These aspects highlight the importance of fuel as a life-cycle cost component and source of customer value.

The most simplistic presentation of a fuel oil cost calculation is one where only a single engine running at a constant load for a give number of hours is considered. Such cost calculation is presented in formula 1.

Lubricating oil cost is calculated in a similar fashion as the fuel oil cost. The simplistic calculation formula for lubricating oil cost is presented in formula 2, and similarly as for the fuel oil cost, actual lubricating oil cost is calculated based on a given operation profile.

$$c(LO) = Engine\ power\ (kW) * engine\ load\ (\%) * running\ period\ (hrs) * SLOC\ \left(\frac{g}{kWh}\right) * fuel\ price\ \left(\frac{\text{€}}{ton}\right) * 10^{-6} \quad (2)$$

where c(LO) = cost of lubricating oil

SLOC = Specific Lubricating Oil Consumption, at given engine load

Cost for spare parts and maintenance work for case company engines are calculated in a dedicated internal tool, which takes into account yearly engine running hours and the average engine load among other parameters. Spares and maintenance can be a major moneybag for the operator, and being able to present e.g. longer maintenance intervals than competition is a clear advantage in terms of customer value. An example calculation of spare parts covering operation years 1 through 10 is shown in table 4. The cost effect of major overhauls during years 6 and 8 can clearly be seen in the figures.

Table 4. Illustration of diesel engine spare part cost calculation, years 1 through 10

		CASE COMPANY
Year		Spare part costs
1		90 000 €
2		350 000 €
3		400 000 €
4		700 000 €
5		350 000 €
6		1 100 000 €
7		110 000 €
8		2 200 000 €
9		730 000 €
10		450 000 €

Last component in the post-purchase cost category is environmental cost. This refers to nitrogen oxide (NOx) emissions, which are regulated. Some areas are special Emission

Controlled Areas (ECA), in which stricter than normal limits are applied. To reach these limits it is necessary to use after-treatment technologies based on Selective Catalytic Reaction (SCR) in the exhaust gas stream. This equipment requires constant injection of a urea solution, and thus results in an additional operational cost. Additionally to the urea consumption, emitting NOx emissions as itself may also have a cost. Some countries have emission schemes in which the emission itself has a cost when operating in their waters. The simplistic calculation formula for environmental cost is presented in formula 3, and similarly as for the fuel oil and lubricating oil cost, actual environmental cost is calculated based on a given operation profile.

$$c(E) = \text{Engine power (kW)} * \text{engine load (\%)} * \text{running period (hrs)} \\ * \left(ER \left(\frac{g}{kWh} \right) * pNOx \left(\frac{\text{€}}{\text{ton}} \right) + SCC \left(\frac{g}{kWh} \right) * pCat \left(\frac{\text{€}}{\text{ton}} \right) \right) * 10^{-6} \quad (3)$$

where c(E) = environmental cost

ER = NOx emission rate

pNOx = NOx emission cost

SCC = SCR catalyst consumption

pCat = catalyst price

6.4.4 Additional EVC dimensions

In addition to the value components described in chapters 6.4.1. to 6.4.3., also other potential value dimensions were found. These were ones that are difficult or even impossible to quantify reliably, but should be kept in mind. For the owner the vessel will always have a resale value, whether it is sold to another vessel owner or scrapped at the end of its lifetime. The engine selection hardly has an effect on the resale value, though, unless the vessel is sold at a very early stage in the lifetime.

For vessel owners within the Segment the biggest concern is down-time. The cost for down-time, whether expected (i.e. planned) or un-expected, is straight forward to calculate: it is the daily rate that vessel owner receives from the charter contract (i.e. charter rate) multiplied by the amount of days the vessel is out of operation. The engine power plant on vessels is

normally designed in a way that there will never be any expected down-time of the vessel due to reasons attributable to the engines. Spare capacity from other engines is normally available when one or more of the engines is not running due to, for instance, planned maintenance. Unexpected down-time is naturally something the vessel owner will want to avoid at all cost. In cases where the case company commits to an up-time guarantee for the power plant, it would be, in theory, possible to calculate the cost for unexpected down time based on the guaranteed figure and the customer's daily charter rate. This would however be sending the wrong message to the customer in terms of expected equipment reliability: 100% should be the communicated message even if the guaranteed figure may not be as high. On the other hand, it is also practically impossible to estimate these figures for the competing products.

In some cases it is possible to show advantages in engine footprint, dimensions, weight, or other physical characteristics such as required maintenance space. These can have a value impact on the building price of the vessel, however for the case company as equipment supplier this is difficult to estimate unless the information can be made available from the customer. Engine characteristics such as emitted noise and vibration can also be used as "soft" arguments while setting a monetary value on these dimensions is challenging. For selected customers it can also be said that the case company has a reputation premium, however quantifying this value is equally difficult.

6.4.5 Summary of EVC model calculation

The identified value components of the EVC model are added up and summarized to come up with the total life cycle cost, both for the case company engine and the competing product. Table 5 and figure 8 show an example of the summarized figures. Example figures are based on an actual vessel application but have been randomly modified in order not to reveal sensitive information.

Table 5. Example of total life cycle cost calculation

			<u>Case company</u>	<u>Competitor</u>
	(+)	Purchase price	1 250 000 €	1 200 000 €
	(+)	Start-up costs	0 €	0 €
(+)	Post-purchase costs	Fuel cost	7 932 285 €	8 174 382 €
		Lube oil cost	53 115 €	75 878 €
		Spare parts cost	9 015 731 €	9 414 995 €
		Maintenance cost	17 683 039 €	17 683 039 €
		Nox emission cost	1 425 426 €	1 425 426 €
	(+)	Additional costs	0 €	0 €
		TOTAL Life Cycle cost	37 359 595 €	37 973 720 €

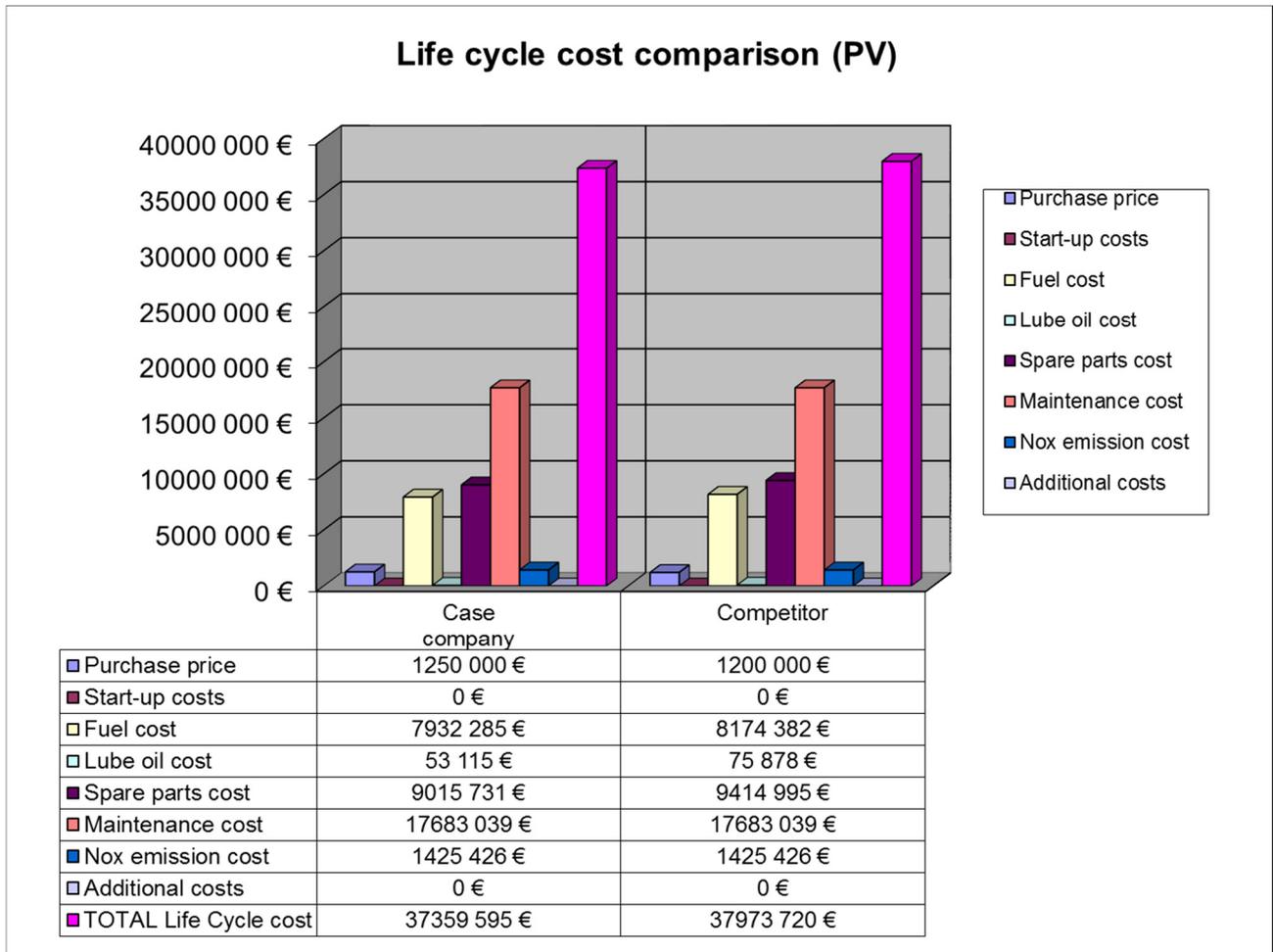


Figure 8. Chart illustration of total life cycle cost comparison

Sometimes it can also be useful to present values of individual life cycle cost components, such as fuel oil costs, to highlight certain benefits separately. An example illustration of fuel oil costs for a 10 year period as a cumulative cost chart is shown in figure 9.

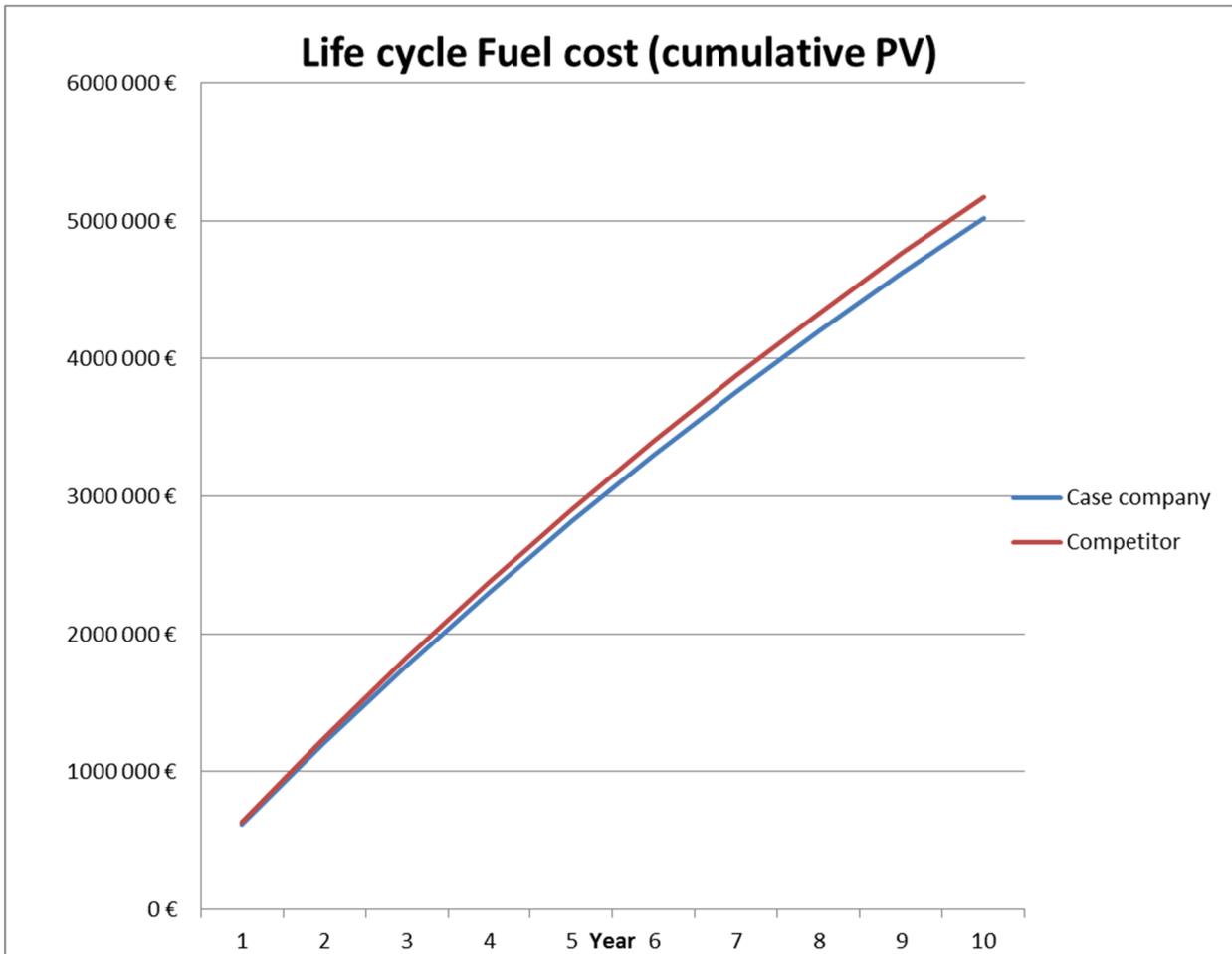


Figure 9. Cumulative cost chart for 10 year fuel oil costs.

6.5 Implementation of value based strategy in the case Segment

Once a model for a value based pricing was created, the target of the thesis work was to discuss the implementation of such pricing approach and a value based selling approach and strategy in the case Segment. Based on the expert interviews and the author's personal working experience in the company, four major areas where development was necessary were identified:

1. Value communication

2. Customer business metrics knowledge
3. Sales force management
4. Sales process and negotiation

The identified development areas are elaborated in chapter 6.5, and furthermore some possible limitations and obstacles for utilizing a value based strategy are presented in chapter 6.6.

6.5.1 Value communication in case company marine division sales

The nature of the value communication in the business is highly dependent on personal sales and relationships. Sales are purely business-to-business, and there is no advertising in the traditional sense of the word, no programs to induce trial and no endorsements. Thus reaching the correct people in the buyer's organization is extremely important. Many times there is no direct contact to the vessel owner, which effectively prohibits sales activities towards the final product user who is interested in the life-cycle value. Thus as a general statement it can be said that more channels to vessel owners are needed to enhance the effectiveness of value communication. It should also be noted that in some cases vessel designers as well can have influence over final equipment selections.

According to Lee (2008. Not publically available), end-client customers are encouraging the case company to be more proactive, to show track record and to be intoned with customer requirements. This was only one customer's view, however it highlights the need for communication with owners, and that channels might even be open but they are simply not utilized to the full extent. Since owners in their daily operations business are mostly served by the case company service organization, its sales and account management activities play an important role in value communication. For the service organization sales the primary focus is not always to promote the marine division portfolio for new-build vessels and discussing the clients' needs concerning their future fleet, thus a cross-segment (marine division and service) sales and communication approach should be developed for selected accounts where this could have positive impact for both organizations. This would enhance

internal communication and allow the marine division to both learn more about the owner's operational business and to gain access to valuable contacts in the client organization.

The marine division sales is traditionally based on long-term relationships and experiences with buyer organizations. Personal relationships between individuals in the seller and buyer side can have a significant impact on sales effectiveness. According to the expert interviews, the marine division usually deals with five different groups within the customer buying centre during the sales process. *Initiators* are often yard engineering teams, or operational support personnel if dealing with the vessel owner. These groups do not focus much on price. *Purchasers* come in to the process after early negotiations with the engineering teams, and they initiate the first price discussions. Persons deciding on the approved vendors list can be seen as *gatekeepers*. The case company is a major player on the market and is usually on the approved vendor list. With selected customers, the case company has the possibility to communicate to higher management level *influencers*, however identifying these can be challenging if the structure of the customer's organization is not fully known. This highlights the importance of identifying, documenting and managing customer contacts. *Deciders* are normally senior management, very often invisible to selling companies and not always at reach.

It is easy to extrapolate that in most cases it is the influencers and deciders to whom the value proposition should be targeted and communicated to. This is especially the case for new customers who may not see the value unless it is quantifiably communicated to them. Channels to higher management within the customers' organizations need to be created and maintained. Dealing with commercial purchasers only leads to contracts that will have to be closed with price alone. It must be noted that it is sometimes intentional from the buyer's behalf to block communication to influencers and deciders in order to induce a price competition between possible suppliers. Also when looking at the way of working between vessel owners and yards, owners do not always want to influence the yard's buying process in terms of equipment selections, but rather see them as contractors who are free to run their process and select equipment from the approved vendors list. This kind of approach naturally limits the possibilities to influence owners via value propositions.

When channels are open to the rights groups and individuals on the customer side, the EVC model can be used as a tool for marketing and communicating value. In general, it can help to achieve a more consultative selling approach, to induce customers and to defend the price. When having sufficient information on the customer's value drivers, the EVC can also be used internally to estimate price levels which are still acceptable for the client.

6.5.2 Customer business metrics knowledge

When applying cost based pricing, sources of cost must be well known. In analogy, when applying value based pricing, sources of value must be known and this knowledge is central to the successful implementation of a value based strategy. Naturally the costs need to be known also in a value based pricing strategy in order to secure meeting target margin levels. Once the sources of value are known, it is then of key importance to demonstrate and document the delivered value. A B2B sales message can be more complex than in the B2C market, however it needs to be customer specific to be most effective, thus specific customer business metrics must be known.

As per today, knowledge on customer business metrics is gathered mostly through everyday communication and practical experience in various projects and issues when dealing with the clients. When it comes to end customers, most of this communication is naturally done by the case company service organization and knowledge is passed on to the marine division, however it should be paid attention to developing the best practises further in this area. This daily communication is, in a way, "assessment of value-in-use", since the counter party at the client's side is one who is already using case company products. For selected clients, also interviews have been performed to gather information on various topics. In order to introduce more formal ways of gathering information on value drivers, it could be suggested that, where feasible, well known tools such as focus group assessment of value, conjoint analysis, and quality function deployment (QFD) could be utilized. Suitable methods should be developed in co-operation with clients and the case company should introduce forms of remunerating customers who are willing to allocate resources to such exercises.

6.5.3 Managing marine division sales force

Hinterhuber (2008) presents five fundamentals of sales force management to support a value based approach. When reflecting these fundamentals against the “as-is” situation in the marine division sales force, some observations can be made. Firstly, it can be said that in some cases the sales force should have more power over prices since a lot of the pre-requisites are met: the sales personnel often have great insight into customers’ willingness to pay, have good negotiating skills, and the product can be quite complex. Secondly, a remuneration system focusing more on rewarding profitability should be introduced. As suggested by Hinterhuber (2008), the system could be two-fold: commission should be low when focus is on sales volume (such as “bulk” sales of simple engines), and higher when focus is on sales quality (special applications and demanding requirements). Lastly, there are already good training and development schemes in place that allow sales personnel to be more comfortable selling solutions and value instead of just products based on price.

6.5.4 Sales process and negotiation in the Segment business

Allowing price negotiations to take place in an early phase gives the customer much more power in the final price. Trying to avoid this and steering conversation away from price is a constant effort in the marine division sales. Often the first contact is with the client’s technical team which support this since price is rarely a topic at that point. As a general guideline it can be said that no prices should even be given out at a time when no information or details of the vessel are known.

When looking at the type of buyers the marine division deals with, it can be seen that when it comes to *price buyers*, contacts to higher level management should be developed further (both at the client yard and various vessel owners). Dealing with yard purchasers and lower level engineering teams does not give many opportunities for value based argumentation. Yard engineering teams are rewarded for achieving a specification fulfilling, technically fit package and are not interested in life-cycle values. Similarly yard purchasers are rewarded for making price savings. It should be noted that it’s always possible to go back to price buyers with a low price. Price buyers rarely become relationship buyers. Therefore it’s not

advisable to sell at a very low cost in hope of future profits, but profitability should be sought in every single sale.

Many yards and owners have a long history of purchasing from the case company. These can be considered *relationship buyers*, however the business environment is becoming more challenging due to competition and also some of the new companies in the field are achieving the status of a trusted supplier. Relationships have also been lost with some clients. New customer companies are also emerging and a “relationship buyer” is naturally a state that should be targeted. Both with customers where the past relationship is lost, and with new ones, it should be remembered that they can rarely be won over by price, but service, security and proven value.

Based on the input from the interviews, it appears that not a lot of buyers in the Segment industry are true *value buyers* in the sense of the word as described in the literature. In many applications the engines tend to represent a small portion of the cost (both CAPEX and OPEX), and are thus seen more as a commodity and not worth the cost and time spent to seek for best value. Selected yards and owners where the engines represent a larger portion of the cost or are critical to their operations do recognize and seek value, and these are the clients where the case Segment should focus to deliver the value message to.

6.6 Possible limitations and obstacles for using a value based strategy in the Segment

Literature presents a suggestion of ideal conditions where a value based strategy and value based pricing can be most efficient, and usual obstacles that make a value based approach more challenging. Unfortunately the environment where the case Segment operates in is in conflict with many aspects of the ideal conditions, and many of the usual obstacles can be seen in the fundamentals of the business. As opposed to the ideal condition, the case company engine products are perhaps not sufficiently enough “high tech” or differentiated when compared to the rest of the competition, and competition is getting stronger (both established and emerging new competitors). The marine diesel engine as a product is also not in an early phase of the product life cycle, and not an innovation product for which value based pricing is considered to be ideally suited. The marine diesel engine is a product in its

mature phase of the life-cycle and no radical innovations in terms of technology can be expected. The EVC-concept and value-based selling in general may shine brighter in sales of new, innovative products with attributes that are difficult to see downright.

The top two specific obstacles, value assessment and value communication, found by Hinterhuber (2008) can clearly be seen also in the case Segment. Challenges in value assessment are partly connected to lack of knowledge of customers' true value dimensions and business metrics. These are often customer specific and not all vessel owners are open in their communication, but they rather hide information. The main problems related to value assessment derive from the amount of unknowns in the life cycle cost calculation. First of all, there are operational aspects that are not in control of the case company during the life-cycle of the engines, thus not all components of the life-cycle cost calculation can be determined with 100% accuracy, much less guarantee these components to the vessel owner. Fact is also that the vessel charters are not always very long, thus the operation profile and geographical operation area is not necessarily known very far into the future which makes it harder to evaluate full life-cycle costs. It can also be seen that there is lack of knowledge when it comes to typical operational profiles of different vessel applications. Case specific operational profiles seem nearly impossible to obtain in the sales phase.

Assessing life-cycle costs of the competition (reference products) is extremely challenging. There is limitation in accuracy and amount of information available of the competing products. The reference products as such are known as the amount of players in the market is limited; however the exact prices and costs are usually not, and as with the case company, they are not fixed either. Only rough estimates based on apprehended information from the past can be made, and also subtle hints are sometimes received from the client. The reliability of these hints is of course questionable. Marine engines are not off-the shelf products where one can simply go and check the competitors' prices. In case of maintenance costs this is especially true since there is no major global competitor to the case company, only various small local companies. On the other hand the literature, as well as input from expert interviews, suggests to concentrate on own value proposition and breaking it down. Also to be noted is that the industry is somewhat traditional and conservative, and directly comparing own products to competitor products might be considered "rude" sales tactics.

Therefore owners and yards need to be induced to make the value estimates and life-cycle cost estimates themselves, thereby “allowing” value based pricing, and the case company should do its best to support customers in this process and guarantee certain operational values where necessary and possible.

In terms of value communication, the large scale problem for the Segment lies within the fundamentals of how the business and industry operates. A large portion of the dealing is done with shipyards or other intermediaries such as contractors or engineering houses, and not the end users of the products. These parties are mostly focused on CAPEX and not interested in life cycle values. They tend to hide information and do not allow suppliers even to attempt to influence selections. Sometimes they do not even meet with suppliers. Vessel owner is not necessarily even known to the case company before the end-phases of the sales project, at which point it is usually too late to influence selections. The owner might also not be interested in being involved in the building phase and equipment selections as long as the higher level ship specification is met and the builder selects the engines from the approved makers list. On the other hand there have also been success stories where communication channels to the end users have been utilized and it has been possible to influence their decision making process. Best practices from these cases should be identified and utilized in future projects.

Some practical issues related to the use of value based strategy and EVC in particular in the everyday sales activities in the Segment were also identified. Most importantly, since economic value to customer has to be almost always determined case by case, it is difficult to turn this concept into a clear-cut tool for everyday use because of the variation in the perceived value. The case-by-case nature of the EVC calculations also makes it difficult to be applied to the daily business since lead times from receiving RFQ's or other input triggering action to having to send the output to the client is often short. There is not always sufficient time to prepare estimates, gather information, analyze and prepare in-depth calculations since this requires a lot of expertise across the organization. Also, the number of contracts especially in some of the sub-segments being low, and almost every sale being different in terms of product configuration, makes it difficult to create comparable value case histories.

Finally, it can be seen that the amount of players involved in individual projects and contracts, each having different interests, might be too many for a successful implementation of value based pricing and the EVC concept. It might reign in B2C markets with high volumes, B2B markets with high volumes but in B2B markets with low volumes (little contracts), it may be very difficult to perform value estimates precise enough to base pricing purely on those. At the same time the customer base is limited and very well informed of “usual” price ranges. This limits the room for differentiated pricing without pushing the limits of what the customers will perceive as “fair”. Lastly, with the level of complexity involved in the contracts there could be practical difficulties in formalizing EVC value and guarantees into an actual contract between the parties.

7 CONCLUSIONS

When studying the feasibility of value based pricing for the marine division and the case Segment in specific it was found that in absolute terms, “value” cannot be the sole basis for pricing due challenges in the accuracy of value and cost estimates, insufficient knowledge on competitors’ price and costs, and the fact that target margins need to be maintained. The latter naturally requires a cost-based approach to be present at least in the background, while some value based elements can be utilized in the price formulation process. As a general comment based on all the reviewed literature it can be said that it’s not possible to implement value based pricing if the whole sales approach and business are not value based.

The EVC model was used as basis to create a concept for a value based pricing tool within the case Segment. Apart from pricing, the tool should be seen as a general tool to support the sales process and to help with value based marketing and price argumentation efforts. It can help in influencing perceptions of value and inducing customers to pay attention to life cycle value in a quantifiable manner. Due to the amount of work involved in using the concept in practice, utilizing it should be limited to selected projects and clients where communication channels to the right groups and individuals are open. Focus should be on value buyers and relationship buyers.

As general suggestions for the future, first of all a concise value pricing based strategy and detailed implementation plan should be formulated. This could be facilitated by creating a specific pricing committee, which has according to literature been proven as an efficient method to drive pricing efficiency in various industries. In addition, as a possible whole new business model, it could be worthwhile to look into possibilities of leasing the engines to the end-client for the whole life cycle, including operating the machines. This would address the owners’ two biggest concerns: a leasing model would bring predictability to the operational cost, and having the machinery operated by the engine maker’s personnel would minimize the risk of unexpected downtime.

At the moment, the case company is the only supplier in the market who can provide products and services that will cover the whole life cycle of the engine. Due to this reason as such, the case company is already considered by customers as “added value providing”. Where development can be made is in assessing, quantifying, and communicating this value via joint efforts by both the marine and service division in the company.

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APPENDIX 1. List of questions helpful for collecting information to base negotiations on.

THE VALUE: WHAT DO THEY NEED AND WHAT IS IT WORTH TO THEM?

1. What needs motivate the customer to purchase?
2. What else could the customer make or buy to meet those needs? At what cost?
3. How do product, service, and support differ from anything else the customer could make or buy to satisfy that need?
4. What benefits/problems could result for the customer from that difference?
5. Is the buyer currently our customer for this product? If not, why not? If so, what has been the customer's experience with our product and the promised benefits? If not, what has been the experience with the competitor?
6. Who (if anyone) cares about those benefits/problems within the customer organisation? Why do they care? What is most important to them?
7. How could we estimate and communicate the value of our benefits (either quantitatively or qualitatively)?
8. To what is that value related (e.g., size of the customer's sales, competitiveness of customer's market, sophistication of customer's data department)?
9. What product/service options would materially affect the value provided to this customer? What options would be of little value to them?

THE BUYING CENTER: WHO INFLUENCES THE PURCHASE DECISION?

1. What kind of buyer are we *really* dealing with (price, loyal, value, convenience)?
2. Who does the purchasing? Is that person aware of the benefits and the value? Does the value impact them personally?
3. What are the key purchase criteria? Who establishes or influences those criteria? Do they understand our value?
4. Who in the buying center is a supporter, neutral, or against a supplier?

5. Do these people expect to pay for value? If not, how can we influence their expectations before beginning the negotiation?

THE DEAL: WHAT SHOULD WE OFFER?

1. What package or product/service combination meets this customer's needs?
2. What package of products/services should we offer this customer?
3. At what discount?
4. How does that discount relate to those offered to other customers?
5. How will you convince this customer that the discount is "fair"?
6. How would you justify this discount to other customers if they demanded an explanation?

THE NEGOTIATION: HOW WILL WE MAKE THIS PROFITABLE?

1. How might this customer use manipulation and misinformation to avoid paying for value? How can we head off or thwart such attempts?
2. What product/service options could we eliminate to reduce the cost to the customer?
3. What other trade-offs (not concessions) would we be prepared to offer?
4. What would constitute a good deal for this company, given the realistic constraints on what the customer can accept? Can these interests be made to converge before we begin negotiation?
5. At what price/service level is it in our company's interest to walk? Will our company support us for doing so at least as well as if we accepted a bad deal? How do we ensure that support?

(Nagle, Holden 2002, p. 214-215)

APPENDIX 2. Topic list used in expert interviews.

1. What is your idea of “value based pricing”? Have you taken part in training? What is your view of the current situation in the marine division in regards to this subject?
2. Please comment on the below listing of the engine’s life-cycle cost components.

Life-cycle costs / EVC-model:

-Purchase price

-Start-up costs

- Installation
- Commissioning
- Training

-Post-purchase costs

- Spare parts
- Maintenance cost
- Fuel cost
- Lube oil cost
- Emission cost

-Additional costs

- Cost of expected downtime
- Cost of unexpected downtime
- Cost of building delays
- Cost of additional design

-Resale value

-Incremental value (features/advantages that are difficult to quantify, “hidden” in purchase price)

- Additional features

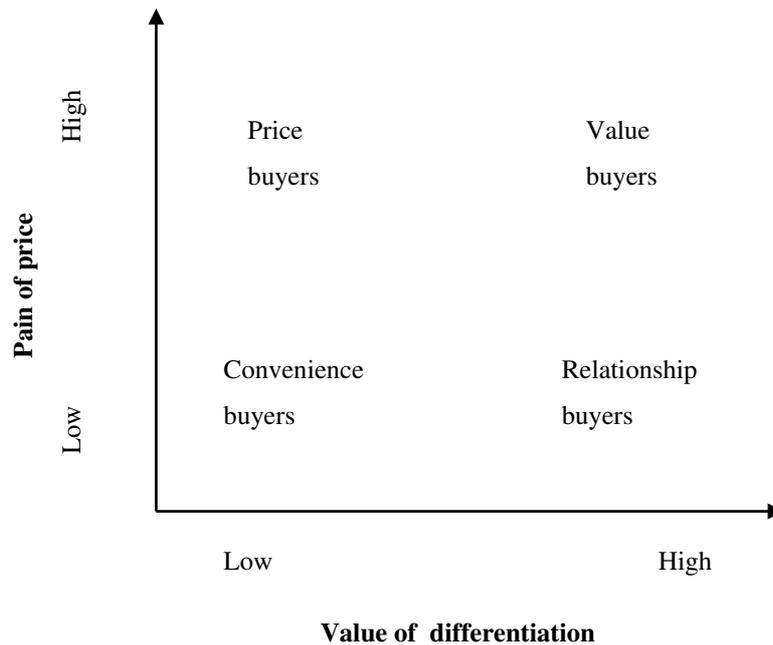
- Image/brand value
 - Advantages in dimensions and weight
 - Environmental advantages
 - Quality benefits
 - HSE benefits
 - Risk management
1. How long is the typical life-cycle of engine products? Is there one? What should be used as length of life-cycle in calculations?
 2. Who are our competitors in the different product and service groups?
 3. What are the main differences between the competitor offerings in these products and services compared to the case company offering? How are these differences used as arguments in sales negotiations?
 4. What is the (approximate) difference in price compared to the case company for each of these products/services?

Sales process / way of working:

1. How is “value” estimated and which value metrics are used?
2. How is value displayed and communicated?
3. What channels are in use when communicating to vessel owners?
4. What reasoning and arguments are used when negotiating discounts?
5. What is the level of authority of the sales force regarding sales discounts?
6. What is the sales force remuneration system based on?
7. How is sales force monitored in terms of volume and margin?
8. How would you describe the senior management support for sales? (Lobbying, networking, bargaining...)
9. What differences are there in the way of working when dealing with repeat clients versus clients we do not have established business with?

Customer (vessel owner):

1. What are the key purchase criteria based on which the customer makes their selection?
2. What is currently the extent of the customers' interest in life-cycle costs in the sales phase? (spare parts and maintenance, fuel, other?) Is this a key purchase criteria?
3. Who are the people usually involved in the sales negotiations from the owner's side?
4. Who is the decision maker?
5. Who are the main influencers for the decision maker?
6. Are the decision maker and influencers aware of the benefits and value of the product? Are we able to influence these persons?
7. Are the prices and offerings of different suppliers easily comparable?
8. Are we able to acquire information on the competitors' prices and offerings during the negotiations? How is this information used?
9. What switching cost effects exist and how would you rate their significance?
10. How would you group the customers in terms of their buying behaviour? (price, loyal, value, convenience,...) *See below presentation*



Characteristics and buying behaviour:

-Price buyers

- Seek to buy at a lowest possible price consistent with some minimum level of quality
- Do not make feature-benefit trade-offs
- Not willing to pay for added value of additional features, service or supplier reputation
- Do not make evaluations of differentiation
- Typically announce minimum requirements in form of specifications

-Relationship buyers

- Have a strong brand preference based on reputation or past experiences
- Do not make serious evaluations of alternatives while the price of the preferred brand is within a reasonable range

- Only loss of trust will induce an evaluation of potential alternatives

-Value buyers

- Will invest time, effort and money to evaluate alternatives on every purchase occasion
- Are concerned of both cost and perceived value of differentiation
- Appreciate sellers who will help them define their needs and the involved trade-offs

-Convenience buyers

- Not particularly interested in differences between brands nor comparing prices
- Buy whatever is most readily available minimizing search and evaluation
- Typical behavior when time is of the essence

Segmenting helps create pricing strategies and value communication strategies

NOTE! Same client may fall into several segments depending on the purchase situation!